New York City Department of Sanitation

Final Environmental Impact Statement for the New York City Comprehensive Solid Waste Management Plan

April 2005 (updated May 2005)

Volume III – Appendices

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Appendix E – Off-site Noise Analysis TNM Results Appendix
F – Phase II Site Investigation Reports
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Appendix I – Commercial Waste Management Study
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M – Tonnages Memo
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APPENDIX A

AGENCY AND UTILITY CORRESPONDENCE

Correspondence with New York City Department of Environmental Protection		
Date	**Description**	**Related Sites**
2/20/03	Fax from M. Morrone (HQ) to V. Soriano, New York City Department of Environmental Protection, requesting updated water supply and distribution maps for the MTS site and surrounding area.	Noith Shore, West 135w Street, Southwest Brooklyn, South Bronx, West 59th Street, East 91" Street, (3reenpoint, Hamilton Avenue
2/20/03	Fax from M. Morrone (HQ) to Joseph Maltz, Keyspan, requesting utility service plates for the MTS site and surrounding area	South Bronx, North Shore, West 135th street, Southwest Brooklyn, West 59th street, East 91st, Greenpoint, Hamilton Avenue
2/25/03	Package from New York *City* Department of Environmental Protection to M. Morrone (HQ) containing requested water supply and distribution maps for the MTS site and surrounding area.	South Bronx, North Shore
2/26/03	Package from New York *City* Department of Environmental Protection to M. Morrone (HQ) containing requested water supply and distribution maps for the MTS site and surrounding area.	West 135th Street, West 59th Street, East 91st Street
3/4/03	Package from New York City Department of Environmental Protection to M. Morrone (HQ) containing requested water supply and distribution maps for the MTS site and surrounding area.	Southwest Brooklyn, Hamilton Avenue
3/5/03	Package from New York City Department of Environmental Protection to M. Morrone (HQ) containing requested water supply and distribution maps for the MTS site and surrounding area.	Greenpoint
10/13/03	Letter from M. Morrone (HQ) to Vincent Soriano, New York City Department of Environmental Protection, requesting utility information for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes
10/21/03	Letter from M. Morrone (HQ) to Vincent Soriano, New York City Department of Environmental Protection, requesting utility information for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes
10/21/03	Letter from Vincent Soriano, New York City Department of Environmental Protection, to M. Morrone (HQ) acknowledging the receipt of her 10/13/03letter request for utility	52nd Street, Scott / Scholes

	information of the MTS sites and surrounding areas.	
5/28/04	Letter from B. George (HQ) to Vincent Soriano, New York City Department of Environmental Protection, requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes, Meserole
6/16/04	Letter from P. Simmons (HQ) to Vincent Soriano, New York City Department of Environmental Protection, requesting utility information for the MTS sites and surrounding areas	52nd Street
6/23/04	Package from New York City Department of Environmental Protection containing utility information for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes, Meserole

HydroQual

Environmental
Engineers & Scientists

FAXED

FAX TRANSMISSION

TO:	V. Soriano - Mapping	FROM:	Melissa Morrone
FAX NO:	718-595-5781	DATE:	2/20/03
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

NUMBER OF PAGES INCLUDING COVER SHEET 11

ORIGINAL DOCUMENT TO BE MAILED	____YES	____NO
RETURN FAX TO SENDER	____YES	____NO
FAX TO BE FILED	____YES	____NO
ATTACH COVER SHEET TO TRANSMITTAL	____YES	____NO

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COMMENTS:

Attached please find requests for water supply & distribution information. There are four letters included here, one for each borough.

Thanks!

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HYDROQUAL, INC. ONE LETHBRIDGE PLAZA, MAHWAH, NJ 07430 T:201-529-5151 F:201-529-5728

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February 20, 2003

Mr. Vincent Soriano
Central Mapping and Records
New York City Department of Environmental Protection
59-17 Junction Blvd.
12th Floor
Corona, New York 11368

HDRE0203

RE: Request for Utility Information

Dear Mr. Soriano:

On behalf of the New York City Department of Sanitation (DSNY), HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites under consideration as part of the Solid Waste Management Plan. The EIS will discuss the program with regard to the closure of the Fresh Kill Landfill.

Attached please find a tabular summary of the particular sites. We are requesting that you provide any applicable utility information either existing or proposed. Utility line location maps/plates should also be provided if available. Of particular concern are the location and details of water supply lines and/or distribution laterals. Information regarding available water pressure in the area would also be very helpful.

Since the DSNY is operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

MEM/kfw
HDRE0203/SORIANO_022003C.LTR
Enclosures

HydroQual, Inc.
One Lethbridge Plaza, Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com

LOCATION STREET & NAME	FROM	TO
W. 57th Street	West End	Hudson River
W. 58th Street	West End	Hudson River
W. 59th Street	West End	Hudson River
W. 60th Street	West End	Hudson River
W. 61st Street	West End	Hudson River[
West End	61st Street	57th Street
E. Tower Drive	64th Street	63rd Street
E. 88th Street	First Avenue	FDR Drive
E. 89th Street	First Avenue	FDR Drive
E. 90th Street	First Avenue	FDR Drive
E. 91st Street	First Avenue	FDR Drive
E. 92nd Street	First Avenue	FDR Drive
First Avenue	88th Street	94th Street
York Avenue	88th Street	92nd Street
East End Avenue	88th Street	90th Street
Riverside Drive	W. 139th Street	W. 133rd Street
Marginal Street	W. 133rd Street	W. 134th Street
W. 134th Street	Riverside Drive	Hudson River
W. 133rd Street	Broadway	Hudson River
W. 135th Street	Broadway	Hudson River
W. 136th Street	Broadway	Hudson River
W. 137th Street	Broadway	Hudson River
W. 138th Street	Broadway	Hudson River
W. 139th Street	Broadway	Hudson River

NEW YORK CITY EPARTMENT OF ENVIRONMENTAL OTECTION
BUREAU OF WATER AND SEWER OPERATIONS CENTRAL MAPPING AND RECORDS
59-17 JUNCTION BLVD. - 12TH FL. CORONA, N.Y. 11368 FAX: (718)595-5781

REQUEST FOR INFORMATION FORM

NAME Melissa E. Morrone

FIRM/AGENCY HydroQual, Inc.

ADDRESS 1 Lethbridge Plaza

CITY Mahwah STATE New Jersey ZIP 07430

TELEPHONE # 201-529-5151 FAX # 201-529-3825

BOROUGH (Check one)
BRONX ( )
BROOKLYN ( )
MANHATTAN (X)
QUEENS ( )
STATEN ISLAND ( )

PURPOSE OF REQUEST FOR WATER RECORDS (WORK BEING DONE)
DRILLING/BORING/EXCAVATION( ) SURVEY( )
DESIGN( ) PLANNING/ANALYSIS(X) OTHER( )
PURPOSE OF REQUEST FOR SEWER RECORDS
SEWER DESIGN( ) Provide latest adopted drainage plan unless otherwise noted for the following sewer type:
STORM( ) SANITARY( ) COMBINED( )
INFLOW/INFILTRATION ANALYSIS( )
INTERCEPTOR INFORMATION( ) OTHER( )

IF YOU HAVE BEEN RETAINED BY A CITY, STATE OR FEDERAL AGENCY INDICATE NAME BELOW
New York City Department of Sanitation
AGENCY CONTRACT NUMBER

PROVIDE A BRIEF DESCRIPTION OF THE PROJECT YOU ARE WORKING ON THAT REQUIRES THE ABOVE INFORMATION. For example, designing a new 10" sanitary sewer, excavation, drilling contract, etc. NO REQUEST WILL BE PROCESSED WITHOUT AN EXPLANATION.

See Attached Letter

IN HOUSE STAFF ONLY
PROJECT FOLDER DATE LOANED DATE RETURNED

LOCATION STREET NAME	FROM	TO
See Attached Table		

PLEASE CALL TO HAVE INFORMATION PICKED UP IN PERSON( )
FOR OFFICE USE ONLY
DATE IN DATE OUT ASSIGNED TO
RECORDS SENT:

HydroQual

Environmental
Engineers & Scientists

February 20, 2003

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IN HOUSE STAFF ONLY
PROJECT FOLDER DATE LOANED DATE RETURNED

LOCATION STREET NAME	FROM	TO
119th Street	28th Avenue	31st Avenue
120th Street	28th Avenue	31st Avenue
29th Avenue	122nd Street	Flushing Bay
30th Avenue	120th Street	College Pt. Blvd.
31st Avenue	College Pt. Blvd.	Flushing Bay

PLEASE CALL TO HAVE INFORMATION PICKED UP IN PERSON( )
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Engineers & Scientists

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Very truly yours,

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IN HOUSE STAFF ONLY
PROJECT FOLDER DATE LOANED DATE RETURNED

LOCATION STREET NAME	FROM	TO
Hunts Point Avenue	Viele Avenue	East River
Farragut Street	Hunts Point Avenue	East River
Food Center Drive	East Bay Avenue	Hunts Point Avenue

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See Attached Table		

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DATE IN DATE OUT ASSIGNED TO
RECORDS SENT:

LOCATION STREET & NAME	FROM	TO
Hamilton Avenue	Smith Street	Gowanus Expressway
Gowanus Expressway	3rd Avenue	Smith Street
2nd Avenue	10th Street	Gowanus Expressway
Creamers Street	Court Street	Gowanus Expressway
Bay Street	Court Street	Gowanus Expressway
Halleck Street	Court Street	Gowanus Expressway
Percival Street	Court Street	Gowanus Expressway
North Henry Street	Kingsland Avenue	Newtown Creek
Kingsland Avenue	Greenpoint Avenue	Provost Street
Provost Street	Kingsland Avenue	Padge Avenue
Freeman Street	Provost Street	Whale Creek Canal
Padge Avenue	McGuinness Boulevard	Whale Creek Canal
Shore Parkway	Bay 38th Street	26th Avenue
Hunter Avenue	25th Street	Gravesend Bay
25th Avenue	Shore Parkway	Gravesend Bay
Bay 41st Street	Shore Parkway	Gravesend Bay
Bay 42nd Street	Shore Parkway	Gravesend Bay
Bay 43rd Street	Shore Parkway	Gravesend Bay
Hunter Street	Bay 43rd Street	Bay 44th Street

HydroQual

Environmental
Engineers & Scientists

FAX TRANSMISSION

TO:	Nick Leuritano	FROM:	Melissa Monroe
FAX NO:	914-925-6487	DATE:	8/20/03
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

NUMBER OF PAGES INCLUDING COVER SHEET 10

ORIGINAL DOCUMENT TO BE MAILED	____YES	____NO
RETURN FAX TO SENDER	____YES	____NO
FAX TO BE FILED	____YES	____NO
ATTACH COVER SHEET TO TRANSMITTAL	____YES	____NO

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COMMENTS:

Please see attached for information regarding our request for utility plates.

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HYDROQUAL, INC. ONE LETHBRIDGE PLAZA, MAHWAH, NJ 07430 T:201-529-5151 F:201-529-5728

Environmental
Engineers & Scientists
HydroQual, Inc. One Lethbridge Plaza, Mahwah, NJ 07430 T: 201-529-5151 F: 201-529-5728

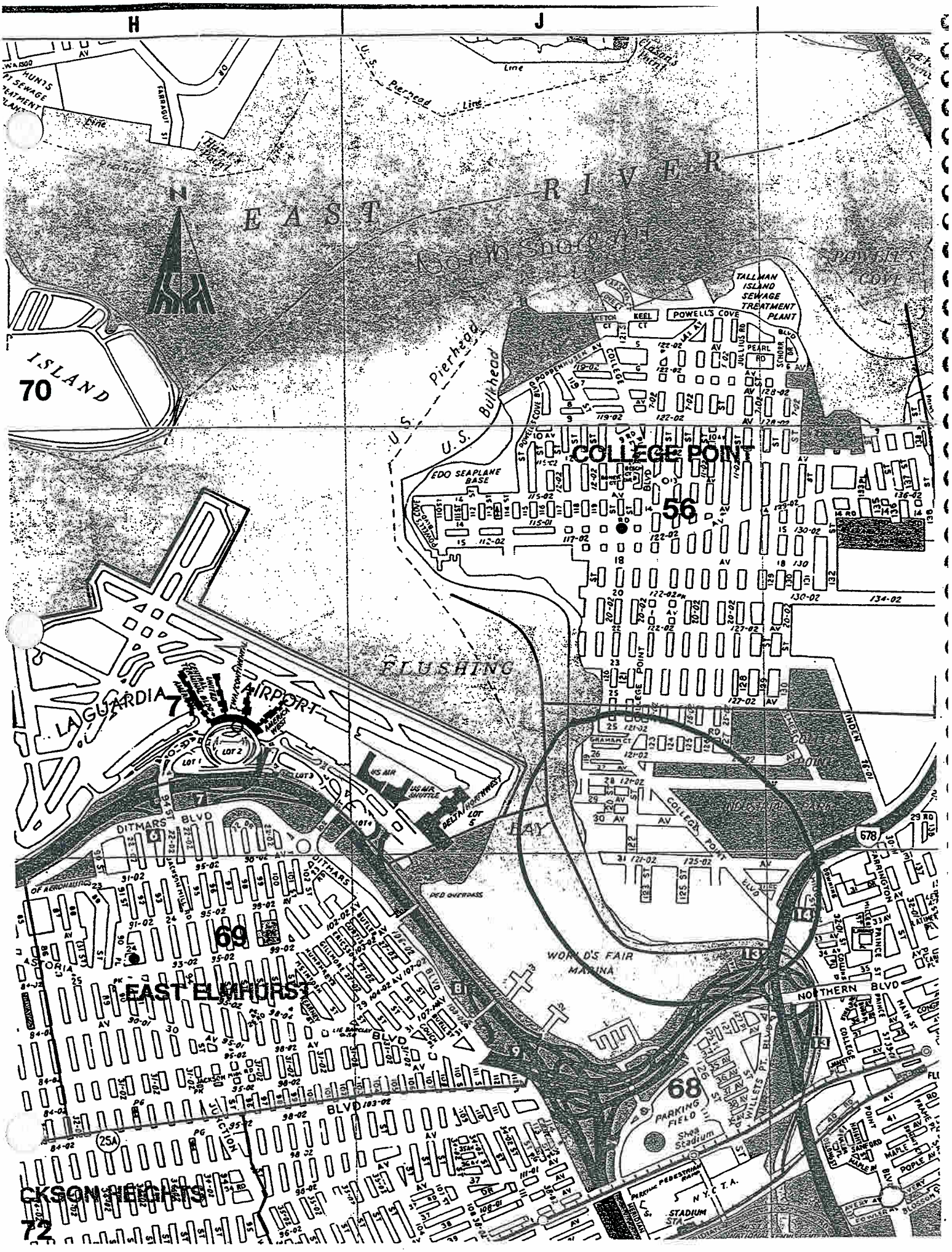
SUBJECT:	PAGE: 1	BY: MEM	DATE:	PROJECT NUMBER:
Coned utility maps	OF:	CHECKED:	2/20/03	HDR00203

The following plate maps that we have are ~~dated~~ dated 1998 + 1999. We'd like to know if there are any updates.

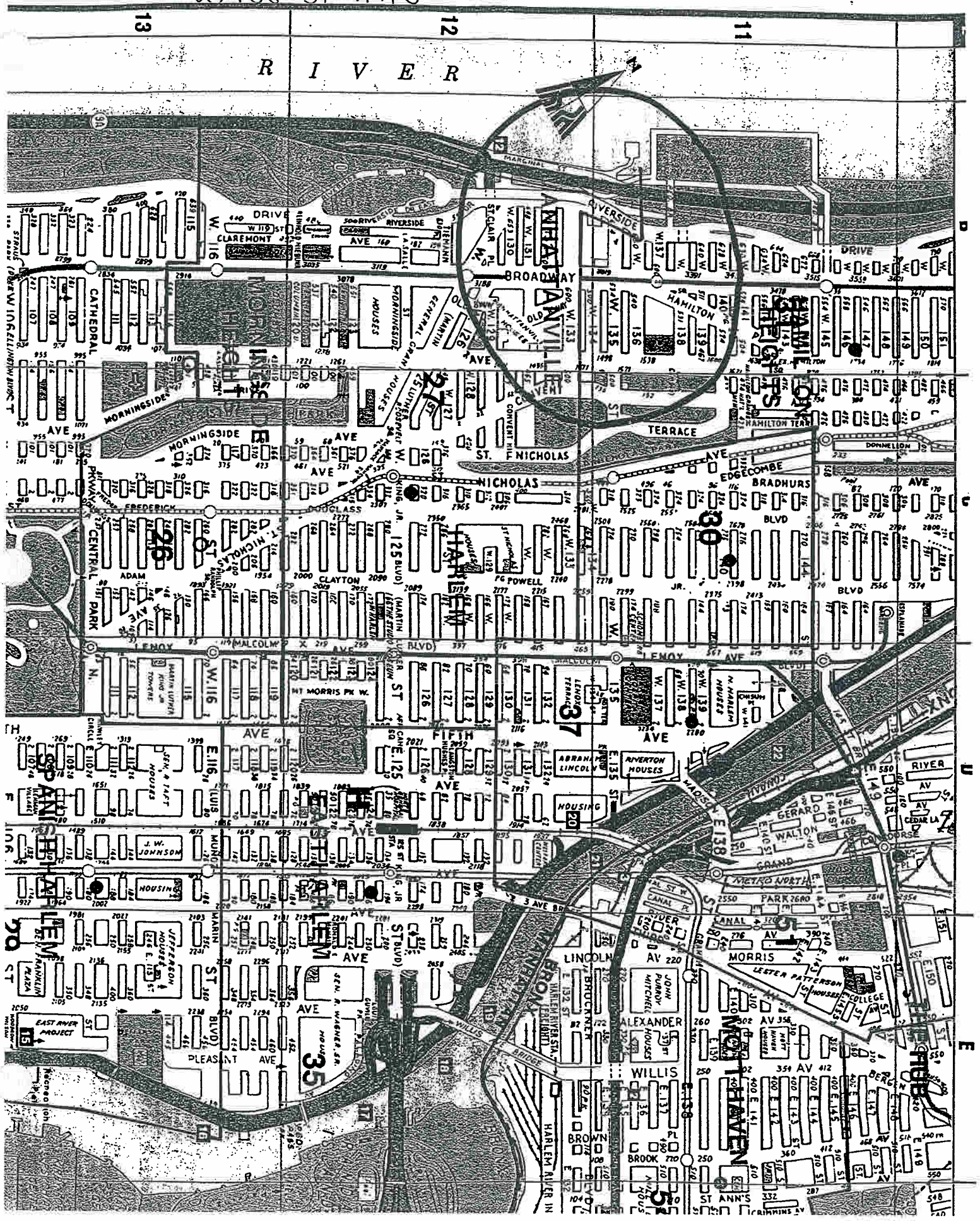
I am also attaching maps for each of the eight sites we are interested in. The specific areas are within the circle.

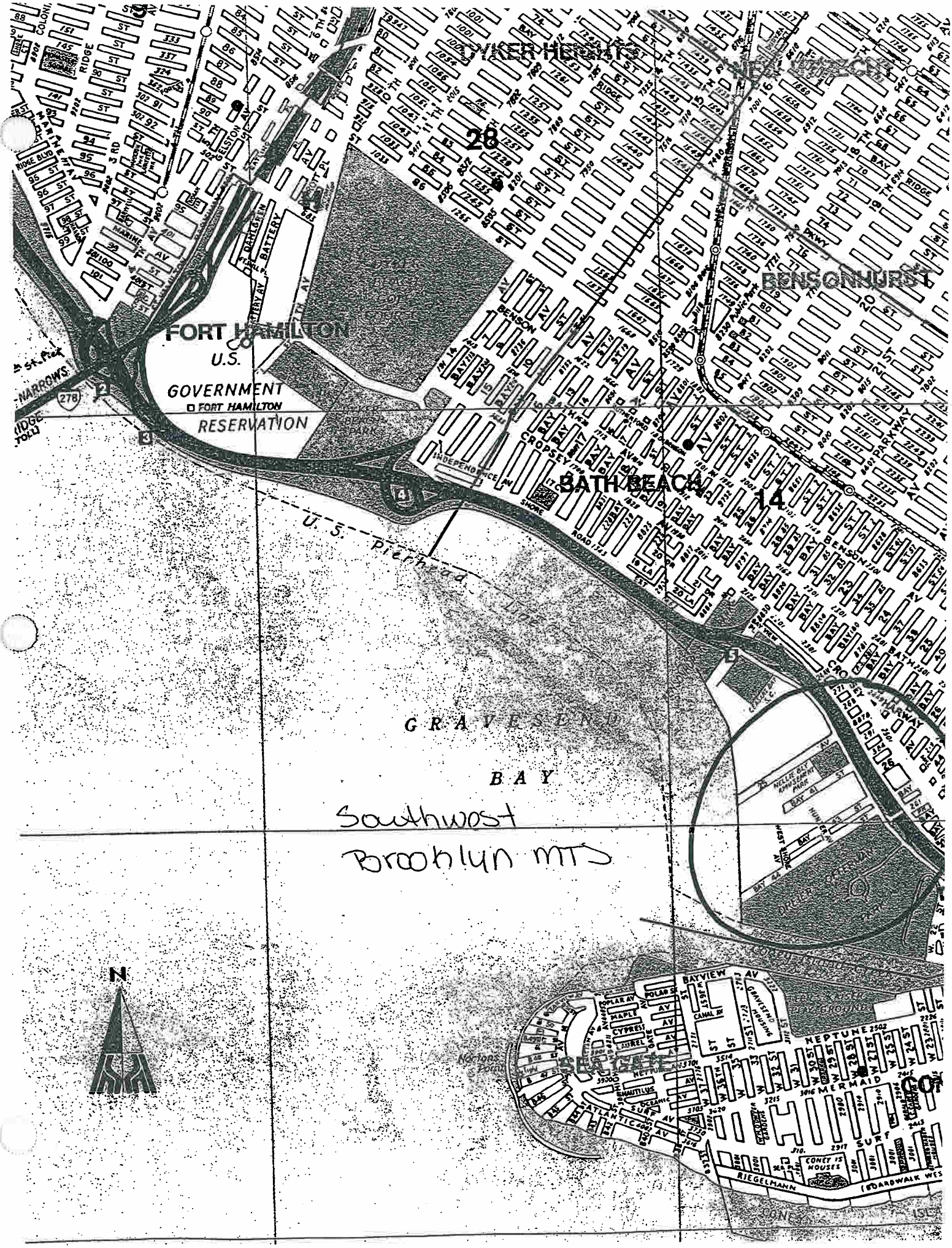
Plates

Bronx	Brooklyn	Queens	Manhattan
1-E	39-1	58-X	55-C
3-O	58-X	56-Z	56-C
1-F	9-1		
3-C			
4-B			
4-C			
4-J			
5-J			
2-O			

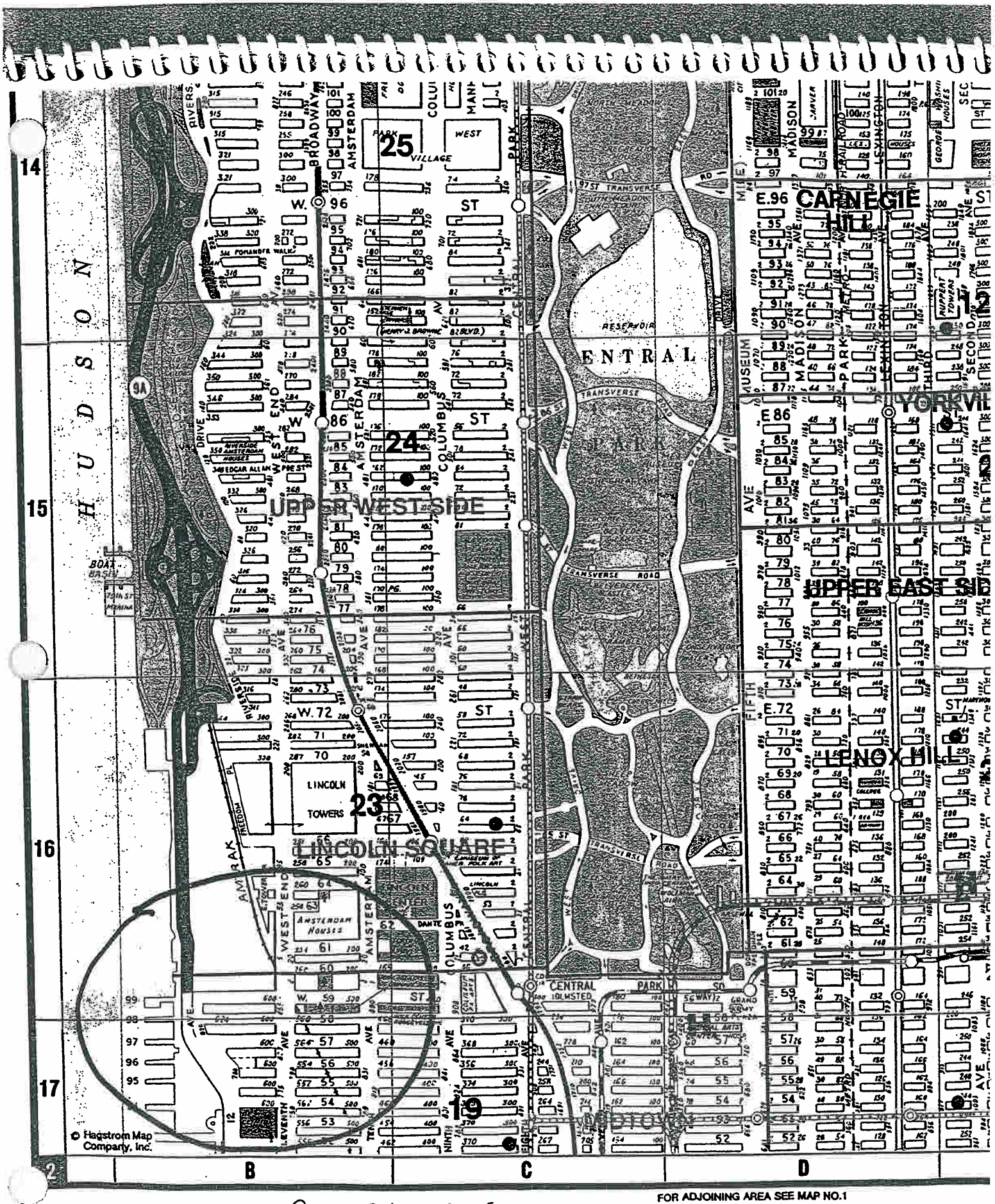

H
J
EAST RIVER
North Shore
ISLAND
70
TALLMAN ISLAND SEWAGE TREATMENT PLANT
POWELL'S COVE
KEEL CT
PEARL RD
COLLEGE POINT
56
EDO SEAPLANE BASE
U.S. Bulkhead
Pierhead
ELUSHING
LAGUARDIA AIRPORT
7
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
US AIR
US AIR SHUTTLE
DELTA/NORTHWEST
BAY
DITMARS BLVD
69
EAST ELMHURST
WORLD'S FAIR MARINA
NORTHERN BLVD
68
PARKING FIELD
Shea Stadium
STADIUM STA.
N.Y.C.T.A.
CKSON HEIGHTS
72
25A
678
14
13
9
81

W 135 at MTS

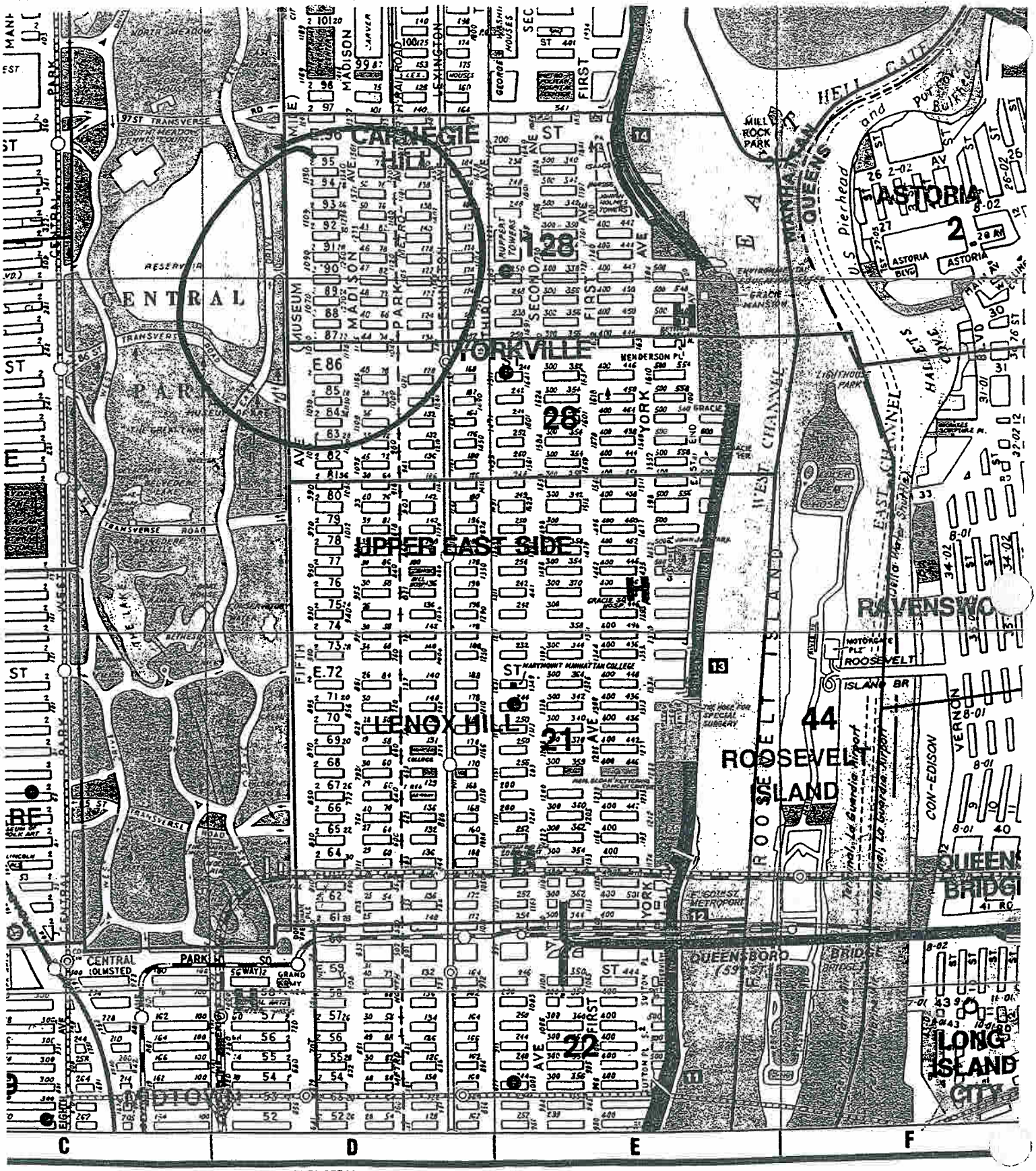

13
12
11
RIVER
MORNINGSIDE HEIGHTS
HARLEM
SPANISH HARLEM
EAST HARLEM
BRONX
MOTT HAVEN
BROADWAY
CLAREMONT
RIVERSIDE
DRIVE
CATHEDRAL
MORNINGSIDE
AVE
TERRACE
HAMILTON
ST. NICHOLAS
NICHOLAS
EDGECOMBE
BRADHURS
BLVD
FREDERICK
DOUGLASS
CENTRAL
PARK
ADAM
CLAYTON
POWELL
JR.
LENOX
MALCOLM X
BLVD
MT MORRIS PK W.
FIFTH
AVE
LUIS
MUNOZ
MARIN
PLEASANT
AVE
EAST RIVER PROJECT
GRAND
MORRIS
LINCOLN
ALEXANDER
WILLIS
BROWN
BROOK
ST ANN'S
RIVERTON HOUSES
HOUSING
J. W. JOHNSON
JEFFERSON HOUSES
LESTER PATTERSON HOUSES
COLLEGE
HARLEM RIVER IN
BRIDGE


FORT HAMILTON
U.S.
GOVERNMENT
FORT HAMILTON
RESERVATION
BATTERY
BATH BEACH
BENSONHURST
GRAVESEND
BAY
Southwest
Brooklyn MTS
U.S. pierhead
N
28
14
CO

FOR ADJOINING AREA SEE MAP NO.7
FOR ADJOINING
HUNT'S POINT MEAT MARKET
HUNT'S POINT PRODUCE MARKET
HUNTS PT. SEWAGE TREATMENT PLANT
OAK POINT FREIGHT YARD
BRONX RIVER
SOUND VIEW
BRUCKNER
HUNTS POINT
PARK
MORRISANIA
73
72
74
60
59
58


HUDSON
RIVER
UPPER WEST SIDE
UPPER EAST SIDE
CARNEGIE HILL
YORKVILLE
LENOX HILL
LINCOLN SQUARE
LINCOLN TOWERS
CENTRAL PARK
RESERVOIR
TRANSVERSE ROAD
BOAT BASIN
MIDTOWN
BROADWAY
AMSTERDAM AVE
COLUMBUS AVE
MADISON AVE
PARK AVE
LEXINGTON AVE
FIFTH AVE
WEST END AVE
W. 96 ST
W. 86 ST
W. 72 ST
W. 59 ST
E. 96 ST
E. 86 ST
E. 72 ST
E. 59 ST
25
24
23
19
© Hagstrom Map Company, Inc.
FOR ADJOINING AREA SEE MAP NO.1

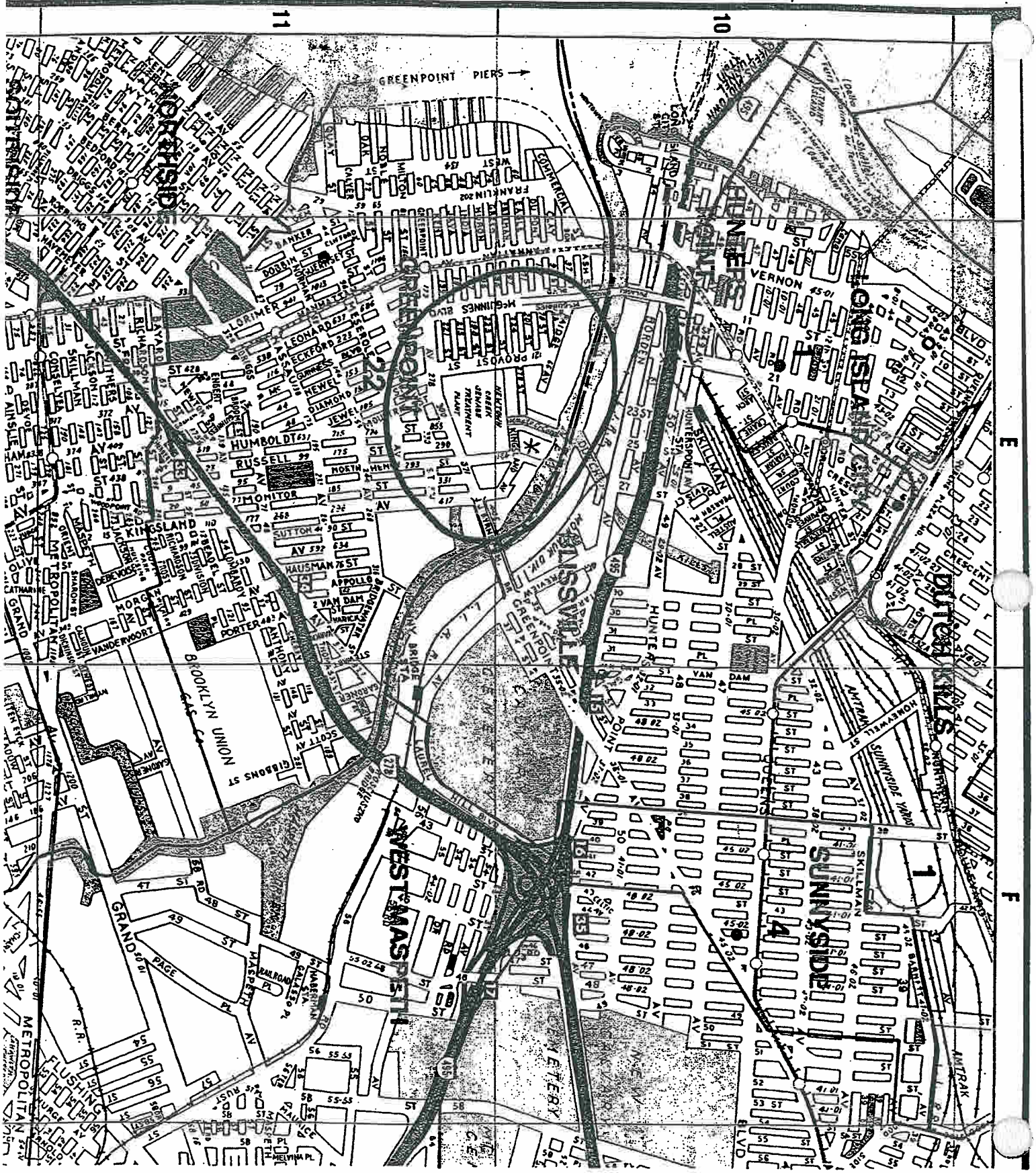
W. 59th St MTS

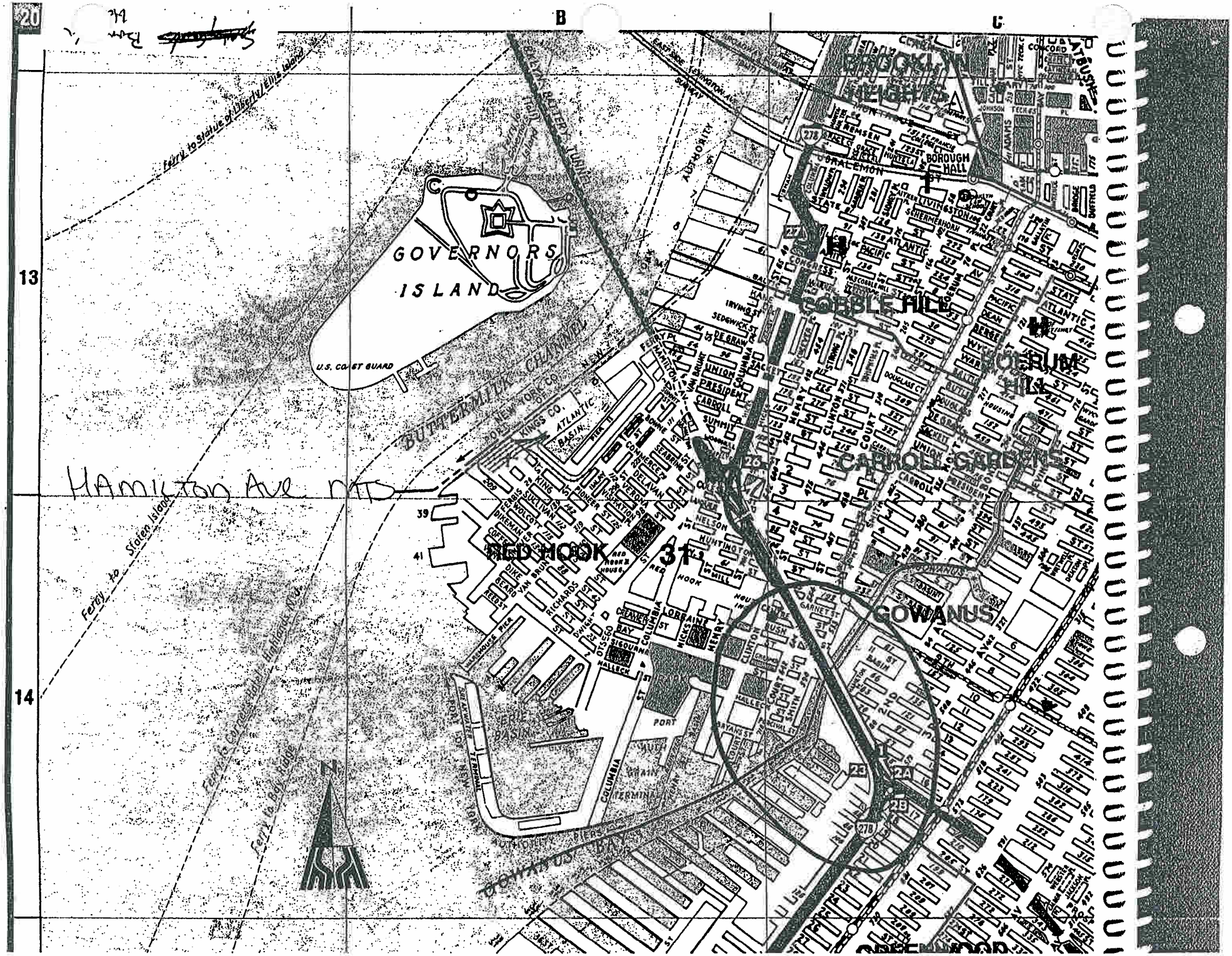


FOR ADJOINING AREA SEE MAP NO.1

Green Point MTS

FOR ADJOINING AREA SEE MAP NO.19

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GOVERNORS ISLAND
U.S. COAST GUARD
BUTTERMILK CHANNEL
Ferry to Statue of Liberty/Ellis Island
Ferry to Staten Island
Ferry to Bay Ridge
Ferry to Governors Island
HAMILTON AVE. N/B
RED HOOK
31
GOWANUS
COBBLE HILL
CARROLL GARDENS
BOROUGH HALL
ATLANTIC
PACIFIC
HENRY
CLINTON
COURT
HICKS
COLUMBIA
VAN BRUNT
RICHARDS
DIKE
BELARD
WOLCOTT
FERRIS
SULLIVAN
BIKEMAN
COFFEY
PIONEER
VERONA
DELAVAN
COMMERCE
SEABING
BOWNE
KING
ATLANTIC BASIN
PIER 7
ERIE BASIN
PORT AUTHORITY
COLUMBIA TERMINAL
GOWANUS BAY
AUTHORITY PIERS
HALLECK
SIGOURNEY
ODYSSEO
BAY
CREAMER
LORRAINE
HUNTINGTON
NELSON
RED HOOK HOUSES
WALLACE
SUMMIT
CARROLL
PRESIDENT
UNION
DE GRAW
SEDGWICK
IRVING
HAMILTON
FERRY PL
NEW YORK CO.
KINGS CO.
EAST RIVER
WASHINGTON AVE
BROOKLYN HEIGHTS
CONCORD
JOHNSON
ADAMS
TECH
BRIDGE
DUFFIELD
FLATBUSH
LIVINGSTON
SCHERMERHORN
BERGEN
STATE
WYCKOFF
BUTLER
HOUSING
DOUGLASS
GARNET
CENTRE
BUSH
SMITH
CARROLL
PARKINSON
BAYARD
HALLECK
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CROWN
BASIN
TERMINAL
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The City of New York

Department of Environmental Protection

59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Douglas S. Greeley, P.E.
Deputy Commissioner

Bureau of Water and Sewer Operations

Tel (718) 595-5330
Fax (718) 595-5342
dgreeley@nysnet.net

February 25, 2003

Ms. Melissa E. Morrone
HydroQual, Inc.
1 Lethbridge Plaza
Mahwah, N.J. 07430

Dear Ms. Morrone:

We are in receipt of your fax/letter of February 20, 2003 requesting utility information at the location(s) listed below in the borough of the Bronx.

STREET	FROM	TO
Hunts Point Ave.	Viele Ave.	East River
Farragut St.	Hunts Point Ave.	East River
Food Center Dr.	East Bay Ave.	Hunts Point Ave.

Enclosed are copies of the Bureau's records indicated below.

D.D.M.# K34-10, 14, 15, 19, 20, 25
L34-06, 11, 12, 16, 17, 21, 22

These maps are based on the best information available for the water mains and appurtenances in the streets contiguous to this area. Please be advised that water mains are normally installed at depths ranging from 42" to 48".

Requests for information can be mailed to the above-mentioned address or faxed to (718) 595-5781. Please make sure you clarify specific street limits or forward a clear site plan. It is advisable that requests for information are submitted to this office at least two (2) weeks before the beginning of any work. Requests for sewer as builts will not be processed through this office. If information is needed in relation to sewer as built drawings, locations of sewers, water/sewer permits and connections contact the Bronx borough office at 1932 Arthur Avenue. Bronx, N.Y. 10457. The telephone number is (718) 579-6989.

for Vincent J. Soriano, Chief
BW&SO Central Mapping/Records

xc:File
ct

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP
www.nyc.gov/dep
(718) DEP-HELP

Rec - 2/28/03

North Shore

The City of New York

Department of Environmental Protection

59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Douglas S. Greeley, P.E.
Deputy Commissioner

Bureau of Water and Sewer Operations

Tel (718) 595-5330
Fax (718) 595-5342
dgreeley@nysnet.net

February 25, 2003

Ms. Melissa E. Morrone
HydroQual, Inc.
1 Lethbridge Plaza
Mahwah, N.J. 07430

Dear Ms. Morrone:

We are in receipt of your fax/letter of February 20, 2003 requesting utility information at the location(s) listed below in the borough of Queens.

STREET	FROM	TO
119th St.	28th Ave.	31st Ave.
120th St.	28th Ave.	31st Ave.
29th Ave.	122nd St.	Flushing Bay
30th Ave.	120th St.	College Pt. Blvd.
31st Ave.	College Pt. Blvd.	Flushing Bay

Enclosed are copies of the Bureau's records indicated below.

D.D.M.# N32-02, 03, 07, 08, 09

These maps are based on the best information available for the water mains and appurtenances in the streets contiguous to this area. Please be advised that water mains are normally installed at depths ranging from 42" to 48".

Requests for information can be mailed to the above-mentioned address or faxed to (718) 595-5781. Please make sure you clarify specific street limits or forward a clear site plan. It is advisable that requests for information are submitted to this office at least two (2) weeks before the beginning of any work. Requests for sewer as builts will not be processed through this office. If information is needed in relation to sewer as built drawings, locations of sewers, permits and sewer connections contact the Queens borough office at 120-55 Queens Blvd., Room 425, Queens, N.Y. 11424. The telephone number is (718) 286-2600.

for Vincent J. Soriano, Chief
BW&SO Central Mapping/Records

ex:File
ct

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP
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Rec - 2/28/03

The City of New York

Department of Environmental Protection

59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Douglas S. Greeley, P.E.
Deputy Commissioner

Bureau of Water and Sewer Operations

Tel (718) 595-5330
Fax (718) 595-5342
dgreeley@nysnet.net

February 26, 2003

Ms. Melissa E. Morrone
HydroQual, Inc.
1 Lethbridge Plaza
Mahwah, N.J. 07430

Dear Ms. Morrone:

We are in receipt of your fax/letter of February 20, 2003 requesting utility information at the location(s) listed below in the borough of Manhattan.

STREET	FROM	TO
	"See Attached List"	

Enclosed are copies of the Bureau's records indicated below.

D.D.M.#G32-04, 05
G33-25
H32-01 (portion of)
H33-21

Sewer Information requested not available, nor under the jurisdiction of the Mapping Office. Contact specific Borough Office.

These maps are based on the best information available for the water mains and appurtenances in the streets contiguous to this area. Please be advised that water mains are normally installed at depths ranging from 42" to 48".

Requests for information can be mailed to the above-mentioned address or faxed to (718)595-5781. Please make sure you clarify specific street limits or forward a clear site plan. It is advisable that requests for information are submitted to this office at least two (2) weeks before the beginning of any work. Requests for sewer as builts will not be processed through this office. If information is needed in relation to sewer as built drawings, locations of sewers, water/sewer permits and connections contact the Manhattan borough office at 40 Worth Street, Room 338, N.Y. 10013. The telephone number is (212) 442-1904/1905/1908.

for Vincent J. Soriano, Chief
BW&SO Central Mapping/Records

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NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP
www.nyc.gov/dep
(718) DEP-HELP

W135th
Rec'd 3/3/03

STREET	FROM	TO
Riverside Dr.	W. 139th St.	W. 133rd St.
Marginal St.	W. 133rd St.	W. 134th St.
W. 134th St.	Riverside Dr.	Hudson River
W. 133rd St.	Broadway	Hudson River
W. 135th St.	Broadway	Hudson River
W. 136th St.	Broadway	Hudson River
W. 137th St.	Broadway	Hudson River
W. 138th St.	Broadway	Hudson River
W. 139th St.	Broadway	Hudson River

W SOPW

The City of New York

Department of Environmental Protection

59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Douglas S. Greeley, P.E.
Deputy Commissioner

Bureau of Water and Sewer Operations

Tel (718) 595-5330
Fax (718) 595-5342
dgreeley@nysnet.net

February 26, 2003

Ms. Melissa E. Morrone
HydroQual, Inc.
1 Lethbridge Plaza
Mahwah, N.J. 07430

Dear Ms. Morrone:

We are in receipt of your fax/letter of February 20, 2003 requesting utility information at the location(s) listed below in the borough of Manhattan.

STREET	FROM	TO
	"See Attached List"	

Enclosed are copies of the Bureau's records indicated below.

D.D.M.#G28-05, 09, 10
G29-25
H28-01, 06
H29-21

Sewer Information requested not available, nor under the jurisdiction of the Mapping Office. Contact specific Borough Office.

These maps are based on the best information available for the water mains and appurtenances in the streets contiguous to this area. Please be advised that water mains are normally installed at depths ranging from 42" to 48".

Requests for information can be mailed to the above-mentioned address or faxed to (718)595-5781. Please make sure you clarify specific street limits or forward a clear site plan. It is advisable that requests for information are submitted to this office at least two (2) weeks before the beginning of any work. Requests for sewer as builts will not be processed through this office. If information is needed in relation to sewer as built drawings, locations of sewers, water/sewer permits and connections contact the Manhattan borough office at 40 Worth Street, Room 338, N.Y. 10013. The telephone number is (212) 442-1904/1905/1908.

for Vincent J. Soriano, Chief
BW&SO Central Mapping/Records

xc: File
ct

Rec'd 3/3/03

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP
www.nyc.gov/dep
(718) DEP-HELP

STREET	FROM	TO
W. 57th St.	West End	Hudson River
W. 58th St.	West End	Hudson River
W. 59th St.	West End	Hudson River
W. 60th St.	West End	Hudson River
W. 61st St.	West End	Hudson River
West End	61st St.	57th St.
E. Tower Dr.	64th St.	63rd St.

E91st

New York
Department of
Environmental
Protection

59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Douglas S.
Greeley, P.E.
Deputy
Commissioner

Bureau of Water
and
Sewer Operations

Tel (718) 595-5330
Fax (718) 595-5342
dgreeley@nysnet.net

February 26, 2003

Ms. Melissa E. Morrone
HydroQual, Inc.
1 Lethbridge Plaza
Mahwah, N.J. 07430

Dear Ms. Morrone:

We are in receipt of your fax/letter of February 20, 2003 requesting utility information at the location(s) listed below in the borough of Manhattan.

STREET	FROM	TO
	"See Attached List"	

Enclosed are copies of the Bureau's records indicated below.

D.D.M.# I30-09, 14, 15, 19, 20

Sewer Information requested not available, nor under the jurisdiction of the Mapping Office. Contact specific Borough Office.

These maps are based on the best information available for the water mains and appurtenances in the streets contiguous to this area. Please be advised that water mains are normally installed at depths ranging from 42" to 48".

Requests for information can be mailed to the above-mentioned address or faxed to (718)595-5781. Please make sure you clarify specific street limits or forward a clear site plan. It is advisable that requests for information are submitted to this office at least two (2) weeks before the beginning of any work. Requests for sewer as builts will not be processed through this office. If information is needed in relation to sewer as built drawings, locations of sewers, water/sewer permits and connections contact the Manhattan borough office at 40 Worth Street, Room 338, N.Y. 10013. The telephone number is (212) 442-1904/1905/1908.

for Vincent J. Soriano, Chief
BW&SO Central Mapping/Records

xc: File
ct

rec'd 3/3/03

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DEP
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STREET	FROM	TO
E. 88th St.	1st Ave.	FDR Dr.
E. 89th St.	1st Ave.	FDR Dr.
E. 90th St.	1st Ave.	FDR Dr.
E. 91st St.	1st Ave.	FDR Dr.
E. 92nd St.	1st Ave.	FDR Dr.
1st Ave.	88th St.	94th St.
York Ave.	88th St.	92nd St.
East End Ave.	88th St.	90th St.

The City of New York

Department of Environmental Protection

59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Douglas S. Greeley, P.E.
Deputy Commissioner

Bureau of Water and Sewer Operations

Tel (718) 595-5330
Fax (718) 595-5342
dgreeley@nysnet.net

March 4, 2003

Ms. Melissa E. Morrone
HydroQual, Inc.
1 Lethbridge Plaza
Mahwah, N.J. 07430

Dear Ms. Morrone:

We are in receipt of your fax/letter of February 20, 2003 requesting utility information at the location(s) listed below in the borough of the Brooklyn.

STREET	FROM	TO
	"See Attached List"	

Enclosed are copies of the Bureau's records indicated below.

D.D.M.# M16-09, 10, 14, 15, 19, 20

These maps are based on the best information available for the water mains and appurtenances in the streets contiguous to this area. Please be advised that water mains are normally installed at depths ranging from 42" to 48".

Requests for information can be mailed to the above-mentioned address or faxed to (718) 595-5781. Please make sure you clarify specific street limits or forward a clear site plan. It is advisable that requests for information are submitted to this office at least two (2) weeks before the beginning of any work. Requests for sewer as builts will not be processed through this office. If information is needed in relation to sewer as built drawings, locations of sewers, water/sewer permits and connections contact the Brooklyn borough office at 250 Livingston, Street, 8th floor Brooklyn, N.Y. 11201. The telephone number is (718) 923-2671.

Vincent J. Soriano, Chief
BW&SO Central Mapping/Records

ex:File
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STREET	FROM	TO
Shore Pkwy.	Bay 38th St.	26th Ave.
Hunter Ave.	25th St.	Gravesend Bay
25th Ave.	Shore Pkwy.	Gravesend Bay
Bay 41st St.	Shore Pkwy.	Gravesend Bay
Bay 42nd St.	Shore Pkwy.	Gravesend Bay
Bay 43rd St.	Shore Pkwy.	Gravesend Bay
Hunter St.	Bay 43rd St.	Bay 44th St.

The City of New York

Department of Environmental Protection

59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Douglas S. Greeley, P.E.
Deputy Commissioner

Bureau of Water and Sewer Operations

Tel (718) 595-5330
Fax (718) 595-5342
dgreeley@nysnet.net

March 4, 2003

Ms. Melissa E. Morrone
HydroQual, Inc.
1 Lethbridge Plaza
Mahwah, N.J. 07430

Dear Ms. Morrone:

We are in receipt of your fax/letter of February 20, 2003 requesting utility information at the location(s) listed below in the borough of the Brooklyn.

STREET	FROM	TO
	"See Attached List"	

Enclosed are copies of the Bureau's records indicated below.

D.D.M.# J21-04, 05, 09, 10
K21-01, 06, 07, 11, 12
K22-21

These maps are based on the best information available for the water mains and appurtenances in the streets contiguous to this area. Please be advised that water mains are normally installed at depths ranging from 42" to 48".

Requests for information can be mailed to the above-mentioned address or faxed to (718) 595-5781. Please make sure you clarify specific street limits or forward a clear site plan. It is advisable that requests for information are submitted to this office at least two (2) weeks before the beginning of any work. Requests for sewer as builts will not be processed through this office. If information is needed in relation to sewer as built drawings, locations of sewers, water/sewer permits and connections contact the Brooklyn borough office at 250 Livingston, Street, 8th floor Brooklyn, N.Y. 11201. The telephone number is (718) 923-2671.

Vincent J. Soriano, Chief
BW&SO Central Mapping/Records

ex:File
ct

STREET	FROM	TO
Hamilton Ave.	Smith St.	Gowanus Expwy.
Gowanus Expwy.	3rd Ave.	Smith St.
2nd Ave.	10th St.	Gowanus Expwy.
Creamers St.	Court St.	Gowanus Expwy.
Bay St.	Court St.	Gowanus Expwy.
Halleck St.	Court St.	Gowanus Expwy.
Percival St.	Court St.	Gowanus Expwy.

The City of New York

Department of Environmental Protection

59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Douglas S. Greeley, P.E.
Deputy Commissioner

Bureau of Water and Sewer Operations

Tel (718) 595-5330
Fax (718) 595-5342
dgreeley@nysnet.net

March 5, 2003

Ms. Melissa Morrone
HydroQual, Inc.
1 Lethbridge Plaza
Mahwah, N.J. 07430

Dear Ms. Morrone:

We are in receipt of your fax/letter of February 20, 2003 requesting utility information at the location(s) listed below in the borough of the Brooklyn.

STREET	FROM	TO
	"See Attached List"	

Enclosed are copies of the Bureau's records indicated below.

D.D.M.# J27-15, 14 (potion of)
K27-06, 07, 11, 12, 13

These maps are based on the best information available for the water mains and appurtenances in the streets contiguous to this area. Please be advised that water mains are normally installed at depths ranging from 42" to 48".

Requests for information can be mailed to the above-mentioned address or faxed to (718) 595-5781. Please make sure you clarify specific street limits or forward a clear site plan. It is advisable that requests for information are submitted to this office at least two (2) weeks before the beginning of any work. Requests for sewer as builts will not be processed through this office. If information is needed in relation to sewer as built drawings, locations of sewers, water/sewer permits and connections contact the Brooklyn borough office at 250 Livingston, Street, 8th floor Brooklyn, N.Y. 11201. The telephone number is (718) 923-2671.

Vincent J. Soriano, Chief
BW&SO Central Mapping/Records

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ct

STREET	FROM	TO
N. Henry St.	Kingsland Ave.	Newtown Creek
Kingsland Ave.	Greenpoint Ave.	Provost St.
Provost St.	Kingsland Ave.	Padge Ave.
Freeman St.	Provost St.	Whale Creek Canal
Padge Ave.	McGuinness Blvd.	Whale Creek Canal
Hamilton Ave.	Smith St.	Gowanus Expwy.
Gowanus Expwy.	3rd Ave.	Smith St.
2nd Ave.	10th St.	Gowanus Expwy.
Creamers Ave.	Court St.	Gowanus Expwy.
Bay St.	Court St.	Gowanus Expwy.
Halleck St.	Court St.	Gowanus Expwy.
Percival St.	Court St.	Gowanus Expwy.
N. Henry St.	Kingsland Ave.	Newtown Creek
Kingsland Ave.	Greenpoint Ave.	Provost St.
Provost St.	Kingsland Ave.	Padge St.
Freeman St.	Provost St.	Whale Creek Canal
Padge Ave.	McGuinness Blvd.	Whale Creek Canal
Shore Pkwy.	Bay 38th St.	26th Ave.
Hunter Ave.	25th St.	Gravesend Bay
25th Ave.	Shore Pkwy.	Gravesend Bay
Bay 41st St.	Shore Pkwy.	Gravesend Bay
Bay 42nd St.	Shore Pkwy.	Gravesend Bay
Bay 43rd St.	Shore Pkwy.	Gravesend Bay
Hunter St.	Bay 43rd St.	Bay 44th St.

Correspondence with New York City Fire Department		
Date	**Description**	**Related Sites**
1/15/03	Letter from Salvatore Cassano (FDNY) to Sarah Stein (PB), requesting information for the 135th street MTS site and surrounding areas.	West 135th street
1/15/03	Letter from Salvatore Cassano (FDNY) to Sarah Stein (PB), requesting information for the 59th street MTS site and surrounding areas.	West 59th street
1/15/03	Letter from Salvatore Cassano (FDNY) to Sarah Stein (PB), requesting information for the North Shore MTS site and surrounding areas.	North Shore
1/15/03	Letter from Salvatore Cassano (FDNY) to Sarah Stein (PB), requesting information for the Greenpoint MTS site and surrounding areas.	Greenpoint
1/15/03	Letter from Salvatore Cassano (FDNY) to Sarah Stein (PB), requesting information for the Southwest Brooklyn MTS site and surrounding areas.	Southwest Brooklyn
1/15/03	Letter from Salvatore Cassano (FDNY) to Sarah Stein (PB), requesting information for the Hamilton MTS site and surrounding areas.	Hamilton
1/15/03	Letter from Salvatore Cassano (FDNY) to Sarah Stein (PB), requesting information for the South Bronx MTS site and surrounding areas.	South Bronx
1/16/03	Letter from Salvatore Cassano (FDNY) to Sarah Stein (PB), requesting information for the 91st street MTS site and surrounding areas.	East 91st street
8/7/04	Letter from Salvatore Cassano (FDNY) to (PB), requesting updated utility service plates for the MTS sites and surrounding areas.	52nd street
8/7/04	Letter from Salvatore Cassano (FDNY) to (PB), requesting updated utility service plates for the MTS sites and surrounding areas.	Scott / Scholes, Meserole

The City of New York

FIRE DEPARTMENT
9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations

Room 7W-1
(718) 999-2079

January 15, 2003

Parsons Brinckerhoff
One Penn Plaza
New York, N.Y. 10119-0061
Attn: Ms. Sara Stein: Planner

RE: West 135 Street MTS, Manhattan: 12th Avenue at the Terminus of West 135th Street and the Hudson River

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development: This letter is not Fire Department approval for this proposal as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 80
1st Ladder Company – Ladder Company 23

These units are located at 503 West 139 Street, N.Y., N.Y. 10031

2nd Engine Company – Engine Company 37
2nd Ladder Company – Ladder Company 40

These units are located at 415 West 125th Street, N.Y., N.Y. 10027

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Battalion Chief Gerald F. Wren at (718) 855-8571.

Very truly yours,

Salvatore J. Cassano
Chief of Operations

SJC:GFW:ep
Hudson River

The City of New York

FIRE DEPARTMENT
9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations

Room 7W-1
(718) 999-2079

January 15, 2003

Parsons Brinckerhoff
One Penn Plaza
New York, N.Y. 10119-0061
Attn: Ms. Sara Stein: Planner

RE: West 59 Street (Pier 99) MTS, Manhattan

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development. This letter is not Fire Department approval for this proposal as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 40
1st Ladder Company – Ladder Company 35

These units are located at 131 Amsterdam Avenue, N.Y., N.Y. 10023

2nd Engine Company – Engine Company 54
2nd Ladder Company – Ladder Company 4

These units are located at 782 Eighth Avenue, N.Y., N.Y. 10036

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Battalion Chief Gerald F. Wren at (718) 855-8571.

Very truly yours,

Salvatore J. Cassano
Chief of Operations

SJC:GFW:ep
Pier 99

The City of New York

FIRE DEPARTMENT
9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations

Room 7W-1
(718) 999-2079

January 15, 2003

Parsons Brinckerhoff
One Penn Plaza
New York, N.Y. 10119-0061
Attn: Ms. Sara Stein: Planner

RE: North Shore MTS, Queens:
College Point on Flushing Bay

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development: This letter is not Fire Department approval for this proposal as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 297
1st Ladder Company – Ladder Company 130

These units are located at 119-11 14th Road, Queens, N.Y. 11356

2nd Engine Company – Engine Company 295
2nd Ladder Company – Ladder Company 144

These units are located at 12-49 149 Street, Queens, N.Y. 11357

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Battalion Chief Gerald F. Wren at (718) 855-8571.

Very truly yours,

Salvatore J. Cassano
Chief of Operations

SJC:GFW:ep
Collegepoint

The City of New York

FIRE DEPARTMENT
9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations

Room 7W-1
(718) 999-2079

January 15, 2003

Parsons Brinckerhoff
One Penn Plaza
New York, N.Y. 10119-0061
Attn: Ms. Sara Stein: Planner

RE: Greenpoint MTS, Brooklyn

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development: This letter is not Fire Department approval for this proposal as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 238
1st Ladder Company – Ladder Company 106

These units are located at 205 Greenpoint Avenue, Brooklyn, N.Y. 11222

2nd Engine Company – Engine Company 259
2nd Ladder Company – Ladder Company 128

These units are located at 33-51 Greenpoint Avenue, Queens, N.Y. 11101

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Battalion Chief Gerald F. Wren at (718) 855-8571.

Very truly yours,

Salvatore J. Cassano
Chief of Operations

SJC:GFW:ep
Greenpoint MTS

The City of New York

FIRE DEPARTMENT
9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations

Room 7W-1
(718) 999-2079

January 15, 2003

Parsons Brinckerhoff
One Penn Plaza
New York, N.Y. 10119-0061
Attn: Ms. Sara Stein: Planner

RE: Southwest Brooklyn MTS, Brooklyn: Shore Parkway Service Road in the Bensonhurst Section of Brooklyn

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development: This letter is not Fire Department approval for this proposal as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 243
1st Ladder Company – Ladder Company 168

These units are located at 8653 18th Avenue , Brooklyn, N.Y. 11214

2nd Engine Company – Engine Company 318
2nd Ladder Company – Ladder Company 166

These units are located at 2510 Neptune Avenue, Brooklyn, N.Y. 11224

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Battalion Chief Gerald F. Wren at (718) 855-8571.

Very truly yours,

Salvatore J. Cassano
Chief of Operations

SJC:GFW:ep
Bensonhurst

The City of New York

FIRE DEPARTMENT
9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations

Room 7W-1
(718) 999-2079

January 15, 2003

Parsons Brinckerhoff
One Penn Plaza
New York, N.Y. 10119-0061
Attn: Ms. Sara Stein: Planner

RE: Hamilton Avenue MTS, Brooklyn: From Hamilton Ave. to Bulkhead/Pierhead Line

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development: This letter is not Fire Department approval for this proposal as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 202
1st Ladder Company – Ladder Company 101

These units are located at 31 Richards Street, Brooklyn. N.Y. 11231

2nd Engine Company – Engine Company 204
2nd Ladder Company – Ladder Company 131

These units are located at 299 Degraw St., Brooklyn, N.Y. 11201

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Battalion Chief Gerald F. Wren at (718) 855-8571.

Very truly yours,

Salvatore J. Cassano
Chief of Operations

SJC:GFW:ep
Hamilton Ave.

The City of New York

FIRE DEPARTMENT
9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations

Room 7W-1
(718) 999-2079

January 15, 2003

Parsons Brinckerhoff
One Penn Plaza
New York, N.Y. 10119-0061
Attn: Ms. Sara Stein: Planner

RE: South Bronx MTS, Bronx: Hunts Point Area bounded by Farragut Street to the north and the East River to the east

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development: This letter is not Fire Department approval for this proposal as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 94
1st Ladder Company – Ladder Company 48

These units are located at 1226 Seneca Avenue, Bronx, N.Y. 10474

2nd Engine Company – Engine Company 96
2nd Ladder Company – Ladder Company 54

These units are located at 1689 Story Avenue, Bronx, N.Y. 10473

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Battalion Chief Gerald F. Wren at (718) 855-8571.

Very truly yours,

Salvatore J. Cassano
Chief of Operations

SJC:GFW:ep
Farragut St.

The City of New York

FIRE DEPARTMENT
9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations

Room 7W-1
(718) 999-2079

January 16, 2003

Parsons Brinckerhoff
One Penn Plaza
New York, N.Y. 10119-0061
Attn: Ms. Sara Stein: Planner

RE East 91st Street MTS, Manhattan: FDR Drive at the Terminus of East 91st Street and the East River

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development: This letter is not Fire Department approval for this proposal as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 22
1st Ladder Company – Ladder Company 13

These units are located at 159 East 85th Street, New York, N.Y. 10028

2nd Engine Company – Engine Company 53
2nd Ladder Company – Ladder Company 43

These units are located at 1836 Third Avenue, New York, N.Y. 10029

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Battalion Chief Gerald F. Wren at (718) 855-8571.

Very truly yours,

Salvatore J. Cassano
Chief of Operations

SJC:GFW:ep
FDR Drive

The City of New York

FIRE DEPARTMENT
9 MetroTech Center Brooklyn, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations Room 7W-4

August 7, 2004

Parsons Brinckerhoff Quade & Douglas, Inc.
One Penn Plaza
New York, New York 10119

Re: Borough of Brooklyn
NYC Department of Sanitation
Solid Waste Management Plan:
52nd Street Pier

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development. This letter is not Fire Department approval for this proposal, as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 201
1st Ladder Company – Ladder Company 114

These units are located at: 5113 Fourth Avenue, Brooklyn, New York 11220

2nd Engine Company – Engine Company 241
2nd Engine Company – Ladder Company 109

These units are located at: 6630 Third Avenue, Brooklyn, New York 11220

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Captain Paul Conlon at (718) 855-8571.

Sincerely yours,

Salvatore J. Cassano,
Chief of Operations

The City of New York

FIRE DEPARTMENT
9 METROTECH CENTER BROOKLYN, N.Y. 11201-3857

SALVATORE J. CASSANO
Chief of Operations
Bureau of Operations Room 7W-4

August 7, 2004

Parsons Brinckerhoff Quade & Douglas, Inc.
One Penn Plaza
New York, New York 10119

Re: NYC Department of Sanitation
Solid Waste Management Plan:
Scott Avenue & Scholes Street
568 Meserole Street, Borough of Bklyn.

Dear Sir:

I have tried to answer all of your questions concerning the referenced project. The Fire Department will have no problem in supporting the proposed development. This letter is not Fire Department approval for this proposal, as we have not received plans for review. The companies that will serve the area and the type of equipment are:

1st Engine Company – Engine Company 206
1st Ladder Company – Ladder Company 140

These units are located at: 1201 Grand Street, Brooklyn, New York 11211
56-07 Metropolitan Avenue, Queens, New York 11385

2nd Engine Company – Engine Company 237
2nd Engine Company – Ladder Company 124

These units are located at: 43 Morgan Avenue, Brooklyn, New York 11237
394 Himrod Street, Brooklyn, New York 11237

The Fire Department has no plans to make any changes in stations or equipment in the area. If there are any questions, please call Captain Paul Conlon at (718) 855-8571.

Sincerely yours,

Salvatore J. Cassano,
Chief of Operations

Correspondence with Consolidated Edison Company		
6/1/03	Multiple packages received from Consolidated Edison	All MTS sites
6/30/04	Letter from Vincent Soriano acknowledging the receipt of the 6/17/04 letter requesting utility information for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes, Meserole
10/17/03	Fax from M. Morrone (HQ) to Tom Grimaldi, (Consolidated Edison), requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes
10/20/03	Letter from M. Morrone (HQ) to Patricia Whitley, (Consolidated Edison), requesting utility service plates for the MTS sites and surrounding areas	52nd Street, Scott / Scholes, Meserole
1/21/04	Letter from M. Morrone (HQ) to Rich B., Consolidated Edison, sending a copy of the letter sent to Ms. Whitley on 10/20/03.	52nd Street, Scott / Scholes, Meserole
1/21/04	Letter from M. Morrone (HQ) to Rich B., Consolidated Edison, sending a copy of the letter sent to Ms. Whitley on 10/20/03.	52nd Street, Scott / Scholes, Meserole
1/21/04	Letter from M. Morrone (HQ) to Al Myles, (Consolidated Edison), requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes, Meserole
1/27/04	Fax from M. Morrone (HQ) to Al Myles, (Consolidated Edison), requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes, Meserole
5/28/04	Letter from B. George (HQ) to Al Myles, Consolidated Edison, requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes, Meserole
Week of 6/14/04	Package from Consolidated Edison containing requested utility service plates for the MTS sites and surrounding areas	52nd Street, Scott / Scholes, Meserole
6/22/04	Telephone call from B. George (HQ) to Al Myles, Consolidated Edison, requesting missing utility service plates from package received week of 6/14/04.	52nd Street
6/30/04	Package from Consolidated Edison containing updated utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott / Scholes, Meserole

HydroQual

Environmental
Engineers & Scientists

FAXED

FAX TRANSMISSION

TO:	Mr. Joseph Murphy, Con Edison	FROM:	Dennis Scannell
FAX NO:	(718) 802 - 5507	DATE:	June 12, 2003
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Margie (ext 7100/7186)

NUMBER OF PAGES INCLUDING COVER SHEET 6

ORIGINAL DOCUMENT TO BE MAILED	___ YES	X NO
RETURN FAX TO SENDER	X YES	___ NO
FAX TO BE FILED	X YES	___ NO
ATTACH COVER SHEET TO TRANSMITTAL	X YES	___ NO

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COMMENTS:

Mr. Murphy,

As discussed this afternoon, attached please find our information request (on company letterhead) for the DSNY marine transfer station (MTS) facilities. The four (4) facilities that we need the M & S plates for can be found on the attached maps (These maps include an outline of the MTS site and the surrounding area). If you have any questions or require any additional information please call me.

Thanks you in advance for assistance,

Dennis Scannell

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HYDROQUAL, INC. ONE LETHBRIDGE PLAZA, MAHWAH, NJ 07430 T:201-529-5151 F:201-529-5728

HydroQual

Environmental
Engineers & Scientists

June 12, 2003

Mr. Joseph Murphy
Con Edison
30 Flatbush Avenue
Brooklyn, NY 11217

HDRE0203

RE: Request for Electric and Gas Information

Dear Mr. Murphy:

On behalf of the New York City Department of Sanitation (DSNY), HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites under consideration as part of the Solid Waste Management Plan.

Attached please find area maps for the four (4) sites for which we are requesting utility information.

Since the DSNY is operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office at 201-529-5151 if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

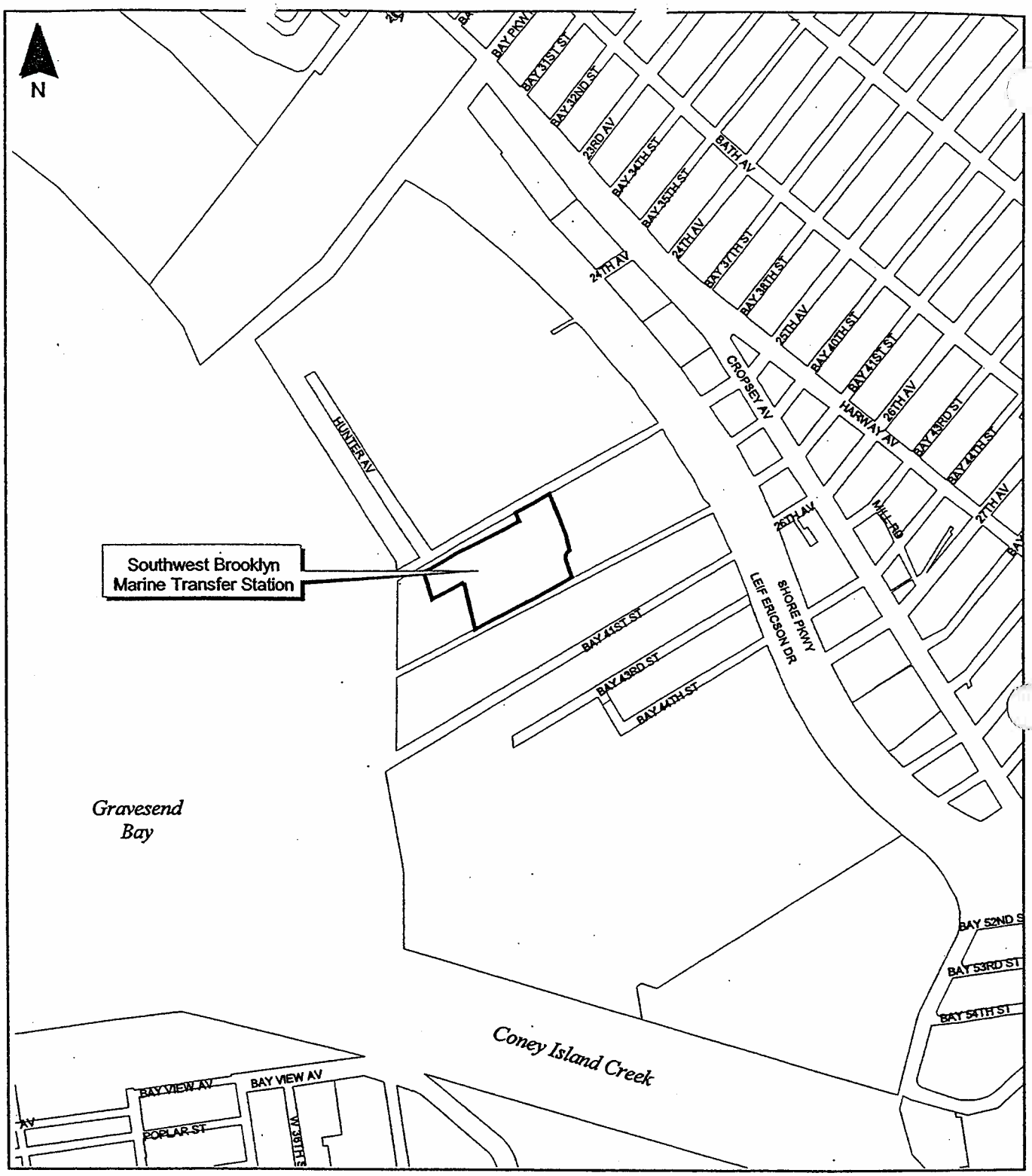
Dennis Scannell

Dennis Scannell
Project Manager

DES/kfw
HDRE0203/MURPHY_061203.LTR
Enclosures

HydroQual, Inc.

One Lethbridge Plaza, Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

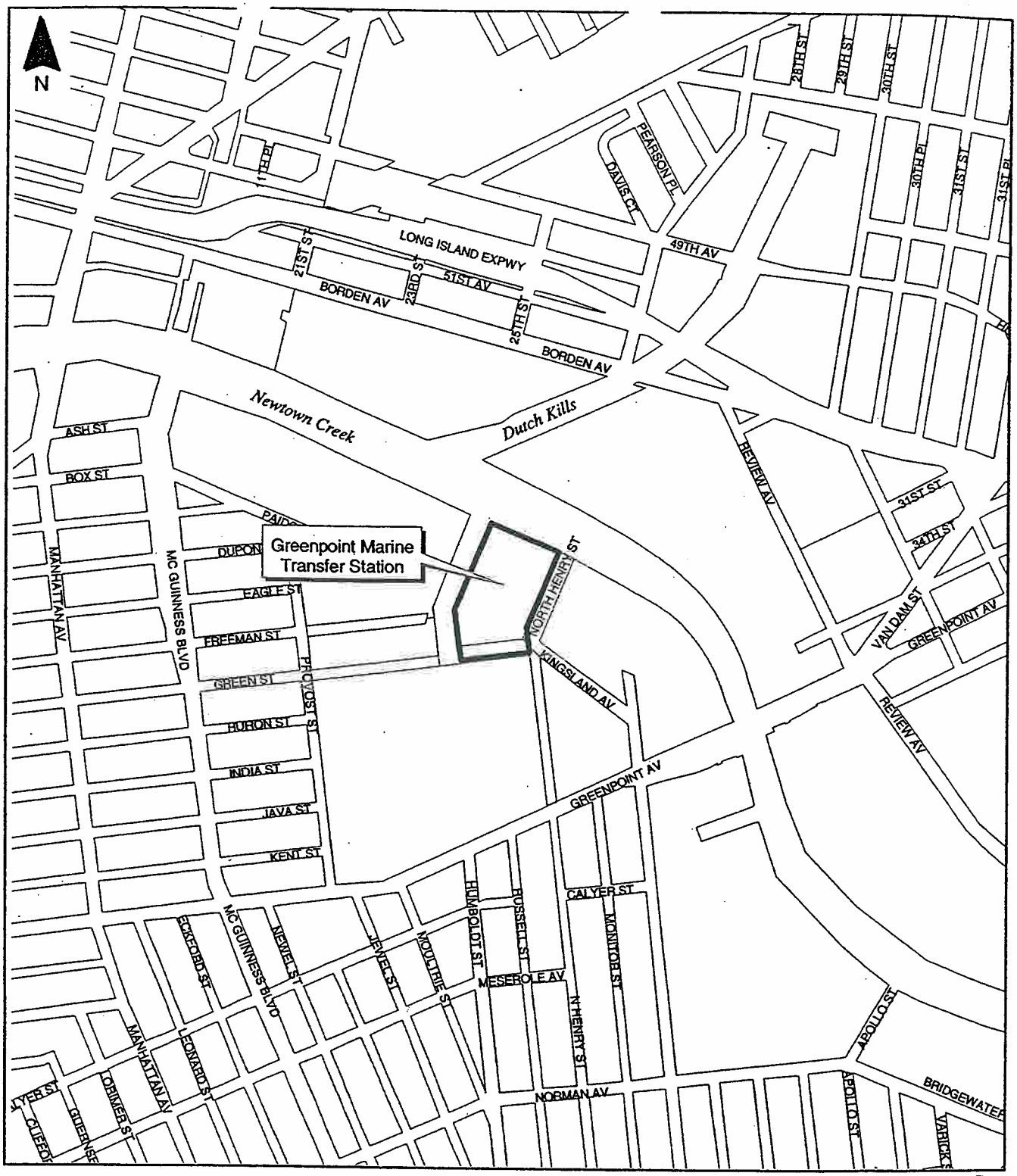
600 0 600 Feet

HDR

Figure 1-2 Vicinity Map

Southwest Brooklyn Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

500 0 500 Feet

HDR

Hydrostal

Figure 1-2 Vicinity Map

Greenpoint Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION

THE CITY OF NEW YORK DEPARTMENT OF SANITATION

Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

500 0 500 Feet

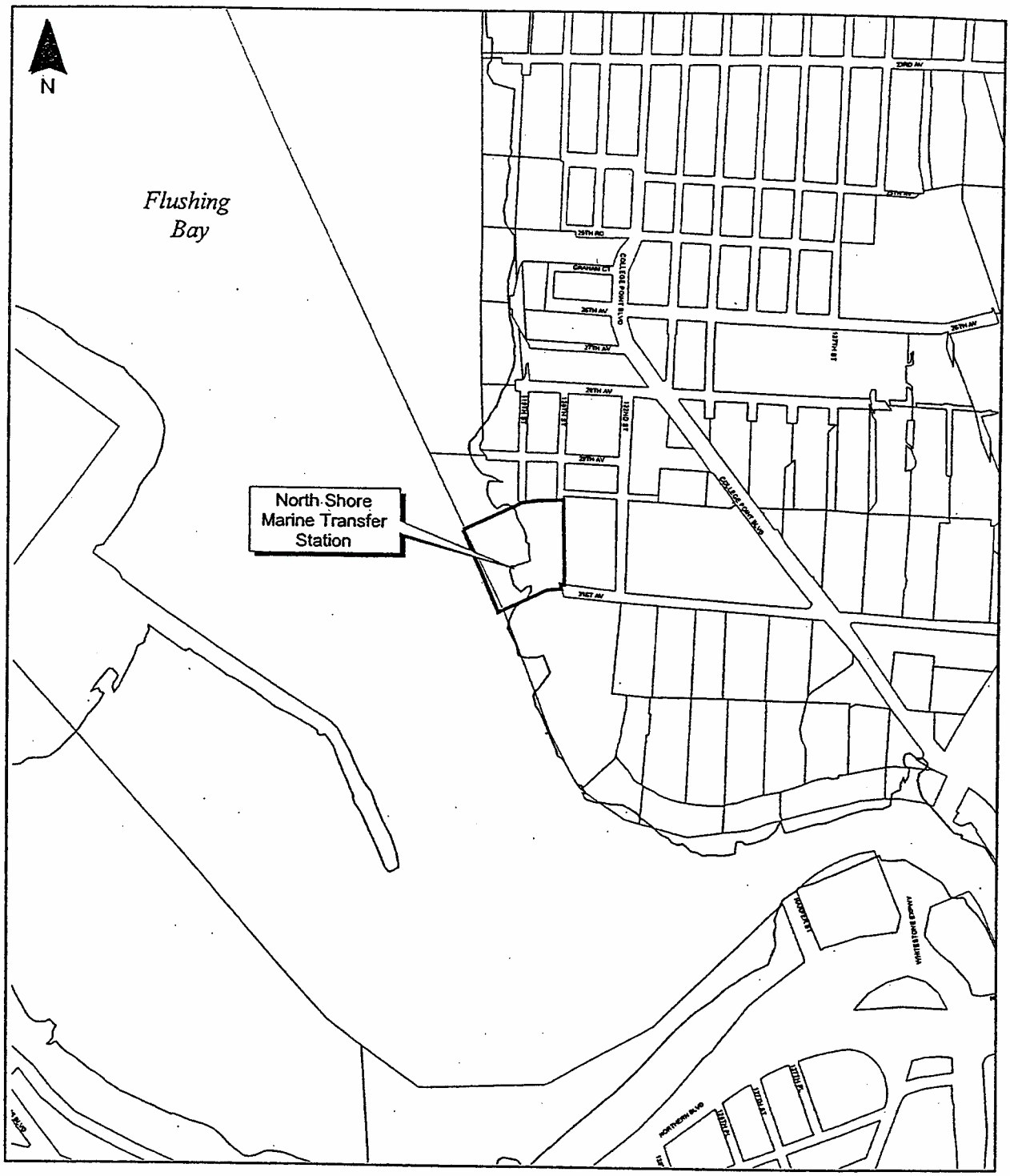
HDR

Hydroqual

Figure 1-2 Vicinity Map

Hamilton Avenue Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

500 0 500 Feet

HDR

Figure 1-2 Vicinity Map

North Shore Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION

HydroQual

Environmental
Engineers & Scientists

July 22, 2003

Mr. Thomas Grimaldi
Con Edison
511 Theodore Fremd Avenue
Room 243
Rye, New York 10580

HDRE0203

RE: Request for Electric and Gas Information

Dear Mr. Grimaldi:

On behalf of the New York City Department of Sanitation (DSNY), HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites under consideration as part of the Solid Waste Management Plan.

Attached please find a check in the amount of $64.95 which follows our fax sent to you on Tuesday, July 22, 2003. We are requesting the following gas and electric plates: 3M, 3N, 2M,, 2N, 2O and 2P.

Since the DSNY is operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

MEM/kfw
HDRE0203/GRIMALDI_0722503B.LTR
Enclosures

HydroQual, Inc.

One Lethbridge Plaza, Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com

droQual, Inc.

▼ PLEASE DETACH AND RETAIN FOR YOUR RECORDS ▼

VOICE NUMBER	DATE		VOUCHER NO.	AMOUNT
		HDRE0203		

THIS DOCUMENT IS PROTECTED BY A MICRO-PRINT SIGNATURE LINE, FLUORESCENT PAPER FIBERS, A WATERMARKED BACKER, AND IS REACTIVE TO CHEMICAL ALTERATION

HydroQual, Inc.
1 LETHBRIDGE PLAZA
MAHWAH, NJ 07430

55-2/741
212

FIRST UNION NATIONAL
BANK OF NEW JERSEY

NO. 026992

PAY Sixty Four DOLLARS AND Nintyfive CENTS $ 64.95

TO THE ORDER OF Con Edison

Brian J. Koffler
AUTHORIZED SIGNATURE

WARNING: THIS DOCUMENT IS VOID IF ACCOUNT NUMBER DOES NOT APPEAR ON THE REVERSE SIDE IN RED

⑈026992⑈ ⑆021200025⑆ 2001210387853⑈

droQual, Inc.

HydroQual

Environmental
Engineers & Scientists

July 29, 2003

Mr. Thomas Grimaldi
Con Edison
511 Theodore Fremd Avenue
Room 243
Rye, New York 10580

HDRE0203

RE: Request for Electric and Gas Information

Dear Mr. Grimaldi:

On behalf of the New York City Department of Sanitation (DSNY), HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites under consideration as part of the Solid Waste Management Plan.

Attached please find a check in the amount of $32.48 which follows our telephone conversation. As discussed, please send us the six (6) available gas and electric plates and return our previous check for the amount of $64.95.

Since the DSNY is operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Phil Simmons (for Melissa Morrone)

Melissa E. Morrone

MEM/kfw
HDRE0203/GRIMALDI_072803.LTR
Enclosures

HydroQual, Inc.

One Lethbridge Plaza, Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com

HydroQual

Environmental
Engineers & Scientists

FAXED

FAX TRANSMISSION

TO:	Joseph Maltz	FROM:	Melissa Morrone
FAX NO:	718-625-3569	DATE:	2/20/03
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

NUMBER OF PAGES INCLUDING COVER SHEET 10

ORIGINAL DOCUMENT TO BE MAILED	____YES	____NO
RETURN FAX TO SENDER	____YES	____NO
FAX TO BE FILED	____YES	____NO
ATTACH COVER SHEET TO TRANSMITTAL	____YES	____NO

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COMMENTS:

Please see attached regarding request for utility plate information

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HYDROQUAL, INC. ONE LETHBRIDGE PLAZA, MAHWAH, NJ 07430 T:201-529-5151 F:201-529-5728

HydroQual

Environmental
Engineers & Scientists

February 20, 2003

Mr. Joseph Maltz
Keyspan Energy Delivery
One Metrotech Center
17th Floor, Drafting
Brooklyn, NY 11201

HDRE0203

RE: Request for Utility Information

Dear Mr. Maltz:

On behalf of the New York City Department of Sanitation (DSNY), HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites under consideration as part of the Solid Waste Management Plan.

Attached please find location maps of the particular sites. We are requesting that you provide any applicable utility information either existing or proposed. Utility line location maps/plates should also be provided if available.

Since the DSNY is operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office if you have any immediate questions. Thank you for your assistance.

Very truly yours,

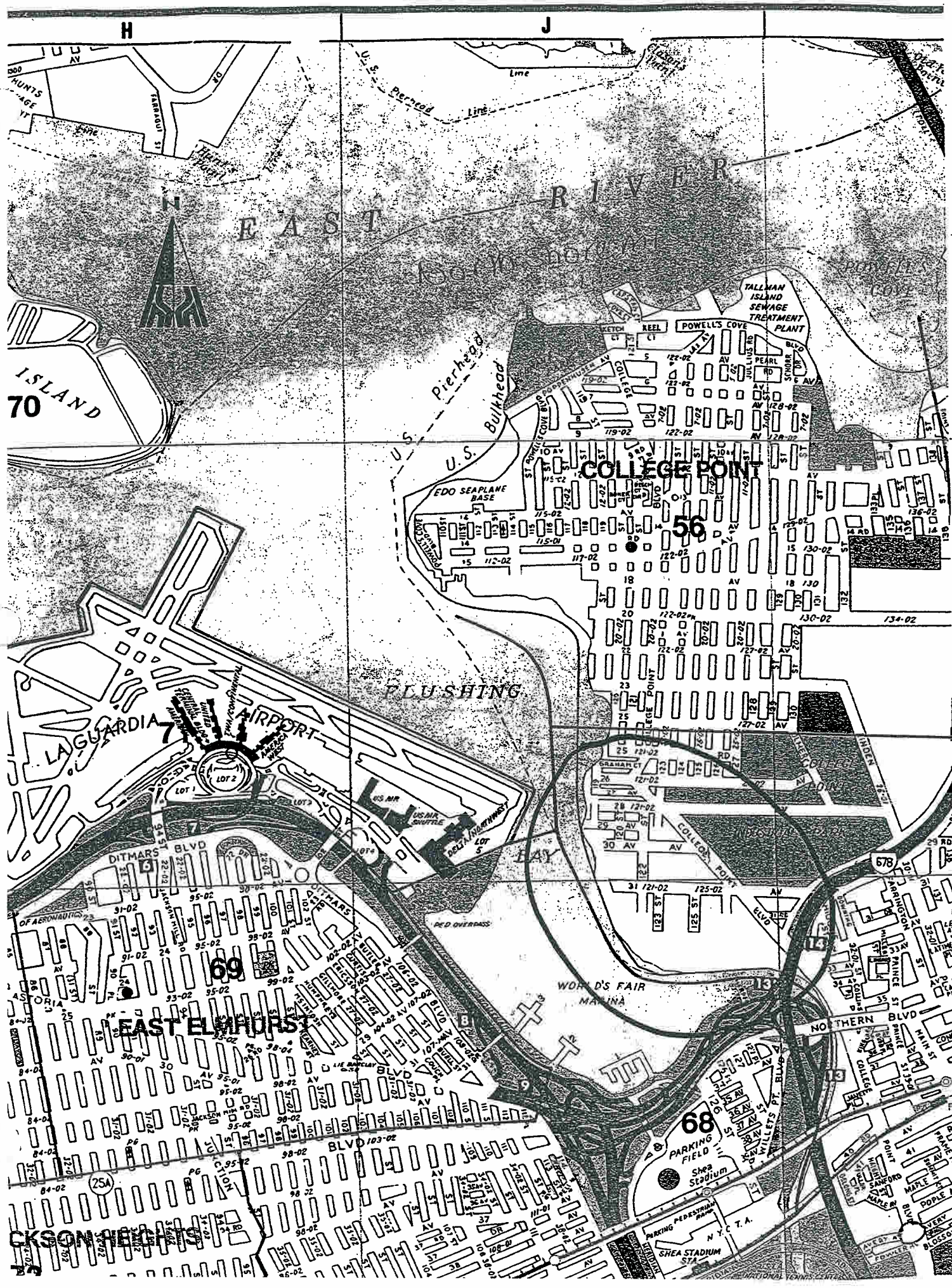
HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

MEM/kfw
HDRE0203/MALTZ_022003.LTR
Enclosures

HydroQual, Inc.
One Lethbridge Plaza, Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com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Pierhead Line
U.S. Bulkhead
TALLMAN ISLAND SEWAGE TREATMENT PLANT
POWELL'S COVE
KETCH CT
KEEL CT
PEARL RD
COLLEGE POINT
56
EDO SEAPLANE BASE
FLUSHING
LAGUARDIA AIRPORT
7
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LOT 2
LOT 3
LOT 4
LOT 5
US AIR
US AIR SHUTTLE
DELTA/NORTHWEST
DITMARS BLVD
BAY
PED OVERPASS
WORLD'S FAIR MARINA
69
EAST ELMHURST
NORTHERN BLVD
68
PARKING FIELD
Shea Stadium
PARKING
PEDESTRIAN RAMP
N.Y.C.T.A.
SHEA STADIUM STA
NATIONAL TENNIS CENTER
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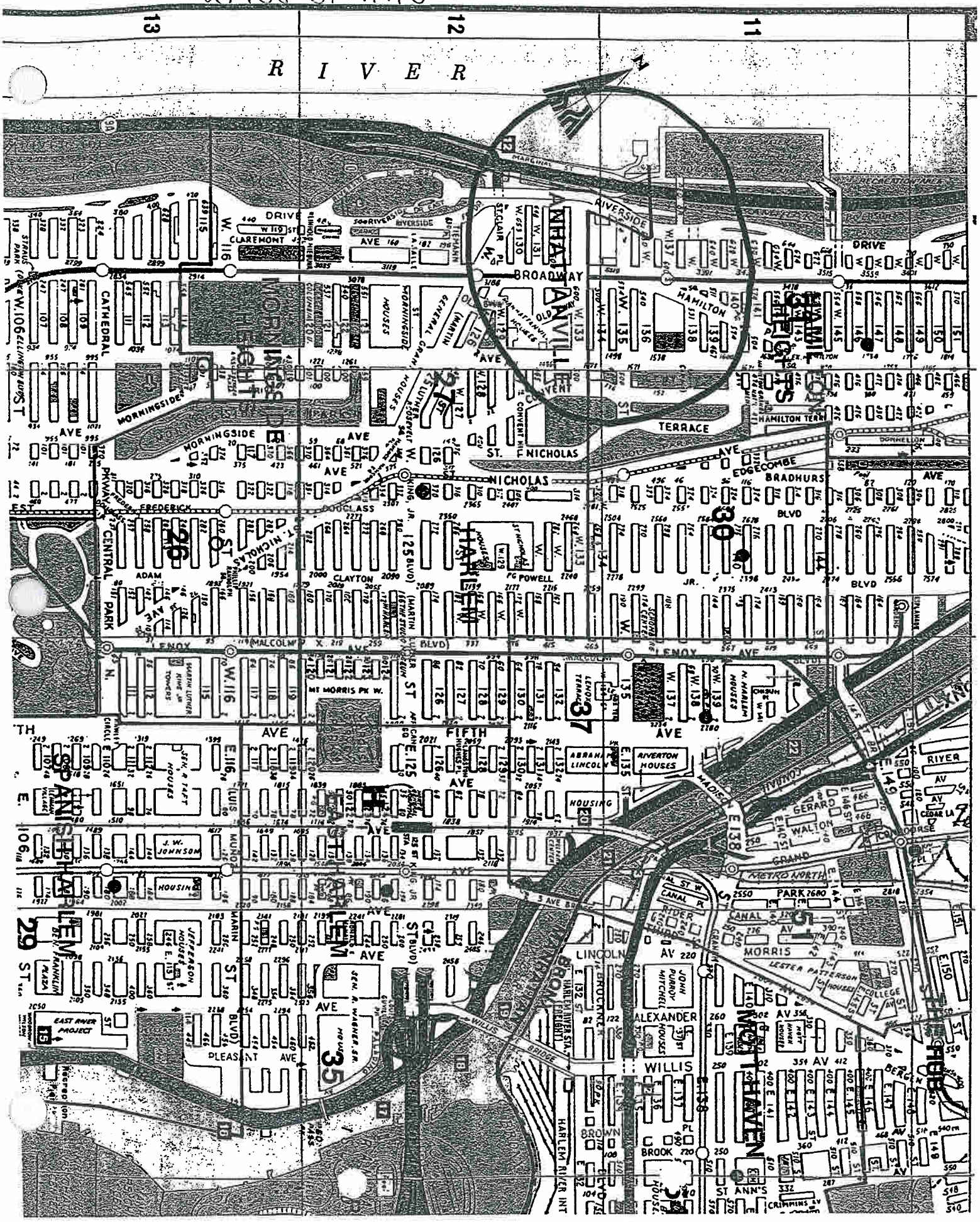
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CATHEDRAL
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NICHOLAS
EDGECOMBE
BRADHURST
BLVD
FREDERICK
DOUGLAS
CENTRAL
PARK
ADAM
CLAYTON
POWELL
JR.
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(MALCOLM X BLVD)
MT MORRIS PK W.
FIFTH
AVE
E. 125
ABRAHAM LINCOLN
RIVERTON HOUSES
HADISON
GERARD
WALTON
GRAND
METRO NORTH
PARK
CANAL
MORRIS
LESTER PATTERSON HOUSES
COLLEGE
LINCOLN
ALEXANDER
WILLIS
BROWN
BROOK
ST ANN'S
HARLEM RIVER INT
HARLEM RIVER
EAST RIVER PROJECT
PLEASANT AVE
MARIN
J. W. JOHNSON
JEFFERSON HOUSES
FRANKLIN PLAZA
HOUSING
ST. NICHOLAS
CONVENT
HOUSES
MARTIN LUTHER KING JR TOWERS
N. HARLEM HOUSES
SCHOOL
CENTER
ST. NICHOLAS PARK
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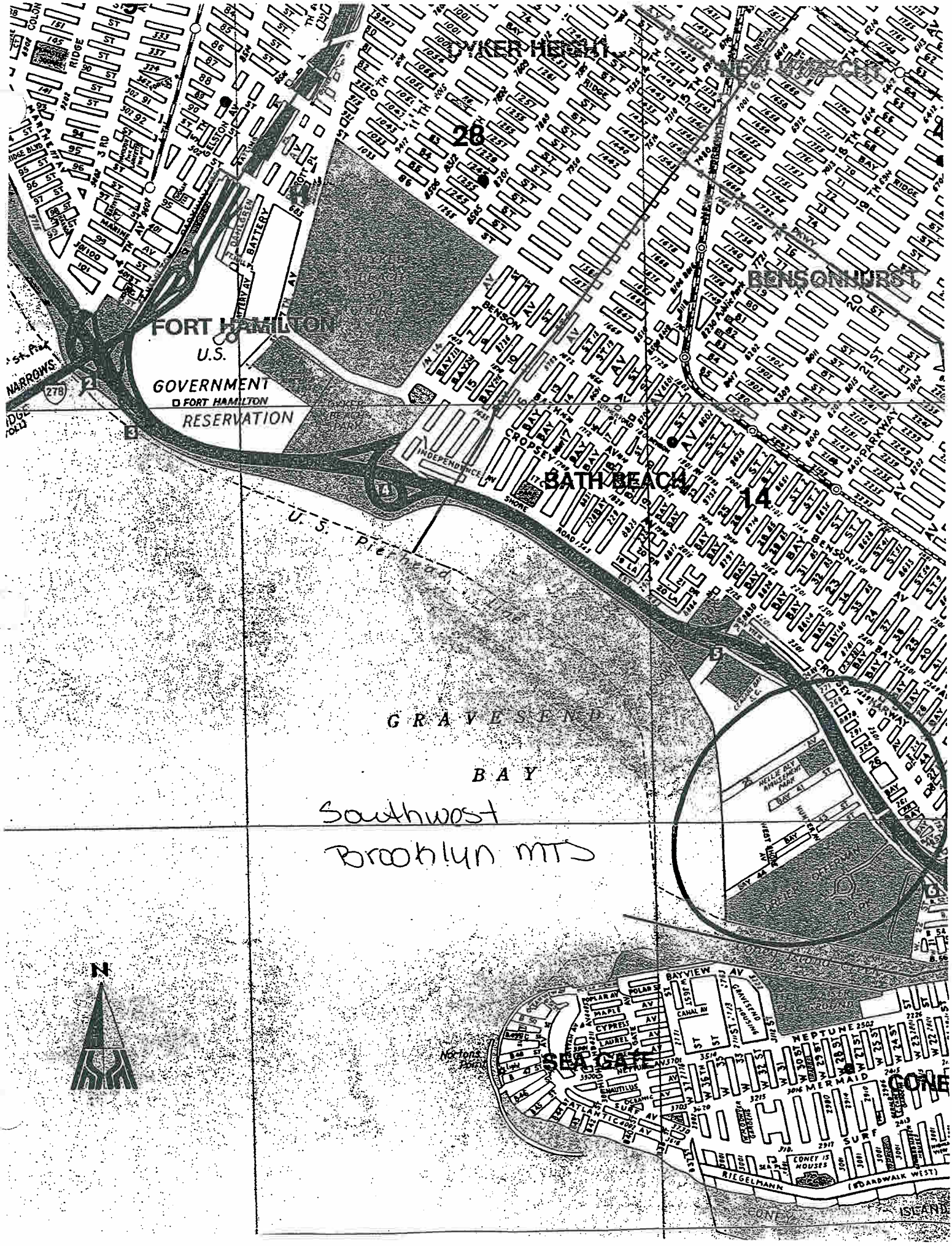
FORT HAMILTON
U.S.
GOVERNMENT
FORT HAMILTON
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GRAVESEND
BAY
Southwest
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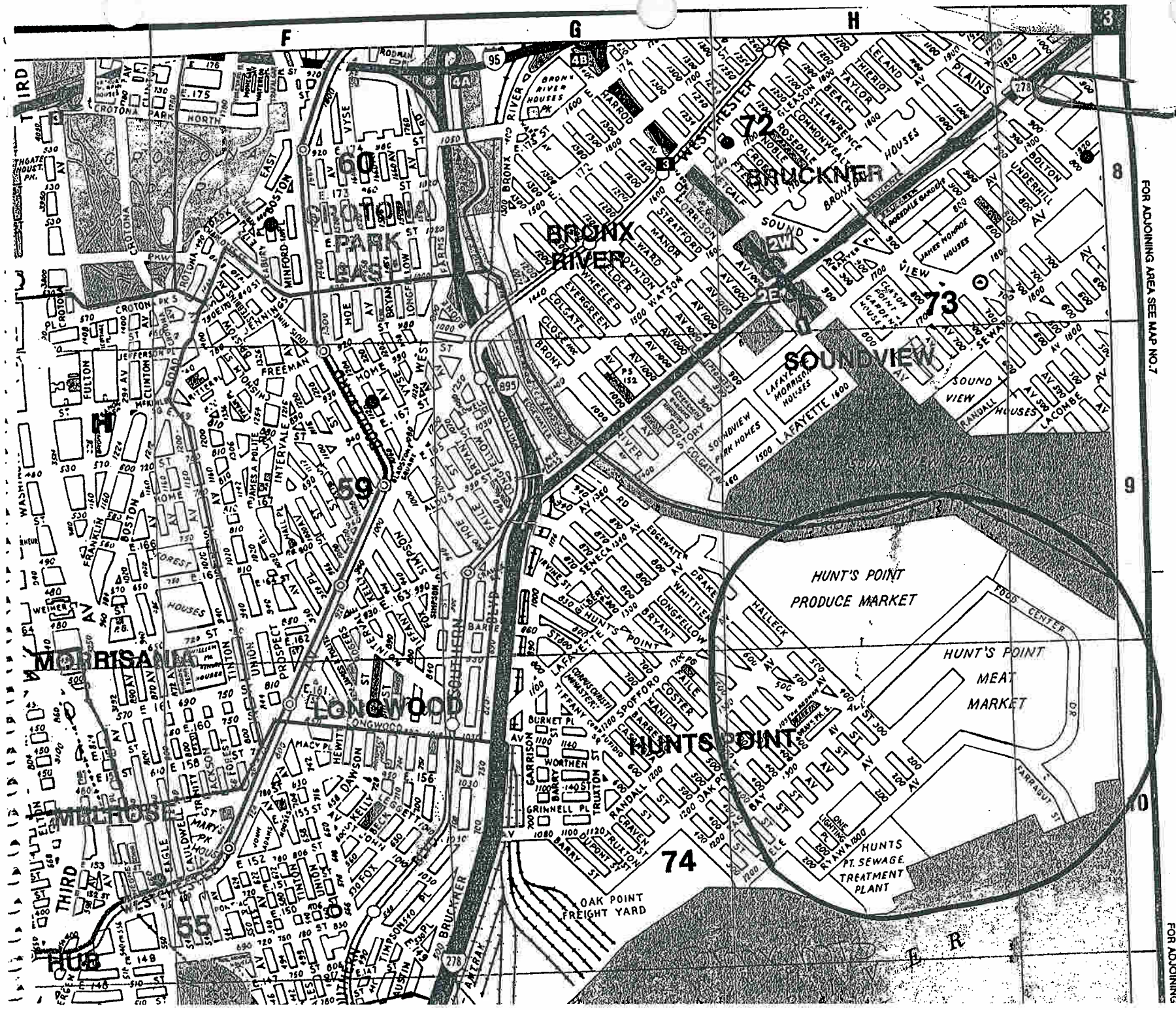
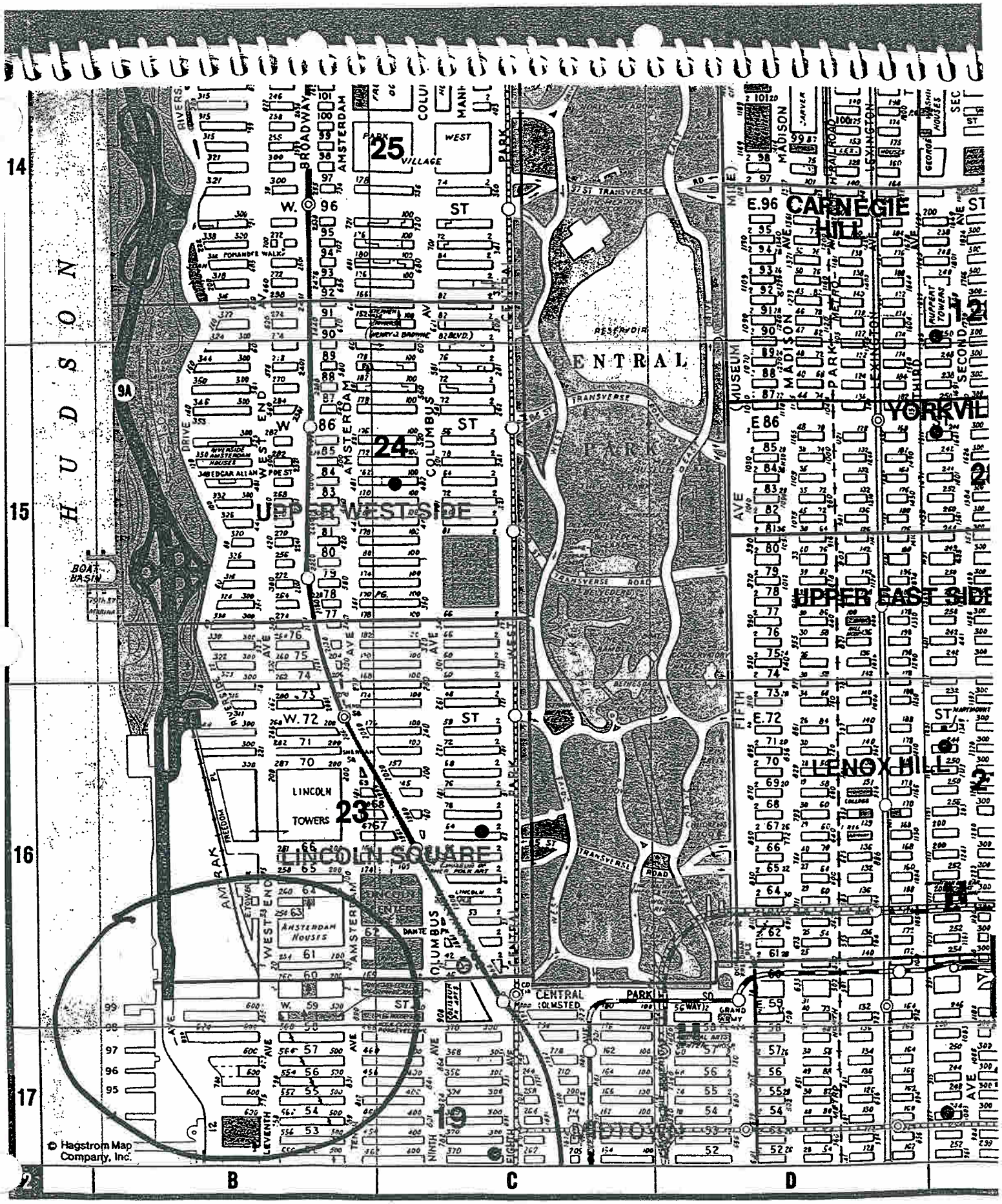
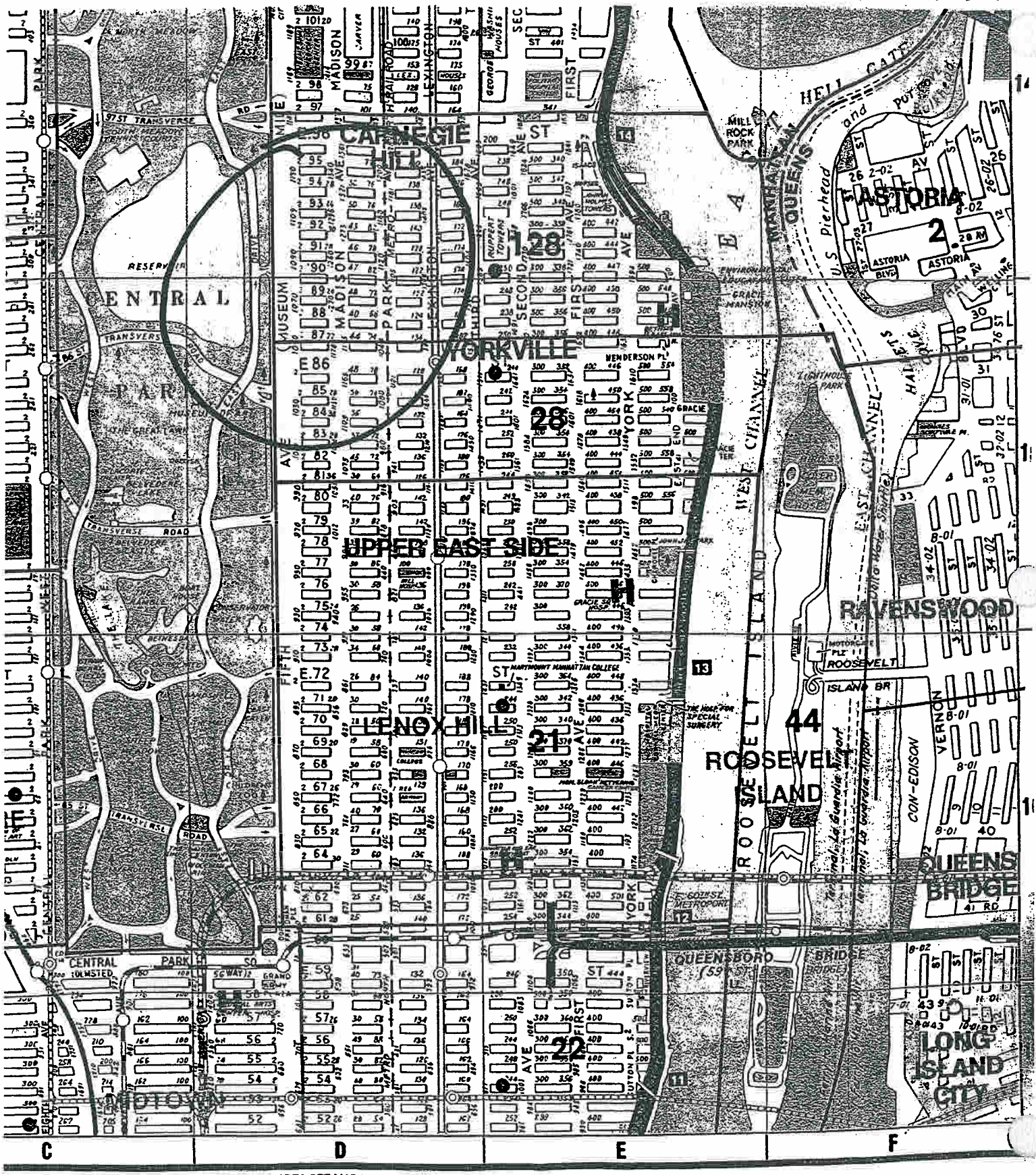
CONEY ISLAND
NARROWS
INDEPENDENCE
BENSON AV
BAY RIDGE
BAYVIEW AV
NEPTUNE
MERMAID
SURF
RIEGELMANN
(BOARDWALK WEST)
CONEY ISLAND


BRONX RIVER
BRUCKNER
SOUNDVIEW
HUNTS POINT
LONGWOOD
MORRISANIA
MELROSE
HUB
HUNT'S POINT PRODUCE MARKET
HUNT'S POINT MEAT MARKET
HUNTS PT. SEWAGE TREATMENT PLANT
OAK POINT FREIGHT YARD
FOR ADJOINING AREA SEE MAP NO.7
FOR ADJOINING

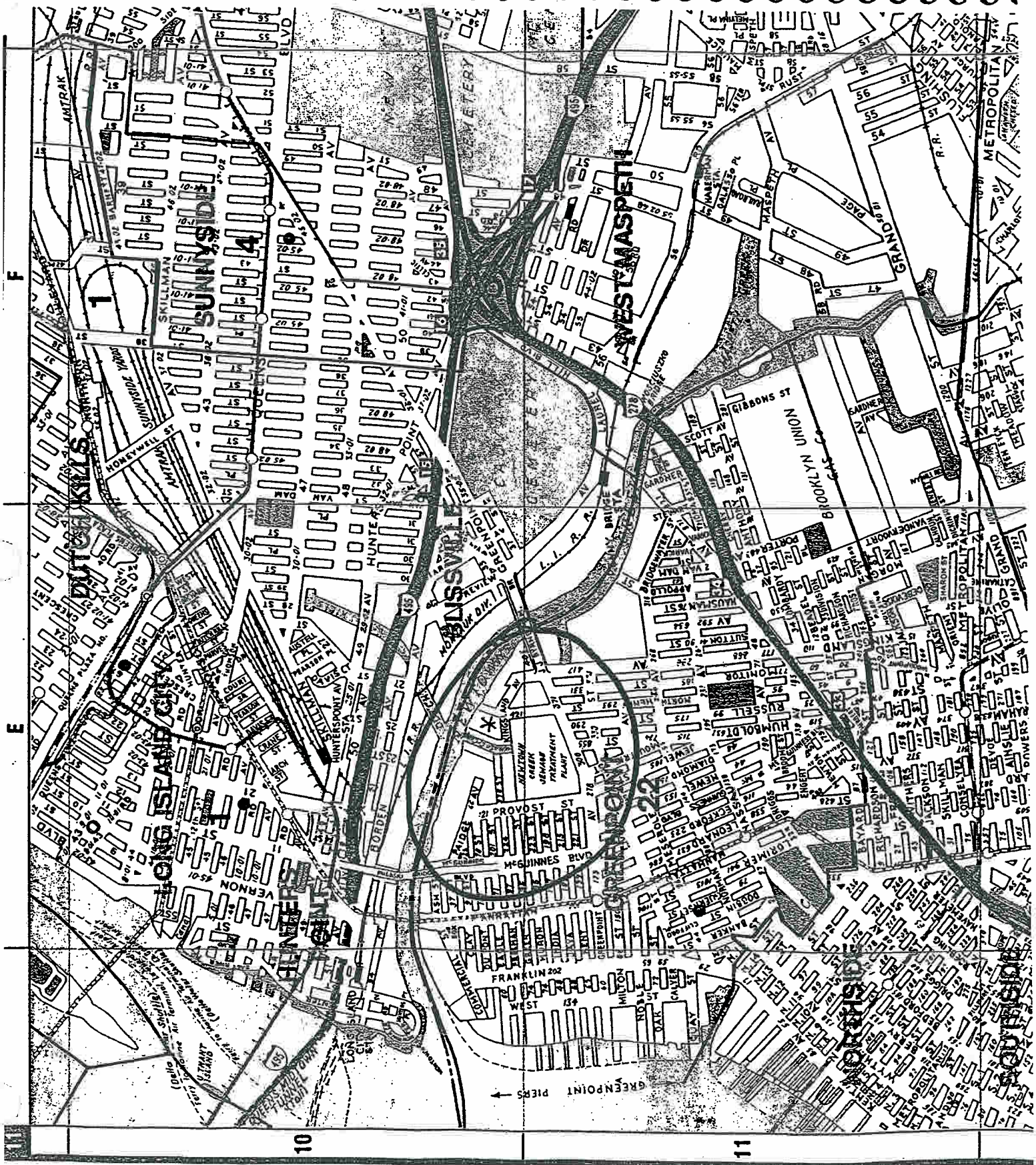

HUDSON
RIVER
UPPER WEST SIDE
CENTRAL PARK
UPPER EAST SIDE
CARNEGIE HILL
YORKVILLE
LENOX HILL
LINCOLN SQUARE
LINCOLN TOWERS
BROADWAY
AMSTERDAM
COLUMBUS
MADISON
LEXINGTON
PARK
FIFTH
SECOND
THIRD
W. 96 ST
W. 86 ST
W. 72 ST
W. 59 ST
E. 96 ST
E. 86 ST
E. 72 ST
E. 59 ST
BOAT BASIN
CENTRAL PARK SOUTH
© Hagstrom Map Company, Inc.
FOR ADJOINING AREA SEE MAP NO.1

W. 59th St MTS

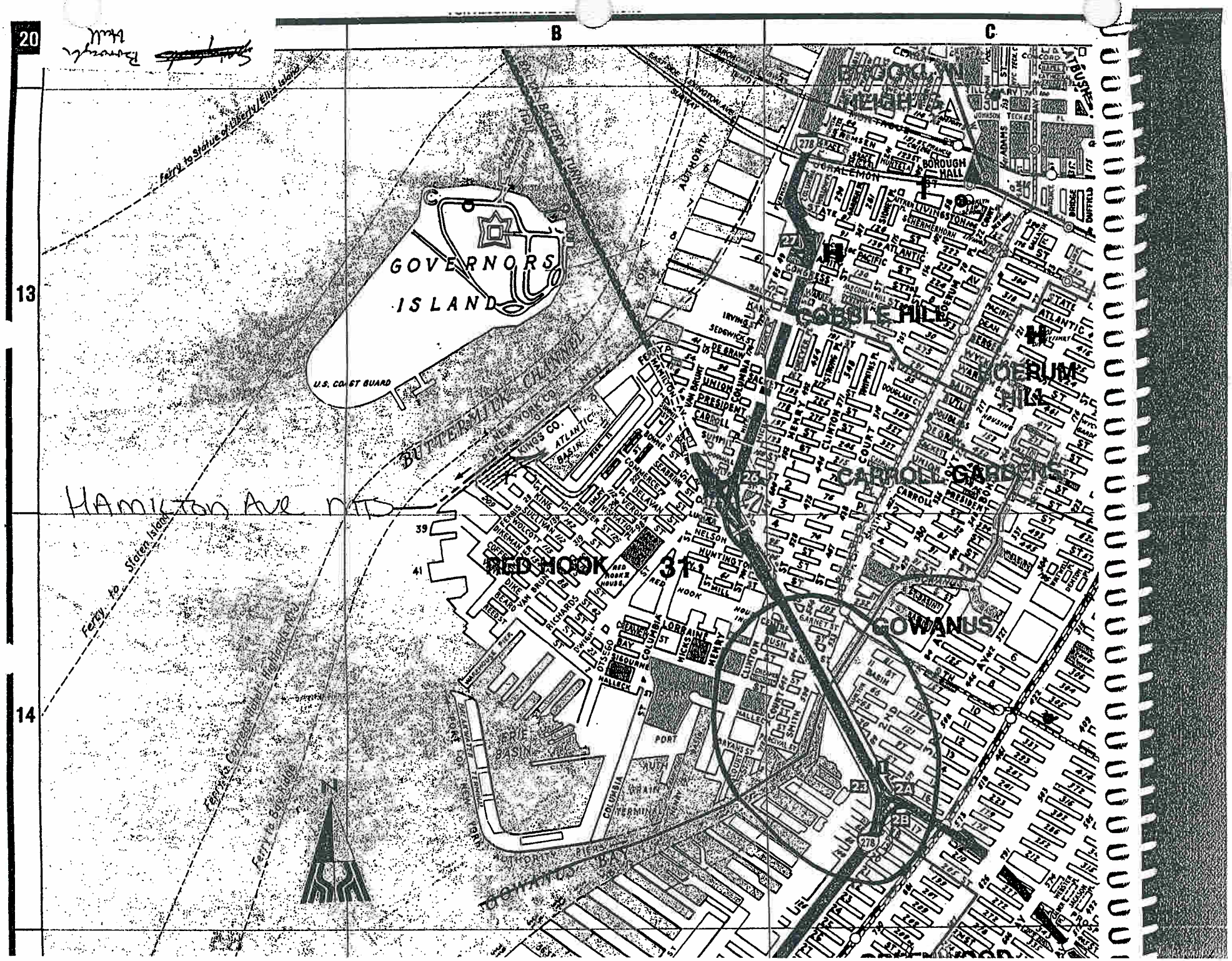


FOR ADJOINING AREA SEE MAP NO.1

E. 91st ST mts



Green Point MTS


20
B
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14
GOVERNORS ISLAND
U.S. COAST GUARD
ferry to Statue of Liberty/Ellis Island
ferry to Staten Island
Hamilton Ave
BUTTERMILK CHANNEL
BROOKLYN HEIGHTS
BOROUGH HALL
COBBLE HILL
CARROLL GARDENS
COWANUS
RED HOOK
ERIE BASIN
COWANUS BAY
ATLANTIC BASIN
PRESIDENT
CARROLL
UNION
HAMILTON AV
COLUMBIA
DELAVAN
HUNTINGTON
NELSON
VAN BRUNT
WOLCOTT
BEARD
DIKE
RICHARDS
SIGOURNEY
HALLECK
WEST
BAY
PORT
BUSH
CLINTON
COURT
HENRY
ATLANTIC
PACIFIC
STATE
SCHERMERHORN
LIVINGSTON
JOHNSON
ADAMS
BRIDGE
DUFFIELD
FLATBUSH
CONCORD
ST JOHNS PLACE
EAST 2ND
EAST 3RD
BROOKLYN BATTERY TUNNEL
NEW YORK SHIPPING CHANNEL
KINGS CO.
PIER 11
39
41
31
1
2A
2B
23
26
27
278

FAXED

Hydroqual

Environmental
Engineers & Scientists

FAX TRANSMISSION

TO:	NKK LAURITANO	FROM:	JAMES DERIU
FAX NO:	(914) 925-6487	DATE:	5/13/03
ACCT. NO:	HDREO203	REPORT PROBLEMS TO:	JAMES (x 7205)

NUMBER OF PAGES INCLUDING COVER SHEET 11

ORIGINAL DOCUMENT TO BE MAILED	___ YES	X NO
RETURN FAX TO SENDER	___ YES	X NO
FAX TO BE FILED	X YES	___ NO
ATTACH COVER SHEET TO TRANSMITTAL	___ YES	X NO

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COMMENTS:

MR. LAURITANO:

ATTACHED IS ORIGINAL FAX FROM MELISSA MORRONE OF HYDROQUAL, DATED 2/20/03. WE HAVE NOT RECEIVED INFORMATION AS OF YET. PLEASE LET ME KNOW ASAP IF YOU ARE THE RIGHT PERSON TO CONTACT REGARDING THIS REQUEST.

THANKS IN ADVANCE FOR YOUR ASSISTANCE.

JAMES DERIU.

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HYDROQUAL, INC. ONE LETHBRIDGE PLAZA, MAHWAH, NJ 07430 T:201-529-5151 F:201-512-3825

HydroQual

Environmental
Engineers & Scientists

FAX TRANSMISSION

TO:	Nick Lauritano	FROM:	Melissa Morrone
FAX NO:	914-925-6487	DATE:	8/20/03
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

NUMBER OF PAGES INCLUDING COVER SHEET 10

ORIGINAL DOCUMENT TO BE MAILED	____YES	____NO
RETURN FAX TO SENDER	____YES	____NO
FAX TO BE FILED	____YES	____NO
ATTACH COVER SHEET TO TRANSMITTAL	____YES	____NO

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COMMENTS:

Please see attached for information regarding our request for utility plates.

JED – CALLED 8/13/03 – (914) 925-6178
* NICK LAURITANO *

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HYDROQUAL, INC. ONE LETHBRIDGE PLAZA, MAHWAH, NJ 07430 T:201-529-5151 F:201-529-5728

HydroQual
Environmental
Engineers & Scientists
HydroQual, Inc. One Lethbridge Plaza, Mahwah, NJ 07430 T: 201-529-5151 F: 201-529-5728

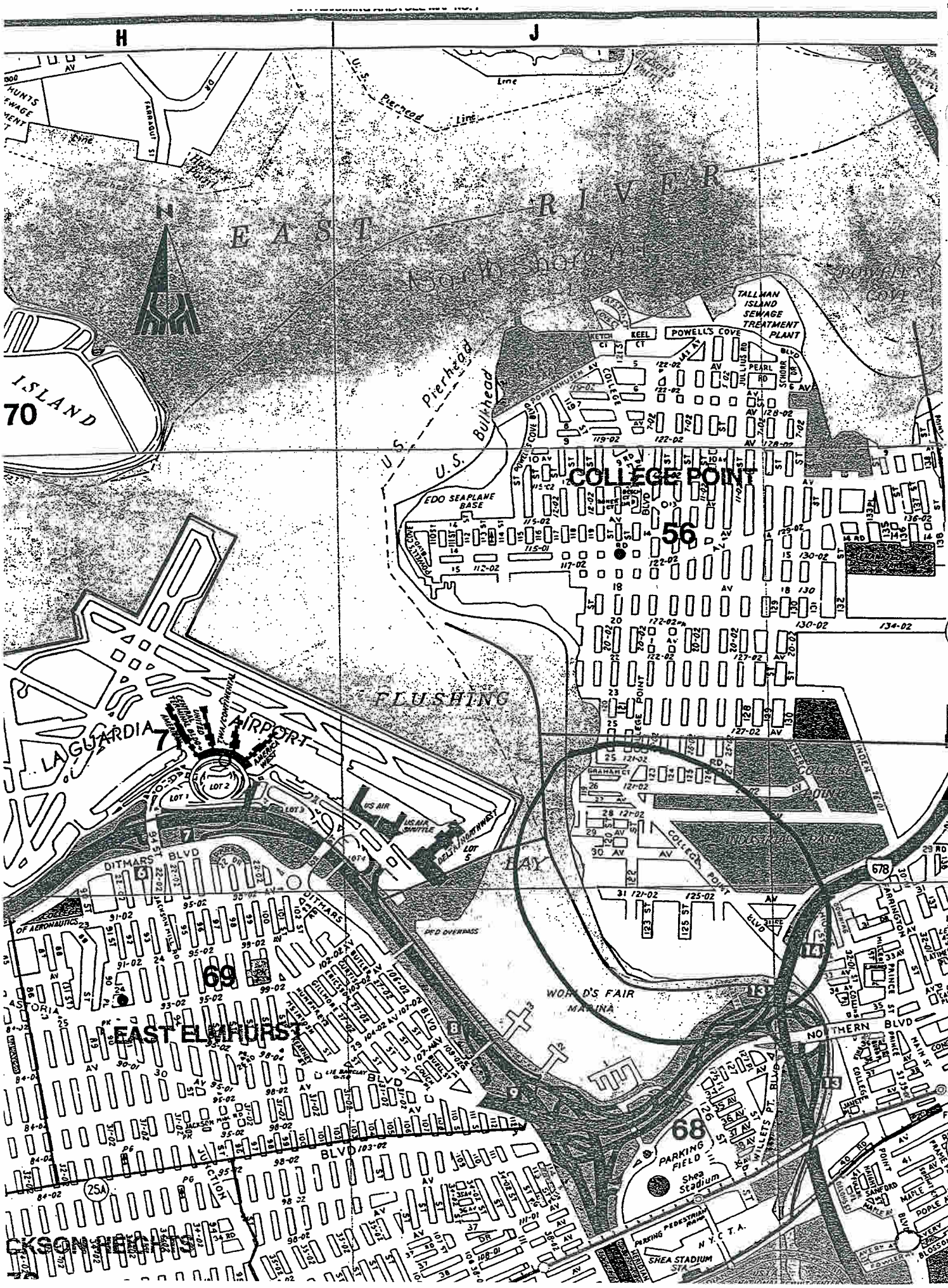
SUBJECT:	PAGE: 1	BY: MEM	DATE:	PROJECT NUMBER:
Con Ed Utility Maps	OF:	CHECKED:	2/20/03	HDR00203

The following plate maps that we have are ~~dated~~ called 1998 + 1999. We'd like to know if there are any updates.

I am also attaching maps for each of the eight sites we are interested in. The specific areas are within the circle.

Plates

Bronx	Brooklyn	Queens	Manhattan
1-E	39-1	58-X	55-C
3-O	58-X	56-Z	56-C
1-F	9-1		
3-C			
4-B			
4-C			
4-J			
5-J			
2-O			


H
J
EAST RIVER
Northshore
U.S. Pierhead Line
Pierhead Line
Bulkhead Line
TALLMAN ISLAND SEWAGE TREATMENT PLANT
POWELL'S COVE
KEEL CT
PEARL RD
SCHORR DR
COLLEGE POINT BLVD
POPPENHUSEN AV
EDO SEAPLANE BASE
COLLEGE POINT
56
ISLAND
70
FLUSHING
BAY
LA GUARDIA AIRPORT
7
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
US AIR
USAIR SHUTTLE
DELTA NORTHWEST
DITMARS BLVD
69
ASTORIA
EAST ELMHURST
JACKSON HEIGHTS
25A
WORLD'S FAIR MARINA
NORTHERN BLVD
68
PARKING FIELD
Shea Stadium
SHEA STADIUM STA.
N.Y.C.T.A.
PARKING PEDESTRIAN RAMP
MERIDIAN
678
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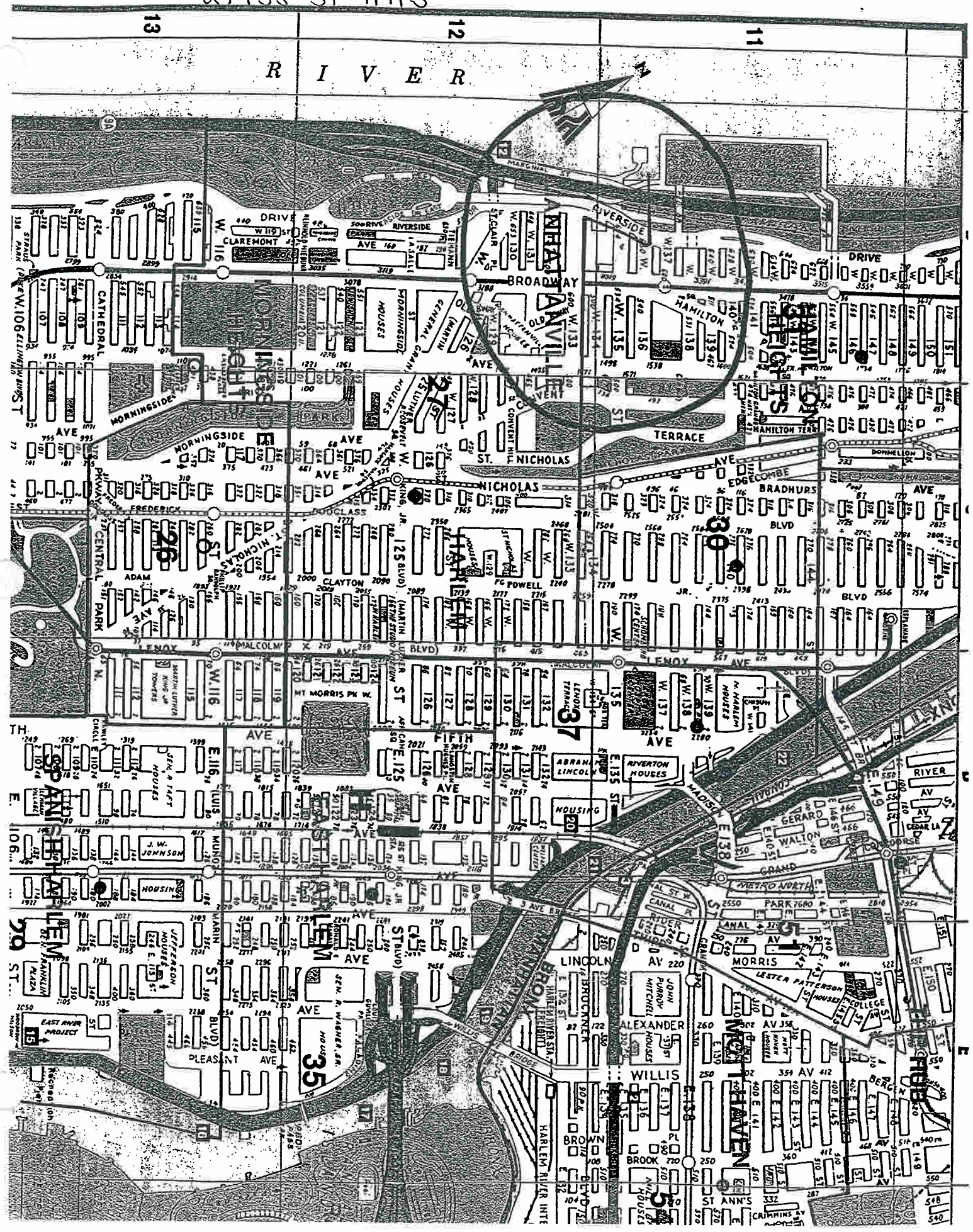
W 135 St MTS


13
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RIVER
DRIVE
CLAREMONT
RIVERSIDE
AVE
BROADWAY
HAMILTON
TERRACE
HAMILTON TERR
CATHEDRAL
MORNINGSIDE
AVE
ST. NICHOLAS
NICHOLAS
EDGECOMBE
BRADHURST
BLVD
FREDERICK
DOUGLASS
CENTRAL
PARK
ADAM
CLAYTON
POWELL
JR.
BLVD
LENOX
AVE
MT MORRIS PK W.
FIFTH
AVE
E.116
E.125
E.135
E.138
E.149
RIVER
GERARD
WALTON
GRAND
METRO NORTH
PARK
MORRIS
LESTER PATTERSON HOUSES
COLLEGE
LINCOLN
BRUCKNER
ALEXANDER
WILLIS
BROWN
BROOK
ST ANN'S
CRIMMINS
EAST RIVER PROJECT
PLEASANT
AVE
HARLEM
MANHATTAN
BRONX
NEW HAVEN
HARLEM RIVER INTE
HOUSING
RIVERTON HOUSES
ABRAHAM LINCOLN
J. W. JOHNSON
JEFFERSON HOUSES
MARIN
ST
BLVD
MUNOZ
MARIN
FRANKLIN PLAZA
MORNINGSIDE HOUSES
CENTRAL PARK
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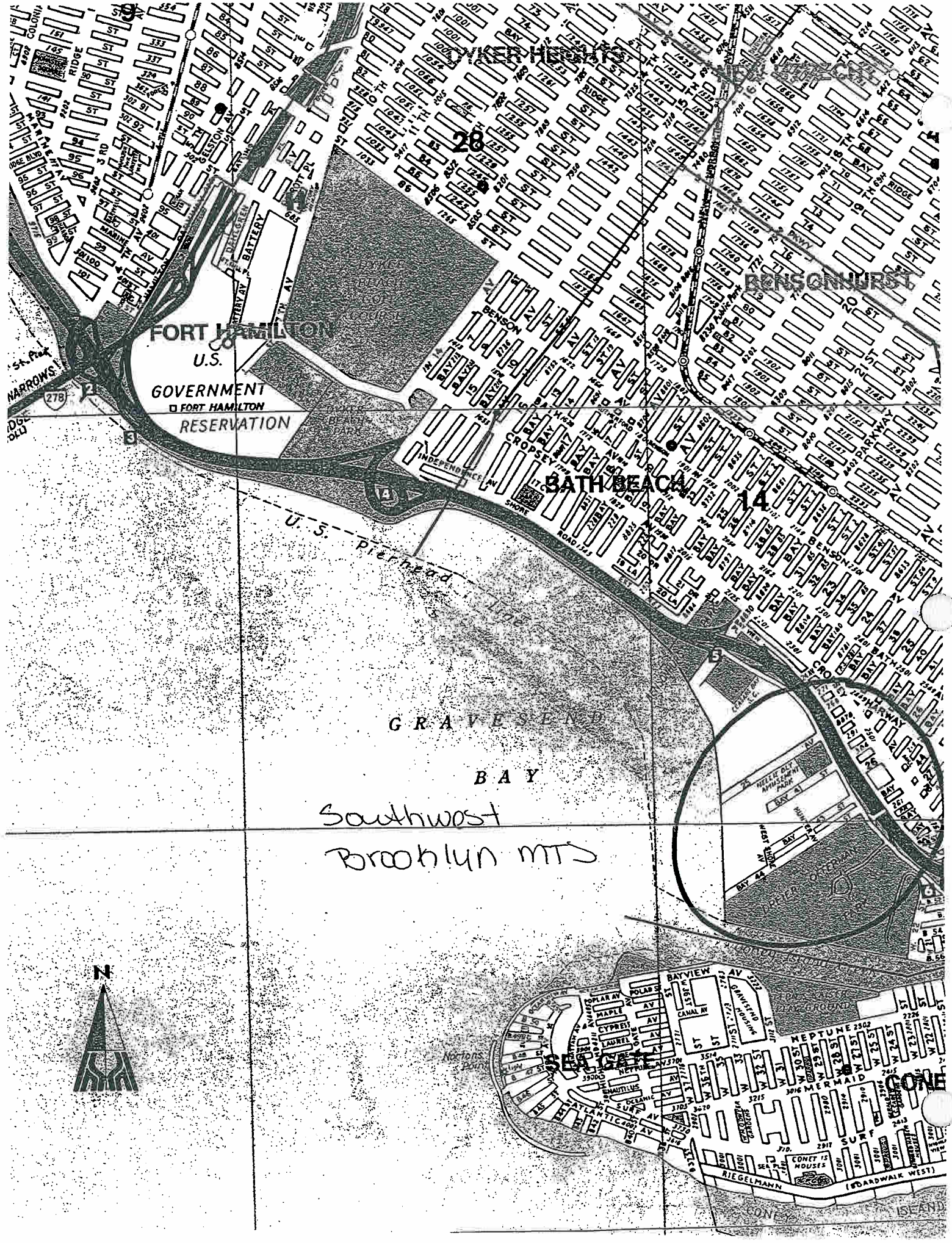
FORT HAMILTON
U.S.
GOVERNMENT
FORT HAMILTON
RESERVATION
BATH BEACH
BENSONHURST
GRAVESEND
BAY
U. S. Pierhead Line
Southwest
Brooklyn MTS
N
SEA GATE
CONEY ISLAND
Norton's Point
BAYVIEW AV
NEPTUNE
MERMAID
SURF
RIEGELMANN
(BOARDWALK WEST)
CONEY ISLAND HOUSES
BATTERY AV
BENSON AV
INDEPENDENCE
PARKWAY
OCEAN PARKWAY
OCEAN AV
BAY RIDGE
BAY 41 ST
BAY 44 ST
WEST 17TH ST
W 36TH ST
W 35TH ST
W 34TH ST
W 33RD ST
W 32ND ST
W 31ST ST
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W 8TH ST
W 7TH ST
W 6TH ST
W 5TH ST
W 4TH ST
W 3RD ST
W 2ND ST
W 1ST ST
POLAR AV
MAPLE
CYPRESS
LAUREL
NEPTUNE AV
NAUTILUS
OCEANIC
SURF
ATLANTIC
CANAL PL
GRAVESEND HOUSING
HELLIE DLY AMUSEMENT PARK
LIBERTY OFFERING
CONEY ISLAND
ROAD
SHORE
PARK
BAY
AV
ST
PL
PKWY
RIDGE
BLVD
MARINE
3RD
GELSTON AV
BOTT PL
DALGREN
BATTERY
NARROWS
ST. Pier
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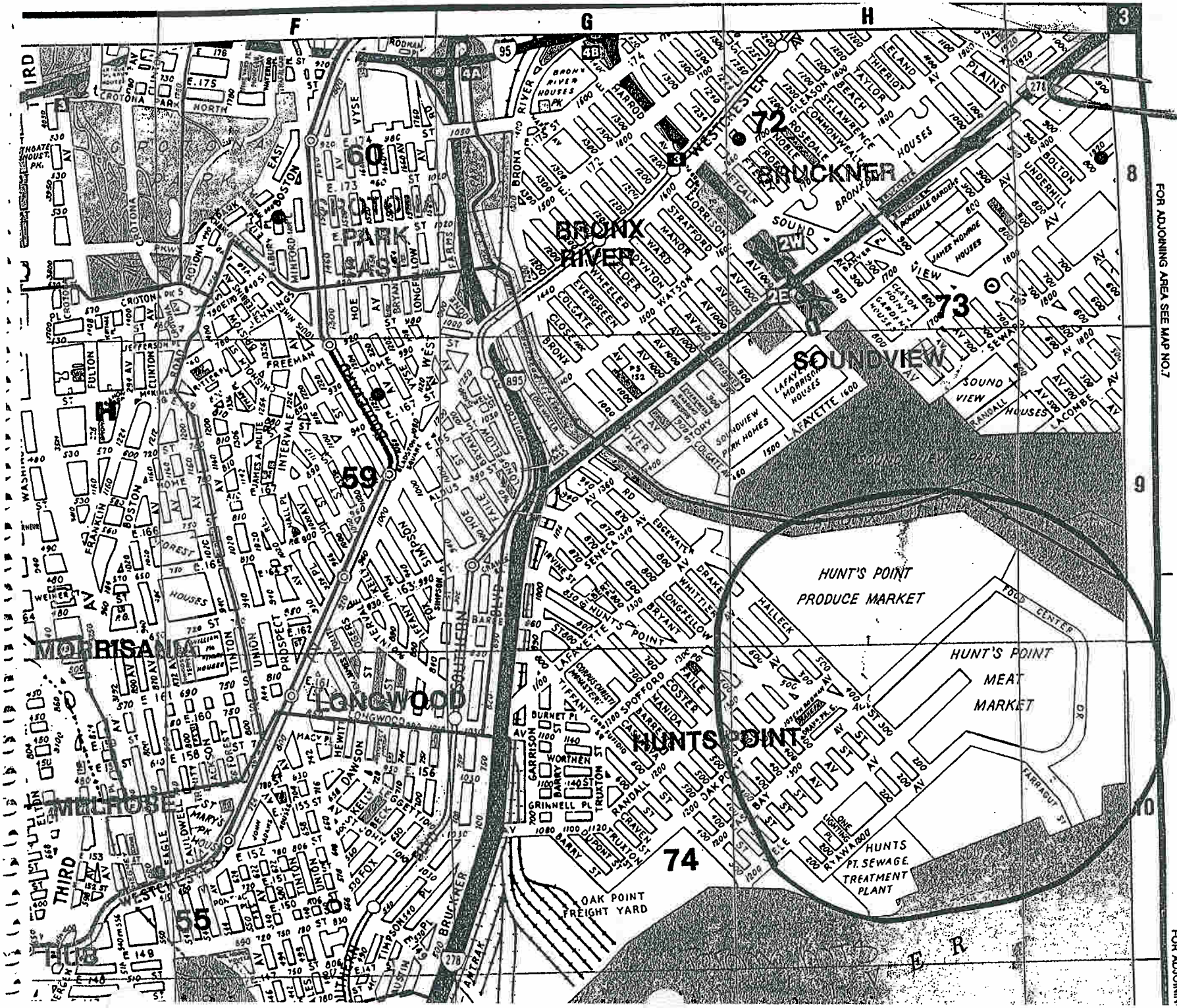
F
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FOR ADJOINING AREA SEE MAP NO.7
FOR ADJOINING
BRONX RIVER
BRUCKNER
SOUNDVIEW
HUNTS POINT
MORRISANIA
LONGWOOD
MELROSE
HUNT'S POINT PRODUCE MARKET
HUNT'S POINT MEAT MARKET
HUNTS PT. SEWAGE TREATMENT PLANT
OAK POINT FREIGHT YARD
FOOD CENTER
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59
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4A
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278
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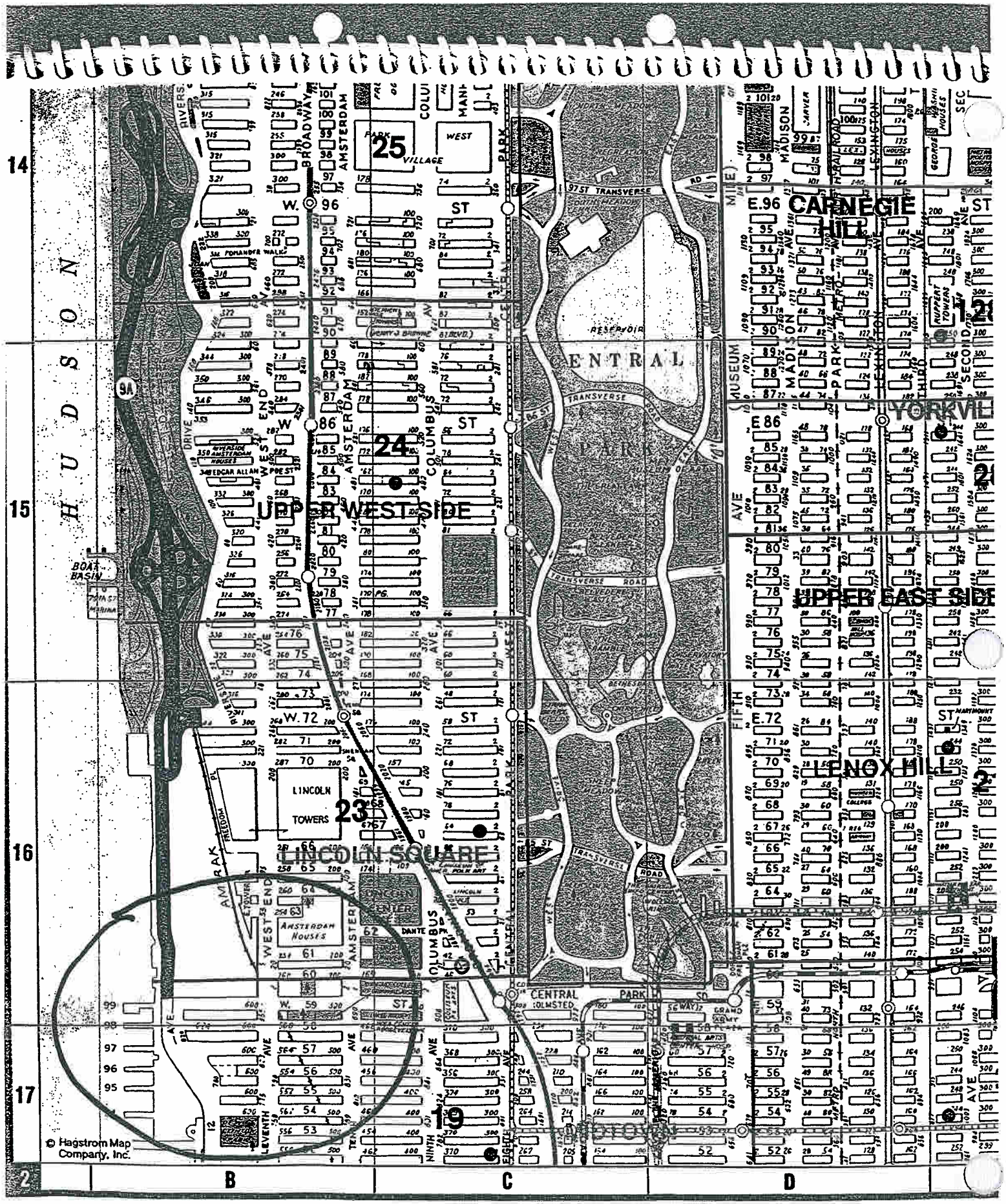
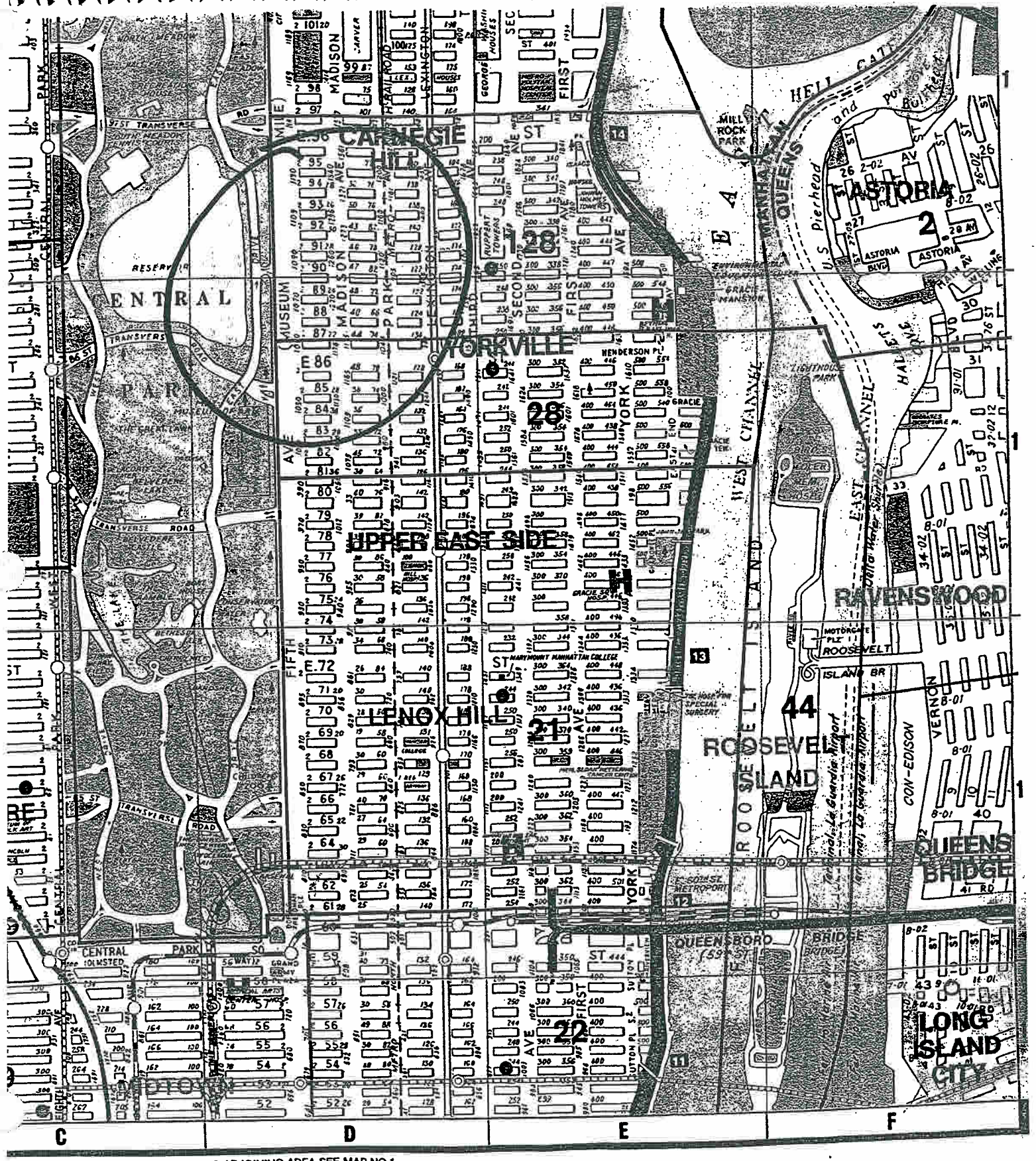


FOR ADJOINING AREA SEE MAP NO.1

W. 59th St MTS


CARNEGIE HILL
YORKVILLE
UPPER EAST SIDE
LENOX HILL
ROOSEVELT ISLAND
ASTORIA
RAVENSWOOD
LONG ISLAND CITY
CENTRAL PARK
MIDTOWN
HELL GATE
EAST RIVER
WEST CHANNEL
EAST CHANNEL
QUEENSBORO BRIDGE
ROOSEVELT BRIDGE
CON-EDISON
U.S. Pierhead and Bulkhead
MILL ROCK PARK
GRACIE MANSION
LIGHTHOUSE PARK
MARYMOUNT MANHATTAN COLLEGE
THE HOSPITAL FOR SPECIAL SURGERY
LaGuardia Airport
Delta Marine Service
MADISON AVE
FIFTH AVE
YORK AVE
FIRST AVE
SECOND AVE
THIRD AVE
LEXINGTON AVE
PARK AVE
E 96
E 86
E 72
E 59
E 91 ST TRANSVERSE
TRANSVERSE ROAD
CENTRAL PARK SOUTH
GRAND ARMY PLAZA
HENDERSON PL
GRACIE SQ
SUTTON PL S
ASTORIA BLVD
ROOSEVELT ISLAND BR
VERNON BLVD
HALLETS COVE
E 60TH ST METROPORT
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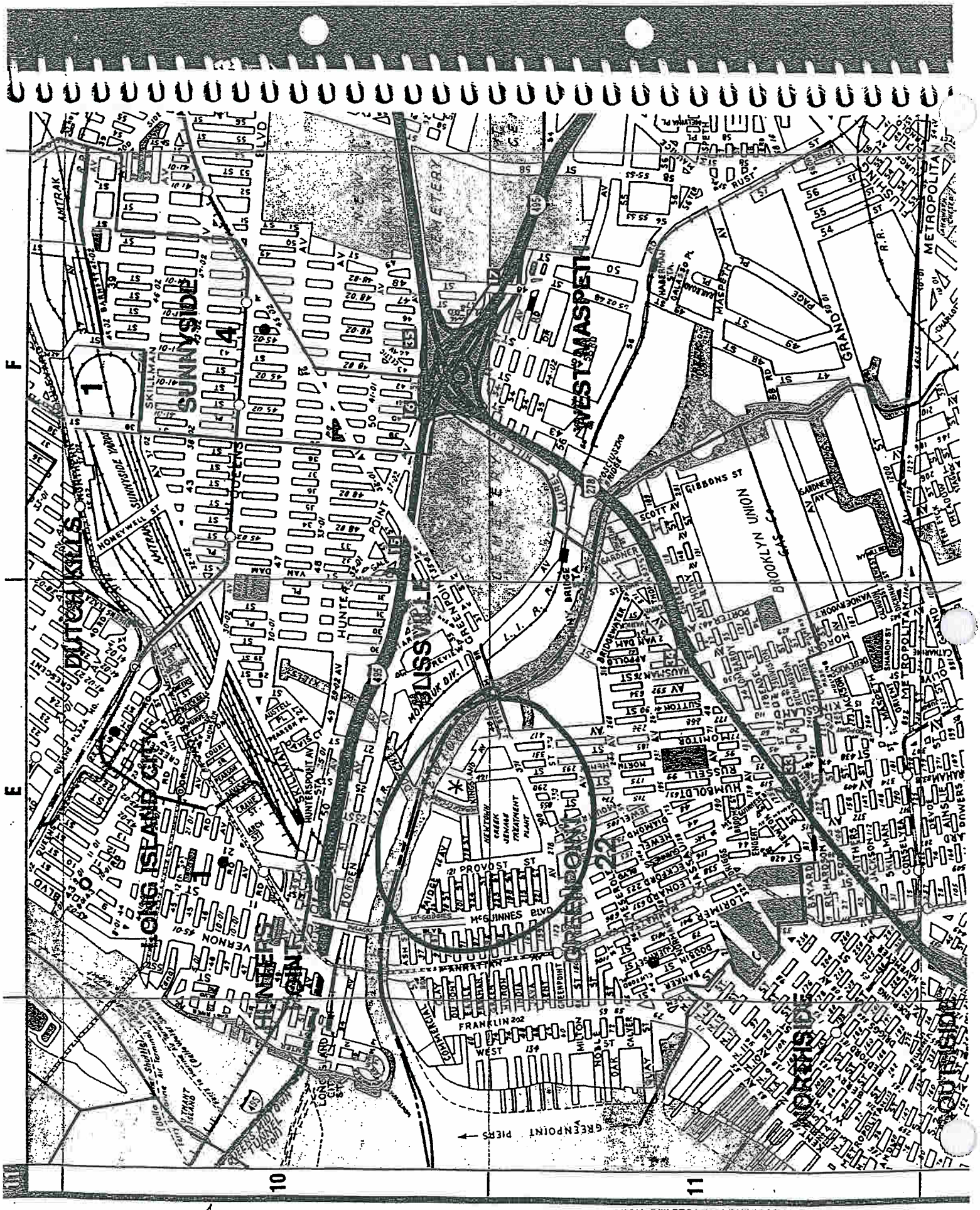
FOR ADJOINING AREA SEE MAP NO.1

E. 91st ST mts


F
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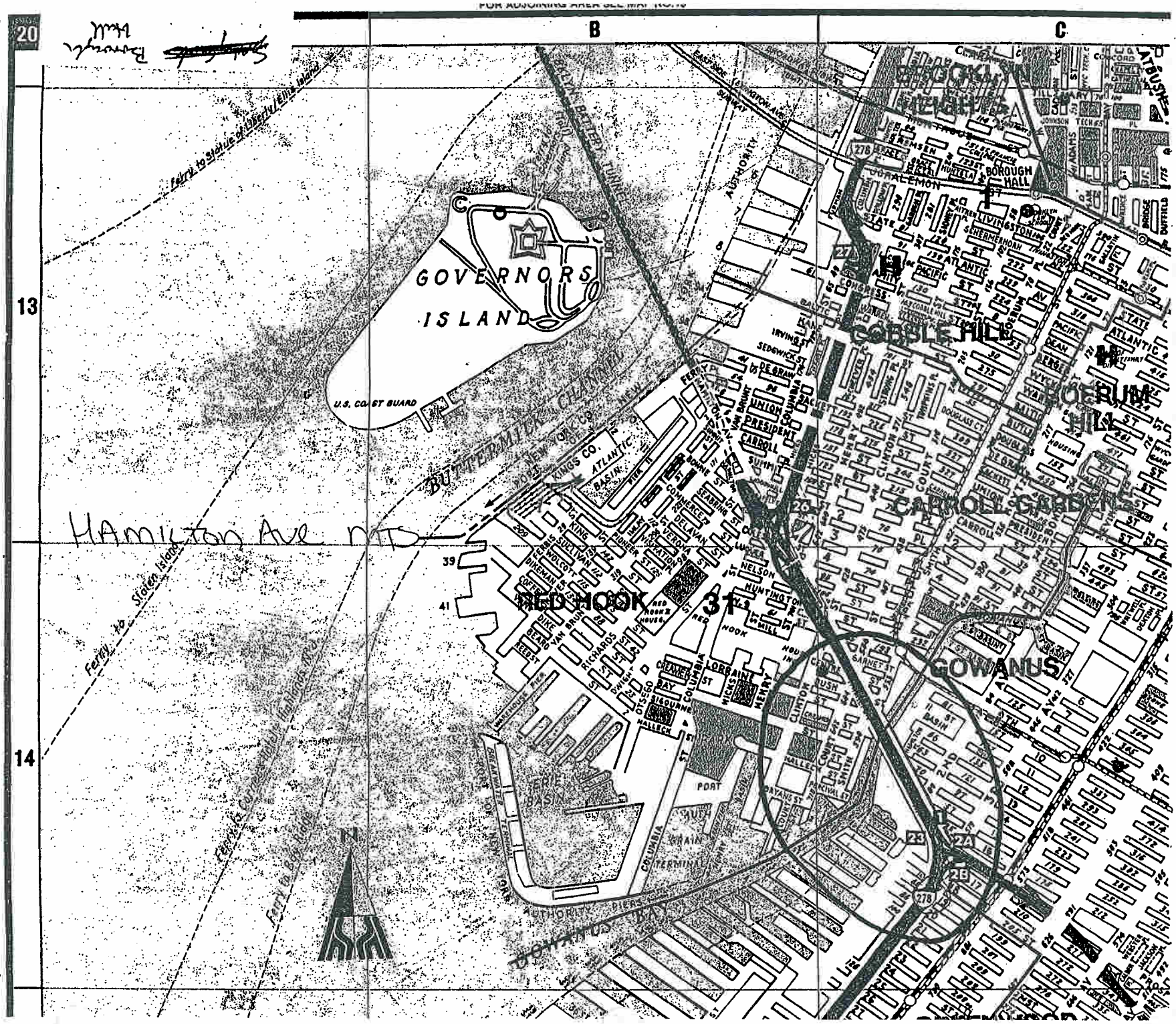
FOR ADJOINING AREA SEE MAP NO.19
GREENPOINT PIERS
FRANKLIN 202
WEST
MANHATTAN
McGUINNES BLVD
PROVOST ST
VERNON
BUSHWICK
WEST MASPETH
SUNNYSIDE
LONG ISLAND CITY
BROOKLYN UNION GAS CO
METROPOLITAN
GRAND
GIBBONS ST
SCOTT AV
GARDNER
HUNTERS POINT
SKILLMAN
HONEYWELL ST
AMTRAK
L.I.R.R.
MOHAWK DIV.
PAGE
RUST
MASPETH
HABERMAN STA.
GALASSO PL
CHARLOTTE
LAUREL
HUNTERSPOINT AV
STA
AUSTEL PL
PEARSON
CRANE ST
NEWTOWN CREEK SEWAGE TREATMENT PLANT
BORDEN
ASH
ROYAL
OAK
CAMERON
MILLER
GREENPOINT
BANKER
BORDEN
BAYARD
RICHARDSON
ANSLEE
DOWERS
LORIMER
LEONARD
NEWTOWN
DIAMOND
JEWEL
HUMBOLDT
RUSSELL
MORTON
SUTTON
HAUSMAN
APPOLLO
VAN DAM
BROADWAY
PORTER
VANDERVOORT
MORGAN
MASPETH
SHARON ST
OLIVE
GRAND
AINSLIE
SHELLMAN
CONSELYEA
BAYARD
RICHARDSON
THERESA
ENGLERT
GOODWIN
GOODWIN
GOODWIN


20
B
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14
GOVERNORS ISLAND
U.S. COAST GUARD
BUTTERMILK CHANNEL
Ferry to Statue of Liberty/Ellis Island
Ferry to Staten Island
Ferry to Governors Island
Hamilton Ave
RED HOOK
31
GOWANUS
CARROLL GARDENS
COBLE HILL
BOERUM HILL
BOROUGH HALL
ERIE BASIN
GOWANUS BAY
PORT AUTHORITY TERMINAL
BRAIN
KINGS CO.
NEW YORK CO.
ATLANTIC BASIN
PRESIDENT
CARROLL
UNION
COLUMBIA
DE GRAW
SEDGWICK
IRVING
ATLANTIC
PACIFIC
HENRY
CLINTON
COURT
HICKS
COLUMBIA
DELAVAN
VERONA
NELSON
HUNTINGTON
RICHARDS
VAN BRUNT
BEARD
DIKE
FERRIS
SULLIVAN
WOLCOTT
COFFEY
BIKEMAN
CONOVER
DEGRAW
LORRAINE
BAY
GOWANUS
BAYARD
CARROLL
DOUGLASS
DEAN
WYCKOFF
WARREN
BALTIC
HOYT
BOERUM
FLATBUSH
LIVINGSTON
SCHERMERHORN
FULTON
JOHNSON
BRIDGE
DUFFIELD
ST. JOHNS
PLACE
BROOKLYN
HEIGHTS
BRIDGE
PLAZA
BROOKLYN
BATTERY TUNNEL
EAST RIVER
BROADWAY
FLATBUSH
AVE
ATLANTIC
AVE
PACIFIC
AVE
CARROLL
AVE
HUNTINGTON
AVE
COLUMBIA
AVE
HICKS
ST
CLINTON
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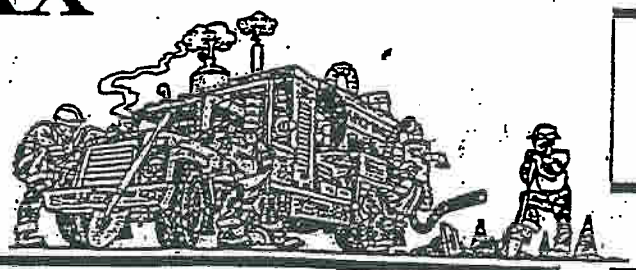
COURT
ST
HENRY
ST
BOERUM
PL
BOERUM
HILL
ST
FULTON
ST
FLATBUSH
AVE
BRIDGE
PLAZA
BROOKLYN
BATTERY

Con Edison NORTHERN REGION ENERGY SERVICES Retail 2nd Floor, 511 Theodore Fremd Avenue, Rye, New York 10580

FAX



Date: 5/14/03

Number of pages including cover sheet: 2

To: James Dean

Phone:

Fax phone:

CC:

From:

Con Edison Energy Services
(914) 925-

Fax phone: (914) [redacted] 9256487

REMARKS: ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

Please sign & mail back with check for $5953 to

Tom Grimaldi
c/o Con Edison Rm 243
511 Theodore Fremd Ave
Rye N.Y. 10580

CONSOLIDATED EDISON CO. OF NEW YORK, INC.
REQUEST TO PURCHASE MAPS

TO: Consolidated Edison Co. of NY, Inc. Date: 5/14/03

BRONX Division

The undersigned applies to purchase the maps specified below under the following terms and conditions:

1. The charge will be $5.00 per map provided, payable in advance with this request.

2. The applicant agrees not to transfer said prints, or copies thereof, to any other party, but will use them solely for his own purposes.

3. The applicant hereby agrees to indemnify, hold harmless and defend Con Edison and its agents against all suits or claims whether justified or not, arising out of or in any way connected with the applicant's use of said prints, including any and all liability imposed by law, contract, or custom.

Maps requested (Attach separate list if insufficient space):

BRONX

GAS	ELECT
1-E	1-E
3-O	
1-F	1-F
3-C	3-C
4-C	4-B
	4-C
	5-J

Amount paid herewith 11 maps @ $5.00: $ 55 + TAX 4.53

TOTAL $59.53

Applicant (Print or type):

Name: ENVIRONMENTAL ENG.
Address: ONE CORPORATE PLAZA
MAHWAH NJ 07430

Terms agreed and accepted by:
Name: Melissa E Morrone
Title: ENGINEER II
Signature: Melissa E Morrone

For Con Edison Use Only:

Accepted by: _____ Date: _____ Account No. _____

HydroQual

Environmental
Engineers & Scientists

May 15, 2003

Mr. Thomas Grimaldi
Con Edison
511 Theodore Fremd Avenue
Room 243
Rye, New York 10580

HDRE0203

RE: Request for Electric and Gas Information

Dear Mr. Grimaldi:

On behalf of the New York City Department of Sanitation (DSNY), HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites under consideration as part of the Solid Waste Management Plan.

Attached please find the map request form and a check in the amount of $59.53, as we discussed in our telephone conversation on Wednesday, May 14, 2003.

Since the DSNY is operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

MEM/kfw
HDRE0203/GRIMALDI_051503.LTR
Enclosures

HydroQual, Inc.

One Lethbridge Plaza, Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com

CONSOLIDATED EDISON CO. OF NEW YORK, INC.
REQUEST TO PURCHASE MAPS

TO: Consolidated Edison Co. of NY, Inc. Date: 5/14/63

BRONX Division

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3. The applicant hereby agrees to indemnify, hold harmless and defend Con Edison and its agents against all suits or claims whether justified or not, arising out of or in any way connected with the applicant's use of said prints, including any and all liability imposed by law, contract, or custom.

Maps requested (Attach separate list if insufficient space):

BRONX

GAS	ELECT.
1-E	1-E
3-O	
1-F	1-F
3-C	3-C
4-C	4-B
	4-C
	5-J

Amount paid herewith 11 maps @ $5.00: $ 55 + TAX 4.53

TOTAL $59.53

Applicant (Print or type):

Name: ENVIRONMENTAL ENG.
Address: ONE CENTRAL PLAZA
MAHWAH N.J. 07430

Terms agreed and accepted by:
Name: Melissa E Morrone
Title: Engineer I
Signature: Melissa E Morrone

For Con Edison Use Only:

Accepted by: _____ Date: _____ Account No. _____

V-C00111 026255

ydroQual, Inc.

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552/741
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May 14 2003 No. 026255

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Consolidated Edison Co. of New York
30 Flatbush Ave., 3rd. Floor
Brooklyn, New York 11217

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ydroQual, Inc.

HydroQual

Environmental
Engineers & Scientists

FAXED

FAX TRANSMISSION

TO:	Thomas Quigley	FROM:	Melissa E. Morrone
FAX NO:	212-673-1729	DATE:	May 27, 2003
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

NUMBER OF PAGES INCLUDING COVER SHEET 5

ORIGINAL DOCUMENT TO BE MAILED	___ YES	✓ NO
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COMMENTS:

Mr. Quigley,

Mr. Steve Lewindowski forwarded your information to me. Please see the attached letter and area maps regarding our request for electric and gas maps. Mr. Lewindowski indicated that you would get back to me with cost information.

Thanks, Melissa

phone: 201-529-5151 ext 7192

fax: 201-512-3825

email: mmorrone@hydroqual.com

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HydroQual

Environmental
Engineers & Scientists

May 27, 2003

Mr. Thomas Quigley
Con Edison
4 Irving Place
10th Floor
New York, New York 10003

HDRE0203

RE: Request for Electric and Gas Information

Dear Mr. Quigley:

On behalf of the New York City Department of Sanitation (DSNY), HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites under consideration as part of the Solid Waste Management Plan.

Attached please find area maps for the three (3) sites for which we are requesting utility information.

Since the DSNY is operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office at 201-529-5151 if you have any immediate questions. Thank you for your assistance.

Very truly yours,

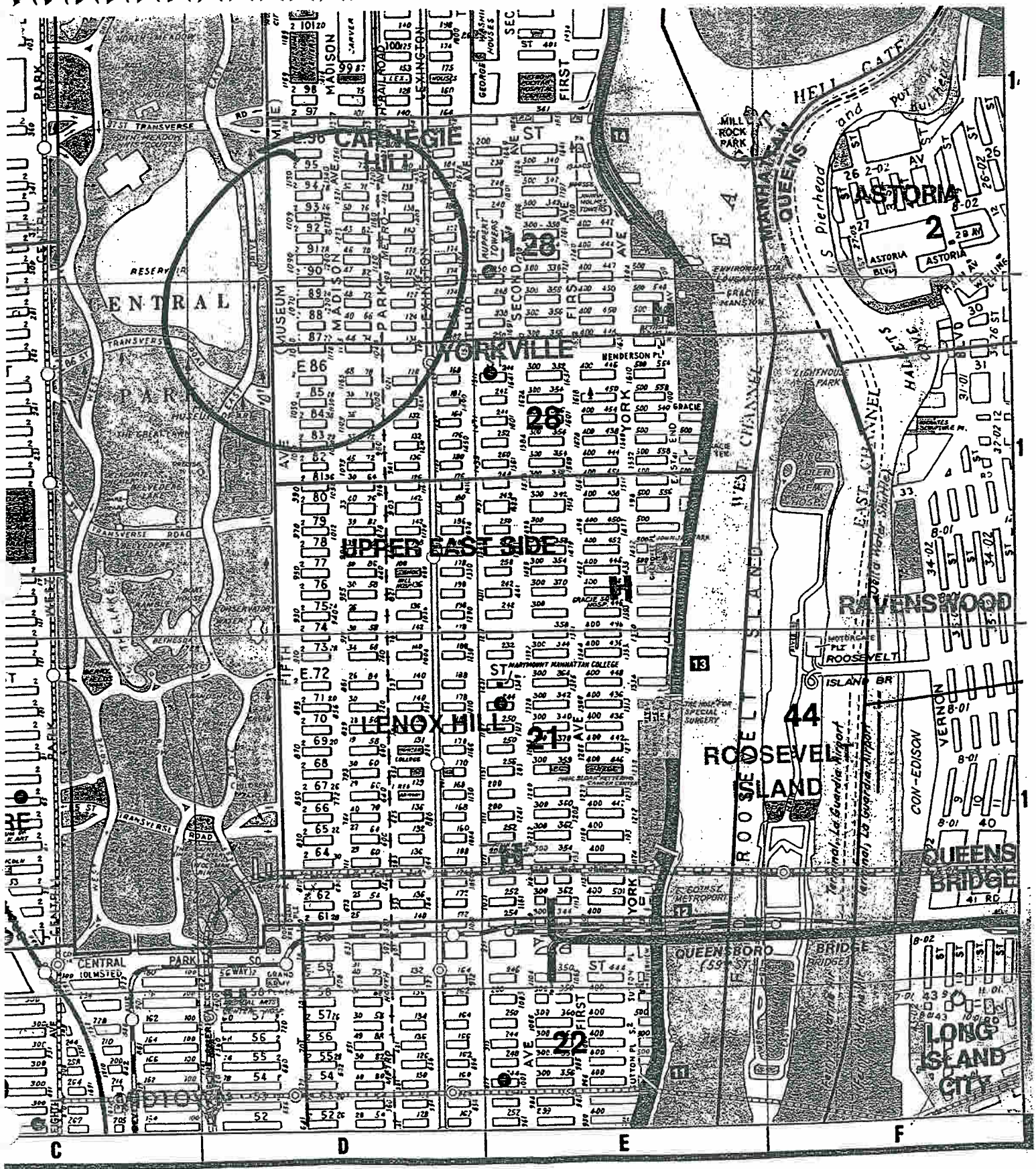
HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

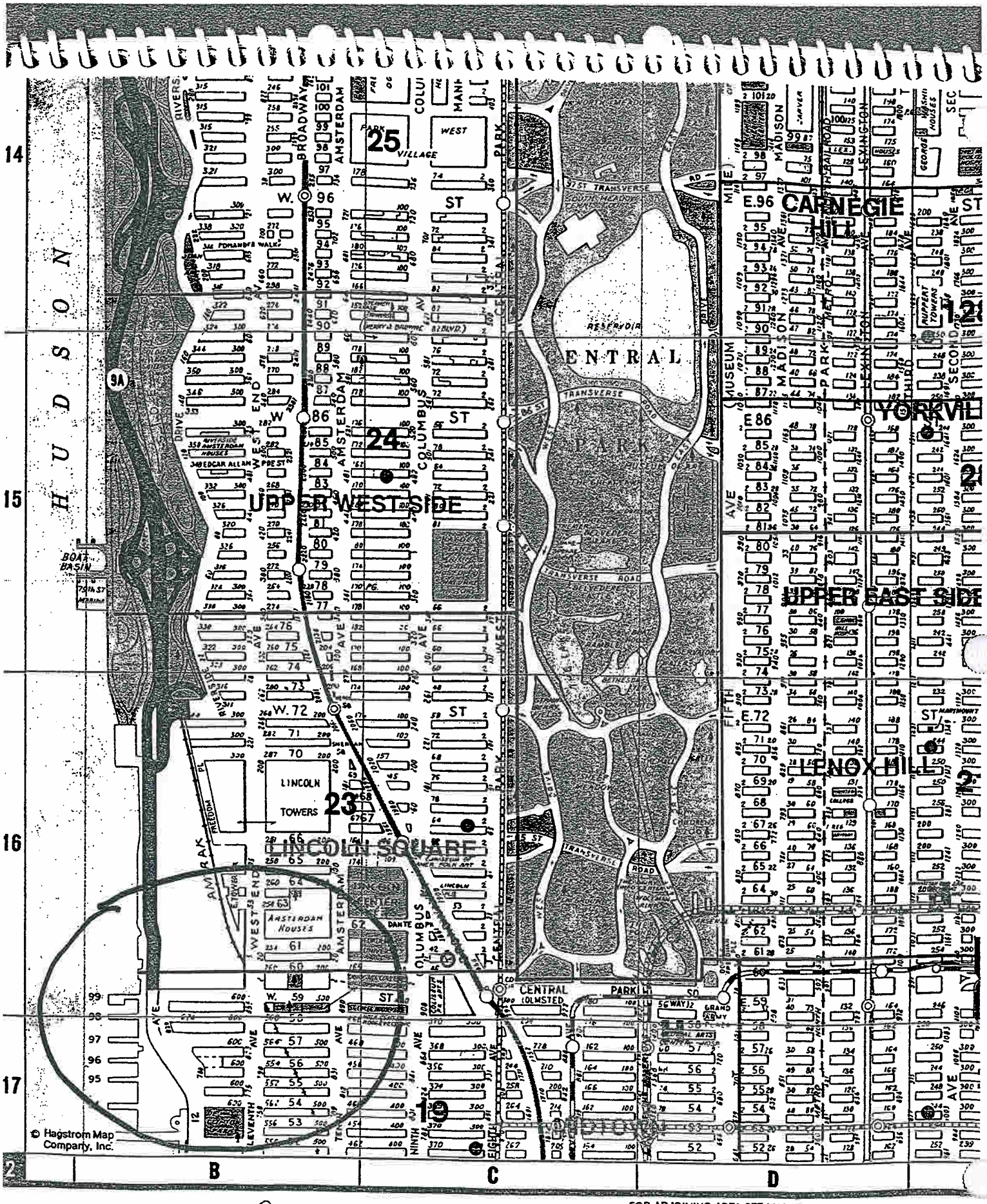
MEM/kfw
HDRE0203/QUIGLEY_052703.LTR
Enclosures

HydroQual, Inc.
One Lethbridge Plaza, Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com



FOR ADJOINING AREA SEE MAP NO.1

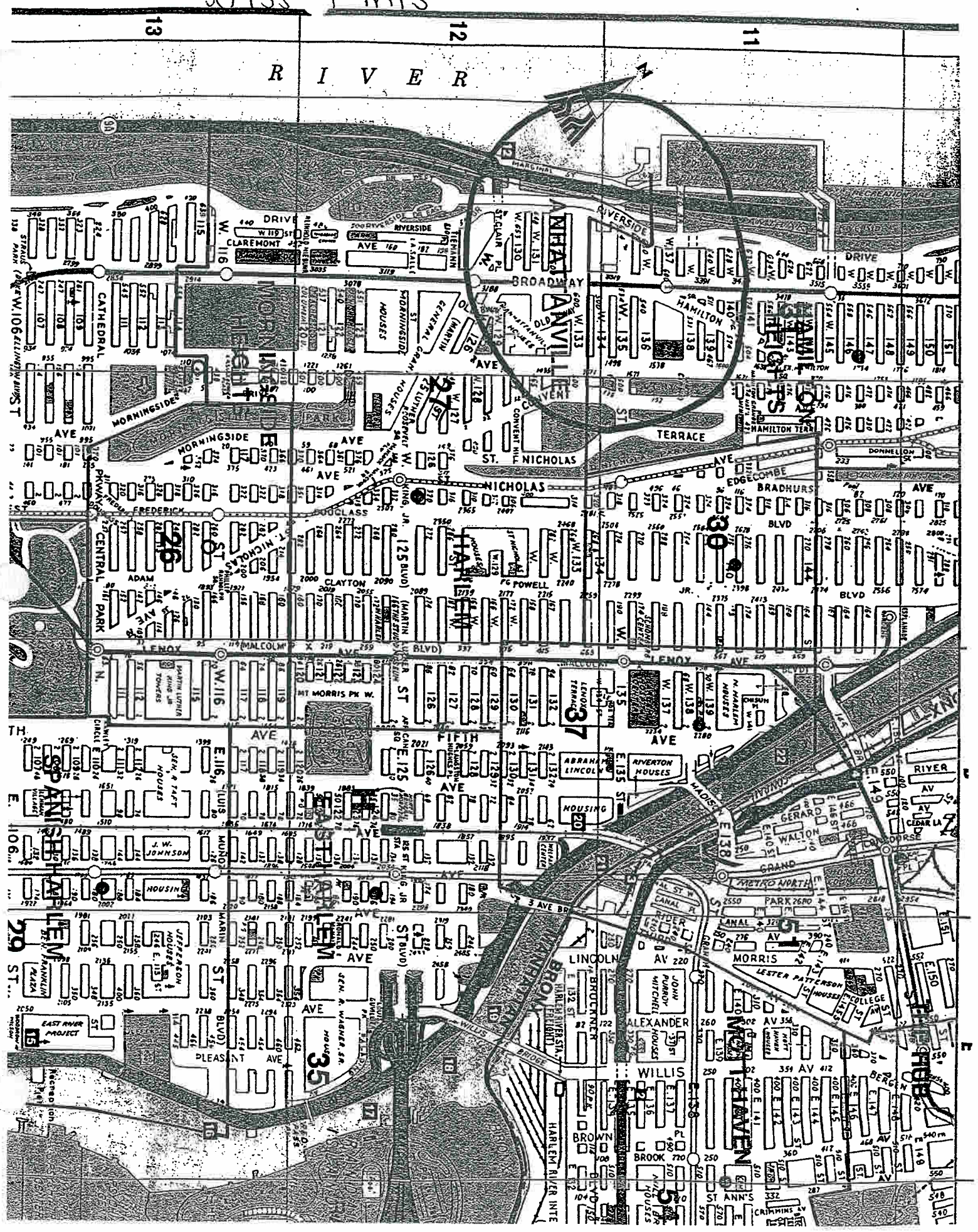
E. 91st ST mts



W. 59th St MTS

FOR ADJOINING AREA SEE MAP NO.1

W 135 + MTS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RIVERSIDE
CLAREMONT
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BROADWAY
HAMILTON
TERRACE
HAMILTON TERR
DONNELLON
CATHEDRAL
MORNINGSIDE
PARK
ST. NICHOLAS
NICHOLAS
EDGECOMBE
BRADHURST
BLVD
FREDERICK
DOUGLASS
CENTRAL
ADAM
CLAYTON
POWELL
JR.
LENOX
(MALCOLM X BLVD)
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FIFTH
E. 125
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E. 138
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WALTON
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3 AVE BR
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EAST RIVER PROJECT
PLEASANT AVE
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RIVERTON HOUSES
ABRAHAM LINCOLN
J. W. JOHNSON
JEFFERSON HOUSES
JOHN PURROY MITCHEL
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N. HARLEM HOUSES
LENOX TERRACE
MANHATTANVILLE
HARLEM
BRONX
NORTH HAVEN
SPANISH HARLEM
HIGHBRIDGE
MORNINGSIDE HEIGHTS
26
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30
35
37
54

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FAX TRANSMISSION

TO:	Mike Mitchell	FROM:	Melissa E. Morrone
FAX NO:	212-673-1729	DATE:	May 29, 2003
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

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COMMENTS:

Mr. Mitchell,

Here are the site maps, we are interested in an area of about two blocks on all sides of the site.

Thanks, Melissa

Melissa E Morrone

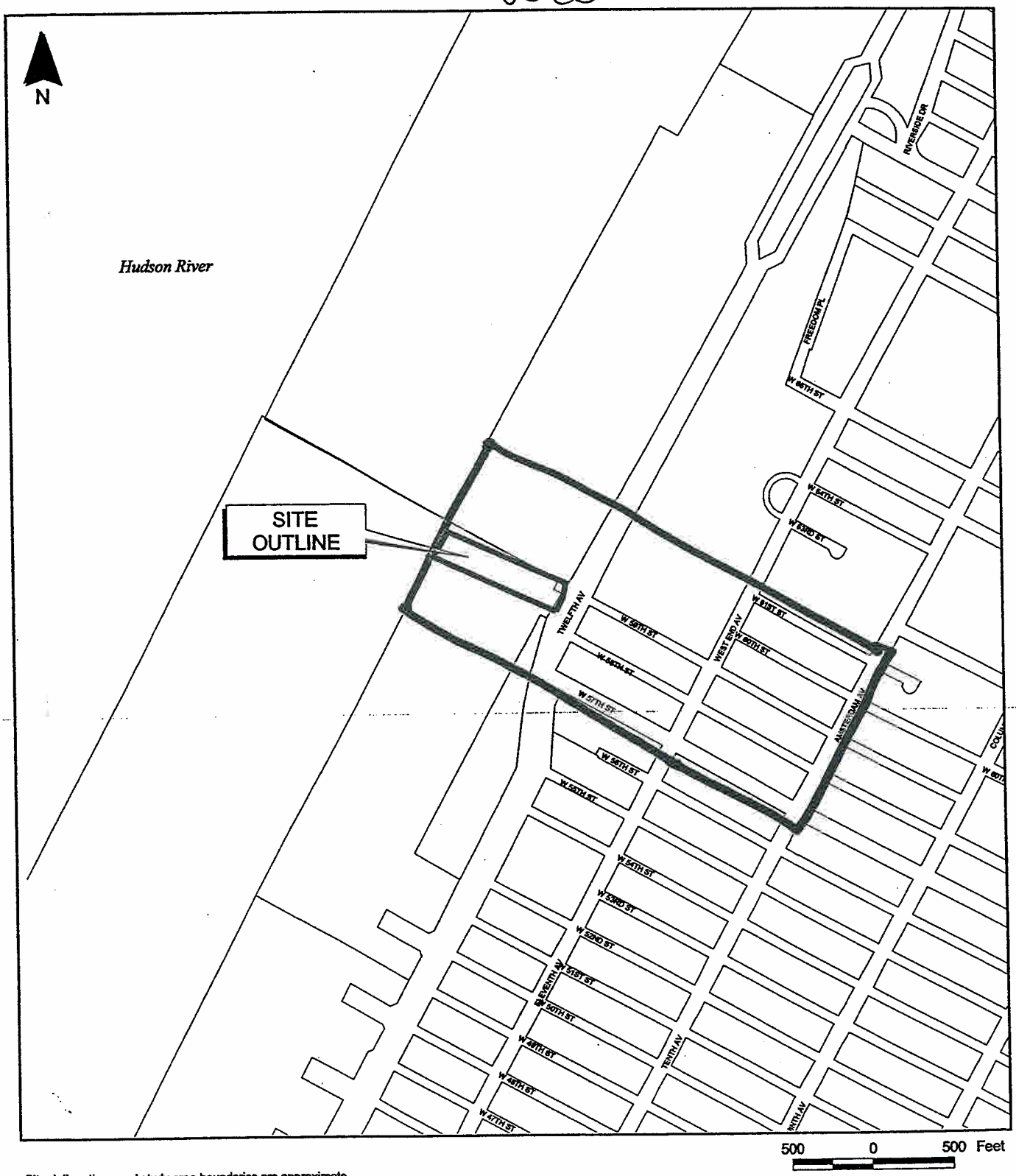
phone: 201-529-5151 ext 7192

fax: 201-512-3825

email: mmorrone@hydroqual.com

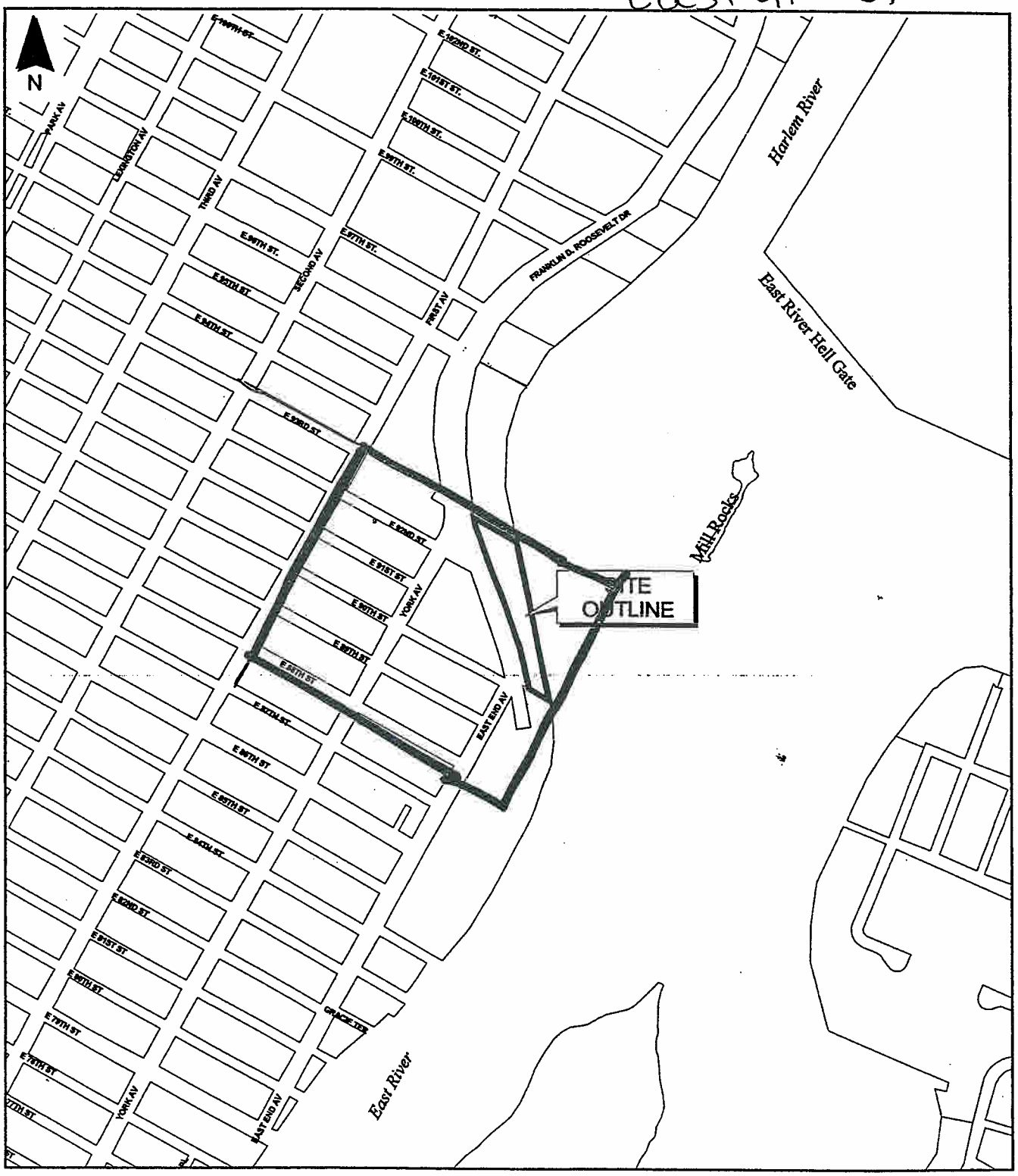
IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

West 59th St



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

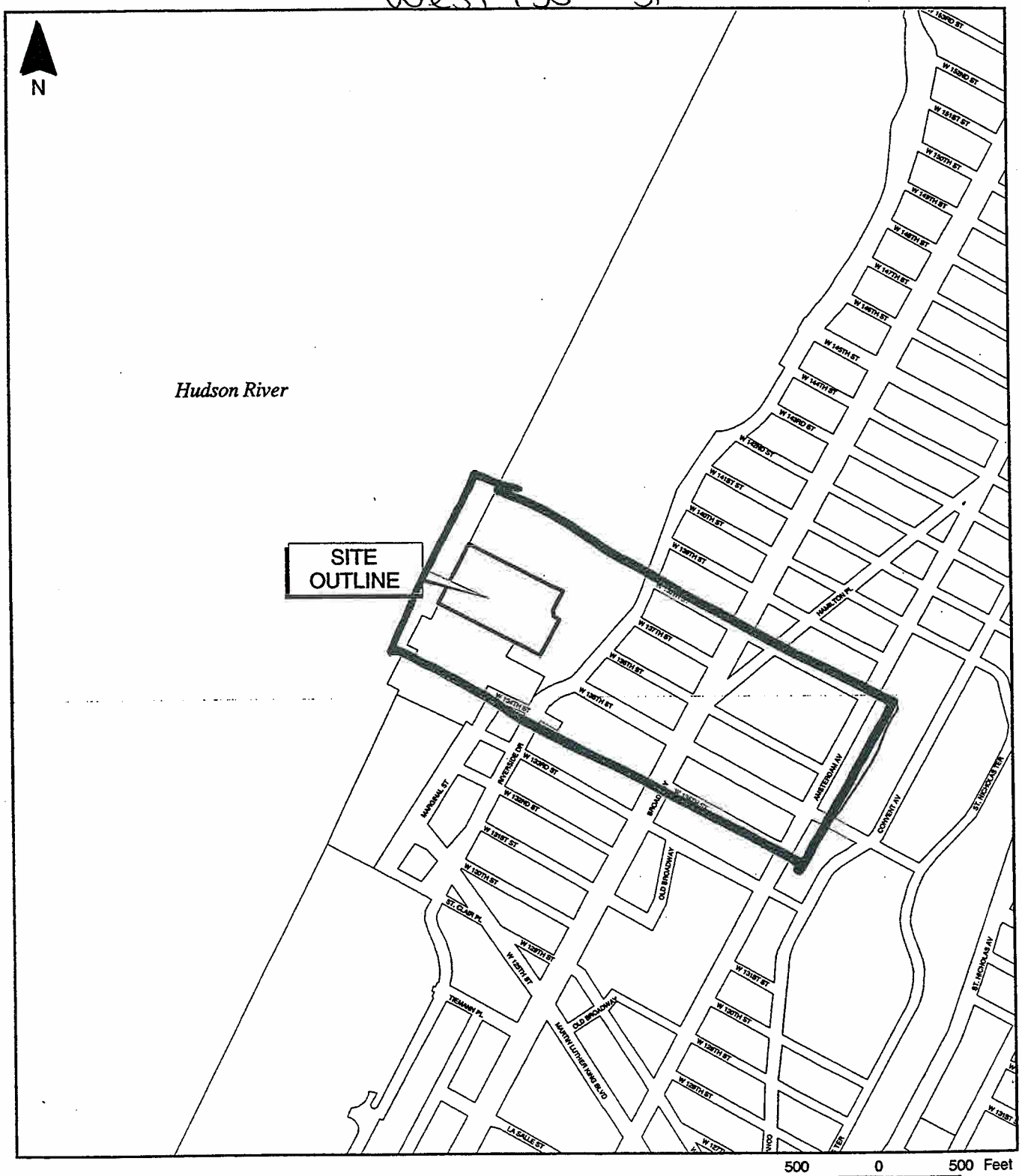
East 91st St



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

500 0 500 Feet

West 135th St



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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FAX TRANSMISSION

TO:	Mr. Steve Cioffi, ConEdison	FROM:	Dennis Scannell
FAX NO:	(212) 427 -4204	DATE:	June 4, 2003
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Margie (ext 7100/7186)

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COMMENTS:

Steve,

It was nice talking to you again - Please tell Bob, Mark, Leo and the rest I said "Hi". As discussed attached please find some area maps of the NYC Department of Sanitation facilities we are interested in getting the M&S plates for. Once you find them let me know what is the easiest way for you to get them to me - I can have someone come in and pick them up or you can send them to me by mail or fax. I hope the maps are specific enough for you to track down the M&S plates. My office number is (201) 529 -5151 and the fax is (201) 512 3825.

Thanks again for your help,

Dennis Scannell Dennis

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

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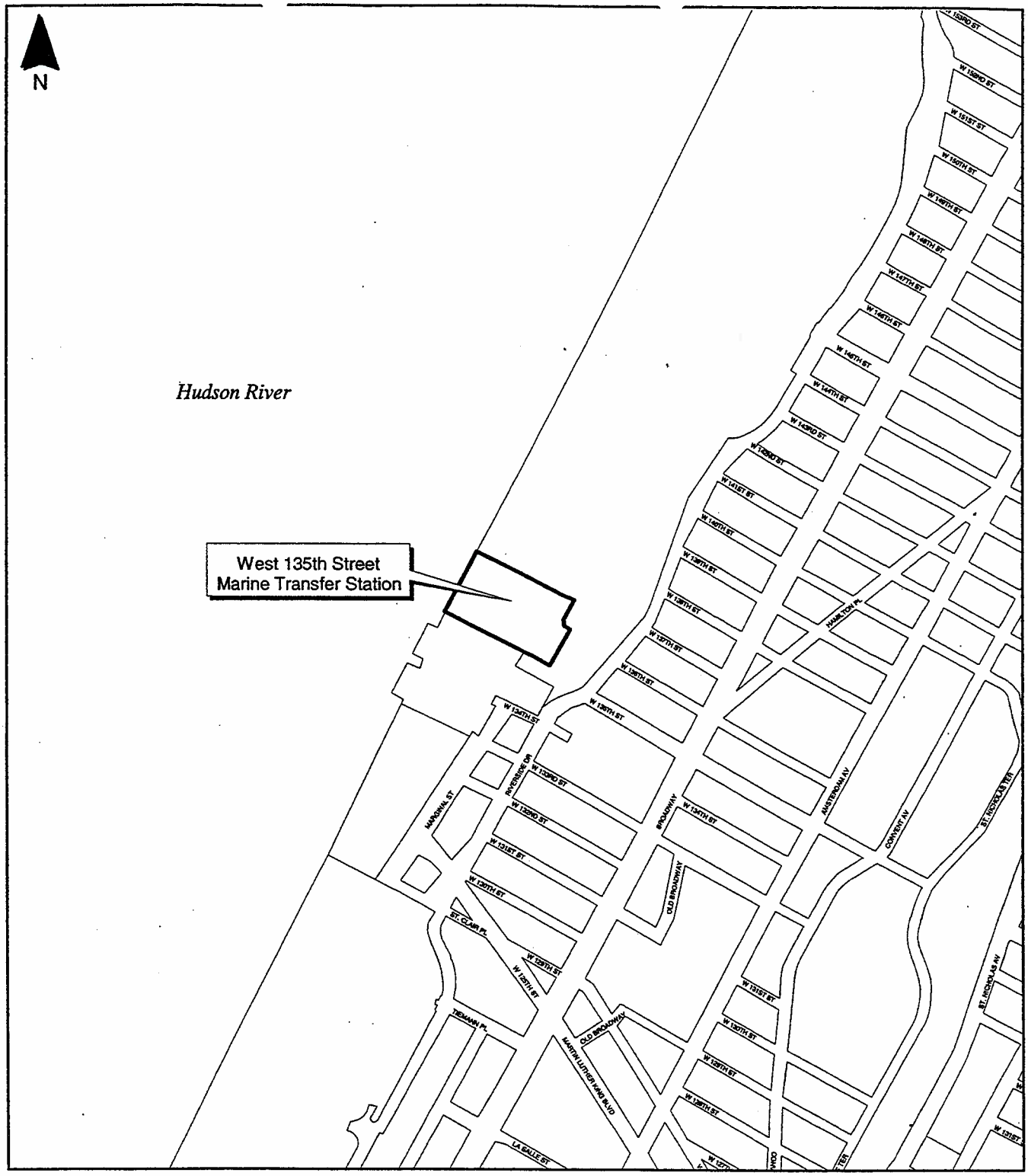


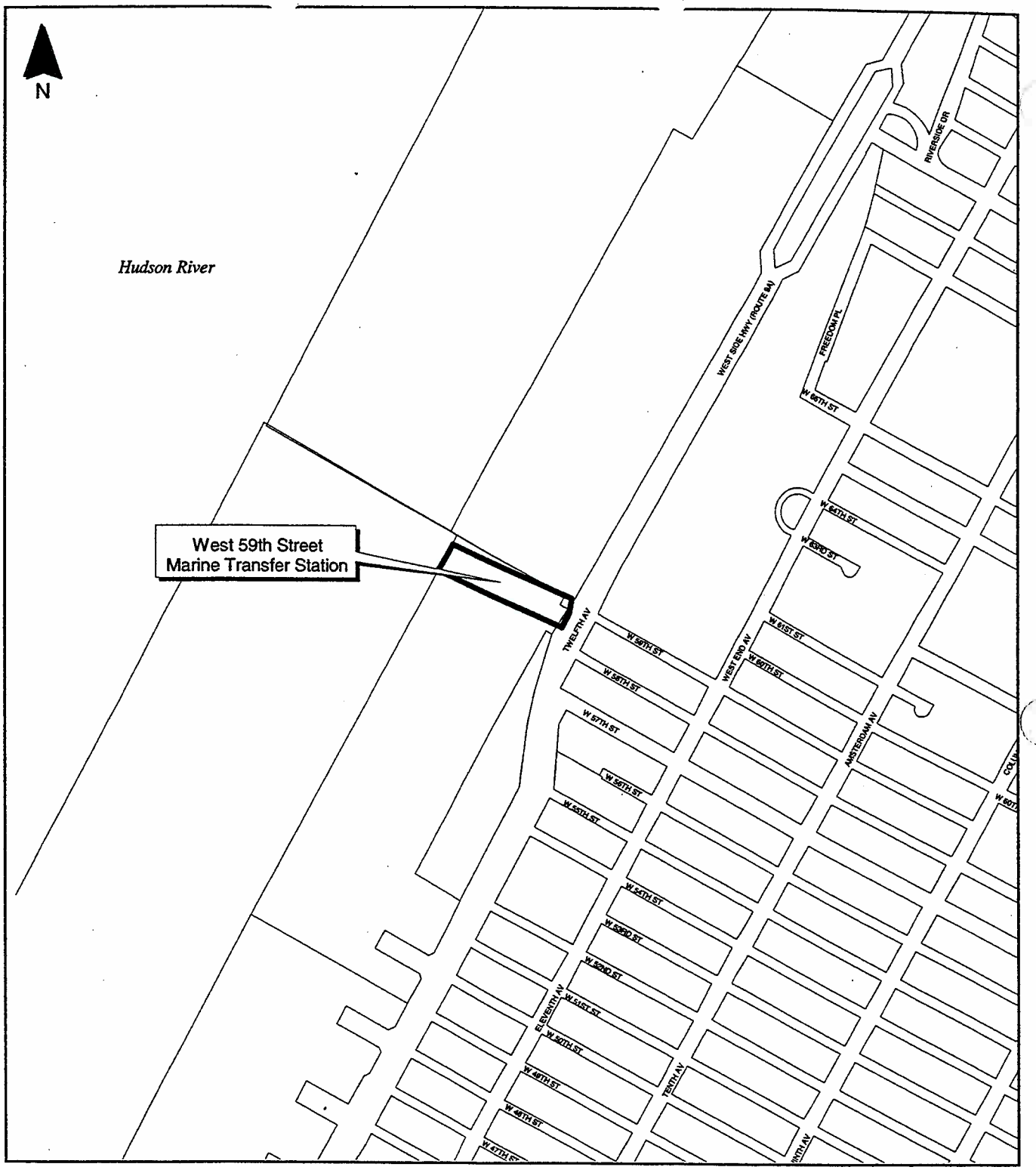
500 0 500 Feet

Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

Figure 1-2 Vicinity Map

West 135th Street Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION



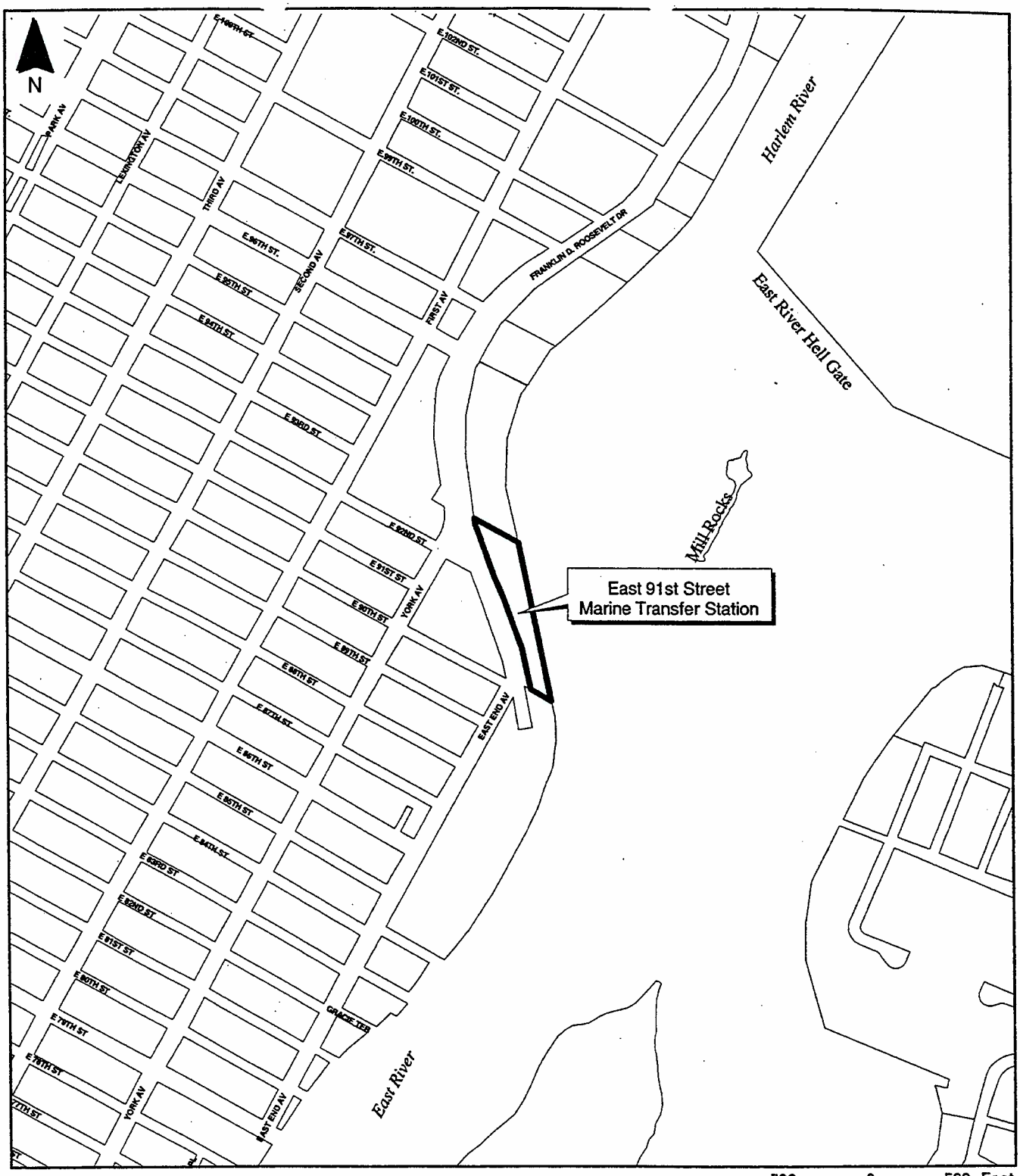
Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

500 0 500 Feet

Figure 1-2 Vicinity Map

West 59th Street Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

500 0 500 Feet

Figure 1-2 Vicinity Map

East 91st Street Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION

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FAX TRANSMISSION

TO:	Mr. Tino Fernandez, ConEdison	FROM:	Dennis Scannell
FAX NO:	(718) 802-3044	DATE:	June 4, 2003
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Margie (ext 7100/7186)

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COMMENTS:

Tino,

It was nice to get a chance to chat again this morning - I think I will give Julio a call to see how he is doing. As discussed attached please find some area maps of the NYC Department of Sanitation facilities we are interested in getting the electric/gas/steam service surrounding them. I don't recall which areas Con Edison is providing gas and steam but if you have the info we are interested. I thought you might have also handled parts of queens based on jobs we did with the treatment truck so I included the site in Queens in Flushing Bay opposite the World's Fair Marina. I hope the maps are specific enough for you to track down the plates. My number is (201) 529 -5151 and the fax is (201) 512 3825. Thanks again for your help, Dennis Scannell

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

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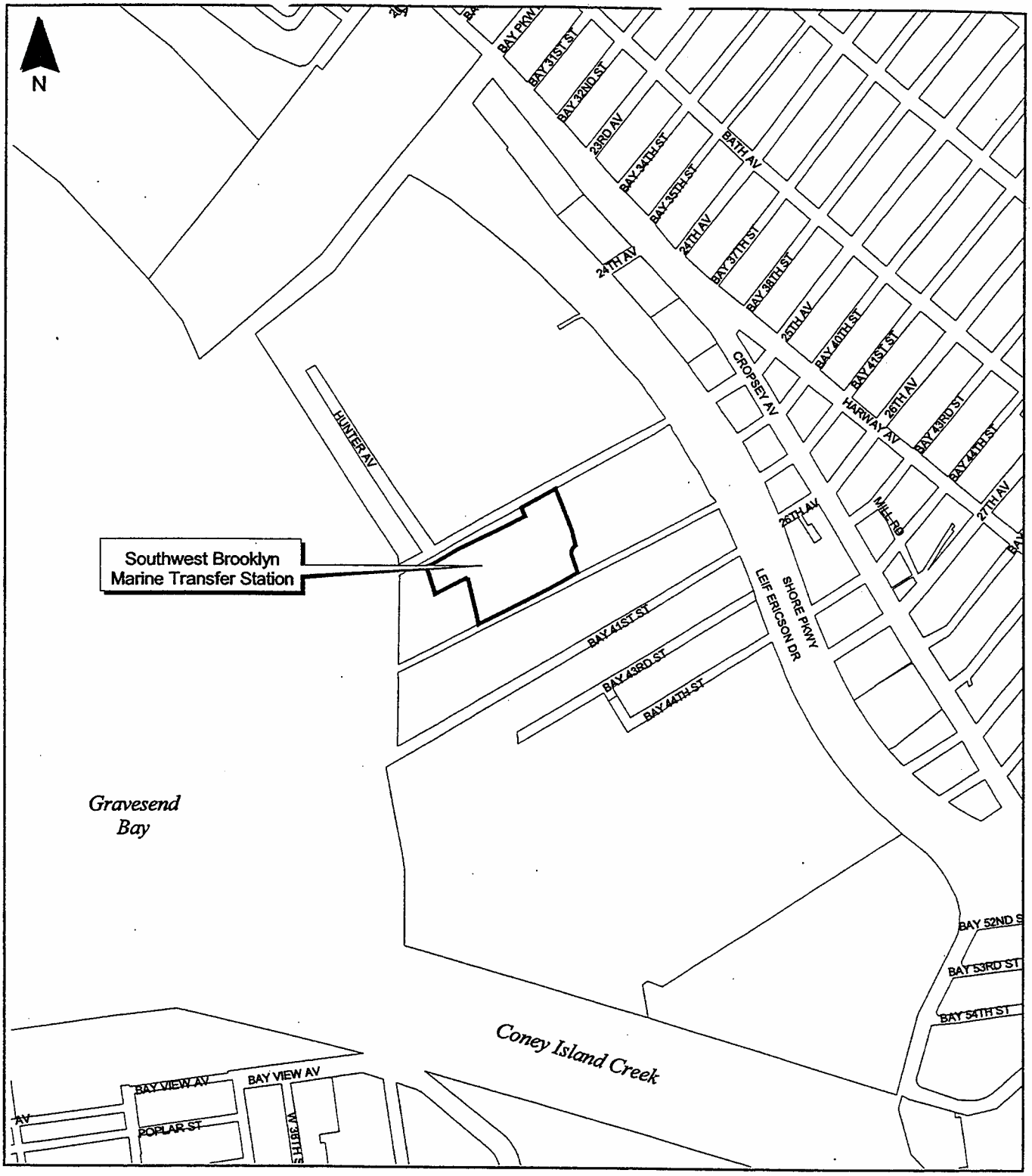


Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

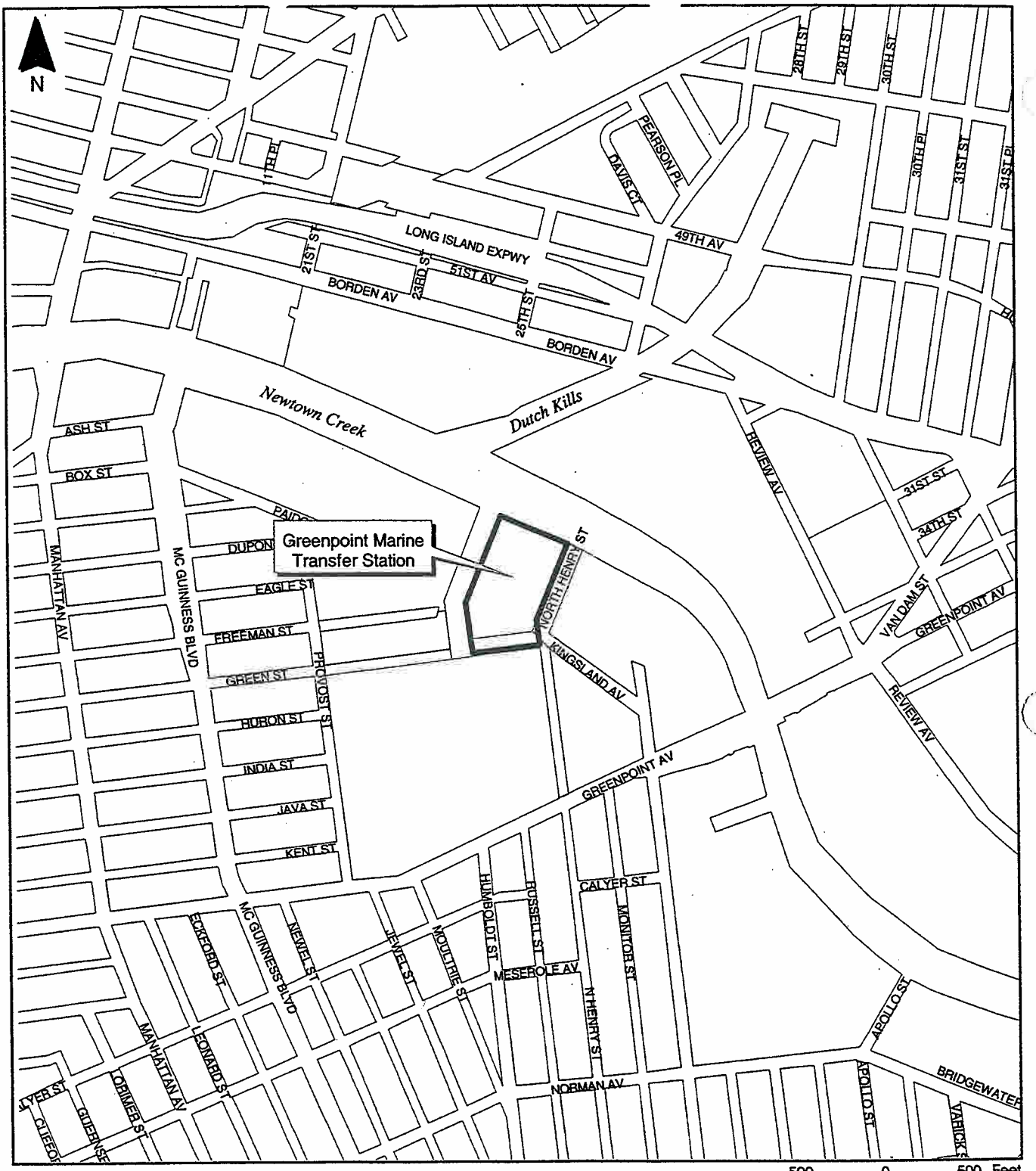
600 0 600 Feet

HDR

Figure 1-2 Vicinity Map

Southwest Brooklyn Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

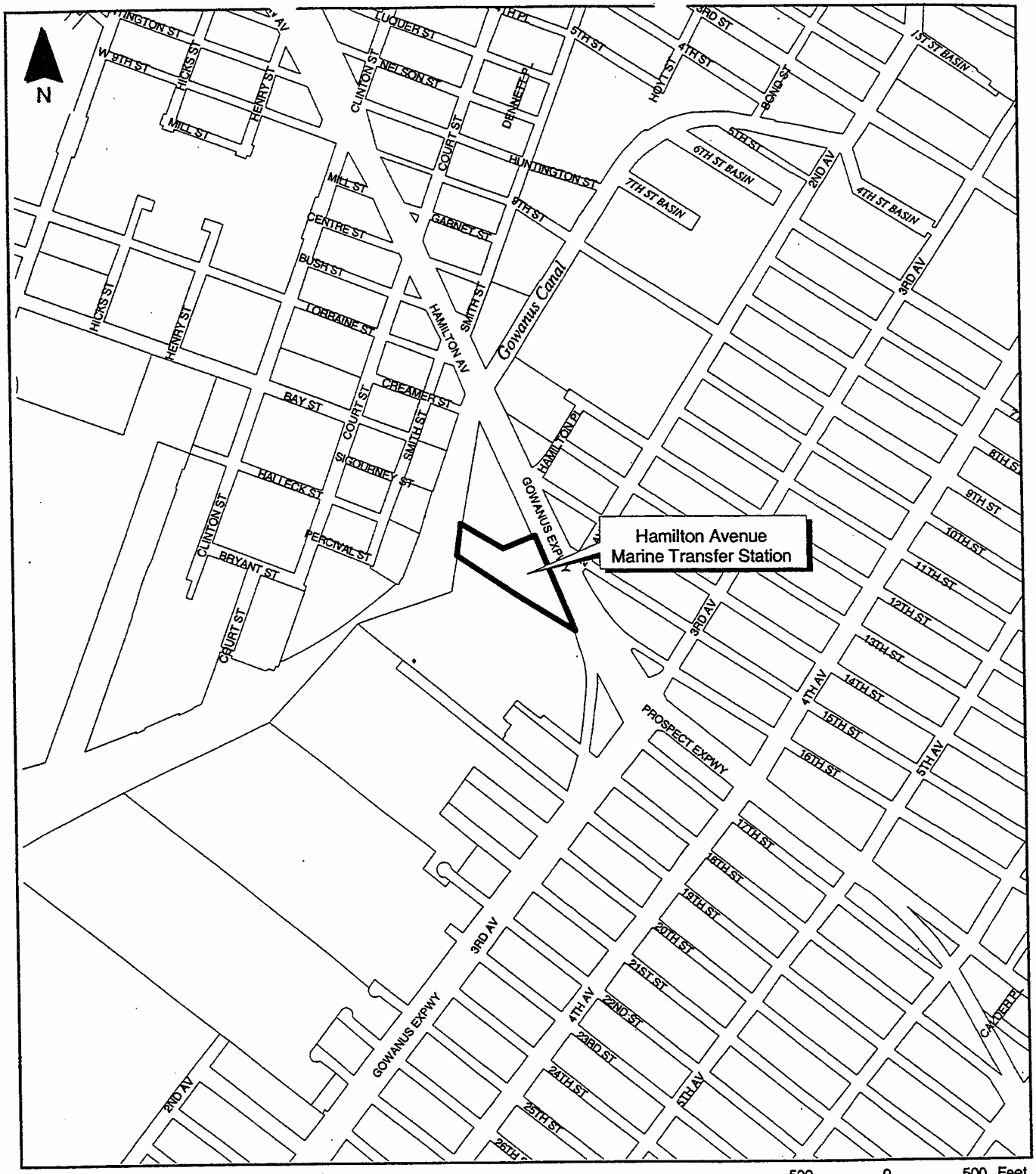
500 0 500 Feet

HDR

Figure 1-2 Vicinity Map

Greenpoint Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

500 0 500 Feet

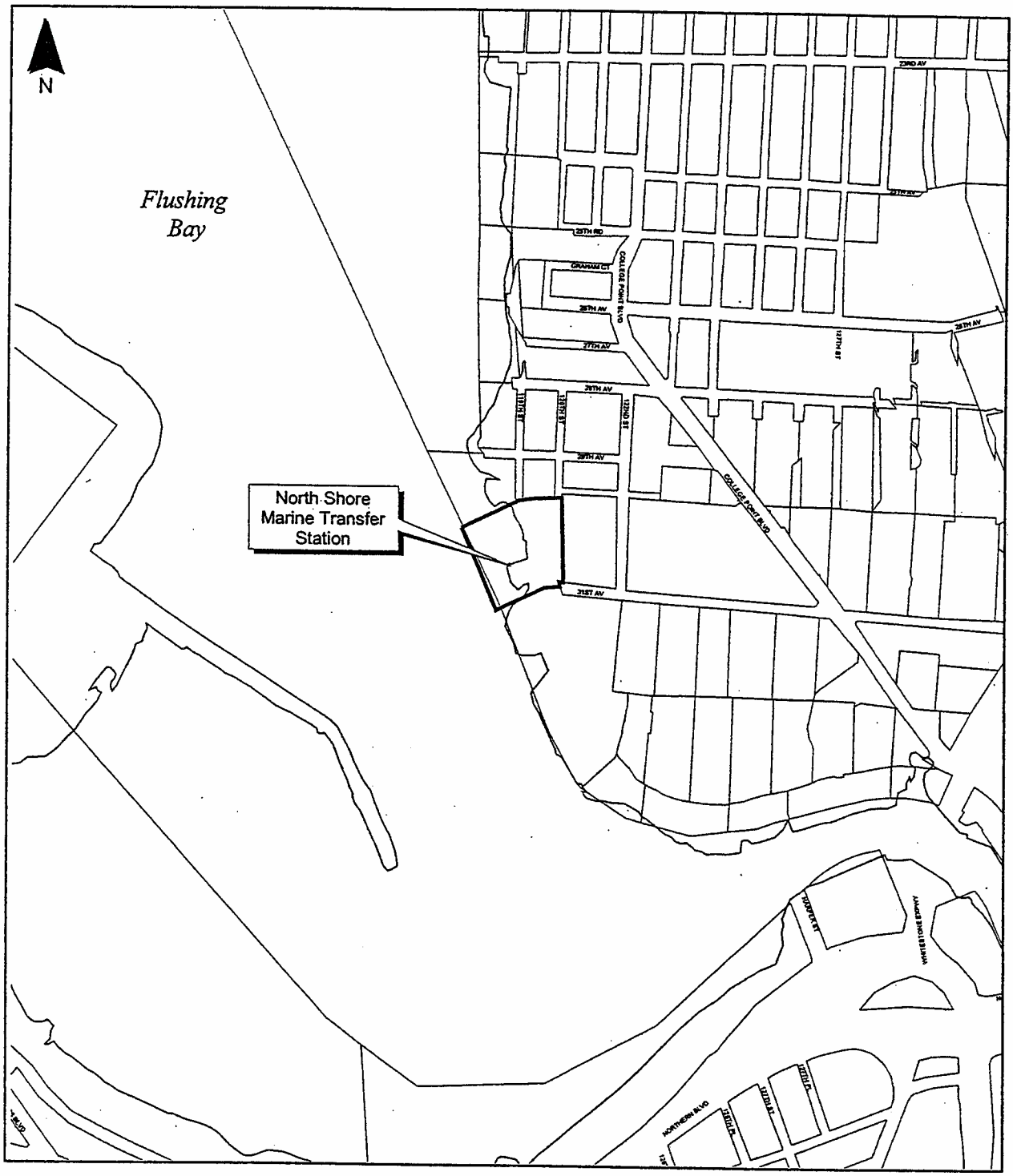
HDR Hydroqual

Figure 1-2 Vicinity Map

Hamilton Avenue Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION

THE CITY OF NEW YORK DEPARTMENT OF SANITATION



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

500 0 500 Feet

HDR

Figure 1-2 Vicinity Map

North Shore Marine Transfer Station

CITY OF NEW YORK
DEPARTMENT OF SANITATION

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FAXED

at 11:05 AM
OTTO

FAX TRANSMISSION

TO:	Tom Grimaldi	FROM:	Melissa E. Morrone
FAX NO:	914-925-6487	DATE:	10/17/03
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

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COMMENTS:

Tom,

Attached please find the site location for the site we are working on. I'd like to obtain gas and electric plates for the area within the bold line on the map.

Please either call me back at 201-529-5151 x7192 or fax me any information at 201-529-5728.

Thank you for your help.

Melissa

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

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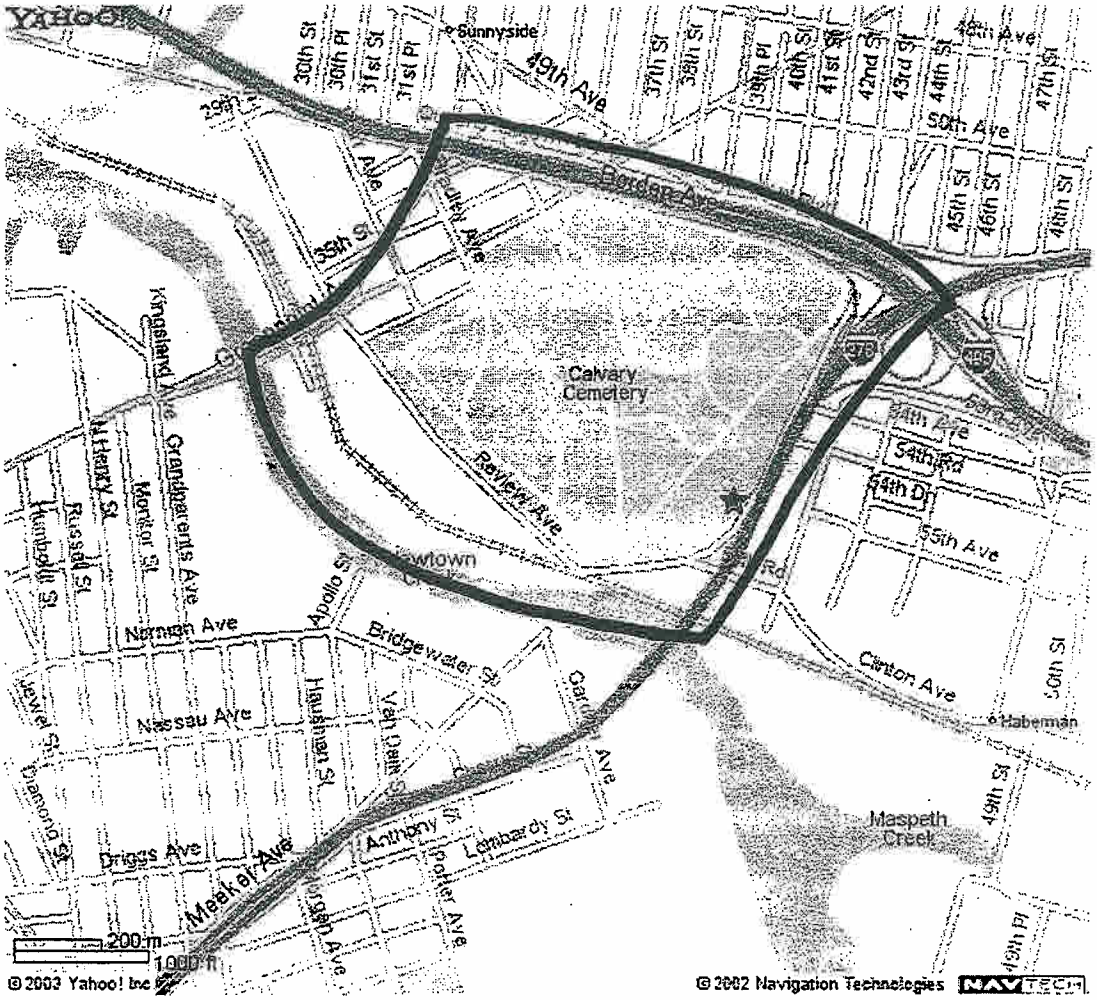

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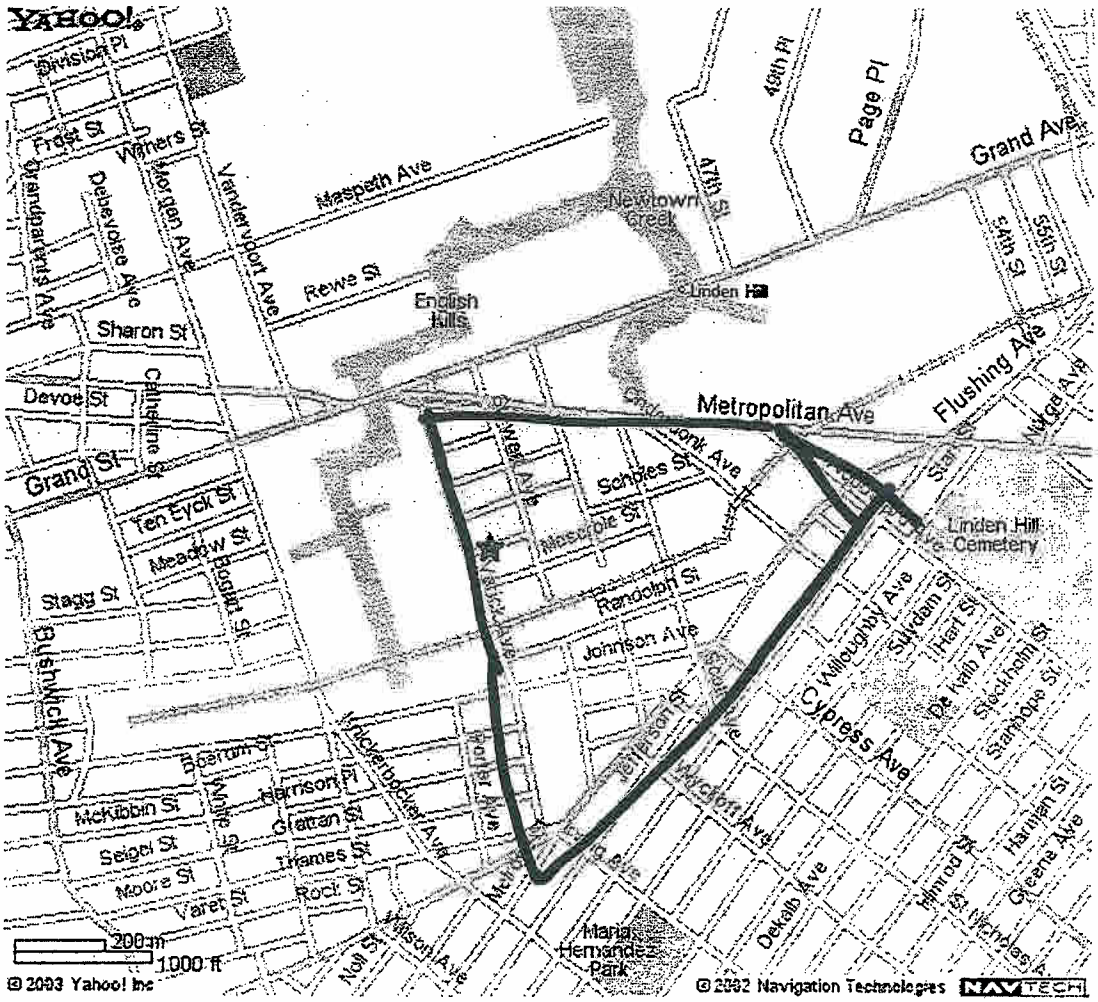

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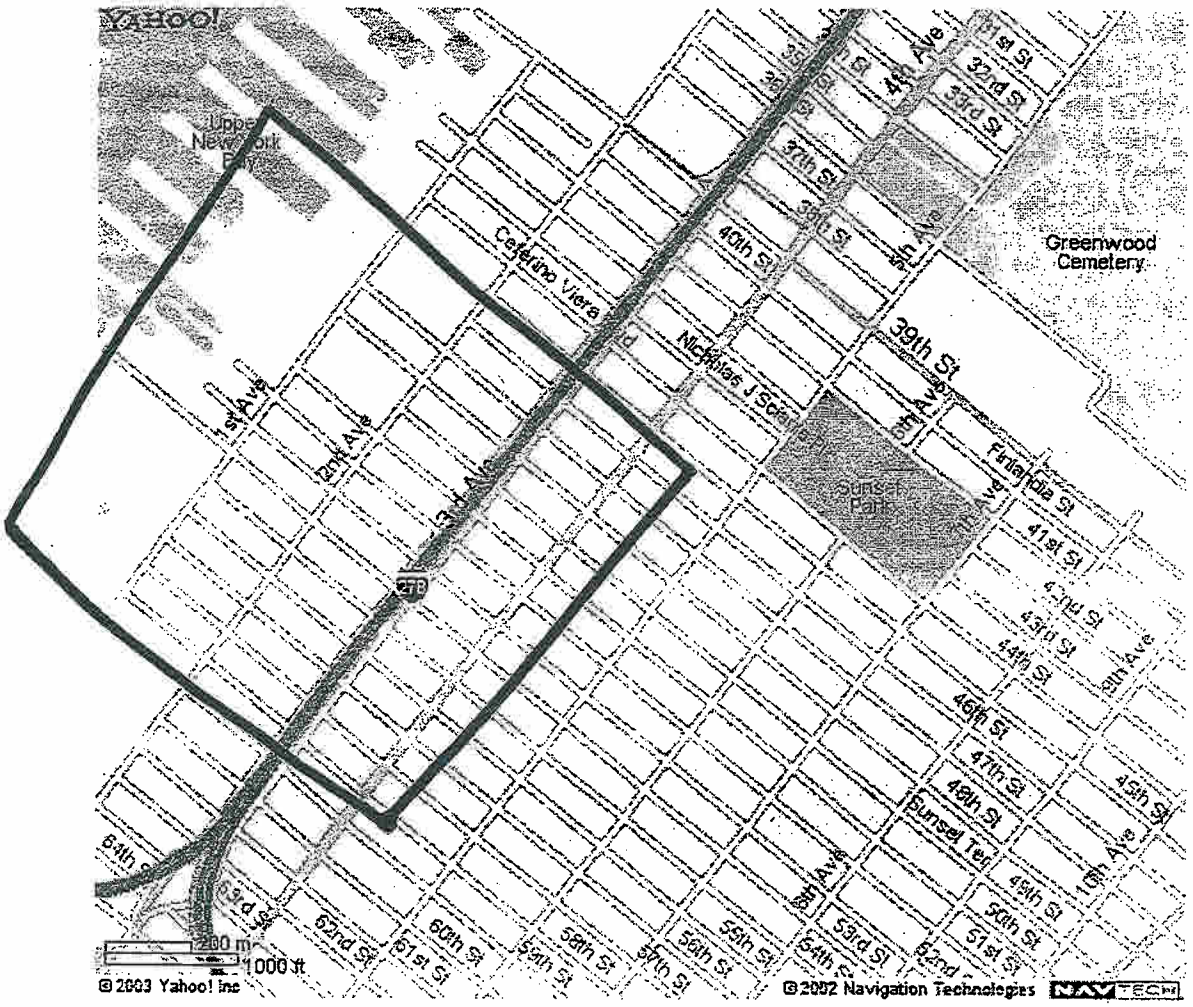

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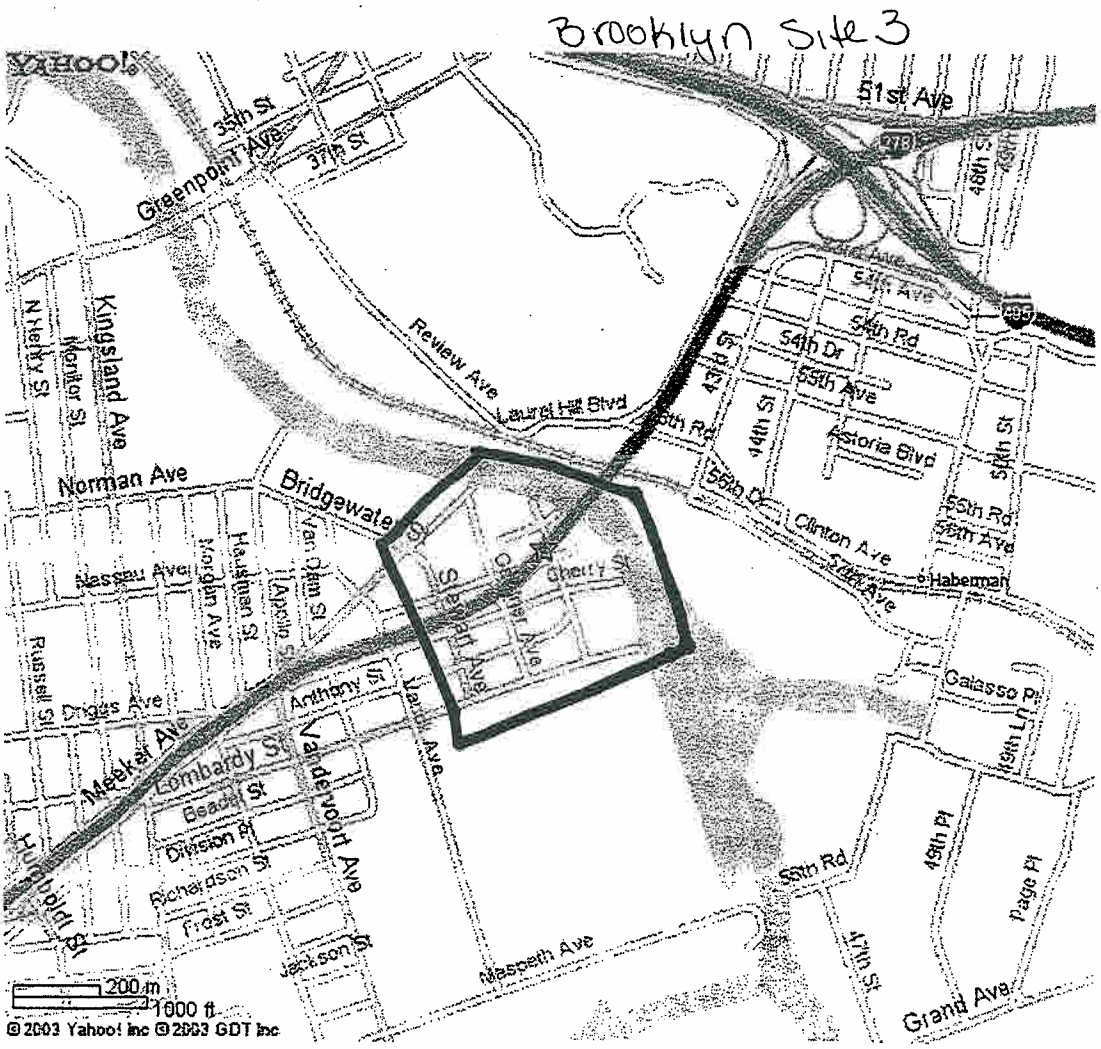

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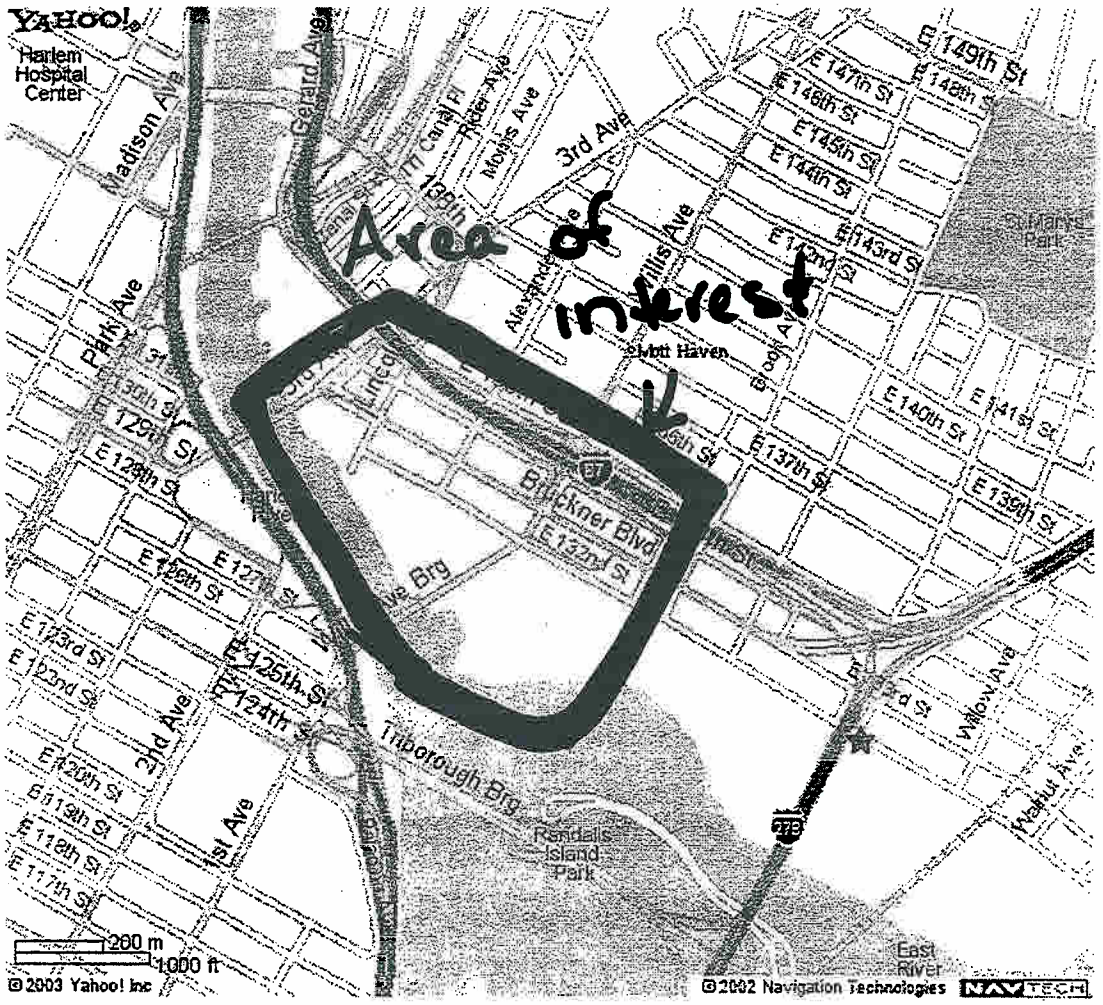

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HydroQual

Environmental
Engineers & Scientists

October 20, 2003

Ms. Patricia Whitley
Con Edison - Energy Services
30 Flatbush Avenue
Room 412B
Brooklyn, New York 11217

HDRE0203

RE: Request for Electric Information

Dear Ms. Whitley:

HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites.

Attached please find area maps for the four (4) sites in Brooklyn (3 sites) and Queens (1 site) for which we are requesting utility information.

Since we are operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office at 201-529-5151 if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

MEM/kfw
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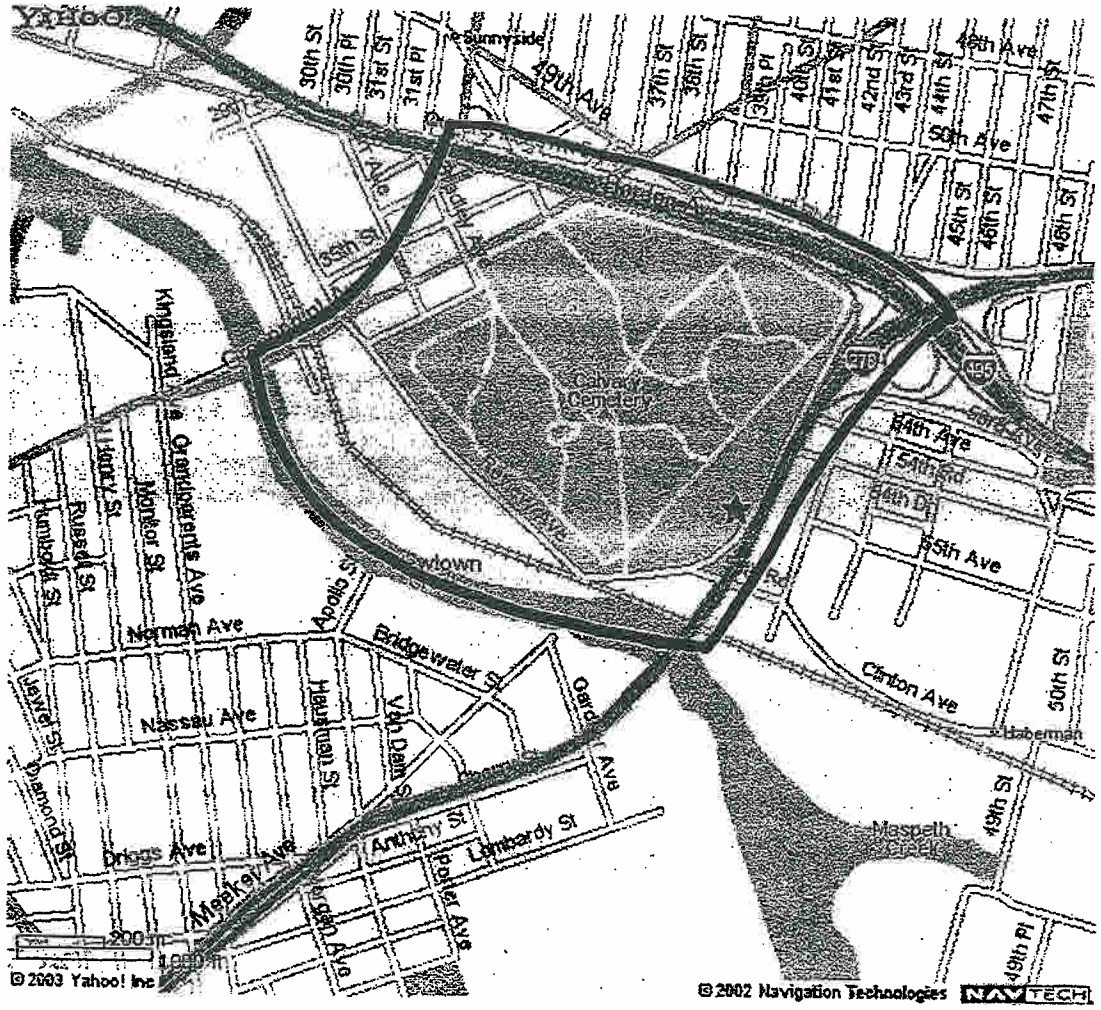

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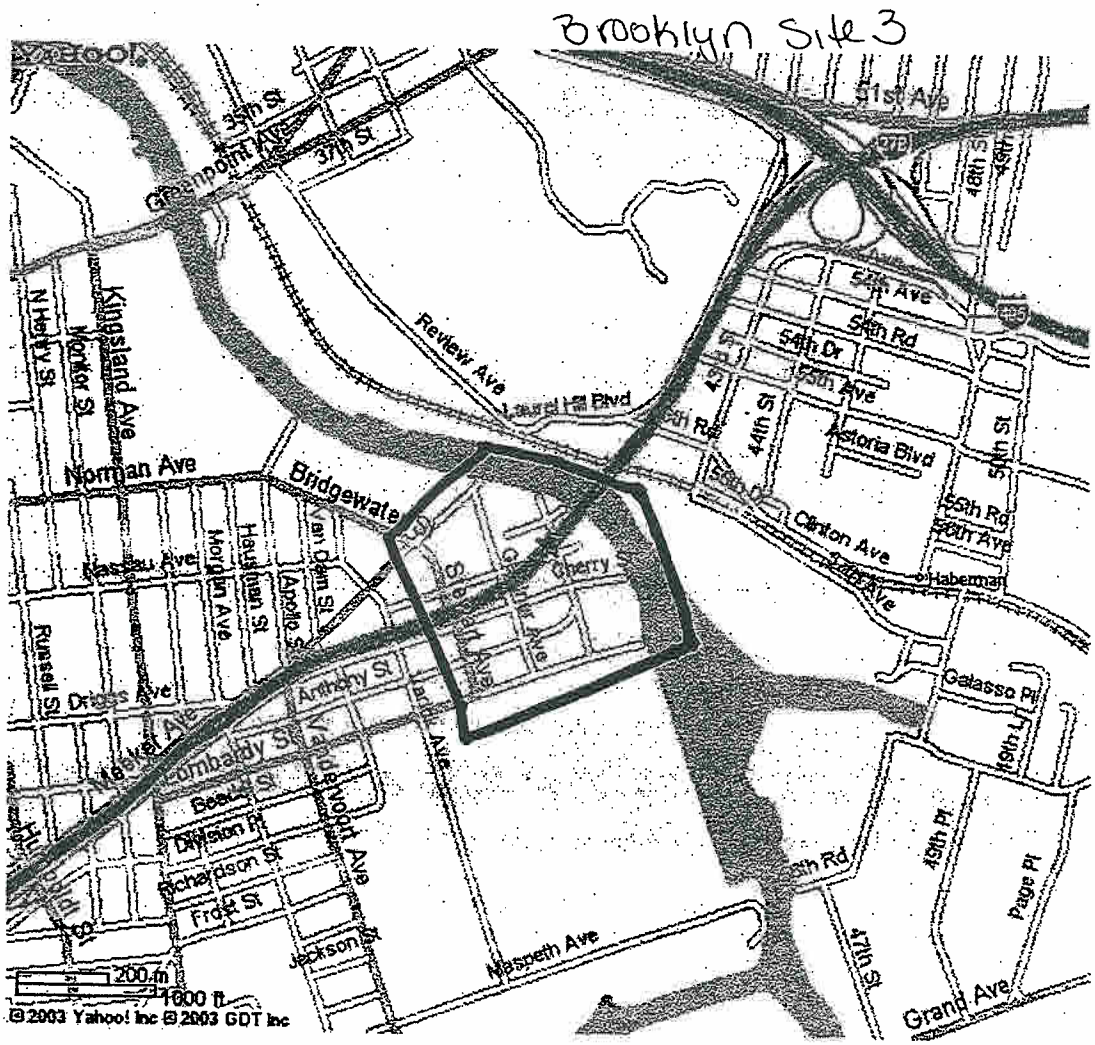

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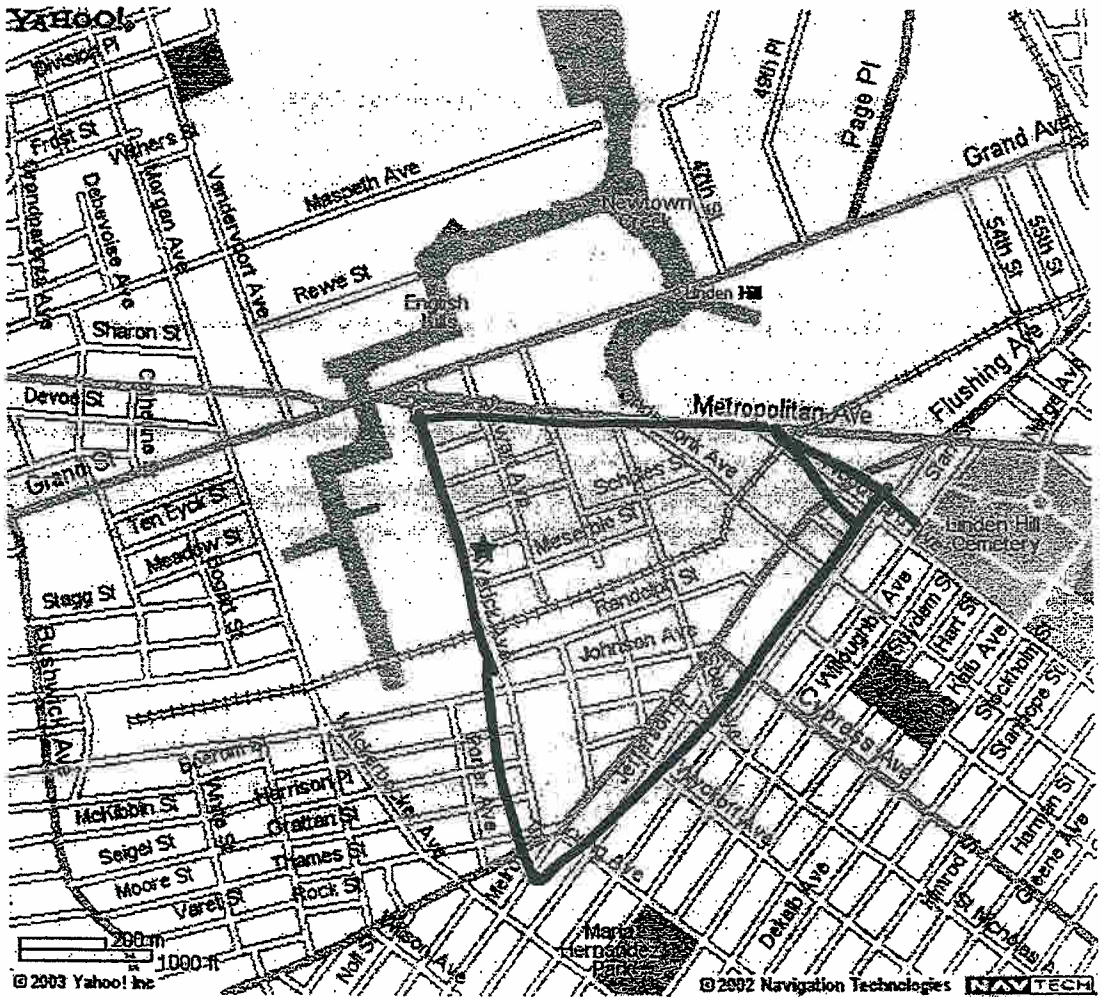

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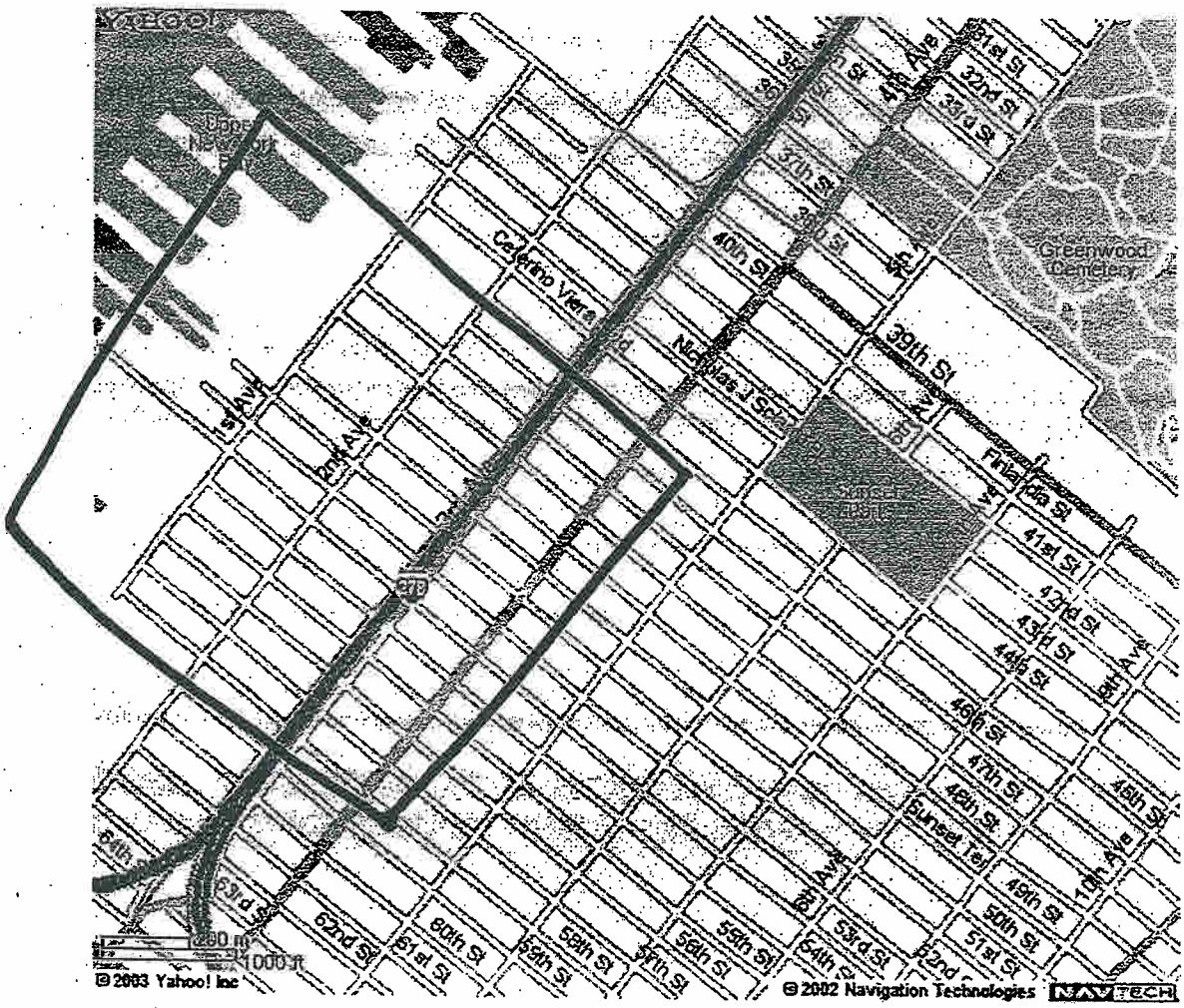

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FAXED at 11:05 AM on 1/21/04

FAX TRANSMISSION

TO:	Rich B.	FROM:	Melissa Morrone
FAX NO:	718-643-6943	DATE:	1/21/04
ACCT. NO:	HDRE 0203	REPORT PROBLEMS TO:	

NUMBER OF PAGES INCLUDING COVER SHEET 6

ORIGINAL DOCUMENT TO BE MAILED	___ YES	X NO
RETURN FAX TO SENDER	X YES	___ NO
FAX TO BE FILED	X YES	___ NO
ATTACH COVER SHEET TO TRANSMITTAL	X YES	___ NO

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COMMENTS:

Rich,

Attached please find the letter sent to Ms. Whitley in October.

You can contact me at 201-529-5151 x 7192

thanks!

Melissa

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

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October 20, 2003

Ms. Patricia Whitley
Con Edison - Energy Services
30 Flatbush Avenue
Room 412B
Brooklyn, New York 11217

HDRE0203

RE: Request for Electric Information

Dear Ms. Whitley:

HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites.

Attached please find area maps for the four (4) sites in Brooklyn (3 sites) and Queens (1 site) for which we are requesting utility information.

Since we are operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office at 201-529-5151 if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

MEM/kfw
HDRE0203/WHITLEY_102003.LTR
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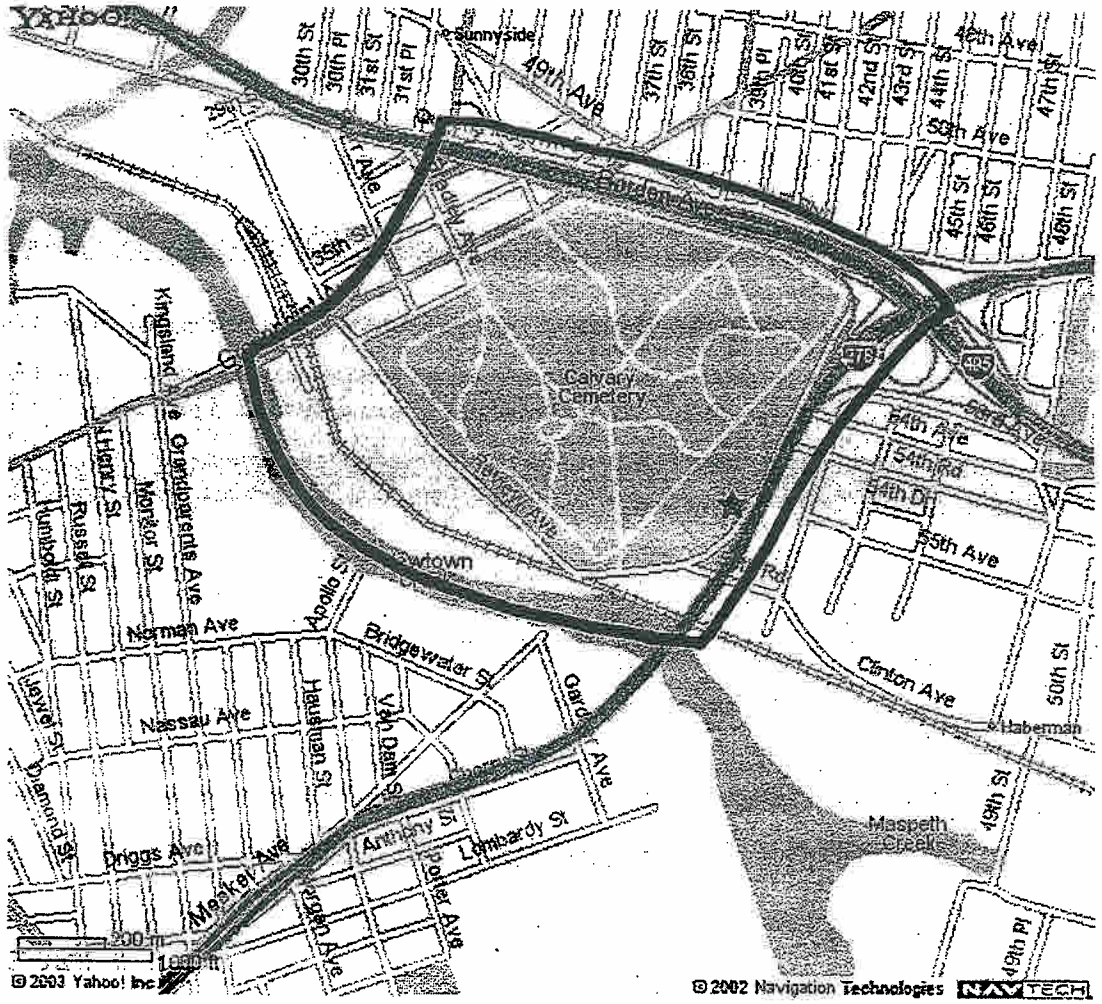

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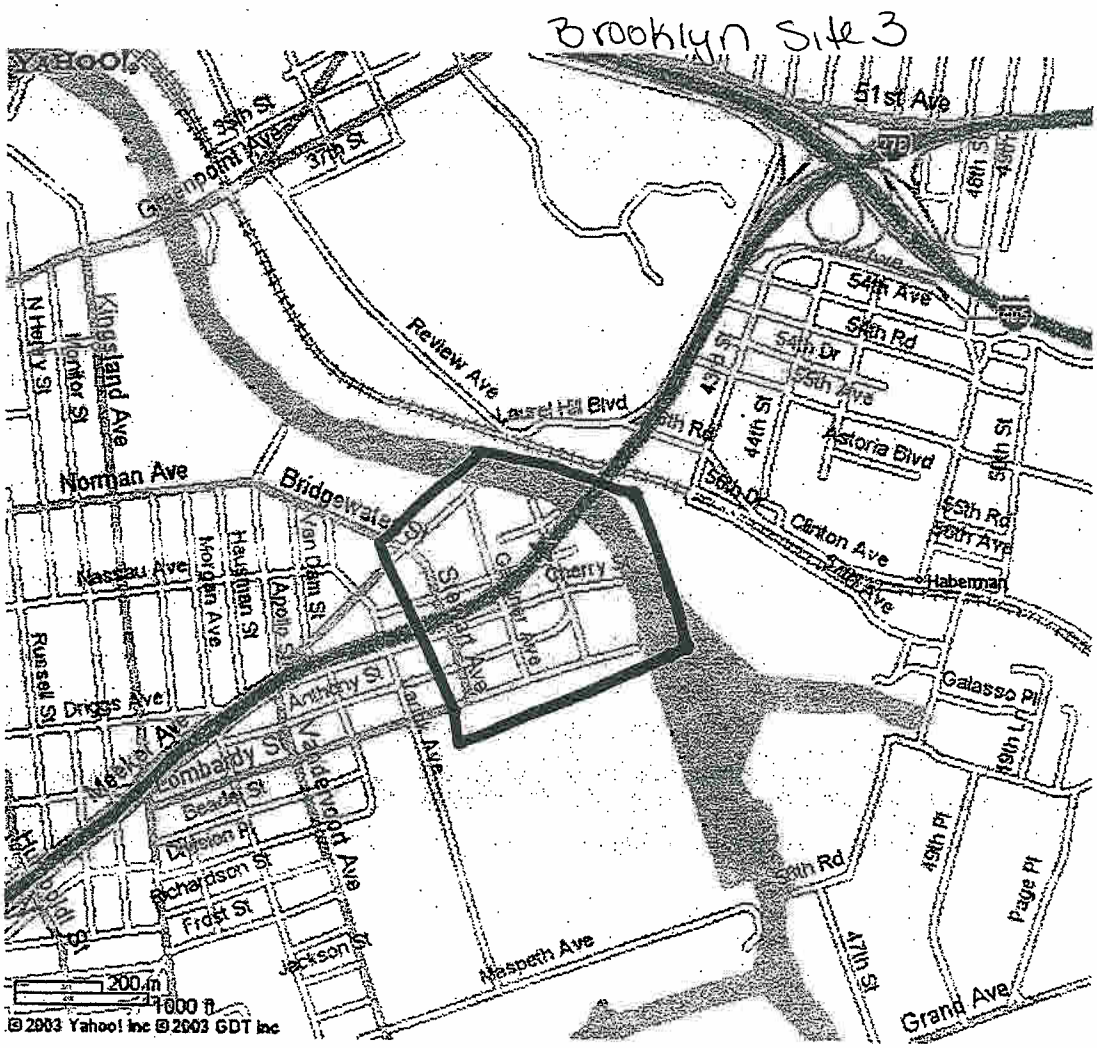

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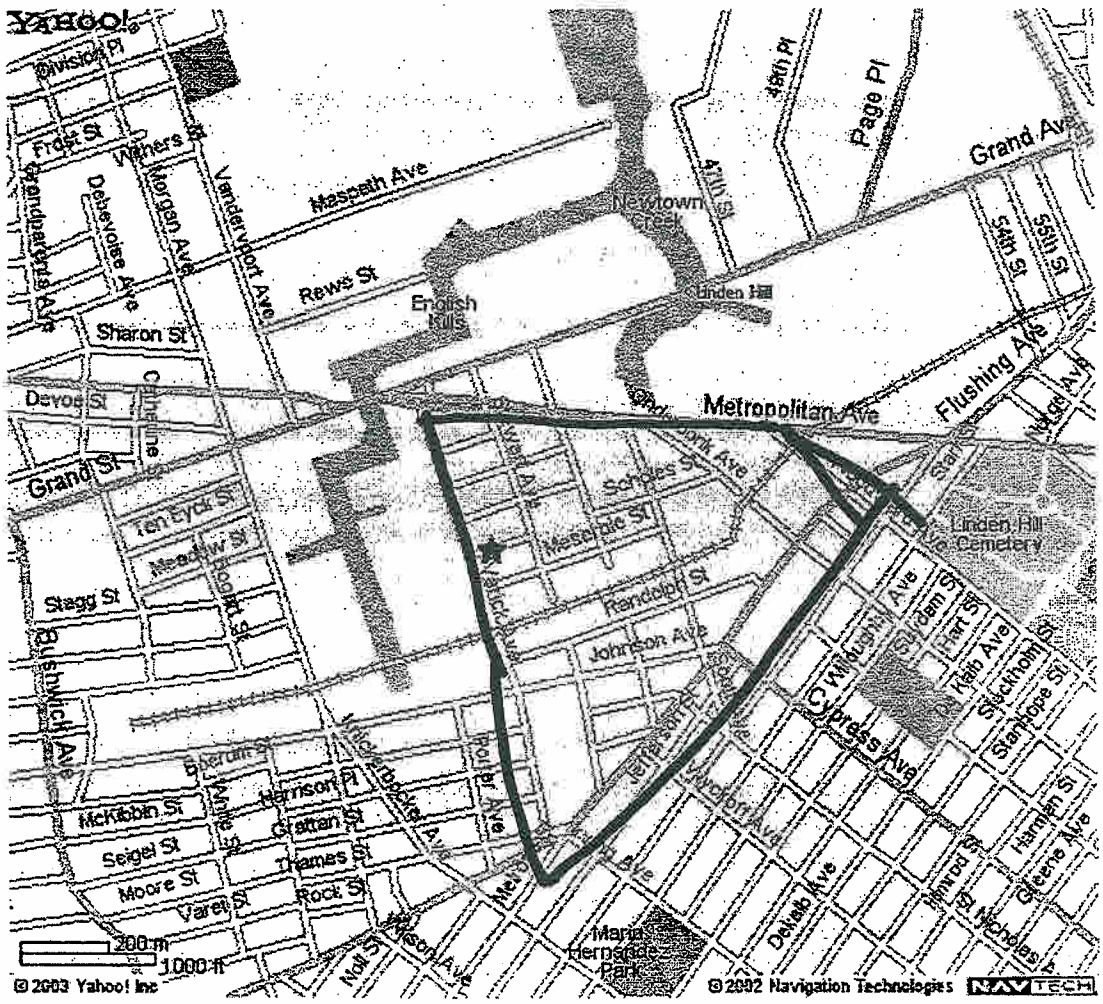

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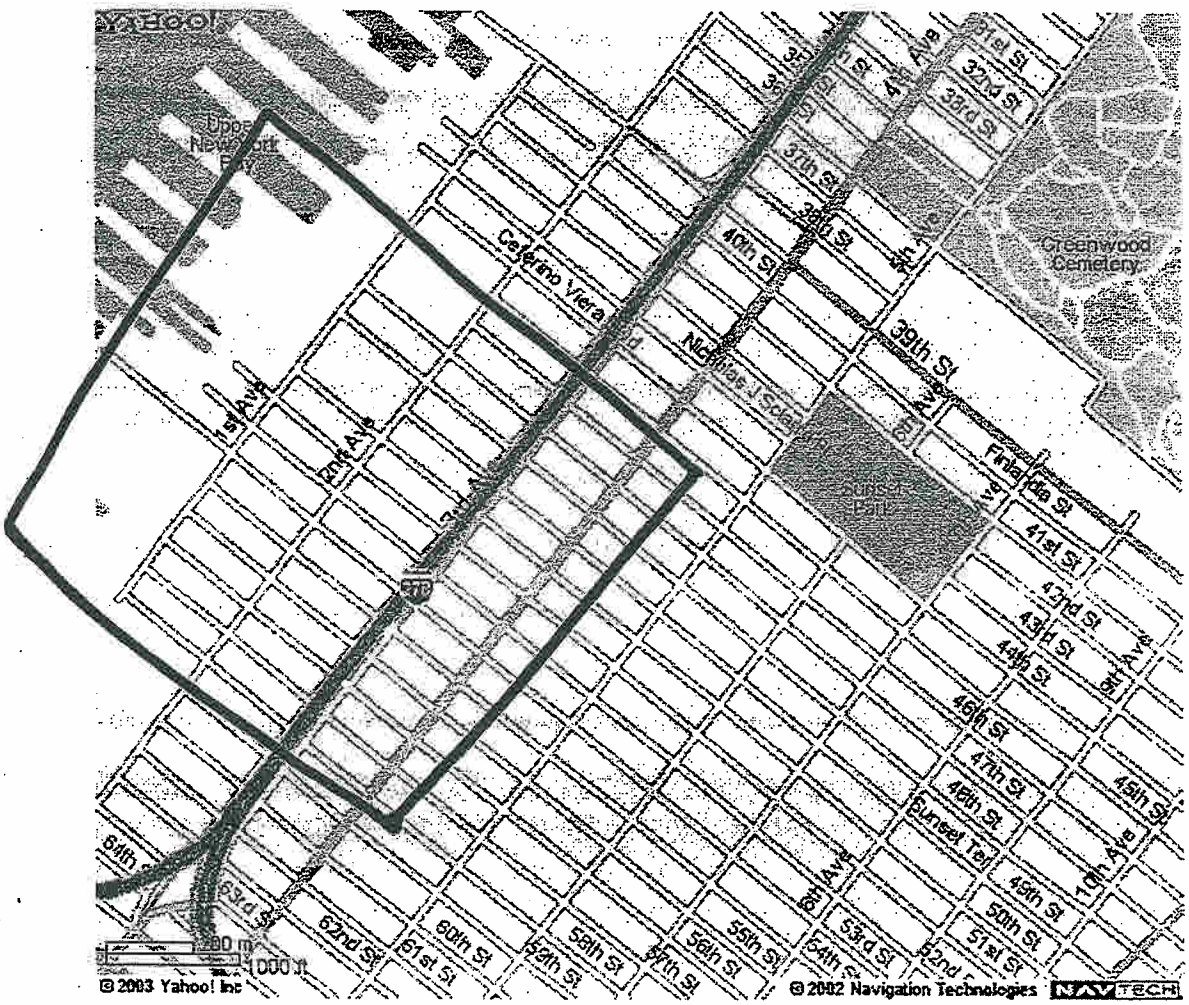

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FAXED

FAX TRANSMISSION

TO:	Al Myles	FROM:	Melissa E. Morrone
FAX NO:	718-275-2108	DATE:	1/27/04
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

NUMBER OF PAGES INCLUDING COVER SHEET 4

ORIGINAL DOCUMENT TO BE MAILED	___ YES	✓ NO
RETURN FAX TO SENDER	✓ YES	___ NO
FAX TO BE FILED	✓ YES	___ NO
ATTACH COVER SHEET TO TRANSMITTAL	✓ YES	___ NO

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COMMENTS:

Al,

Attached please find a detailed breakdown of the sites we are interested in utility plates for. For each site you will see a breakdown by street with a boundary on either end. Please call me if you need any more information

Thanks!

Melissa

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HYDROQUAL, INC. 1200 MacArthur Blvd, MAHWAH, NJ 07430 T:201-529-5151 F:201-529-5728

BROOKLYN		
STREET NAME	FROM	TO
Site 1		
Stewart Avenue	Lombardy Street	Bridgewater Street
Gardner Avenue	Lombardy Street	Bridgewater Street
Lombardy Street	Stewart Avenue	Newtown Creek
Anthony Street	Stewart Avenue	Newtown Creek
Cherry Street	Stewart Avenue	Newtown Creek
Bridgewater Street	Stewart Avenue	Newtown Creek
Site 2		
Grand Street	Woodward Street	Varick Street
Metropolitan Avenue	Woodward Street	Varick Street
Ten Eyck Street	Varick Street	Stewart Avenue
Meadow Street	Varick Street	Gardner Avenue
Stagg Street	Varick Street	Gardner Avenue
Scholes Street	Varick Street	Gardner Avenue
Meserole Street	Varick Street	Scott Avenue
Randolph Street	Varick Street	Scott Avenue
Varick Avenue	Metropolitan Avenue	Randolph Street
Stewart Avenue	Metropolitan Avenue	Randolph Street
Gardner Avenue	Metropolitan Avenue	Randolph Street
Scott Avenue	Metropolitan Avenue	Randolph Street
Seneca Avenue	Metropolitan Avenue	Randolph Street
Woodward Street	Metropolitan Avenue	Flushing Avenue

BROOKLYN		
STREET NAME	**FROM**	**TO**
Site 3		
4th Avenue	46th Street	58th Street
3rd Avenue	46th Street	58th Street
Gowanus Expressway	46th Street	58th Street
2nd Avenue	46th Street	58th Street
1st Avenue	46th Street	58th Street
46th Street	4th Avenue	NY Harbor
47th Street	4th Avenue	NY Harbor
48th Street	4th Avenue	NY Harbor
49th Street	4th Avenue	NY Harbor
50th Street	4th Avenue	NY Harbor
51st Street	4th Avenue	NY Harbor
52nd Street	4th Avenue	NY Harbor
53rd Street	4th Avenue	NY Harbor
54th Street	4th Avenue	NY Harbor
55th Street	4th Avenue	NY Harbor
56th Street	4th Avenue	NY Harbor
57th Street	4th Avenue	NY Harbor
58th Street	4th Avenue	NY Harbor

Queens

LOCATION STREET NAME	FROM	TO
Review Avenue	Brooklyn-Queens Expressway	Greenpoint Avenue
Laurel Hill Boulevard	Review Avenue	Newtown Creek
Brooklyn-Queens Expressway	Review Avenue	Newtown Creek
Long Island Expressway	Brooklyn-Queens Expressway	Greenpoint Avenue
Greenpont Avenue	Long Island Expressway	Newtown Creek

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May 28, 2004

Mr. Al Miles
Con Edison
181-29 Queens Boulevard
Room B217
Forest Hills, NY 11375

HDRE0203

RE: Request for Utility Plates

Dear Mr. Miles:

As per our phone conversation on May 2, 2004, I am writing to request copies of utility plates. Please find attached a map outlining the area of interest, as well as a list of the corresponding streets. In addition to the new area outlined, we are requesting additional plates to supplement an area previously obtained. These specific plates are included at the end of the street name list.

Please feel free to contact me at 201-529-5151 x7203, if you have any questions regarding this request. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Brian S. George

Brian S. George

BSG/kfw
HDRE0203/MILES_052804.LTR
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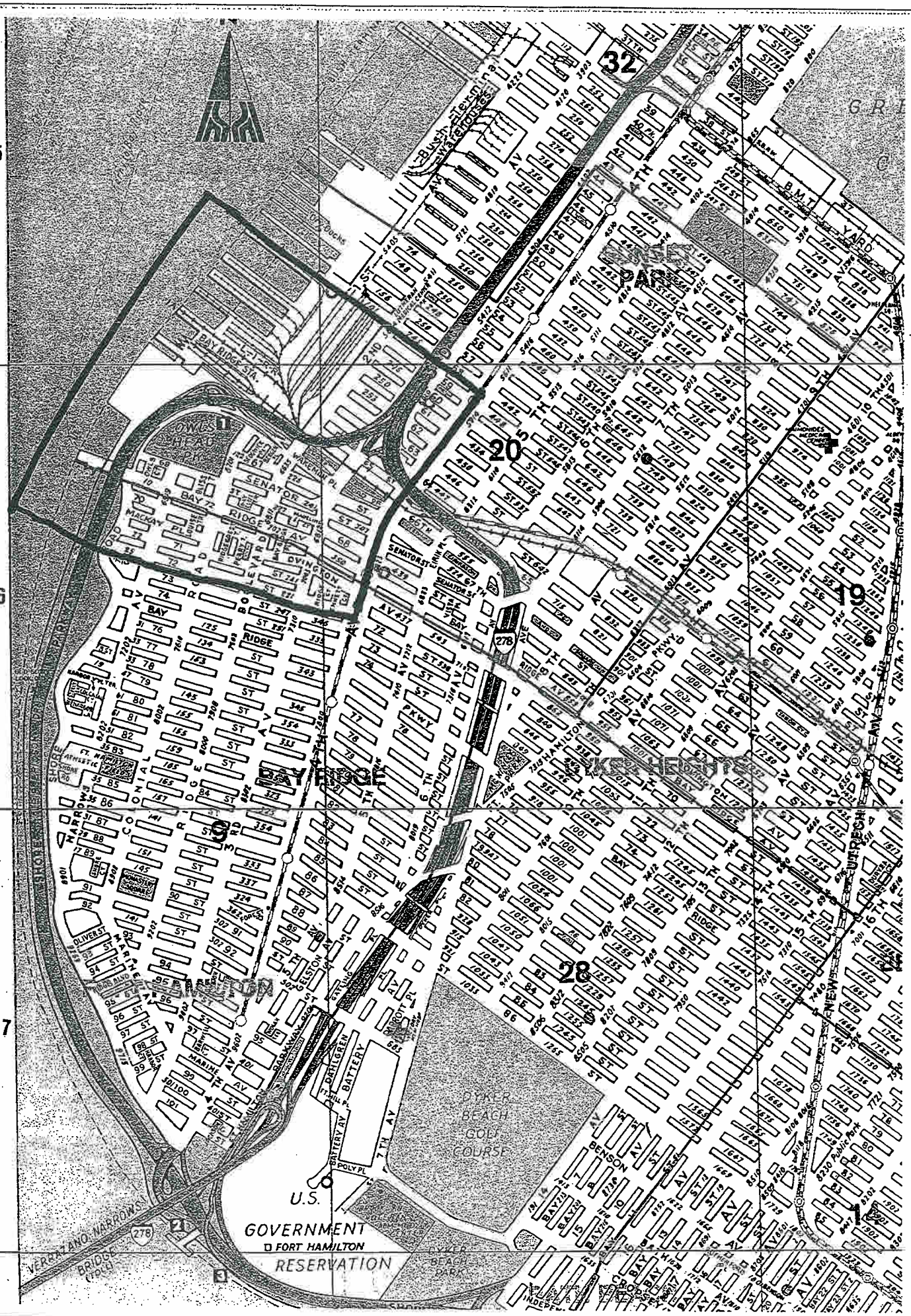
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BAY RIDGE
BAY RIDGE STA.
OWLS HEAD PK
SENATOR
RIDGE
BAY
MACKAY PL
OVINGTON
WAKEMAN PL
SENATOR ST
HAMILTON
PKWY
6TH
OLIVER ST
MARINE
HARBOR
BATTERY
DYKER BEACH GOLF COURSE
U.S. GOVERNMENT
FORT HAMILTON
RESERVATION
VERRAZANO NARROWS BRIDGE (TOLL)
BENSON AV
UTRECHT
BMT
YARD
PARK
278

Please provide utility plates for the following area in Brooklyn				
STREET NAME	FROM	TO		
4th Ave	59 St	71 St		
3rd Ave	59 St	71 St		
2nd Ave	59 St	71 St		
1st Ave	59 St	71 St		
59 St	4th Ave	Shoreline (Upper NY Bay)		
60 St	4th Ave	Shoreline (Upper NY Bay)		
61 St	4th Ave	Shoreline (Upper NY Bay)		
62 St	4th Ave	Shoreline (Upper NY Bay)		
63 St	4th Ave	Shoreline (Upper NY Bay)		
64 St	4th Ave	Shoreline (Upper NY Bay)		
65 St	4th Ave	Shoreline (Upper NY Bay)		
66 St	4th Ave	Shoreline (Upper NY Bay)		
67 St	4th Ave	Shoreline (Upper NY Bay)		
Senator St	4th Ave	Shoreline (Upper NY Bay)		
68 St	4th Ave	Shoreline (Upper NY Bay)		
Bay Ridge Ave	4th Ave	Shoreline (Upper NY Bay)		
Ovington Ave	4th Ave	Shoreline (Upper NY Bay)		
71 St	4th Ave	Shoreline (Upper NY Bay)		
72 St	4th Ave	Shoreline (Upper NY Bay)		
Please send the following plates to supplement an area previously obtained				
47-AA				
47-ZZ				
48-Z				
51-ZZ				
51-AB				

Correspondence with Consolidated Edison

Date	Description	Related Sites
10/17/03	Fax from M. Morrone (HQ) to Tom Grimaldi, Consolidated Edison, requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes
10/20/03	Letter from M. Morrone (HQ) to Patricia Whitley, Consolidated Edison, requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole
1/21/04	Fax from M. Morrone (HQ) to Richard Blewitt Consolidated Edison, with copy of request to Patricia Whitley, Consolidated Edison, for utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole
1/27/04	Fax from M. Morrone (HQ) to Al Myles, Consolidated Edison, requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole
5/28/04	Letter from B. George (HQ) to Al Myles, Consolidated Edison, requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole
Week of 6/14/04	Package from Consolidated Edison containing requested utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole
6/22/04	Telephone call from B. George (HQ) to Al Myles, Consolidated Edison, requesting missing utility service plates from package received week of 6/14/04.	52nd Street
6/30/04	Package from Consolidated Edison containing updated utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole

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FAXED
at 11:05 AM
OFFICE

FAX TRANSMISSION

TO:	Tom Grimaldi	FROM:	Melissa E. Morrone
FAX NO:	914-925-6487	DATE:	10/17/03
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

NUMBER OF PAGES INCLUDING COVER SHEET 2

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RETURN FAX TO SENDER	✓ YES	___ NO
FAX TO BE FILED	✓ YES	___ NO
ATTACH COVER SHEET TO TRANSMITTAL	✓ YES	___ NO

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COMMENTS:

Tom,

Attached please find the site location for the site we are working on. I'd like to obtain gas and electric plates for the area within the bold line on the map.

Please either call me back at 201-529-5151 x7192 or fax me any information at 201-529-5728.

Thank you for your help.

Melissa

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

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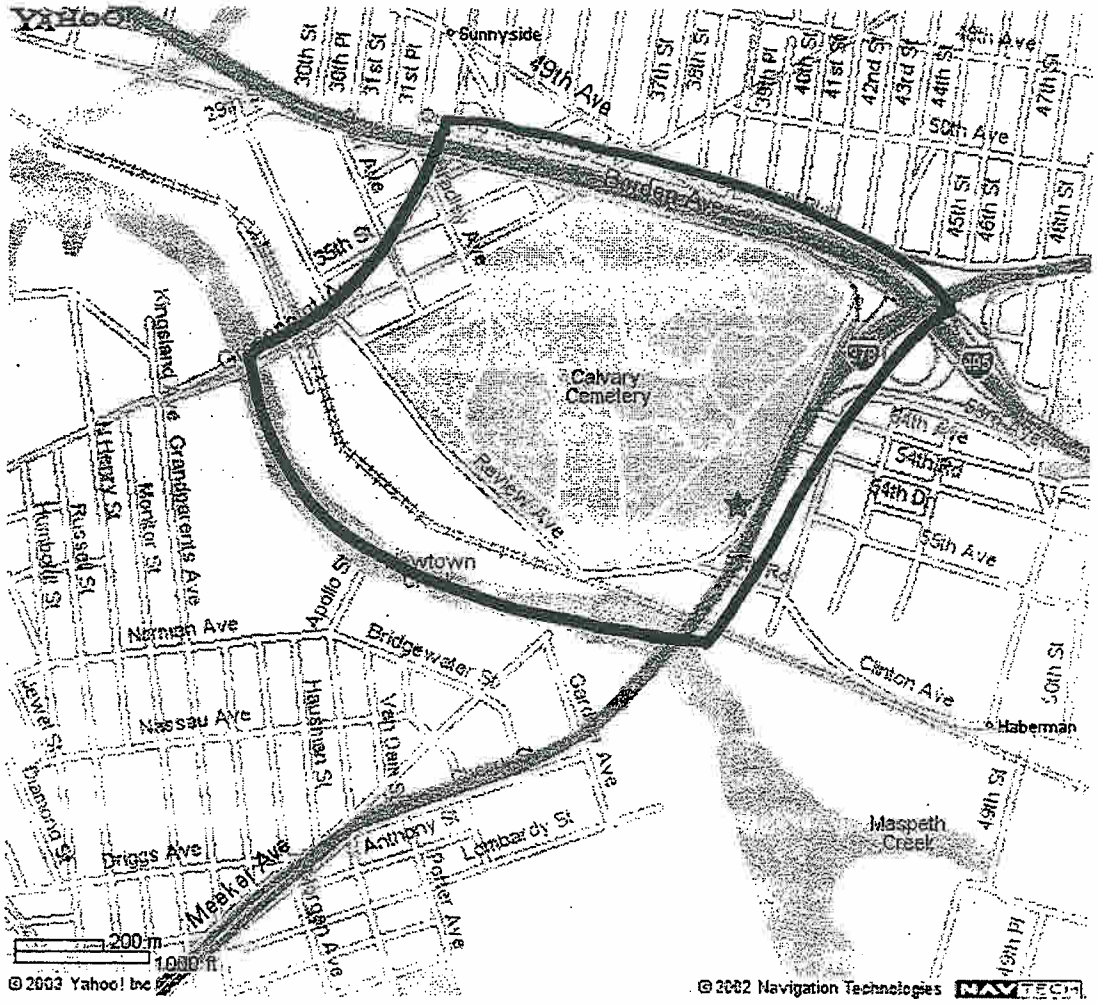

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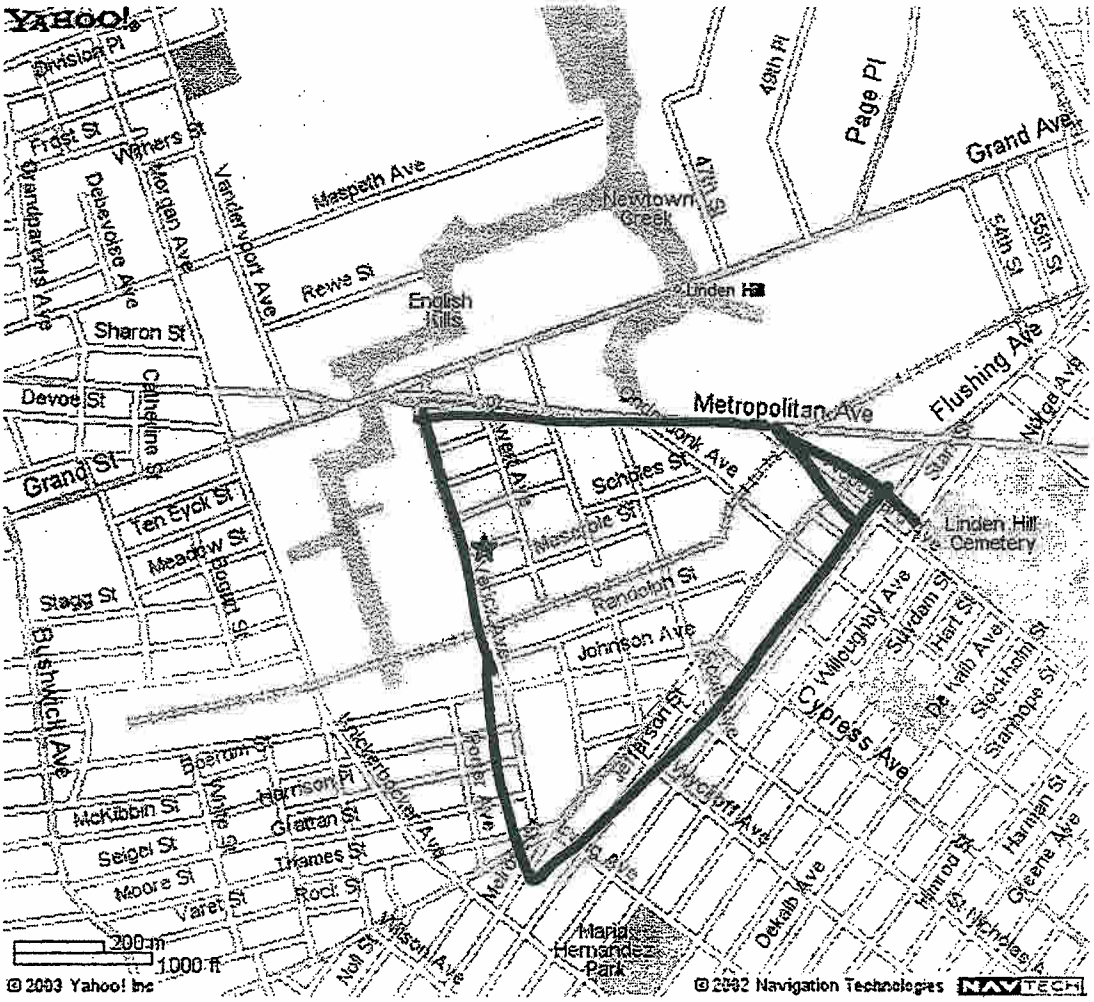

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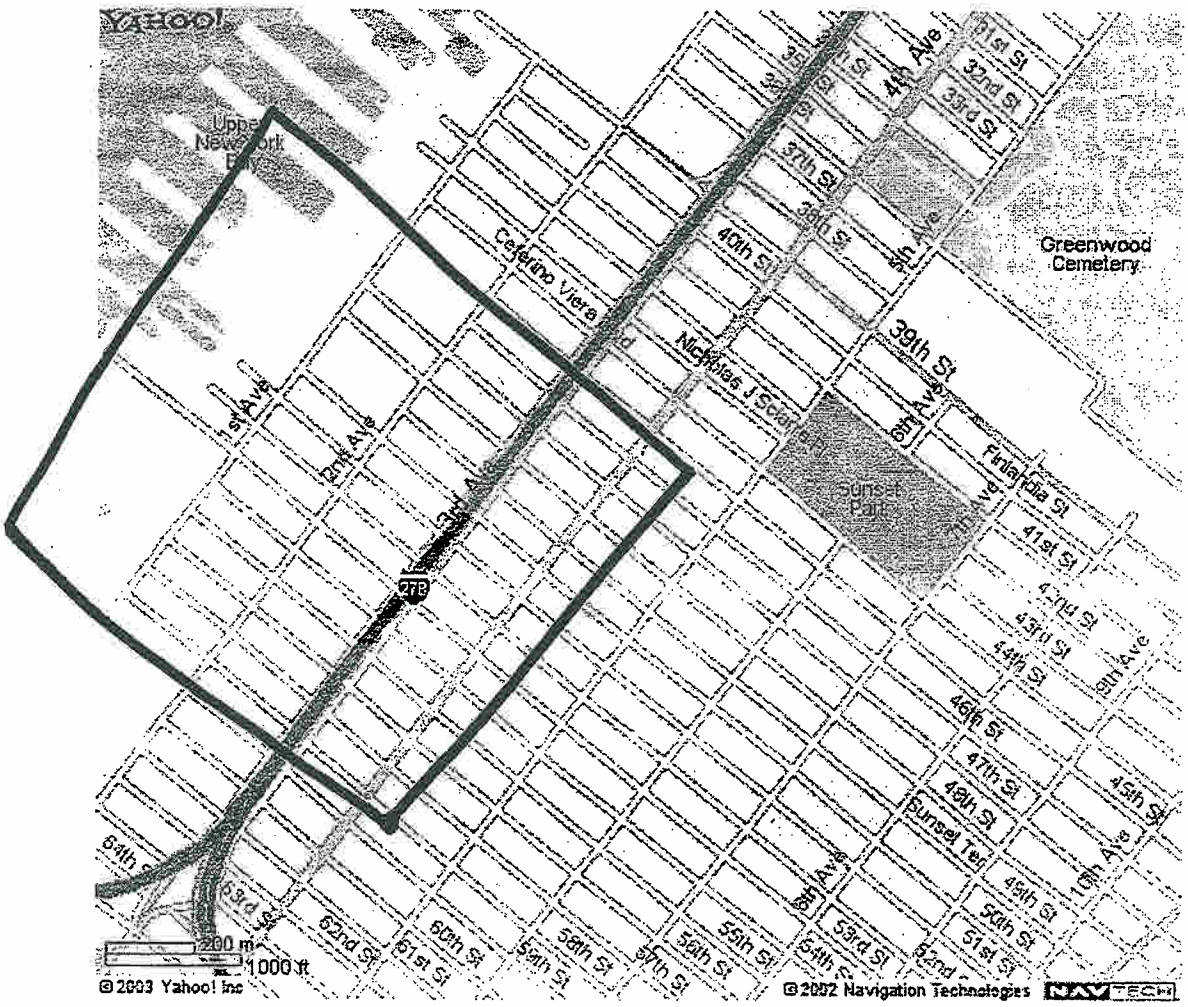

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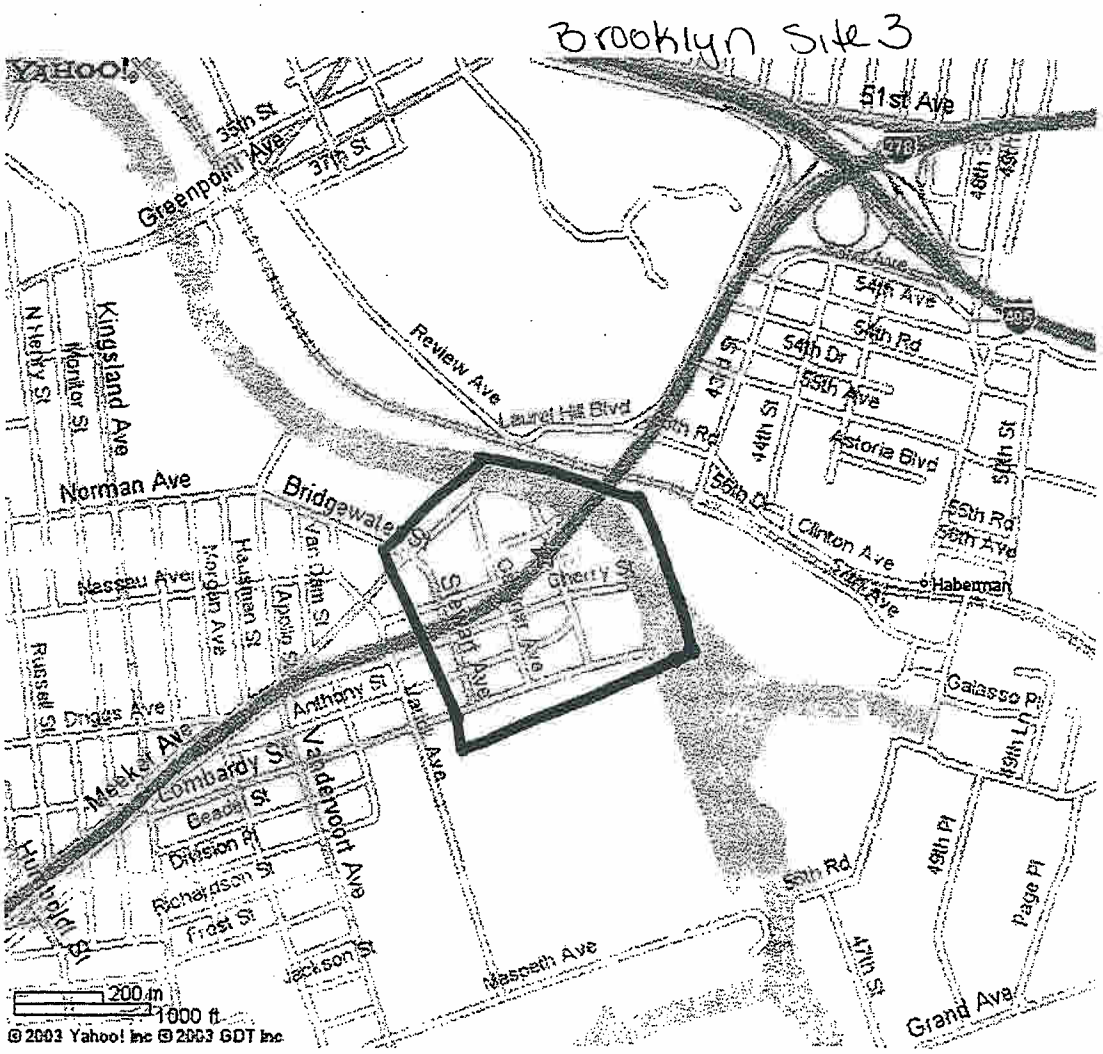

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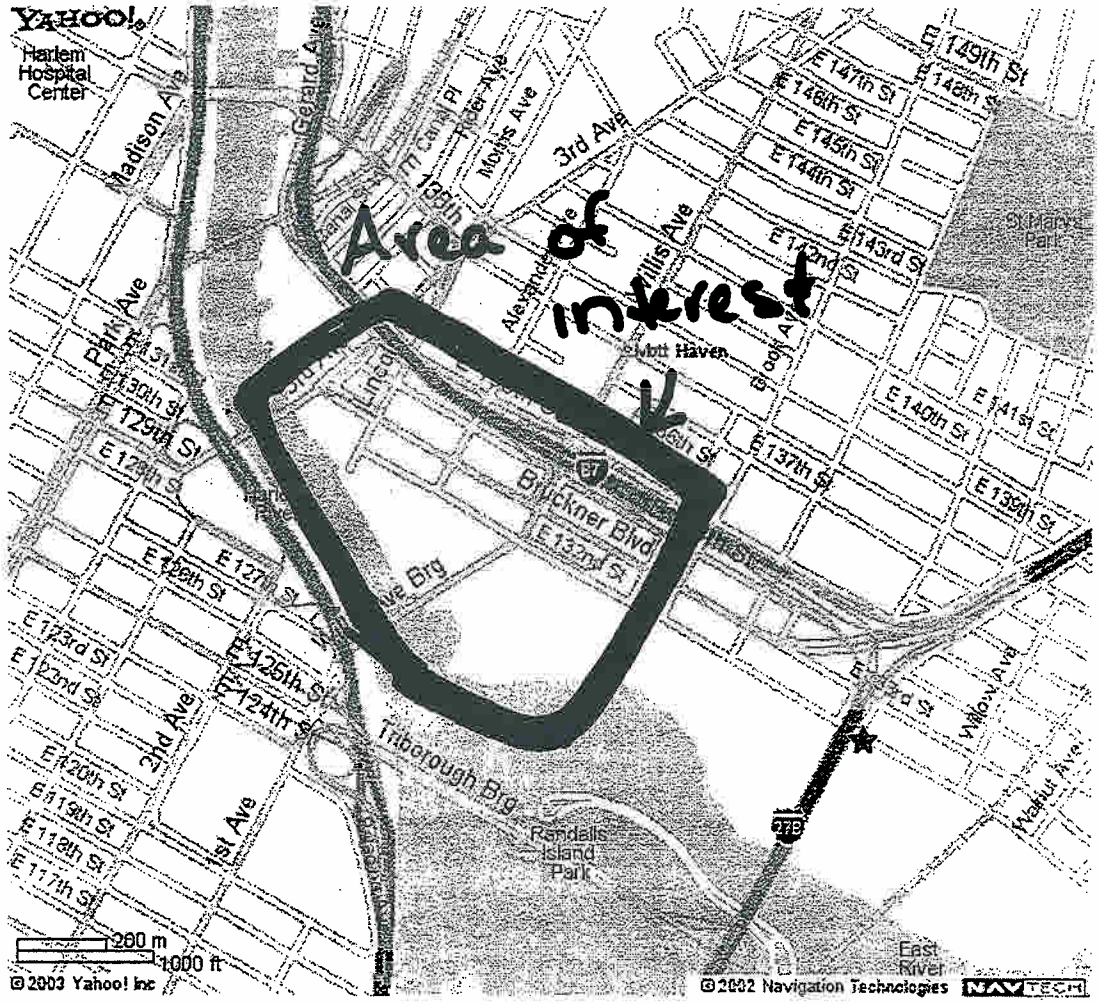

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October 20, 2003

Ms. Patricia Whitley
Con Edison - Energy Services
30 Flatbush Avenue
Room 412B
Brooklyn, New York 11217

HDRE0203

RE: Request for Electric Information

Dear Ms. Whitley:

HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites.

Attached please find area maps for the four (4) sites in Brooklyn (3 sites) and Queens (1 site) for which we are requesting utility information.

Since we are operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office at 201-529-5151 if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

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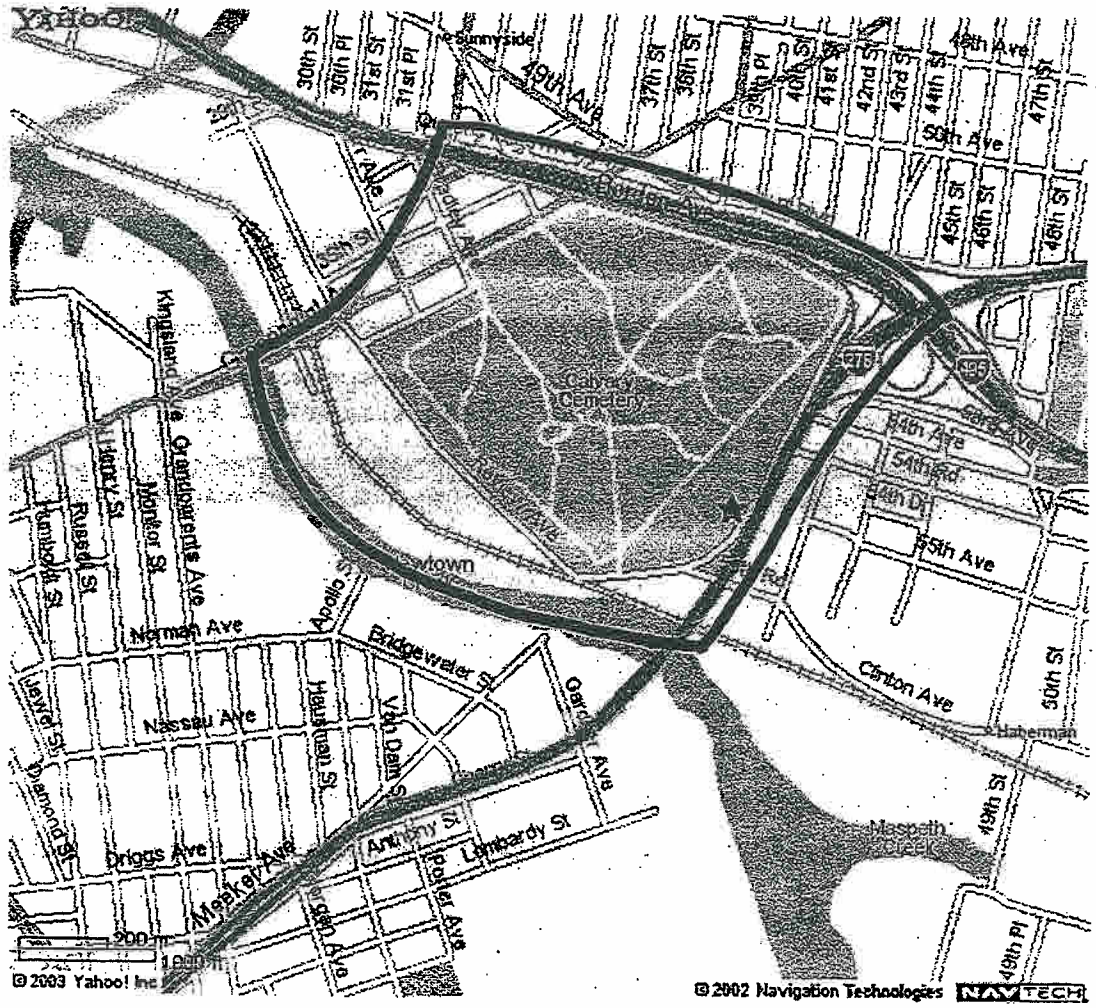

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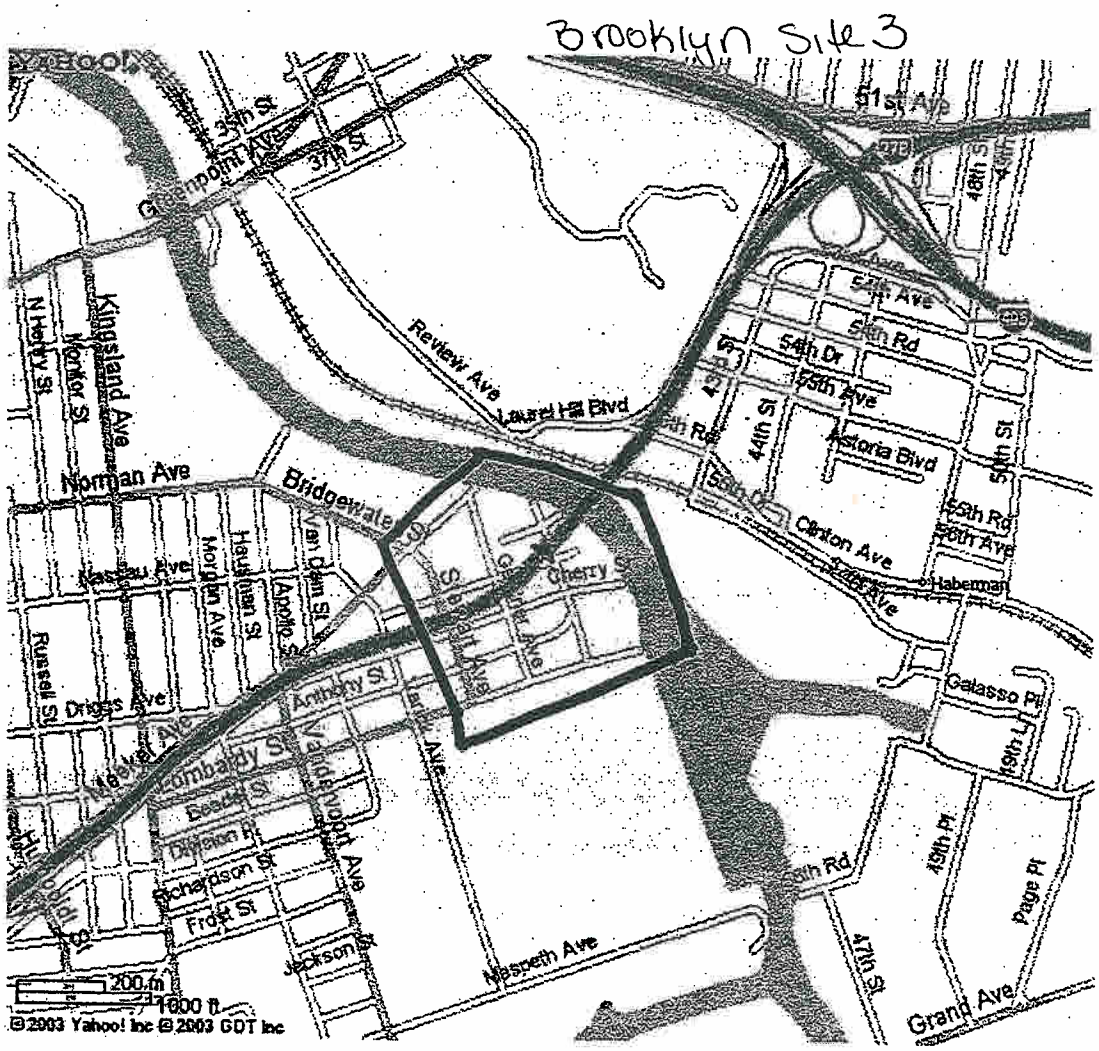

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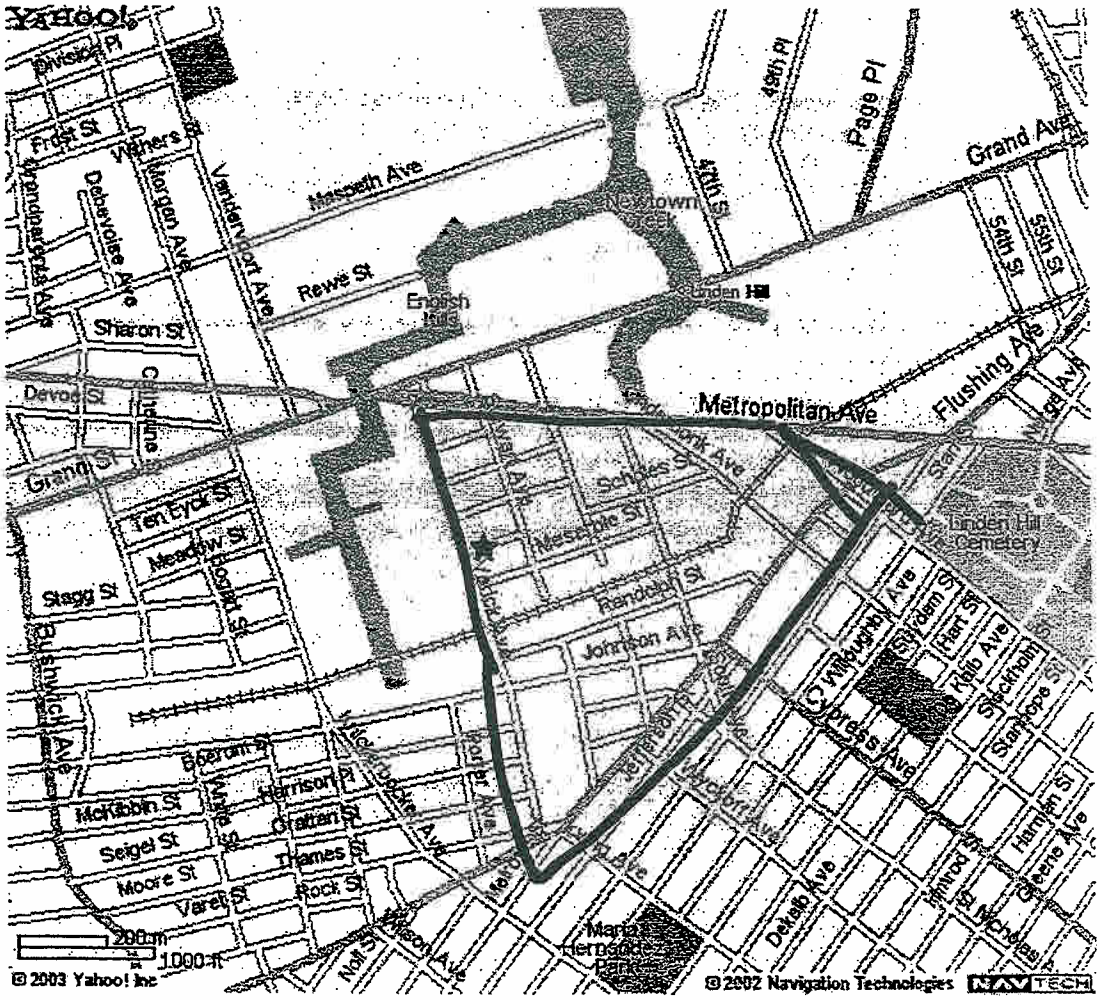

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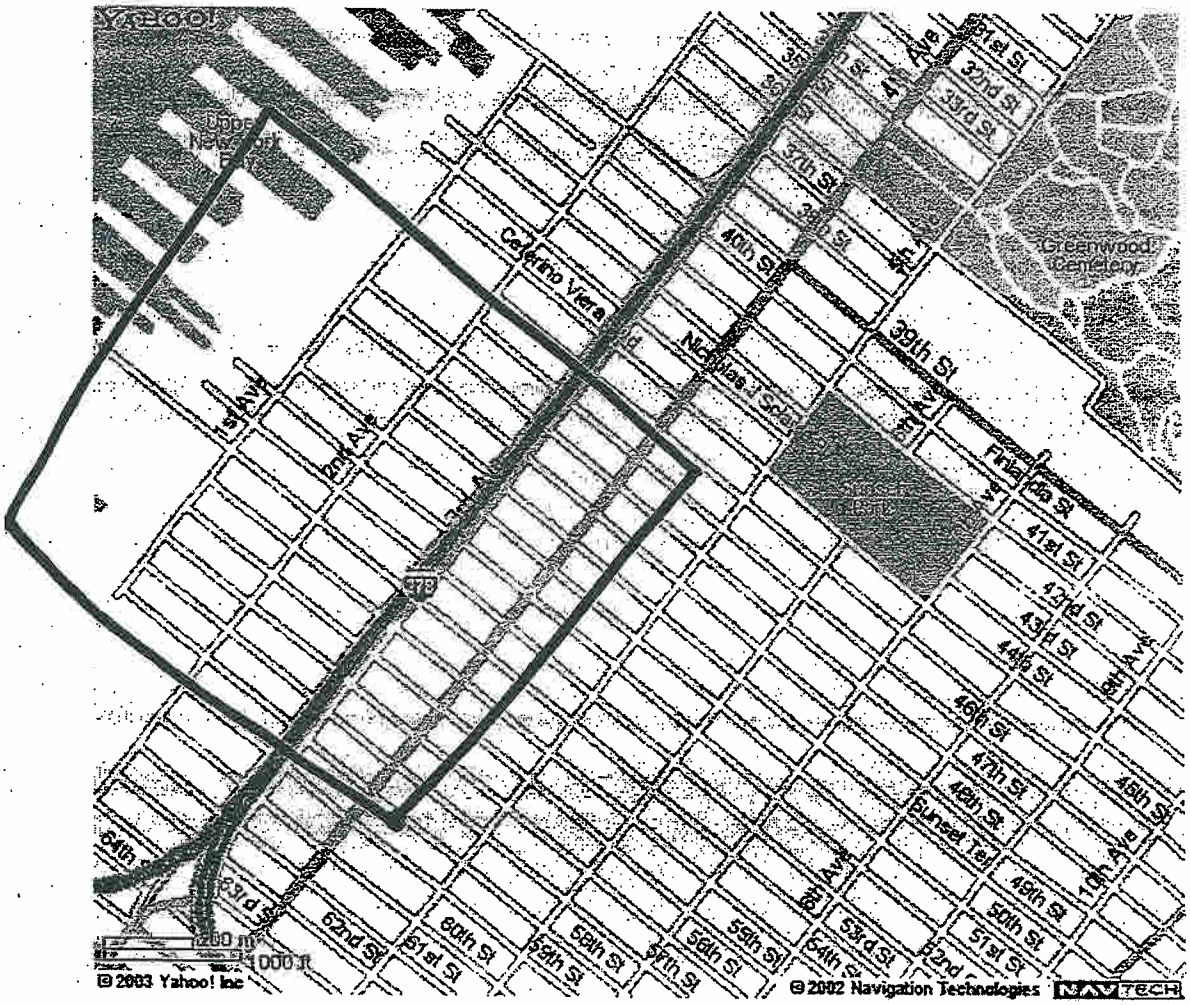

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FAXED at 11:05 AM on 1/21/04

FAX TRANSMISSION

TO:	Rich B.	FROM:	Melissa Morrone
FAX NO:	718-643-6943	DATE:	1/21/04
ACCT. NO:	HDRE 0203	REPORT PROBLEMS TO:	

NUMBER OF PAGES INCLUDING COVER SHEET 6

ORIGINAL DOCUMENT TO BE MAILED	___ YES	X NO
RETURN FAX TO SENDER	X YES	___ NO
FAX TO BE FILED	X YES	___ NO
ATTACH COVER SHEET TO TRANSMITTAL	X YES	___ NO

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COMMENTS:

Rich,

Attached please find the letter sent to Ms. Whitley in October.

You can contact me at 201-529-5151 x 7192

Thanks!

Melissa

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HYDROQUAL, INC. 1200 MACARTHUR BLVD., MAHWAH, NJ 07430 T:201-529-5151 F:201-529-5728

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October 20, 2003

Ms. Patricia Whitley
Con Edison - Energy Services
30 Flatbush Avenue
Room 412B
Brooklyn, New York 11217

HDRE0203

RE: Request for Electric Information

Dear Ms. Whitley:

HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites.

Attached please find area maps for the four (4) sites in Brooklyn (3 sites) and Queens (1 site) for which we are requesting utility information.

Since we are operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office at 201-529-5151 if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

MEM/kfw
HDRE0203/WHITLEY_102003.LTR
Enclosures

HydroQual, Inc.
1200 MacArthur Blvd., Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com

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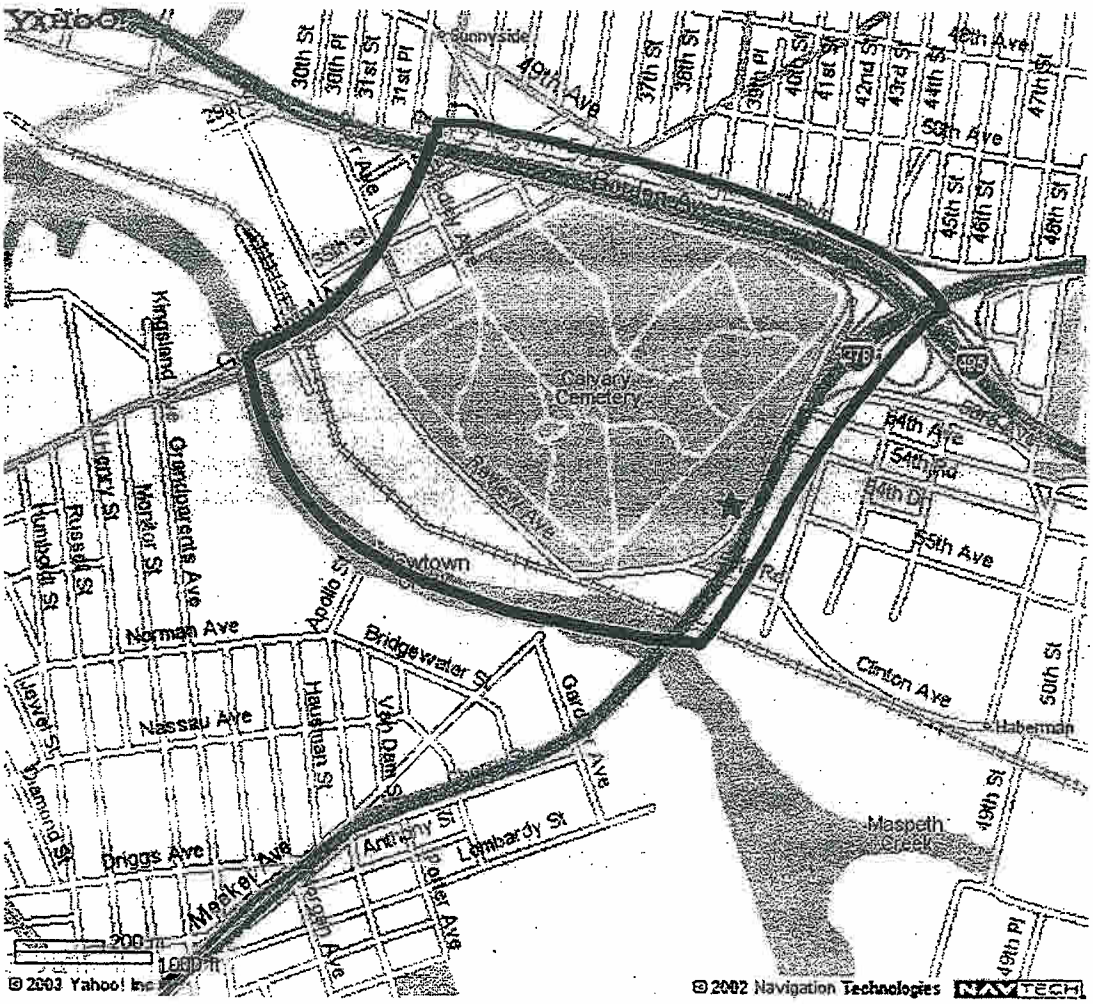
laurel hill blvd
Fresh Meadows, NY 11378 Queens



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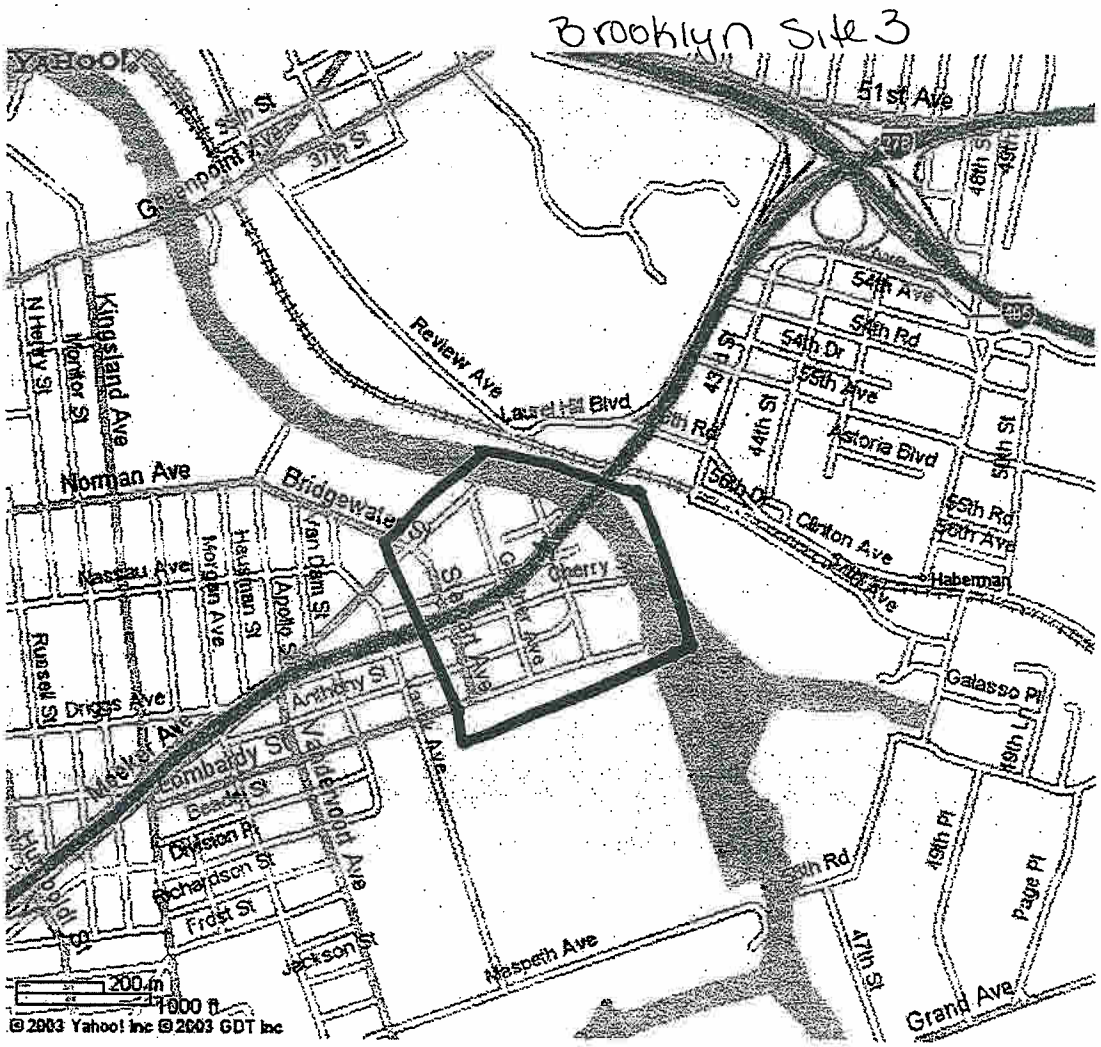

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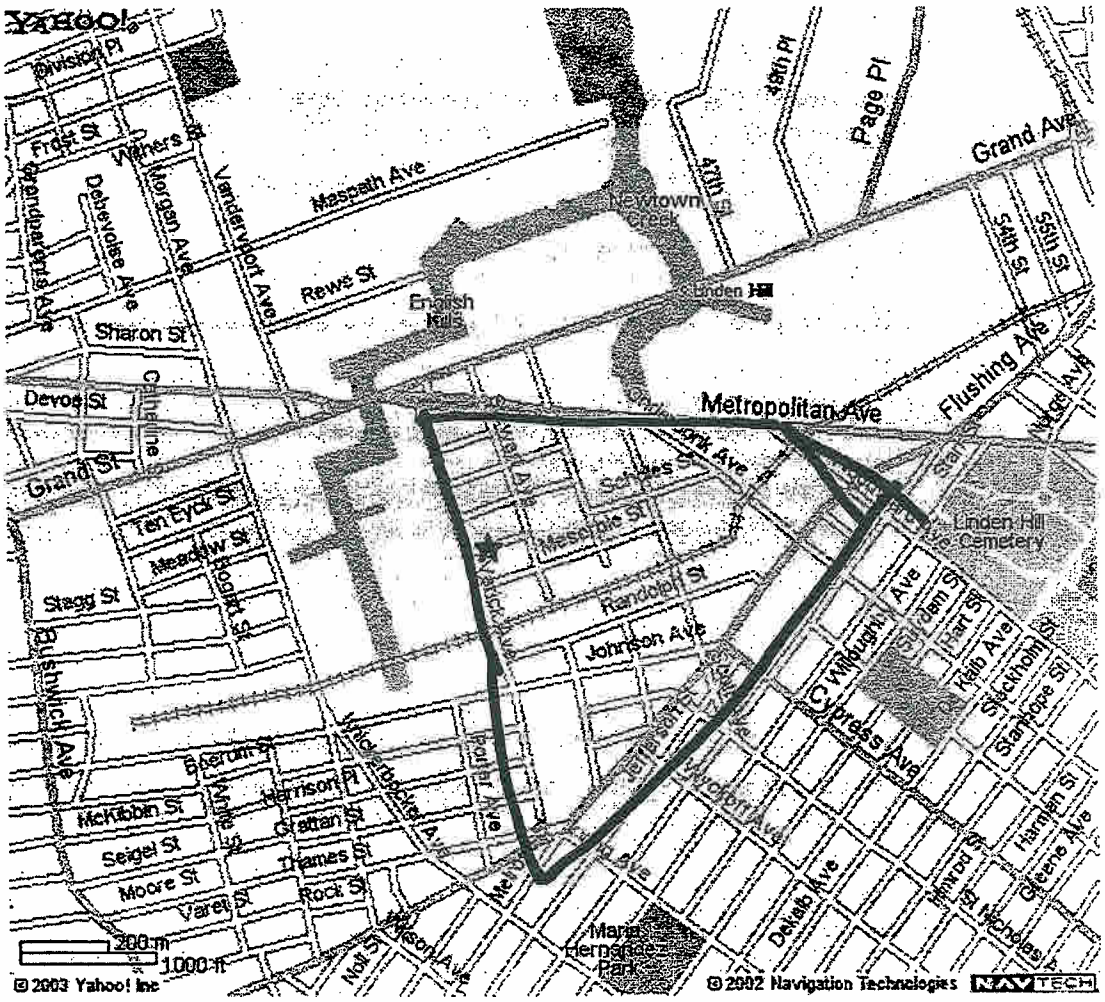

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FAXED

FAX TRANSMISSION

TO:	Al Myles	FROM:	Melissa E. Morrone
FAX NO:	718-275-2108	DATE:	1/27/04
ACCT. NO:	HDRE0203	REPORT PROBLEMS TO:	Melissa

NUMBER OF PAGES INCLUDING COVER SHEET 4

ORIGINAL DOCUMENT TO BE MAILED	___ YES	✓ NO
RETURN FAX TO SENDER	✓ YES	___ NO
FAX TO BE FILED	✓ YES	___ NO
ATTACH COVER SHEET TO TRANSMITTAL	✓ YES	___ NO

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COMMENTS:

Al,

Attached please find a detailed breakdown of the sites we are interested in utility plates for. For each site you will see a breakdown by street with a boundary on either end. Please call me if you need any more information

Thanks!

Melissa

IF TRANSMISSION IS NOT AS NOTED, PLEASE CONTACT US AT 201-529-5151.

HYDROQUAL, INC. 1200 MacArthur Blvd, MAHWAH, NJ 07430 T:201-529-5151 F:201-529-5728

BROOKLYN		
STREET NAME	FROM	TO
Site 1		
Stewart Avenue	Lombardy Street	Bridgewater Street
Gardner Avenue	Lombardy Street	Bridgewater Street
Lombardy Street	Stewart Avenue	Newtown Creek
Anthony Street	Stewart Avenue	Newtown Creek
Cherry Street	Stewart Avenue	Newtown Creek
Bridgewater Street	Stewart Avenue	Newtown Creek
Site 2		
Grand Street	Woodward Street	Varick Street
Metropolitan Avenue	Woodward Street	Varick Street
Ten Eyck Street	Varick Street	Stewart Avenue
Meadow Street	Varick Street	Gardner Avenue
Stagg Street	Varick Street	Gardner Avenue
Scholes Street	Varick Street	Gardner Avenue
Meserole Street	Varick Street	Scott Avenue
Randolph Street	Varick Street	Scott Avenue
Varick Avenue	Metropolitan Avenue	Randolph Street
Stewart Avenue	Metropolitan Avenue	Randolph Street
Gardner Avenue	Metropolitan Avenue	Randolph Street
Scott Avenue	Metropolitan Avenue	Randolph Street
Seneca Avenue	Metropolitan Avenue	Randolph Street
Woodward Street	Metropolitan Avenue	Flushing Avenue

BROOKLYN		
STREET NAME	FROM	TO
Site 3		
4th Avenue	46th Street	58th Street
3rd Avenue	46th Street	58th Street
Gowanus Expressway	46th Street	58th Street
2nd Avenue	46th Street	58th Street
1st Avenue	46th Street	58th Street
46th Street	4th Avenue	NY Harbor
47th Street	4th Avenue	NY Harbor
48th Street	4th Avenue	NY Harbor
49th Street	4th Avenue	NY Harbor
50th Street	4th Avenue	NY Harbor
51st Street	4th Avenue	NY Harbor
52nd Street	4th Avenue	NY Harbor
53rd Street	4th Avenue	NY Harbor
54th Street	4th Avenue	NY Harbor
55th Street	4th Avenue	NY Harbor
56th Street	4th Avenue	NY Harbor
57th Street	4th Avenue	NY Harbor
58th Street	4th Avenue	NY Harbor

Queens

LOCATION STREET NAME	FROM	TO
Review Avenue	Brooklyn-Queens Expressway	Greenpoint Avenue
Laurel Hill Boulevard	Review Avenue	Newtown Creek
Brooklyn-Queens Expressway	Review Avenue	Newtown Creek
Long Island Expressway	Brooklyn-Queens Expressway	Greenpoint Avenue
Greenpont Avenue	Long Island Expressway	Newtown Creek

HydroQual

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May 28, 2004

Mr. Al Miles
Con Edison
181-29 Queens Boulevard
Room B217
Forest Hills, NY 11375

HDRE0203

RE: Request for Utility Plates

Dear Mr. Miles:

As per our phone conversation on May 2, 2004, I am writing to request copies of utility plates. Please find attached a map outlining the area of interest, as well as a list of the corresponding streets. In addition to the new area outlined, we are requesting additional plates to supplement an area previously obtained. These specific plates are included at the end of the street name list.

Please feel free to contact me at 201-529-5151 x7203, if you have any questions regarding this request. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Brian S. George

Brian S. George

BSG/kfw
HDRE0203/MILES_052804.LTR
Enclosure

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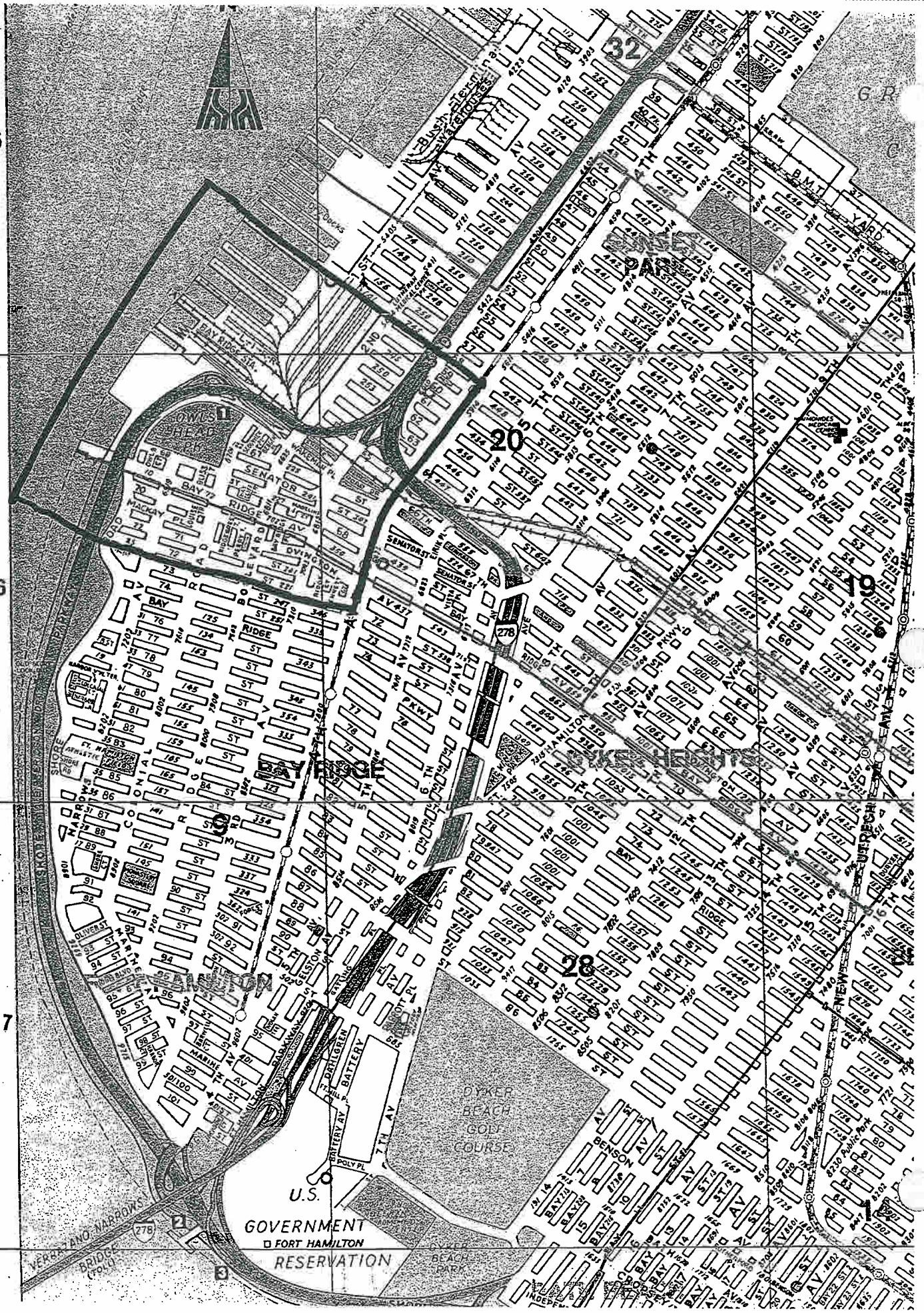
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BAY RIDGE
BAKER HEIGHTS
DYKER BEACH GOLF COURSE
U.S. GOVERNMENT
FORT HAMILTON
RESERVATION
VERRAZANO NARROWS BRIDGE (TOLL)
BAY RIDGE AV
SENATOR ST
BAY RIDGE PKWY
6TH AV
7TH AV
BENSON AV
BAYTH AV
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Please provide utility plates for the following area in Brooklyn				
STREET NAME	**FROM**	**TO**		
4th Ave	59 St	71 St		
3rd Ave	59 St	71 St		
2nd Ave	59 St	71 St		
1st Ave	59 St	71 St		
59 St	4th Ave	Shoreline (Upper NY Bay)		
60 St	4th Ave	Shoreline (Upper NY Bay)		
61 St	4th Ave	Shoreline (Upper NY Bay)		
62 St	4th Ave	Shoreline (Upper NY Bay)		
63 St	4th Ave	Shoreline (Upper NY Bay)		
64 St	4th Ave	Shoreline (Upper NY Bay)		
65 St	4th Ave	Shoreline (Upper NY Bay)		
66 St	4th Ave	Shoreline (Upper NY Bay)		
67 St	4th Ave	Shoreline (Upper NY Bay)		
Senator St	4th Ave	Shoreline (Upper NY Bay)		
68 St	4th Ave	Shoreline (Upper NY Bay)		
Bay Ridge Ave	4th Ave	Shoreline (Upper NY Bay)		
Ovington Ave	4th Ave	Shoreline (Upper NY Bay)		
71 St	4th Ave	Shoreline (Upper NY Bay)		
72 St	4th Ave	Shoreline (Upper NY Bay)		
Please send the following plates to supplement an area previously obtained				
47-AA				
47-ZZ				
48-Z				
51-ZZ				
51-AB				

Correspondence with New York City Department of Parks, Recreation, and Historic Preservation		
6/13/03	Letter from Ruth Pierpont (New York State Office of Parks, Recreation and Historic Preservation) to Cade Hobbick, (PB), offering comments which were requested for the MTS sites and surrounding areas in accordance with the Historic Preservation Law.	All MTS sites
9/22/04	Letter to Cade Hobbick (PB) from Kathy Howe (New York State Office of Parks, Recreation and Historic Preservation) acknowledging the receipt of additional photo documentation for the project	All MTS sites

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

June 13, 2003

Cade Hobbick
Parsons Brinckerhoff
One Penn Plaza
New York, New York 10119-0061

Re: SEQRA
NYS Dept of Sanitation Marine Transfer
Stations Conversion Program
NY Harbor - various sites
Manhattan, New York County
03PR00246

Dear Mr. Hobbick:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Parks, Recreation and Historic Preservation Law, Section 14.09.

Based upon this review, it is the OPRHP's opinion that your project will have No Impact upon cultural resources in or eligible for inclusion in the State and National Registers of Historic Places.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director

RLP:bsa

An Equal Opportunity/Affirmative Action Agency
printed on recycled paper

Hobbick, Cade

Subject: FW: NYC DSNY EIS (03PR00246)

-----Original Message-----
From: Howe, Kathy (PEB) [mailto:Kathy.Howe@oprhp.state.ny.us]
Sent: Wednesday, September 22, 2004 4:15 PM
To: Hobbick, Cade
Subject: RE: NYC DSNY EIS (03PR00246)

Cade,
Thank you for sending the additional photo documentation for this project. Based on the informaion provided I have no building/structure concerns. I would note, however, that the long brick warehouse buildings (shown in photo #2) located east of the site may be potentially eligible for the National Register. Mike Schifferli has reviewed the project and he has no archaeological concerns. Our office will be issuing a formal No Impact letter for this project next week.

Hope this helps for now.
Best,
Kathy Howe
Historic Preservation Specialist
NYS Office of Parks, Recreation and Historic Preservation Historic Preservation Field Services Bureau Peebles Island, PO Box 189 Waterford, NY 12188

Correspondence with Landmarks Preservation Commission		
4/28/99	Letter from Gina Santucci (City of New York Landmarks Preservation Commission) regarding LPC determination for all MTS facilities and surrounding areas.	All MTS sites
9/11/03	Letter from Gina Santucci (City of New York Landmarks Preservation Commission) regarding LPC determination for E91st street and W59th street facilities and surrounding areas.	East 91st street and West 59th street
9/25/04	Email from Cade Hobbick (PB) to Gina Santucci (City of New York Landmarks Preservation Commission) regarding LPC determination for all MTS sites and surrounding areas.	All MTS sites

HE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
.00 Old Slip, New York, NY 10005 (212) 487-6800

ENVIRONMENTAL REVIEW

DOS/99DOS002Y — PROJECT NUMBER

04/08/99 — DATE RECEIVED

NYC Comprehensive Solid Waste Mgt. Plan

Properties With No Architectural or Archaeological Significance:

B 2604 L 140 -X 500 Oak Point Ave
B 5804 L 2 -K 65 St Bayridge
B 2583 L 30 -X E. 132 ST
B 2508 L 01 -K Greenpoint Marine Transfer Station
B 4346 L 75 -Q North Shore Marine Transfer Station
B 2781 L 301 -X South Bronx Marine Transfer Station
B 2781 L 306 -X South Bronx Marine Transfer Station
B 2606 L 2 -X 500 Oak Point Ave
B 312 L 1366
B 312 L 1367
B 312 L 287
B 312 L 299
B 312 L 300
B 312 L 308
B 312 L 367
} Review Ave - Q
B 2781 L 00 -X South Bronx Marine Transfer Station
B 6943 L 00 -F SW Brooklyn Marine Transfer Station
B 2101 L 120 -M W. 135 St. Marine Transfer Station
B 2685 L 100 -R West Service Rd

The Following Properties Possess Architectural or Archaeological Significance:

[illegible] -K [illegible] Red Hook

CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
0 Old Slip, New York, NY 10005 (212) 487-6800

ENVIRONMENTAL REVIEW

DOS/99DOS002Y — PROJECT NUMBER

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B 2604 L 140 -X 500 Oak Point Ave
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B 2781 L 306 -X South Bronx Marine Transfer Station
B 2606 L 2 -X 500 Oak Point Ave
B 312 L 1366
B 312 L 1367
B 312 L 287
B 312 L 299
B 312 L 300
B 312 L 308
B 312 L 367
} Review Ave - Q
B 2781 L 00 -X South Bronx Marine Transfer Station
B 6943 L 00 -K SW Brooklyn Marine Transfer Station
B 2101 L 120 -M W. 135 St. Marine Transfer Station
B 2685 L 100 -R West Service Rd

The Following Properties Possess Architectural or Archaeological Significance:

B 612 L 130 -K Erie Basin / Red Hook

COMMENTS: Properties within the project study area include: The Beard Stores, 421-573 Van Brunt St, and The Van Brunt Stores, 408-498 Van Brunt St. Both sets of properties appear eligible for LPC and S/NR listing. No adverse impact anticipated.

0 HARLEM RIVER RAIL YARD -X

COMMENTS: No archaeological concerns for project site Block 2260 Lot 0 west of St. Ann's Avenue. Architectural resources within the railyard include the Willis Ave Station at 82 Willis Ave, the former Harlem River Station. This property has been determined eligible for listing on the State and National Registers (Secretary of the Interior, 1982). No adverse impacts anticipated.

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
100 Old Slip, New York, NY 10005 (212) 487-6800

ENVIRONMENTAL REVIEW

DOS/99DOS002Y
PROJECT NUMBER

03/29/99
DATE RECEIVED

Shua Sankman
SIGNATURE

04/28/99
DATE

cc: SHPO

** TOTAL PAGE.18 **

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
1 Centre St., 9N, New York, NY 10007 (212) 669-7700

ENVIRONMENTAL REVIEW

DOS/LA-CEQR-M — 09/11/03

PROJECT NUMBER — DATE RECEIVED

PROJECT 59 ST MTS: MARINE TRANSFER STATION CONVERSI

(X) No architectural significance

(X) No archaeological significance

( ) Designated New York City Landmark or Within Designated Historic District

( ) Listed on National Register of Historic Places

( ) Appears to be eligible for National Register Listing and/or New York City Landmark Designation

( ) May be archaeologically significant; requesting additional materials

COMMENTS

Gina Santucci — 09/22/03

SIGNATURE — DATE

1 of 2

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
1 Centre St., 9N, New York, NY 10007 (212) 669-7700

ENVIRONMENTAL REVIEW

DOS /LA-CEQR-M 09/11/03
PROJECT NUMBER DATE RECEIVED

PROJECT 91 ST MTS: MARINE TRANSFER STATION CONVERSI

[ ] No architectural significance

[X] No archaeological significance

study area

[X] Designated New York City Landmark or Within Designated Historic District

[X] Listed on National Register of Historic Places

[ ] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[ ] May be archaeologically significant; requesting additional materials

COMMENTS Within the project study area: Municipal Asphalt Plant and Gracie Mansion, both LPC designated and listed on the State/National Registers. No adverse impacts anticipated as a result of this project.

Gina Santucci 09/23/03
SIGNATURE DATE

Hobbick, Cade

Subject: FW: DSNY MTS Conversion LPC Review

-----Original Message-----
From: Gina Santucci [mailto:GSantucci@lpc.nyc.gov]
Sent: Thursday, September 25, 2003 10:20 AM
To: Hobbick, Cade
Subject: RE: DSNY MTS Conversion LPC Review

yes

"Hobbick, Cade"
<Hobbick@pbworld.com>
09/25/2003 10:12 AM

To: "Gina Santucci" <GSantucci@lpc.nyc.gov>
cc:
Subject: RE: DSNY MTS Conversion LPC Review

GINA

I received the LPC detemnations of "no significance" and "no adverse impact" re the W59th and E91st MTSs. Can I also conclude that earlier determinations of no effect for the other six sites (the ones reviewed for 2000 EIS) still stand?

CADE

Correspondence with Keyspan Energy Delivery

1/21/04	Letter from M. Morrone (HQ) to Joseph Maltz, Keyspan, requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes,
5/28/04	Letter from B. George (HQ) to R. Martinez, Keyspan, requesting utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole
6/21/04	Package from KeySpan containing utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole
8/25/04	Letter from B. George (HQ) to R. Martinez, Keyspan, requesting updated utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole
9/7/04	Package from KeySpan containing updated utility service plates for the MTS sites and surrounding areas.	52nd Street, Scott/ Scholes, Meserole

HydroQual

Environmental
Engineers & Scientists

January 21, 2004

Mr. Joseph Maltz
KeySpan
1 Metrotech Center
Brooklyn, New York 11201

HDRE0203

RE: Request for Gas Information

Dear Mr. Maltz:

HydroQual is assisting in completing portions of a draft Environmental Impact Statement (EIS) for several sites.

Attached please find area maps for the four (4) sites in Brooklyn (3 sites) and Queens (1 site) for which we are requesting utility information.

Since we are operating under a state-imposed schedule, we would appreciate your timely response to our request. Please feel free to contact me or Mr. Phil Simmons of our office at 201-529-5151 if you have any immediate questions. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Melissa E. Morrone

Melissa E. Morrone

MEM/kfw
HDRE0203/MALTZ_012104.LTR
Enclosures

HydroQual, Inc.

1200 MacArthur Blvd., Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com

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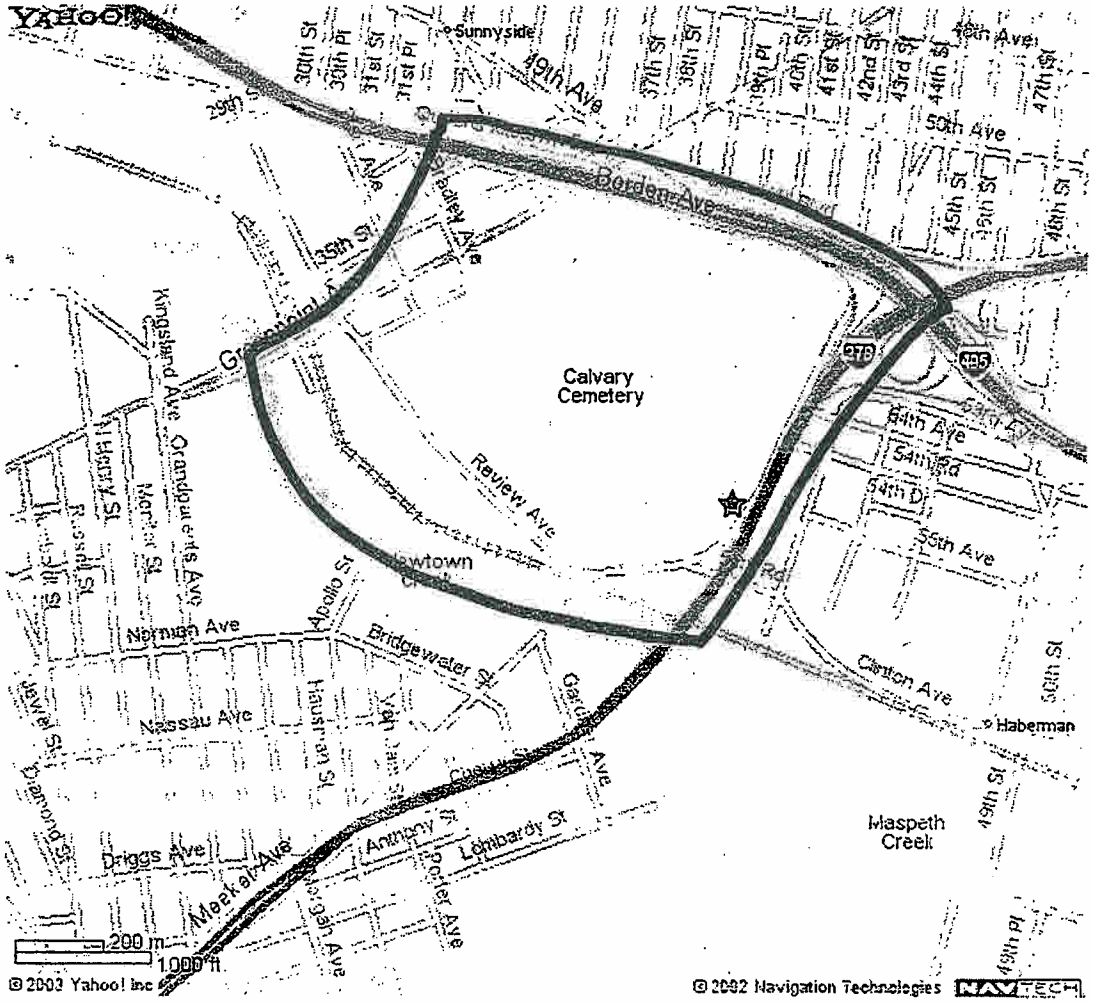
laurel hill blvd
Fresh Meadows, NY 11378 Queens



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

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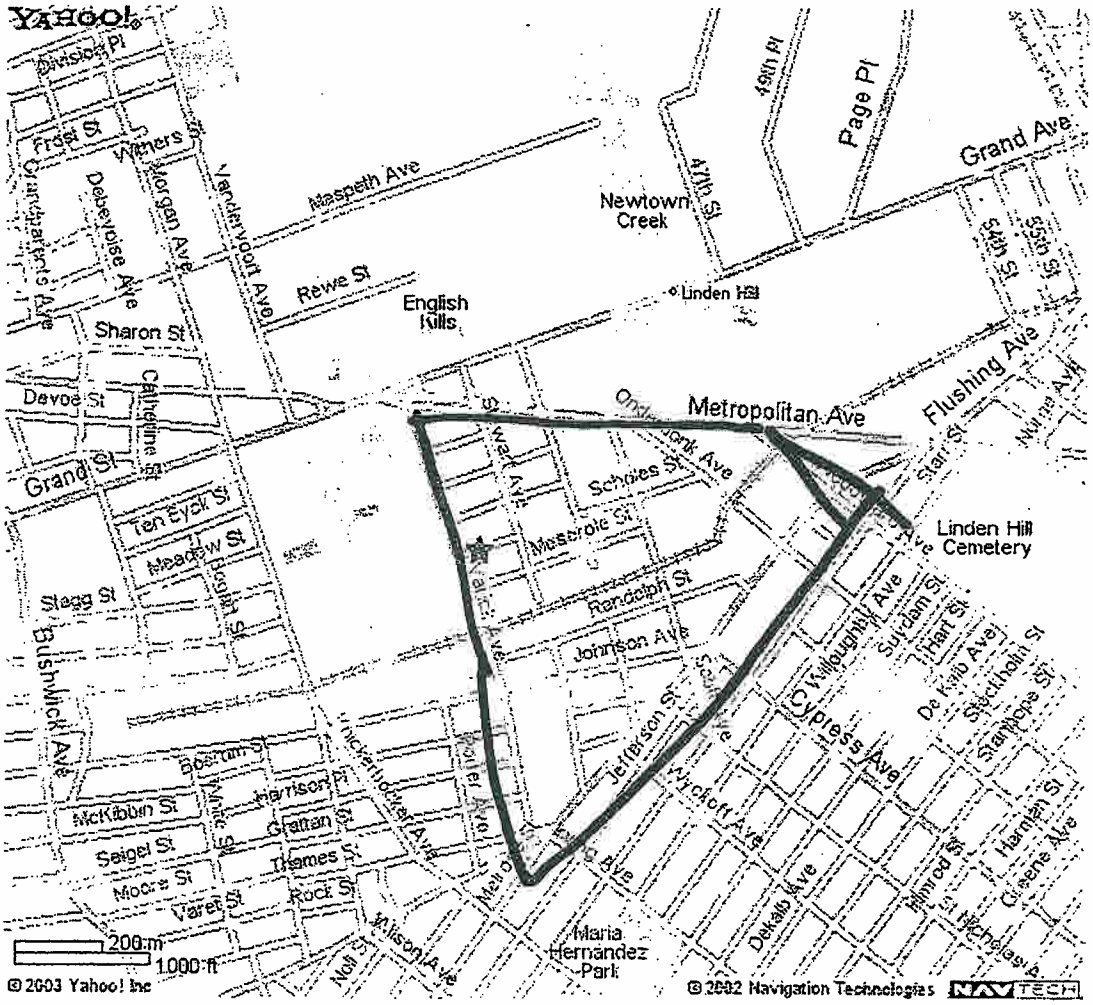
Brooklyn, NY 11237-1001



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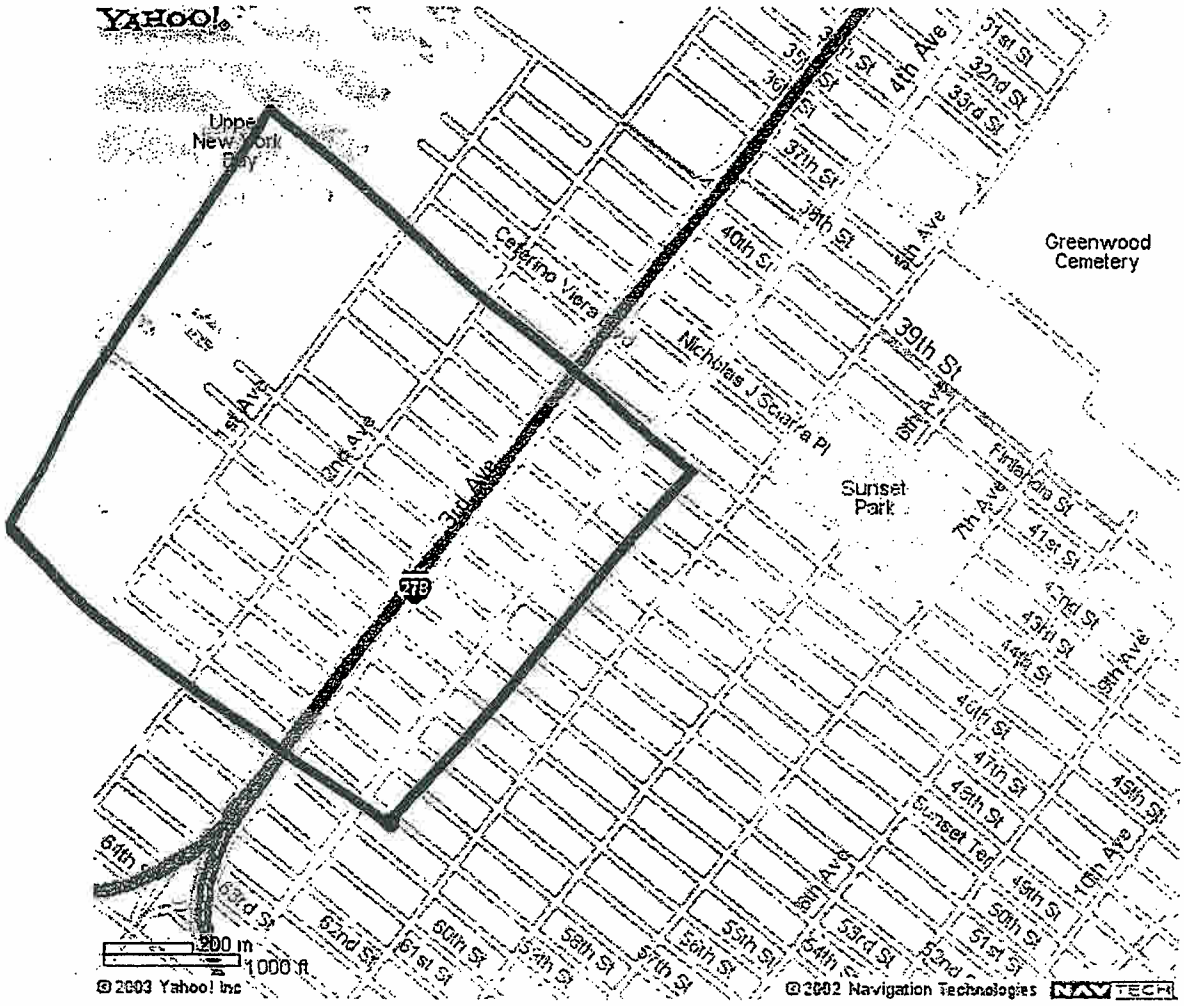
52nd St
Brooklyn, NY 11204-1418



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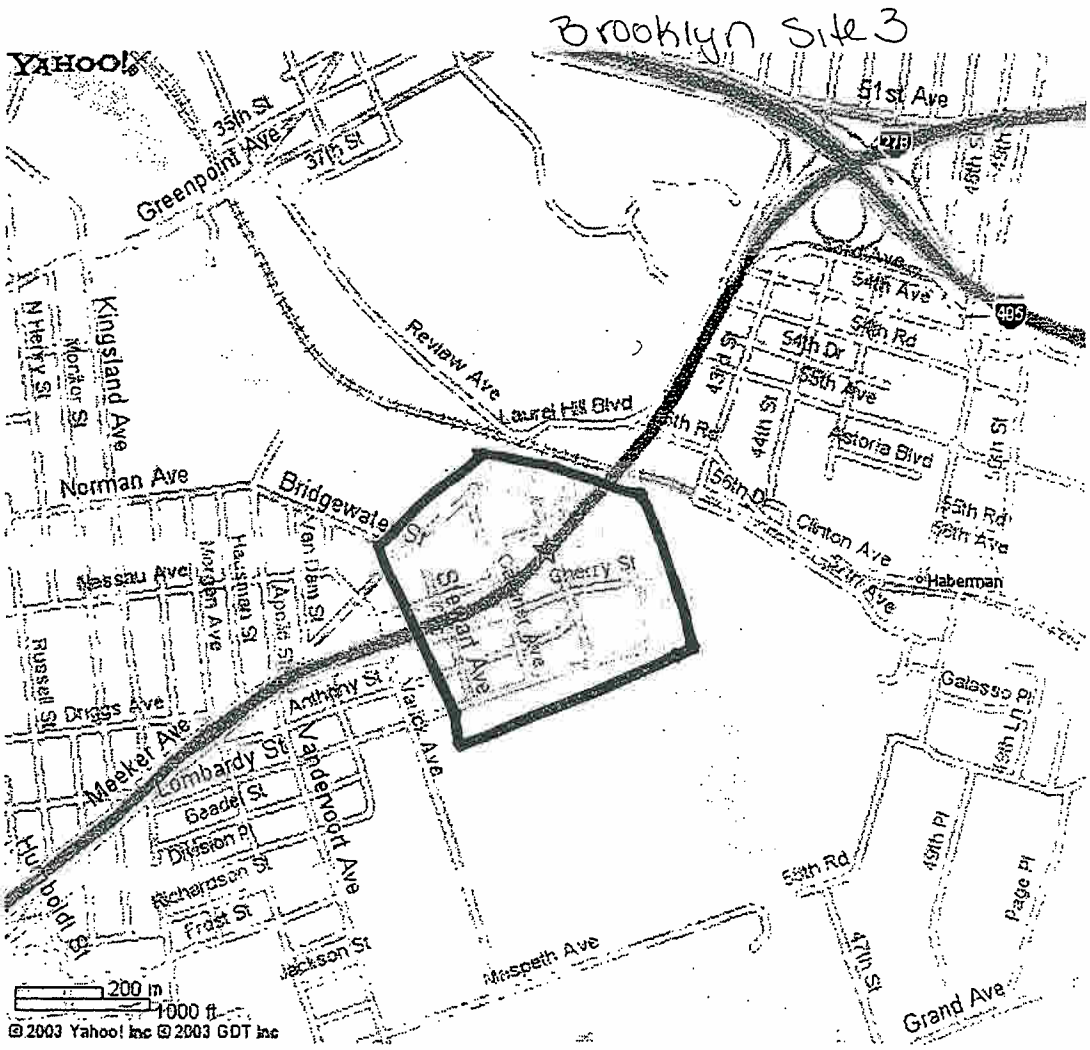

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HydroQual

Environmental
Engineers & Scientists

May 28, 2004

Mr. R. Martinez
KeySpan
1 Metro Tech Center
Brooklyn, NY 11201

HDRE0203

RE: Request for Utility Plates

Dear Mr. Martinez:

I am writing to request copies of utility maps. In the past we have been able to obtain this information from Joseph Maltz. Upon phone your office on May 27, 2004, I was told that I should address our future requests to you. Please find attached three maps outlining the areas for which we are requesting maps.

Please feel free to contact me at 201-529-5151 x7203, if you have any questions regarding this request. Thank you for your assistance.

Very truly yours,

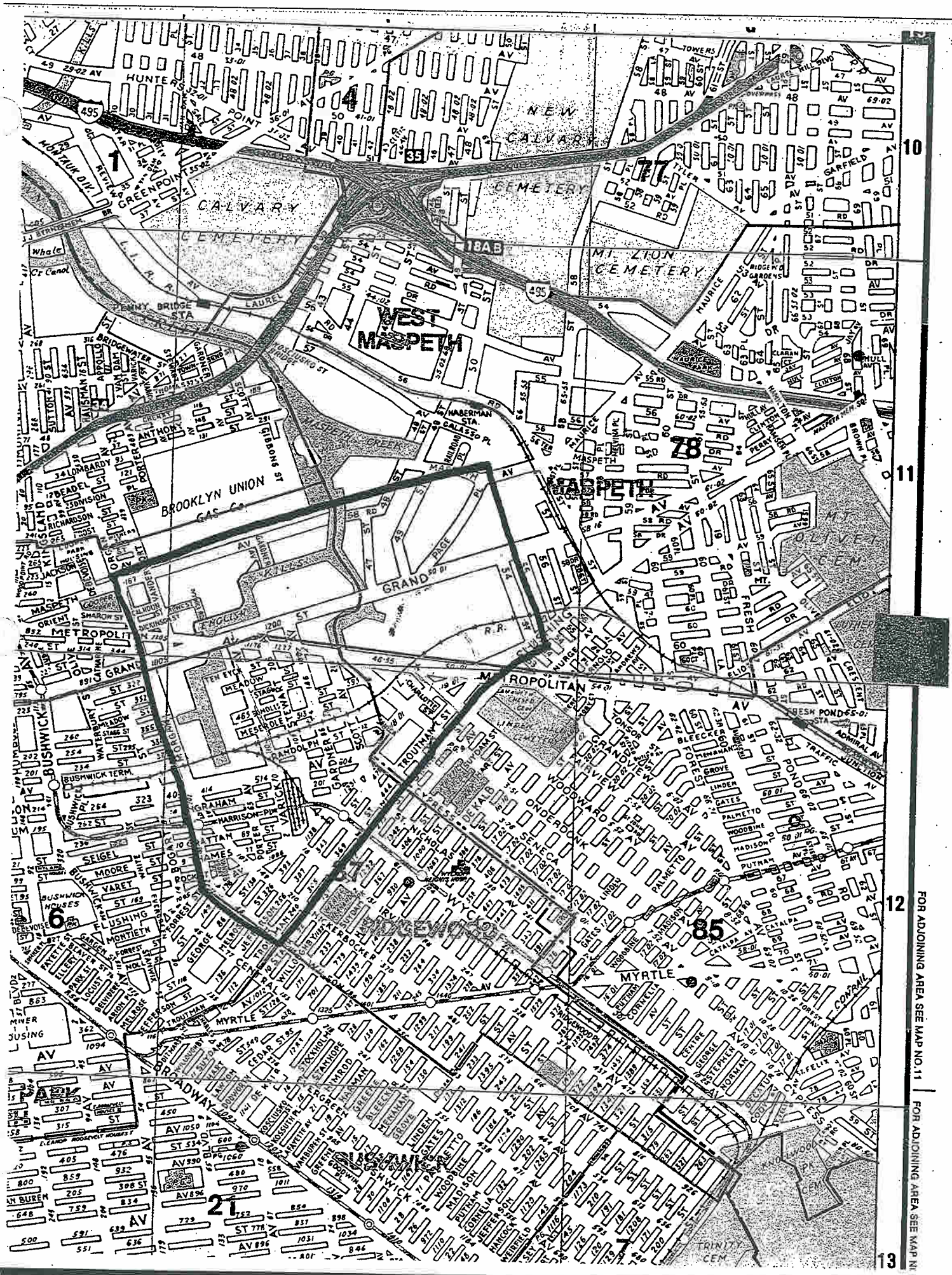
HYDROQUAL, INC.

Brian S. George

Brian S. George

BSG/kfw
HDRE0203/MARTINEZ_052804.LTR
Enclosures

HydroQual, Inc.
1200 MacArthur Blvd., Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com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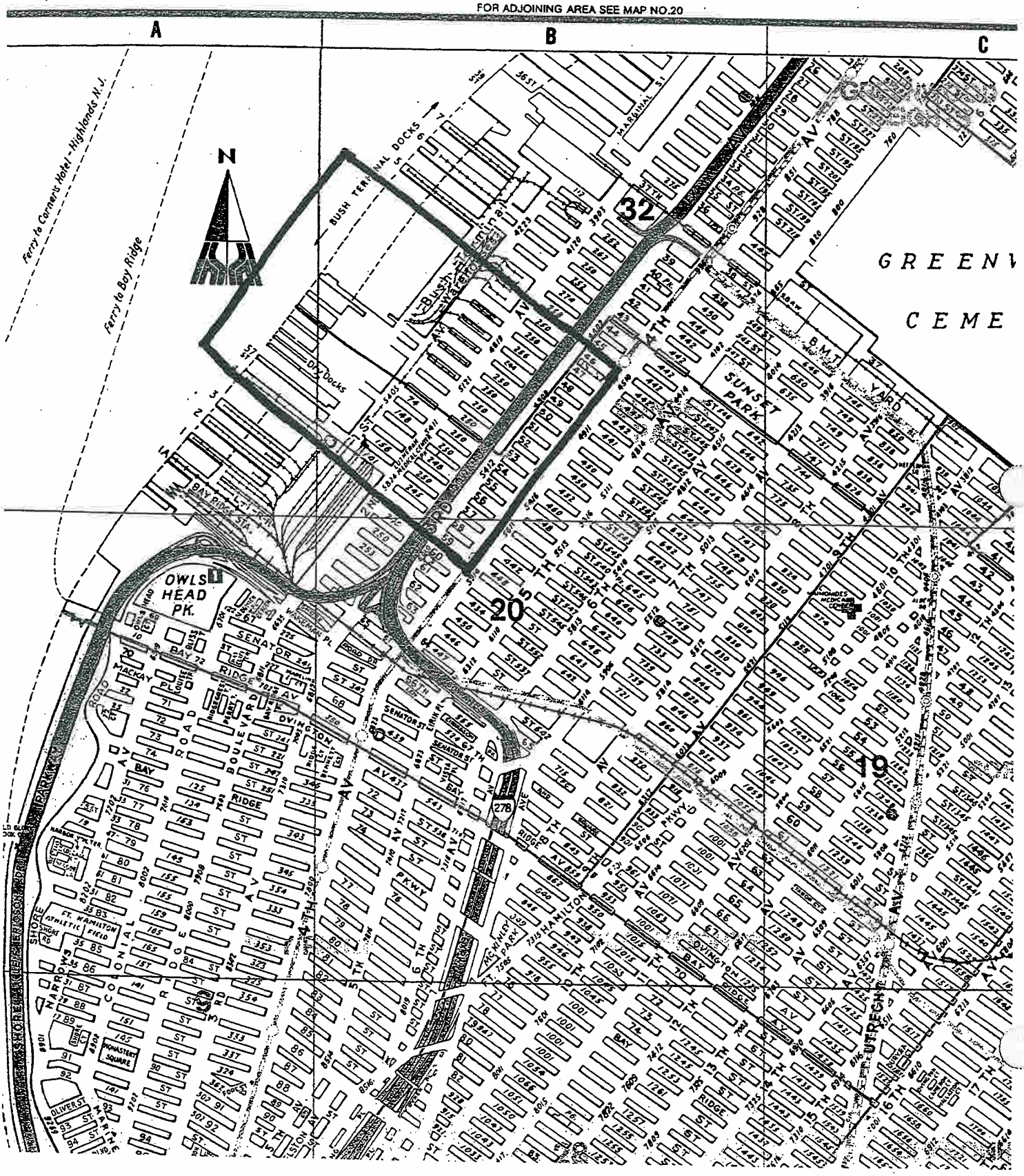
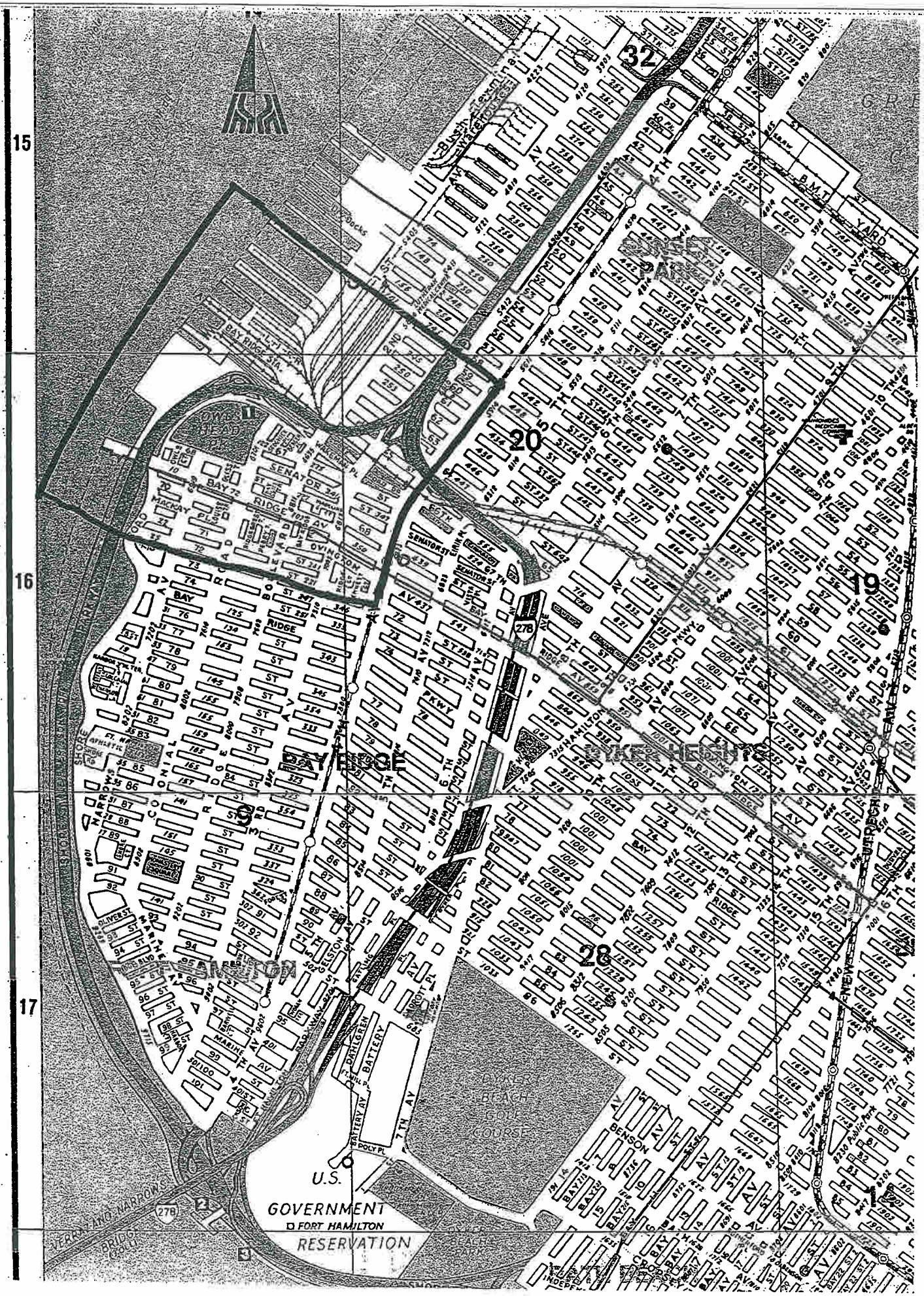
FOR ADJOINING AREA SEE MAP NO. 11

FOR ADJOINING AREA SEE MAP NO.20

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BRIDGE
YARD
B.M.T.
Docks

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Engineers & Scientists

August 25, 2004

Mr. R. Martinez
KeySpan
1 Metro Tech Center
Brooklyn, NY 11201

HDRE0203

RE: Request for Utility Plates

Dear Mr. Martinez:

I am writing to request copies of utility maps. We received the maps that you sent previously, however, two plates were missing. Can you please send us the following two plates: 21-14A and 21-31.

Please feel free to contact me at 201-529-5151 x7203, if you have any questions regarding this request. Thank you for your assistance.

Very truly yours,

HYDROQUAL, INC.

Brian S. George

BSG/kfw
HDRE0203/MARTINEZ_082504.LTR

HydroQual, Inc.

1200 MacArthur Blvd., Mahwah, New Jersey 07430 T:201-529-5151 F:201-529-5728 www.hydroqual.com

APPENDIX B

DEMOGRAPHIC AND SOCIOECONOMIC DATA

Population by Age and Sex Cohort

Study Area (tr 0018, 0117), Borough of Brooklyn, and New

1990

Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	72	3.1 %	89	3.9 %	161	7.0 %
5 to 19	192	8.3	262	11.4	454	19.7
20 to 34	339	14.7	340	14.8	679	29.5
35 to 49	221	9.6	172	7.5	393	17.1
50 to 64	180	7.8	205	8.9	385	16.7
65 +	111	4.8	121	5.3	232	10.1
Total	1,115	48.4	1,189	51.6	2,304	100.0

2000

Study Area

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
118	2.7 %	145	3.4 %	263	6.1 %
207	4.8	348	8.0	555	12.8
579	13.4	1,197	27.7	1,776	41.0
362	8.4	661	15.3	1,023	23.6
197	4.6	274	6.3	471	10.9
140	3.2	100	2.3	240	5.5
1,603	37.0	2,725	63.0	4,328	100.0

1990 - 2000

Study Area

Total Change	Percent Change
102	63.4 %
101	22.2
1,097	161.6
630	160.3
86	22.3
8	3.4
2,024	87.8

Brooklyn

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	86,449	3.8 %	89,601	3.9 %	176,050	7.7 %
5 to 19	244,171	10.6	249,319	10.8	493,490	21.4
20 to 34	304,114	13.2	274,367	11.9	578,481	25.1
35 to 49	246,880	10.7	213,789	9.3	460,669	20.0
50 to 64	171,003	7.4	134,060	5.8	305,063	13.3
65 +	178,895	7.8	108,016	4.7	286,911	12.5
Total	1,231,512	53.5	1,069,152	46.5	2,300,664	100.0

Brooklyn

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
88,086	3.6 %	92,017	3.7 %	180,103	7.3 %
267,781	10.9	280,042	11.4	547,823	22.2
297,917	12.1	269,995	11.0	567,912	23.0
288,961	11.7	251,828	10.2	540,789	21.9
193,250	7.8	152,167	6.2	345,417	14.0
176,004	7.1	107,278	4.4	283,282	11.5
1,311,999	53.2	1,153,327	46.8	2,465,326	100.0

Brooklyn

Total Change	Percent Change
4,053	2.3 %
54,333	11.0
-10,569	-1.8
80,120	17.4
40,354	13.2
-3,629	-1.3
164,662	7.2

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

City

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
787,124	9.8	823,148	10.3	1,610,272	20.1
1,002,652	12.5	933,782	11.7	1,936,434	24.2
955,355	11.9	878,401	11.0	1,833,756	22.9
637,071	8.0	518,699	6.5	1,155,770	14.4
581,864	7.3	357,506	4.5	939,370	11.7
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

City

Total Change	Percent Change
30,568	6.1 %
233,835	17.0
5,163	0.3
295,926	19.2
133,583	13.1
-13,361	-1.4
685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing. Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 0018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	2,304	100.0 %	**Total Persons**	4,328	100.0 %	2,024	87.8 %
Not of Hispanic Origin	1,220	53.0	Not of Hispanic Origin	2,047	47.3	827	67.8
White	839	*68.8*	*White alone*	934	*45.6*		
Black	172	*14.1*	*Black or African American alone*	606	*29.6*		
American Indian, Eskimo, or Aleut	30	*2.5*	*American Indian and Alaska Native alone*	19	*0.9*		
Asian or Pacific Islander	179	*14.7*	*Asian alone*	276	*13.5*		
Other race	0	*0.0*	*Native Hawaiian and Other Pacific Islander alone*	0	*0.0*		
			Some other race alone	21	*1.0*		
			Two or more races	191	*9.3*		
Hispanic Origin	1,084	47.0	Hispanic Origin	2,281	52.7	1,197	110.4

Brooklyn

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	2,300,664	100.0 %	**Total Persons**	2,465,326	100.0 %	164,662	7.2
Not of Hispanic Origin	1,853,059	80.5	Not of Hispanic Origin	1,977,163	80.2	124,104	6.7
White	*928,255*	*50.1*	*White alone*	*854,653*	*43.2*		
Black	*806,864*	*43.5*	*Black or African American alone*	*844,568*	*42.7*		
American Indian, Eskimo, or Aleut	*4,443*	*0.2*	*American Indian and Alaska Native alone*	*4,230*	*0.2*		
Asian or Pacific Islander	*108,461*	*5.9*	*Asian alone*	*184,498*	*9.3*		
Other race	*5,036*	*0.3*	*Native Hawaiian and Other Pacific Islander alone*	*898*	*0.0*		
			Some other race alone	*16,067*	*0.8*		
			Two or more races	*72,249*	*3.7*		
Hispanic Origin	447,605	19.5	Hispanic Origin	488,163	19.8	40,558	9.1

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alone*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 0018, 00117), Borough of Brooklyn, and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	2,143	100.0 %	4,065	100 %	1,922	89.7 %
Speak a language other than English at home	1,341	62.6	2,370	58.3	1,029	76.7
Does not speak English "very well"	*193*	*14.4*	*715*	*30.2*	*522*	*270.5*
Speaks Spanish at home	*963*	*71.8*	*1,811*	*76.4*	*848*	*88.1*
Does not speak English "very well"	123	12.8	563	31.1	440	357.7
Speaks Asian or Pacific Islander language	*118*	*8.8*	*215*	*9.1*	*97*	*82.2*
Does not speak English "very well"	33	28.0	130	60.5	97	293.9

Brooklyn	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	2,124,614	100.0 %	2,285,223	100.0 %	160,609	7.6 %
Speak a language other than English at home	844,374	39.7	1,068,102	46.7	223,728	26.5
Does not speak English "very well"	*197,382*	*23.4*	*281,941*	*26.4*	*84,559*	*42.8*
Speaks Spanish at home	*382,469*	*45.3*	*411,346*	*38.5*	*28,877*	*7.6*
Does not speak English "very well"	91,929	24.0	109,935	26.7	18,006	19.6
Speaks Asian or Pacific Islander language	*79,523*	*9.4*	*133,776*	*12.5*	*54,253*	*68.2*
Does not speak English "very well"	33,734	42.4	58,636	43.8	24,902	73.8

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	*671,142*	*24.0*	*915,160*	*25.7*	*244,018*	*36.4*
Speaks Spanish at home	*1,498,548*	*53.6*	*1,832,402*	*51.5*	*333,854*	*22.3*
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	*354,684*	*12.7*	*515,157*	*14.5*	*160,473*	*45.2*
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 0018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	538	100.0 %	591	100.0 %	53	9.9 %
With own children under 18 years	*123*	*22.9*	*340*	*57.5*	*217*	*176.4*
Married-couple families	296	55.0	325	55.0	29	9.8
With own children under 18 years	*62*	*20.9*	*181*	*55.7*	*119*	*191.9*
Female householder, no husband present	156	29.0	189	32.0	33	21.2
With own children under 18 years	*53*	*34.0*	*114*	*60.3*	*61*	*115.1*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
With own children under 18 years	*179,445*	*31.9*	*299,671*	*50.9*	*120,226*	*67.0*
Married-couple families	347,432	61.7	349,980	59.4	2,548	0.7
With own children under 18 years	*89,686*	*25.8*	*176,186*	*50.3*	*86,500*	*96.4*
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
With own children under 18 years	*78,808*	*44.0*	*107,110*	*55.4*	*28,302*	*35.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	*536,565*	*30.6*	*919,675*	*49.2*	*383,110*	*71.4*
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	*277,530*	*24.5*	*556,012*	*48.2*	*278,482*	*100.3*
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	*224,139*	*44.1*	*310,287*	*54.8*	*86,148*	*38.4*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 0018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	794		1,050		256	32.2 %
Total Persons	2,299	100.0 %	4,328	100.0 %	2,029	88.3
In households	2,299	100.0	2,890	66.8	591	25.7
Total Persons per household*	2.90		2.75		-0.14	-4.9

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	827,679		881,006		53,327	6.4 %
Total Persons	2,300,664	100.0 %	2,465,326	100.0 %	164,662	19.9
In households	2,266,754	98.5	2,426,044	98.4	159,290	7.0
Total Persons per household*	2.74		2.75		0.02	0.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 0018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	1,741	100.0 %	3,687	100.0 %	1,946	111.8 %
Labor force	1,067	61.3	1,462	39.7	395	37.0
Not in labor force	674	38.7	2,225	60.3	1,551	230.1
Employed persons 16 years and over	994	100.0 %	1,331	91.1 %	337	33.9 %
Private wage and salary worker	762	76.7	1,017	76.4	255	33.5
Government worker	162	16.3	155	11.6	-7	-4.3
Self-employed worker	59	5.9	41	3.1	-18	-30.5
Unpaid family worker	11	1.1	0	0.0	-11	0.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	2,483,739	100.0 %	1,877,751	100.0 %	-605,988	-24.4 %
Labor force	1,760,921	70.9	1,039,512	55.4	-721,409	-41.0
Not in labor force	722,818	29.1	838,239	44.6	115,421	16.0
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Private wage and salary worker	687,217	73.9	707,740	76.3	20,523	3.0
Government worker	197,875	21.3	171,085	18.5	-26,790	-13.5
Self-employed worker	41,497	4.5	45,971	5.0	4,474	10.8
Unpaid family worker	2,746	0.3	2,234	0.2	-512	-18.6

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 018, 00117), Borough of Brooklyn, and New York City

	1990 *Study Area*	Percent of Total	1990 *Brooklyn*	Percent of Total	1990 *City*	Percent of Total
Employed persons 16 years and over	994	100.0 %	929,335	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	164	16.5	238,745	25.7	995,364	30.6
Executive, administrative, and managerial occupations	*55*	*33.5*	*103,826*	*43.5*	*440,090*	*44.2*
Professional specialty occupations	*109*	*66.5*	*134,919*	*56.5*	*555,274*	*55.8*
Technical, sales, and administrative support occupations	357	35.9	326,137	35.1	1,108,923	34.0
Technicians and related support occupations	*33*	*9.2*	*28,864*	*8.9*	*101,012*	*9.1*
Sales occupations	*57*	*16.0*	*85,300*	*26.2*	*335,477*	*30.3*
Administrative support occupations, including clerical	*267*	*74.8*	*211,973*	*65.0*	*672,434*	*60.6*
Service occupations	256	25.8	161,625	17.4	520,974	16.0
Private household occupations	*23*	*9.0*	*7,548*	*4.7*	*24,211*	*4.6*
Protective service occupations	*50*	*19.5*	*28,093*	*17.4*	*89,619*	*17.2*
Service occupations, except protective and household	*183*	*71.5*	*125,984*	*77.9*	*407,144*	*78.2*
Farming, forestry, and fishing occupations	0	0.0	2,316	0.2	8,352	0.3
Precision production, craft, and repair occupations	94	9.5	76,960	8.3	244,817	7.5
Operators, fabricators, and laborers	123	12.4	123,552	13.3	379,207	11.6
Machine operators, assemblers, and inspectors	*53*	*43.1*	*52,816*	*42.7*	*158,981*	*41.9*
Transportation and material moving occupations	*33*	*26.8*	*38,281*	*31.0*	*120,642*	*31.8*
Handlers, equipment cleaners, helpers, and laborers	*37*	*30.1*	*32,455*	*26.3*	*99,584*	*26.3*

	2000 *Study Area*	Percent of Total	2000 *Brooklyn*	Percent of Total	2000 *City*	Percent of Total
Employed persons 16 years and over	1,331	100.0 %	927,030	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	351	26.4	301,569	32.5	1,206,052	36.8
Management, business, and financial operations occupations:	*94*	*26.8*	*98,608*	*32.7*	*441,805*	*36.6*
Professional and related occupations:	*257*	*73.2*	*202,961*	*67.3*	*764,247*	*63.4*
Healthcare practitioners and technical occupations:	*14*	*4.0*	*38,856*	*12.9*	*146,885*	*12.2*
Service occupations:	315	23.7	187,461	20.2	608,383	18.6
Healthcare support occupations	*52*	*16.5*	*52,420*	*28.0*	*131,141*	*21.6*
Protective service occupations:	*60*	*19.0*	*30,181*	*16.1*	*96,073*	*15.8*
Food preparation and serving related occupations	*99*	*31.4*	*36,639*	*19.5*	*146,025*	*24.0*
Building and grounds cleaning and maintenance occupations	*32*	*10.2*	*36,828*	*19.6*	*124,119*	*20.4*
Personal care and service occupations	*72*	*22.9*	*31,393*	*16.7*	*111,025*	*18.2*
Sales and office occupations:	409	30.7	256,891	27.7	896,486	27.4
Farming, fishing, and forestry occupations	0	0.0	501	0.1	1,464	0.0
Construction, extraction, and maintenance occupations:	100	7.5	67,024	7.2	209,665	6.4
Production, transportation, and material moving occupations:	156	11.7	113,584	12.3	355,775	10.9
Production occupations	*95*	*60.9*	*57,419*	*50.6*	*176,684*	*49.7*
Transportation and material moving occupations:	*61*	*39.1*	*56,165*	*49.4*	*179,091*	*50.3*

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gatherec

Industry Sector (employment by place of residence)*

Study Area (tr 018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	994	100.0 %	1,331	100.0 %	337	33.9 %
Agriculture, forestry, fisheries, and mining	5	0.5	6	0.5	1	20.0
Construction	26	2.6	90	6.8	64	246.2
Manufacturing	204	20.5	129	9.7	(75)	-36.8
Transportation	64	6.4	98	7.4	34	53.1
Communications and other public utilities	36	3.6	NA		NA	
Wholesale trade	19	1.9	50	3.8	31	163.2
Retail trade	109	11.0	125	9.4	16	14.7
Finance, insurance, and real estate	83	8.4	81	6.1	(2)	-2.4
Business and repair services	118	11.9	NA		NA	
Personal, entertainment, and recreations services	71	7.1	175	13.1	104	146.5
Professional and related services	210	21.1	385	28.9	175	83.3
Health services	*85*	*40.5*	*147*	*38.2*	62	72.9
Educational services	*27*	*12.9*	*84*	*21.8*	57	211.1
Other professional and related services	*98*	*46.7*	*154*	*40.0*	56	57.1
Public administration	49	4.9	37	2.8	(12)	-24.5
Information	NA		74	5.6	NA	
Other services (except public administration)	NA		81	6.1	NA	
	994	100.0	1,331	100.0		

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	(2,305)	-0.2 %
Agriculture, forestry, fisheries, and mining	2,404	0.3	571	0.1	(1,833)	-76.2
Construction	41,299	4.4	44,696	4.8	3,397	8.2
Manufacturing	108,538	11.7	68,428	7.4	(40,110)	-37.0
Transportation	65,496	7.0	66,453	7.2	957	1.5
Communications and other public utilities	24,662	2.7	NA		NA	
Wholesale trade	35,727	3.8	29,023	3.1	(6,704)	-18.8
Retail trade	116,498	12.5	83,926	9.1	(32,572)	-28.0
Finance, insurance, and real estate	116,935	12.6	94,825	10.2	(22,110)	-18.9
Business and repair services	56,589	6.1	NA		NA	
Personal, entertainment, and recreations services	45,883	4.9	64,807	7.0	18,924	41.2
Professional and related services	265,168	28.5	336,296	36.3	71,128	26.8
Health services	*105,786*	*39.9*	*154,896*	*46.1*	49,110	46.4
Educational services	*78,846*	*29.7*	*84,571*	*25.1*	5,725	7.3
Other professional and related services	*80,536*	*30.4*	*96,829*	*28.8*	16,293	20.2
Public administration	50,136	5.4	43,443	4.7	(6,693)	-13.3
Information	NA		41,639	4.5	NA	
Other services (except public administration)	NA		52,923	5.7	NA	
	929,335	100	927,030	100		

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	(6,729)	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	(154,241)	-41.5
Transportation	216,862	6.7	211,506	6.5	(5,356)	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	(29,726)	-22.6
Retail trade	428,960	13.2	295,803	9.0	(133,157)	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	(28,956)	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	(11,303)	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	
	3,257,637	100	3,277,825	100		

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	953	100.0 %	1,292	100.0 %	339	35.6 %
Car, truck or van	175	18.4	211	16.3	36	20.6
Drove alone	*146*	*83.4*	*174*	*82.5*	*28*	19.2
Carpooled	*29*	*16.6*	*37*	*17.5*	*8*	27.6
Public transportation	665	69.8	895	69.3	230	34.6
Bus, trolley, streetcar	*76*	*11.4*	*815*	*91.1*	*739*	972.4
Subway	*536*	*80.6*	*809*	*90.4*	*273*	50.9
Railroad	*53*	*8.0*	*17*	*1.9*	*-36*	-67.9
Taxicab	*0*	*0.0*	*14*	*1.6*	*14*	1,400.0
Ferryboat	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Walked	62	6.5	148	11.5	86	138.7
Worked at home	51	5.4	18	1.4	-33	-64.7
Other means	0	0.0	20	1.5	20	2,000.0
	953	100.0	1,292	100.0		

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	907,010	100.0 %	901,027	100.0 %	-5,983	-0.7 %
Car, truck or van	283,765	31.3	274,301	30.4	-9,464	-3.3
Drove alone	*204,182*	*72.0*	*202,070*	*73.7*	*-2,112*	-1.0
Carpooled	*79,583*	*28.0*	*72,231*	*26.3*	*-7,352*	-9.2
Public transportation	526,303	58.0	517,635	57.4	-8,668	-1.6
Bus, trolley, streetcar	*107,343*	*20.4*	*95,566*	*18.5*	*-11,777*	-11.0
Subway	*399,067*	*75.8*	*403,327*	*77.9*	*4,260*	1.1
Railroad	*13,775*	*2.6*	*12,169*	*2.4*	*-1,606*	-11.7
Taxicab	*5,672*	*1.1*	*6,149*	*1.2*	*477*	8.4
Ferryboat	*446*	*0.1*	*424*	*0.1*	*-22*	-4.9
Walked	75,664	8.3	78,933	8.8	3,269	4.3
Worked at home	14,510	1.6	20,663	2.3	6,153	42.4
Other means	6,768	0.7	9,495	1.1	2,727	40.3
	907,010	100.0	901,027	100.0		

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9
	3,183,088	100.0	3,192,070	100.0		

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 018, 00117), Borough of Brooklyn, and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	949	100.0 %	1,129	100.0 %	180	19.0 %
Owner-occupied housing units	234	24.7	244	21.6	10	4.3
Renter-occupied housing units	619	65.2	797	70.6	178	28.8
Vacant housing units	96	10.1	88	7.8	-8	-8.3
Median value*	$141,100		$173,300		$32,200	22.8
Median gross rent** **(specified renter-occupied housing units)**	$175		$755		$580	331.4

Brooklyn	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	873,671	100.0 %	930,866	100.0 %	57,195	6.5 %
Owner-occupied housing units	215,843	24.7	238,290	25.6	22,447	10.4
Renter-occupied housing units	612,356	70.1	642,437	69.0	30,081	4.9
Vacant housing units	45,472	5.2	50,139	5.4	4,667	10.3
Median value	$194,600		$224,100		$29,500	15.2
Median gross rent **(specified renter-occupied housing units)**	$477		$672		$195	40.9

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value	$187,900		$211,900		$24,000	12.8
Median gross rent **(specified renter-occupied housing units)**	$496		$705		$209	42.1

	Study Area 2000	Percent of Total	*Brooklyn* 2000	Percent of Total	*City* 2000	Percent of Total
Year householder moved into unit						
Occupied housing units	1,041	100.0 %	880,727	100.0 %	3,021,588	100.0 %
1995 to March 2000	536	51.5	375,631	42.7	1,302,494	43.1
1990 to 1994	194	18.6	155,311	17.6	505,389	16.7
1980 to 1989	140	13.4	149,472	17.0	491,479	16.3
1970 to 1979	112	10.8	107,784	12.2	392,605	13.0
1969 or earlier	59	5.7	92,529	10.5	329,621	10.9
Year structure built						
Total housing units	1,129	100.0 %	930,866	100.0 %	3,200,912	100.0 %
1995 to March 2000	6	0.5	15,647	1.7	70,835	2.2
1990 to 1994	32	2.8	13,836	1.5	61,106	1.9
1980 to 1989	34	3.0	30,099	3.2	157,402	4.9
1970 to 1979	35	3.1	67,095	7.2	276,489	8.6
1960 to 1969	113	10.0	123,594	13.3	485,725	15.2
1959 or earlier	909	80.5	680,595	73.1	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer file available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Value reported for Tract 144.02 only.

**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	2,143	100.0 %	4,065	100.0 %	1,922	89.7 %
Lived in same house	1,195	55.8	1,568	38.6	373	31.2
Lived in different house in U.S.	837	39.1	2,033	50.0	1,196	142.9
New York State	*779*	*93.1*	*616*	*30.3*	*-163*	*-20.9*
Same county	643	82.5	947	153.7	304	47.3
Different county	136	17.5	1,086	176.3	950	698.5
Different state	*58*	*6.9*	*299*	*14.7*	*241*	*415.5*
Lived abroad	111	5.2	464	11.4	353	318.0
Puerto Rico	*0*	*0.0*	*37*	*8.0*	*37*	*3,700.0*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	2,124,614	100.0 %	2,445,529	100.0 %	320,915	15.1 %
Lived in same house	1,366,689	64.3	1,436,657	58.7	69,968	5.1
Lived in different house in U.S.	613,831	28.9	848,566	34.7	234,735	38.2
New York State	*564,282*	*91.9*	*625,382*	*73.7*	*61,100*	*10.8*
Same county	478,924	84.9	522,749	83.6	43,825	9.2
Different county	85,358	15.1	102,633	16.4	17,275	20.2
Different state	*49,549*	*8.1*	*62,878*	*7.4*	*13,329*	*26.9*
Lived abroad	144,094	6.8	160,306	6.6	16,212	11.3
Puerto Rico	*8,096*	*5.6*	*5,289*	*3.3*	*-2,807*	*-34.7*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Education (School Enrollment and Educational Attainment)

Study Area (tr 018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	2,210	100.0 %	4,169	100.0 %	1,959	88.6 %
Enrolled in school	810	36.7	922	22.1	112	13.8
Pre-primary school	*10*	*1.2*	*85*	*9.2*	*75*	*750.0*
Elementary or high school	*468*	*57.8*	*549*	*59.5*	*81*	*17.3*
College or beyond	*332*	*41.0*	*288*	*31.2*	*-44*	*-13.3*
Years of school completed						
Persons 25 years old and over	1,520	100.0 %	2,930	100.0 %	1,410	92.8 %
Less than 9th grade	268	17.6	465	15.9	197	73.5
Some high school	305	20.1	672	22.9	367	120.3
High school graduate only	418	27.5	798	27.2	380	90.9
Some college, no degree	214	14.1	421	14.4	207	96.7
Associate degree	78	5.1	112	3.8	34	43.6
College graduate	237	15.6	462	15.8	225	94.9
Bachelor's degree	*156*	*65.8*	*384*	*83.1*	*228*	*146.2*
Graduate or Professional degree	*81*	*34.2*	*78*	*16.9*	*-3*	*-3.7*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	2,193,723	100.0 %	2,357,861	100.0 %	164,138	7.5 %
Enrolled in school	643,175	29.3	731,672	31.0	88,497	13.8
Pre-primary school	*35,120*	*5.5*	*86,054*	*11.8*	*50,934*	*145.0*
Elementary or high school	*427,938*	*66.5*	*471,408*	*64.4*	*43,470*	*10.2*
College or beyond	*180,117*	*28.0*	*174,210*	*23.8*	*-5,907*	*-3.3*
Years of school completed						
Persons 25 years old and over	1,457,904	100.0 %	1,552,870	100.0 %	94,966	6.5 %
Less than 9th grade	227,204	15.6	203,190	13.1	-24,014	-10.6
Some high school	301,845	20.7	281,116	18.1	-20,729	-6.9
High school graduate only	415,668	28.5	414,868	26.7	-800	-0.2
Some college, no degree	202,892	13.9	225,716	14.5	22,824	11.2
Associate degree	68,996	4.7	88,730	5.7	19,734	28.6
College graduate	241,299	16.6	339,250	21.8	97,951	40.6
Bachelor's degree	*137,314*	*56.9*	*202,103*	*59.6*	*64,789*	*47.2*
Graduate or Professional degree	*103,985*	*43.1*	*137,147*	*40.4*	*33,162*	*31.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$5,500		$8,638		$3,138	57.1
Households	794	100.0 %	1050	100.0 %	256	32.2 %
Less than $10,000	244	30.7	152	14.5	-92	-37.7
$10,000 to $14,999	34	4.3	108	10.3	74	217.6
$15,000 to $24,999	76	9.6	170	16.2	94	123.7
$25,000 to $34,999	131	16.5	166	15.8	35	26.7
$35,000 to $49,999	93	11.7	139	13.2	46	49.5
$50,000 to $74,999	170	21.4	196	18.7	26	15.3
$75,000 to $99,999	30	3.8	90	8.6	60	200.0
$100,000 or more	16	2.0	29	2.8	13	81.3
Median Household Income'	$5,360		$30,833		$25,473	475.2
Families	538	100.0 %	591	100.0 %	53	9.9 %
Less than $10,000	115	21.4	80	13.5	-35	-30.4
$10,000 to $14,999	28	5.2	43	7.3	15	53.6
$15,000 to $24,999	60	11.2	107	18.1	47	78.3
$25,000 to $34,999	107	19.9	87	14.7	-20	-18.7
$35,000 to $49,999	98	18.2	77	13.0	-21	-21.4
$50,000 to $74,999	103	19.1	116	19.6	13	12.6
$75,000 to $99,999	14	2.6	67	11.3	53	378.6
$100,000 or more	13	2.4	14	2.4	1	7.7
Median Family Income*'	$31,771		$33,233		$1,462	4.6

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$12,388		$16,775		$4,387	35.4
Households	827,679	100.0 %	881,006	100.0 %	53,327	6.4 %
Less than $10,000	196,205	23.7	169,849	19.3	-26,356	-13.4
$10,000 to $14,999	70,317	8.5	74,280	8.4	3,963	5.6
$15,000 to $24,999	137,608	16.6	114,571	13.0	-23,037	-16.7
$25,000 to $34,999	118,349	14.3	107,095	12.2	-11,254	-9.5
$35,000 to $49,999	126,452	15.3	126,402	14.3	-50	0.0
$50,000 to $74,999	106,814	12.9	136,962	15.5	30,148	28.2
$75,000 to $99,999	40,917	4.9	68,813	7.8	27,896	68.2
$100,000 or more	31,017	3.7	83,034	9.4	52,017	167.7
Median Household Income'	$25,684		$32,135		$6,451	25.1
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Less than $10,000	102,120	18.1	88,633	15.1	-13,487	-13.2
$10,000 to $14,999	44,592	7.9	47,382	8.0	2,790	6.3
$15,000 to $24,999	92,345	16.4	77,426	13.1	-14,919	-16.2
$25,000 to $34,999	81,472	14.5	72,738	12.4	-8,734	-10.7
$35,000 to $49,999	95,016	16.9	85,883	14.6	-9,133	-9.6
$50,000 to $74,999	86,895	15.4	98,635	16.7	11,740	13.5
$75,000 to $99,999	34,778	6.2	52,237	8.9	17,459	50.2
$100,000 or more	26,065	4.6	65,936	11.2	39,871	153.0
Median Family Income*'	$30,033		$36,188		$6,155	20.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income'	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income*'	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value

**For 2000, includes all earning less than $10,000

***The data in this table are not adjusted for inflation

Poverty Status (All income levels in 1989)

Study Area (tr 018, 00117), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	538	100.0 %	591	100.0 %	53	9.9 %
Below the poverty level	94	17.5	144	24.4	50	53.2
With related children under 18 years	315	58.6	384	65.0	69	21.9
Below the poverty level	*60*	*19.0*	*131*	*34.1*	71	118.3
Female householder, no husband present	156	29.0	189	32.0	33	21.2
Below the poverty level	*60*	*38.5*	*66*	*34.9*	6	10.0
With related children under 18 years	*92*	*59.0*	*128*	*67.7*	36	39.1
Below the poverty level	60	65.2	61	47.7	1	1.7
Persons for whom poverty status is determined	2,304	100.0 %	2,885	100.0 %	581	25.2 %
Below the poverty level	513	22.3	783	27.1	270	52.6
Persons under 18 years	576	25.0	718	24.9	142	24.7
Below the poverty level	*157*	*27.3*	*244*	*34.0*	87	55.4
65 years and over	232	10.1	240	8.3	8	3.4
Below the poverty level	*57*	*24.6*	*79*	*32.9*	22	38.6

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Below the poverty level	109,811	19.5	129,694	22.0	19,883	18.1
With related children under 18 years	310,556	55.1	339,685	57.7	29,129	9.4
Below the poverty level	*87,520*	*28.2*	*99,005*	*29.1*	11,485	13.1
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
Below the poverty level	*66,434*	*37.1*	*67,730*	*35.1*	1,296	2.0
With related children under 18 years	*119,777*	*66.9*	*130,806*	*67.7*	11,029	9.2
Below the poverty level	58,018	48.4	57,796	44.2	-222	-0.4
Persons for whom poverty status is determined	2,268,938	100.0 %	2,434,939	100.0 %	166,001	7.3 %
Below the poverty level	514,163	22.7	610,476	25.1	96,313	18.7
Persons under 18 years	*593,335*	26.2	*646,346*	26.5	53,011	8.9
Below the poverty level	199,895	*33.7*	221,255	*34.2*	21,360	10.7
65 years and over	*276,454*	12.2	*274,328*	11.3	-2,126	-0.8
Below the poverty level	51,856	*18.8*	59,068	*21.5*	7,212	13.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 320), Borough of Brooklyn, and New York City

1990
Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	10	5.7 %	0	0.0 %	10	5.7 %
5 to 19	15	8.6	9	5.2	24	13.8
20 to 34	23	13.2	40	23.0	63	36.2
35 to 49	35	20.1	21	12.1	56	32.2
50 to 64	9	5.2	9	5.2	18	10.3
65 +	0	0.0	3	1.7	3	1.7
Total	92	52.9	82	47.1	174	100.0

2000
Study Area

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
0	0.0 %	0	0.0 %	0	0.0 %
0	0.0	7	11.7	7	11.7
9	15.0	0	0.0	9	15.0
0	0.0	6	10.0	6	10.0
8	13.3	15	25.0	23	38.3
7	11.7	8	13.3	15	25.0
24	40.0	36	60.0	60	100.0

1990 - 2000
Study Area

Total Change	Percent Change
-10	-100.0 %
-17	-70.8
-54	-85.7
-50	-89.3
5	27.8
12	400.0
-114	-65.5

Brooklyn

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	86,449	3.8 %	89,601	3.9 %	176,050	7.7 %
5 to 19	244,171	10.6	249,319	10.8	493,490	21.4
20 to 34	304,114	13.2	274,367	11.9	578,481	25.1
35 to 49	246,880	10.7	213,789	9.3	460,669	20.0
50 to 64	171,003	7.4	134,060	5.8	305,063	13.3
65 +	178,895	7.8	108,016	4.7	286,911	12.5
Total	1,231,512	53.5	1,069,152	46.5	2,300,664	100.0

Brooklyn

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
88,086	3.6 %	92,017	3.7 %	180,103	7.3 %
267,781	10.9	280,042	11.4	547,823	22.2
297,917	12.1	269,995	11.0	567,912	23.0
288,961	11.7	251,828	10.2	540,789	21.9
193,250	7.8	152,167	6.2	345,417	14.0
176,004	7.1	107,278	4.4	283,282	11.5
1,311,999	53.2	1,153,327	46.8	2,465,326	100.0

Brooklyn

Total Change	Percent Change
4,053	2.3 %
54,333	11.0
-10,569	-1.8
80,120	17.4
40,354	13.2
-3,629	-1.3
164,662	7.2

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

City

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
787,124	9.8	823,148	10.3	1,610,272	20.1
1,002,652	12.5	933,782	11.7	1,936,434	24.2
955,355	11.9	878,401	11.0	1,833,756	22.9
637,071	8.0	518,699	6.5	1,155,770	14.4
581,864	7.3	357,506	4.5	939,370	11.7
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

City

Total Change	Percent Change
30,568	6.1 %
233,835	17.0
5,163	0.3
295,926	19.2
133,583	13.1
-13,361	-1.4
685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing, Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	174	100.0 %	**Total Persons**	60	100.0 %	-114	-65.5 %
Not of Hispanic Origin	172	98.9	Not of Hispanic Origin	60	100.0	-112	-65.1
White	*163*	*94.8*	*White alone*	60	*100.0*		
Black	*9*	*5.2*	*Black or African American alone*	0	*0.0*		
American Indian, Eskimo, or Aleut	*0*	*0.0*	*American Indian and Alaska Native alone*	0	*0.0*		
Asian or Pacific Islander	*0*	*0.0*	*Asian alone*	0	*0.0*		
Other race	*0*	*0.0*	*Native Hawaiian and Other Pacific Islander alo*	0	*0.0*		
			Some other race alone	0	*0.0*		
			Two or more races	0	*0.0*		
Hispanic Origin	2	1.1	Hispanic Origin	0	0.0	-2	-100.0

Brooklyn

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	2,300,664	100.0 %	**Total Persons**	2,465,326	100.0 %	164,662	7.2
Not of Hispanic Origin	1,853,059	80.5	Not of Hispanic Origin	1,977,163	80.2	124,104	6.7
White	*928,255*	*50.1*	*White alone*	*854,653*	*43.2*		
Black	*806,864*	*43.5*	*Black or African American alone*	*844,568*	*42.7*		
American Indian, Eskimo, or Aleut	*4,443*	*0.2*	*American Indian and Alaska Native alone*	*4,230*	*0.2*		
Asian or Pacific Islander	*108,461*	*5.9*	*Asian alone*	*184,498*	*9.3*		
Other race	*5,036*	*0.3*	*Native Hawaiian and Other Pacific Islander alo*	*898*	*0.0*		
			Some other race alone	*16,067*	*0.8*		
			Two or more races	*72,249*	*3.7*		
Hispanic Origin	447,605	19.5	Hispanic Origin	488,163	19.8	40,558	9.1

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alo*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	164	100.0 %	60	100 %	-104	-63.4 %
Speak a language other than English at home	42	25.6	15	25.0	-27	-64.3
Does not speak English "very well"	*0*	*0.0*	*15*	*100.0*	*15*	*0.0*
Speaks Spanish at home	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
Does not speak English "very well"	0	0.0	0	0.0	0	0.0
Speaks Asian or Pacific Islander language	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
Does not speak English "very well"	0	0.0	0	0.0	0	0.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	2,124,614	100.0 %	2,285,223	100.0 %	160,609	7.6 %
Speak a language other than English at home	844,374	39.7	1,068,102	46.7	223,728	26.5
Does not speak English "very well"	*197,382*	*23.4*	*281,941*	*26.4*	*84,559*	*42.8*
Speaks Spanish at home	*382,469*	*45.3*	*411,346*	*38.5*	*28,877*	*7.6*
Does not speak English "very well"	91,929	24.0	109,935	26.7	18,006	19.6
Speaks Asian or Pacific Islander language	*79,523*	*9.4*	*133,776*	*12.5*	*54,253*	*68.2*
Does not speak English "very well"	33,734	42.4	58,636	43.8	24,902	73.8

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	*671,142*	*24.0*	*915,160*	*25.7*	*244,018*	*36.4*
Speaks Spanish at home	*1,498,548*	*53.6*	*1,832,402*	*51.5*	*333,854*	*22.3*
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	*354,684*	*12.7*	*515,157*	*14.5*	*160,473*	*45.2*
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	55	100.0 %	14	100.0 %	-41	-74.5 %
With own children under 18 years	*12*	*21.8*	*0*	*0.0*	*-12*	*-100.0*
Married-couple families	36	65.5	14	100.0	-22	-61.1
With own children under 18 years	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
Female householder, no husband present	19	34.5	0	0.0	-19	-100.0
With own children under 18 years	*12*	*63.2*	*0*	*0.0*	*-12*	*-100.0*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
With own children under 18 years	*179,445*	*31.9*	*299,671*	*50.9*	*120,226*	*67.0*
Married-couple families	347,432	61.7	349,980	59.4	2,548	0.7
With own children under 18 years	*89,686*	*25.8*	*176,186*	*50.3*	*86,500*	*96.4*
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
With own children under 18 years	*78,808*	*44.0*	*107,110*	*55.4*	*28,302*	*35.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	*536,565*	*30.6*	*919,675*	*49.2*	*383,110*	*71.4*
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	*277,530*	*24.5*	*556,012*	*48.2*	*278,482*	*100.3*
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	*224,139*	*44.1*	*310,287*	*54.8*	*86,148*	*38.4*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990		2000		1990-2000 Change	Percent Change
Number of Households	62		23		-39	-62.9 %
Total Persons	174	100.0 %	60	100.0 %	-114	-65.5
In households	157	90.2	60	100.0	-97	-61.8
Total Persons per household*	2.53		2.61		0.08	3.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	827,679		881,006		53,327	6.4 %
Total Persons	2,300,664	100.0 %	2,465,326	100.0 %	164,662	7.2
In households	2,266,754	98.5	2,426,044	98.4	159,290	7.0
Total Persons per household*	2.74		2.75		0.02	0.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	1.9

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	140	100.0 %	53	100.0 %	-87	-62.1 %
Labor force	98	70.0	39	73.6	-59	-60.2
Not in labor force	42	30.0	14	26.4	-28	-66.7
Employed persons 16 years and over	62	100.0 %	16	100.0 %	-46	-74.2 %
Private wage and salary worker	62	100.0	16	100.0	-46	-74.2
Government worker	0	0.0	0	0.0	0	0.0
Self-employed worker	0	0.0	0	0.0	0	0.0
Unpaid family worker	0	0.0	0	0.0	0	0.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	2,483,739	100.0 %	1,877,751	100.0 %	-605,988	-24.4 %
Labor force	1,760,921	70.9	1,039,512	55.4	-721,409	-41.0
Not in labor force	722,818	29.1	838,239	44.6	115,421	16.0
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Private wage and salary worker	687,217	73.9	707,740	76.3	20,523	3.0
Government worker	197,875	21.3	171,085	18.5	-26,790	-13.5
Self-employed worker	41,497	4.5	45,971	5.0	4,474	10.8
Unpaid family worker	2,746	0.3	2,234	0.2	-512	-18.6

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 320), Borough of Brooklyn, and New York City

	1990 *Study Area*		1990 *Brooklyn*		1990 *City*	
		Percent of Total		Percent of Total		Percent of Total
Employed persons 16 years and over	62	100.0 %	929,335	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	27	43.5	238,745	25.7	995,364	30.6
Executive, administrative, and managerial occupations	*18*	*66.7*	*103,826*	*43.5*	*440,090*	*44.2*
Professional specialty occupations	*9*	*33.3*	*134,919*	*56.5*	*555,274*	*55.8*
Technical, sales, and administrative support occupations	10	16.1	326,137	35.1	1,108,923	34.0
Technicians and related support occupations	*0*	*0.0*	*28,864*	*8.9*	*101,012*	*9.1*
Sales occupations	*10*	*100.0*	*85,300*	*26.2*	*335,477*	*30.3*
Administrative support occupations, including clerical	*0*	*0.0*	*211,973*	*65.0*	*672,434*	*60.6*
Service occupations	19	30.6	161,625	17.4	520,974	16.0
Private household occupations	*7*	*36.8*	*7,548*	*4.7*	*24,211*	*4.6*
Protective service occupations	*12*	*63.2*	*28,093*	*17.4*	*89,619*	*17.2*
Service occupations, except protective and household	*0*	*0.0*	*125,984*	*77.9*	*407,144*	*78.2*
Farming, forestry, and fishing occupations	0	0.0	2,316	0.2	8,352	0.3
Precision production, craft, and repair occupations	6	9.7	76,960	8.3	244,817	7.5
Operators, fabricators, and laborers	0	0.0	123,552	13.3	379,207	11.6
Machine operators, assemblers, and inspectors	*0*	*0.0*	*52,816*	*42.7*	*158,981*	*41.9*
Transportation and material moving occupations	*0*	*0.0*	*38,281*	*31.0*	*120,642*	*31.8*
Handlers, equipment cleaners, helpers, and laborers	*0*	*0.0*	*32,455*	*26.3*	*99,584*	*26.3*

	2000 *Study Area*		2000 *Brooklyn*		2000 *City*	
		Percent of Total		Percent of Total		Percent of Total
Employed persons 16 years and over	16	100.0 %	927,030	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	0	0.0	301,569	32.5	1,206,052	36.8
Management, business, and financial operations occupations:	*0*	*0.0*	*98,608*	*32.7*	*441,805*	*36.6*
Professional and related occupations:	*0*	*0.0*	*202,961*	*67.3*	*764,247*	*63.4*
Healthcare practitioners and technical occupations:	*0*	*0.0*	*38,856*	*12.9*	*146,885*	*12.2*
Service occupations:	7	43.8	187,461	20.2	608,383	18.6
Healthcare support occupations	*0*	*0.0*	*52,420*	*28.0*	*131,141*	*21.6*
Protective service occupations:	*0*	*0.0*	*30,181*	*16.1*	*96,073*	*15.8*
Food preparation and serving related occupations	*0*	*0.0*	*36,639*	*19.5*	*146,025*	*24.0*
Building and grounds cleaning and maintenance occupations	*0*	*0.0*	*36,828*	*19.6*	*124,119*	*20.4*
Personal care and service occupations	*7*	*100.0*	*31,393*	*16.7*	*111,025*	*18.2*
Sales and office occupations:	0	0.0	256,891	27.7	896,486	27.4
Farming, fishing, and forestry occupations	0	0.0	501	0.1	1,464	0.0
Construction, extraction, and maintenance occupations:	9	56.3	67,024	7.2	209,665	6.4
Production, transportation, and material moving occupations:	0	0.0	113,584	12.3	355,775	10.9
Production occupations	*0*	*0.0*	*57,419*	*50.6*	*176,684*	*49.7*
Transportation and material moving occupations:	*0*	*0.0*	*56,165*	*49.4*	*179,091*	*50.3*

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gatherec

Industry Sector (employment by place of residence)*

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	62	100.0 %	16	100.0 %	-46	-74.2 %
Agriculture, forestry, fisheries, and mining	0	0.0	0	0	0	0.0
Construction	6	9.7	9	56	3	50.0
Manufacturing	0	0.0	0	0	0	0.0
Transportation	0	0.0	0	0	0	0.0
Communications and other public utilities	0	0.0	NA		NA	
Wholesale trade	0	0.0	0	0	0	0.0
Retail trade	28	45.2	0	0	-28	-100.0
Finance, insurance, and real estate	0	0.0	0	0	0	0.0
Business and repair services	12	19.4	NA		NA	
Personal, entertainment, and recreations services	16	25.8	7	44	-9	-56.3
Professional and related services	0	0.0	0	0	0	0.0
Health services	0	*0.0*	*0*	*0*	0	0.0
Educational services	0	*0.0*	*0*	*0*	0	0.0
Other professional and related services	0	*0.0*	*0*	*0*	0	0.0
Public administration	0	0.0	0	0	0	0.0
Information	NA		0	0	NA	
Other services (except public administration)	NA		0	0	NA	

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Agriculture, forestry, fisheries, and mining	2,404	0.3	571	0.1	-1,833	-76.2
Construction	41,299	4.4	44,696	4.8	3,397	8.2
Manufacturing	108,538	11.7	68,428	7.4	-40,110	-37.0
Transportation	65,496	7.0	66,453	7.2	957	1.5
Communications and other public utilities	24,662	2.7	NA		NA	
Wholesale trade	35,727	3.8	29,023	3.1	-6,704	-18.8
Retail trade	116,498	12.5	83,926	9.1	-32,572	-28.0
Finance, insurance, and real estate	116,935	12.6	94,825	10.2	-22,110	-18.9
Business and repair services	56,589	6.1	NA		NA	
Personal, entertainment, and recreations services	45,883	4.9	64,807	7.0	18,924	41.2
Professional and related services	265,168	28.5	336,296	36.3	71,128	26.8
Health services	*105,786*	*39.9*	*154,896*	*46.1*	49,110	46.4
Educational services	*78,846*	*29.7*	*84,571*	*25.1*	5,725	7.3
Other professional and related services	*80,536*	*30.4*	*96,829*	*28.8*	16,293	20.2
Public administration	50,136	5.4	43,443	4.7	-6,693	-13.3
Information	NA		41,639	4.5	NA	
Other services (except public administration)	NA		52,923	5.7	NA	

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	-6,729	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	-154,241	-41.5
Transportation	216,862	6.7	211,506	6.5	-5,356	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	-29,726	-22.6
Retail trade	428,960	13.2	295,803	9.0	-133,157	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	-28,956	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	-11,303	-7.1
Information	NA		173,594	5.3	NA	
Other services (except public administration)	NA		187,335	5.7	NA	

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via

Means of Commutation

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	62	100.0 %	16	100.0 %	-46	-74.2 %
Car, truck or van	55	88.7	16	100.0	-39	-70.9
Drove alone	*37*	*67.3*	*16*	*100.0*	*-21*	-56.8
Carpooled	*18*	*32.7*	*0*	*0.0*	*-18*	-100.0
Public transportation	7	11.3	0	0.0	-7	-100.0
Bus, trolley, streetcar	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Subway	*7*	*100.0*	*0*	*0.0*	*-7*	-100.0
Railroad	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Taxicab	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Ferryboat	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Walked	0	0.0	0	0.0	0	0.0
Worked at home	0	0.0	0	0.0	0	0.0
Other means	0	0.0	0	0.0	0	0.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	907,010	100.0 %	901,027	100.0 %	-5,983	-0.7 %
Car, truck or van	283,765	31.3	274,301	30.4	-9,464	-3.3
Drove alone	*204,182*	*72.0*	*202,070*	*73.7*	*-2,112*	-1.0
Carpooled	*79,583*	*28.0*	*72,231*	*26.3*	*-7,352*	-9.2
Public transportation	526,303	58.0	517,635	57.4	-8,668	-1.6
Bus, trolley, streetcar	*107,343*	*20.4*	*95,566*	*18.5*	*-11,777*	-11.0
Subway	*399,067*	*75.8*	*403,327*	*77.9*	*4,260*	1.1
Railroad	*13,775*	*2.6*	*12,169*	*2.4*	*-1,606*	-11.7
Taxicab	*5,672*	*1.1*	*6,149*	*1.2*	*477*	8.4
Ferryboat	*446*	*0.1*	*424*	*0.1*	*-22*	-4.9
Walked	75,664	8.3	78,933	8.8	3,269	4.3
Worked at home	14,510	1.6	20,663	2.3	6,153	42.4
Other means	6,768	0.7	9,495	1.1	2,727	40.3

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 320), Borough of Brooklyn, and New York City

	Study Area					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	35	100.0 %	24	100.0 %	-11	-31.4 %
Owner-occupied housing units	16	45.7	13	54.2	-3	-18.8
Renter-occupied housing units	10	28.6	11	45.8	1	10.0
Vacant housing units	9	25.7	0	0.0	-9	-100.0
Median value*	$100,000		$137,500		$37,500	37.5
Median gross rent** **(specified renter-occupied housing units)**	$525		$775		$250	47.6

	Brooklyn					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	873,671	100.0 %	930,866	100.0 %	57,195	6.5 %
Owner-occupied housing units	215,843	24.7	238,290	25.6	22,447	10.4
Renter-occupied housing units	612,356	70.1	642,437	69.0	30,081	4.9
Vacant housing units	45,472	5.2	50,139	5.4	4,667	10.3
Median value	$194,600		$224,100		$29,500	15.2
Median gross rent **(specified renter-occupied housing units)**	$477		$672		$195	40.9

	City					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value	$187,900		$211,900		$24,000	12.8
Median gross rent **(specified renter-occupied housing units)**	$496		$705		$209	42.1

	Study Area		*Brooklyn*		*City*	
	2000	Percent of Total	2000	Percent of Total	2000	Percent of Total
Year householder moved into unit						
Occupied housing units	24	100.0 %	880,727	100.0 %	3,021,588	100.0 %
1995 to March 2000	11	45.8	375,631	42.7	1,302,494	43.1
1990 to 1994	0	0.0	155,311	17.6	505,389	16.7
1980 to 1989	7	29.2	149,472	17.0	491,479	16.3
1970 to 1979	0	0.0	107,784	12.2	392,605	13.0
1969 or earlier	6	25.0	92,529	10.5	329,621	10.9
Year structure built						
Total housing units	24	100.0 %	930,866	100.0 %	3,200,912	100.0 %
1995 to March 2000	0	0.0	15,647	1.7	70,835	2.2
1990 to 1994	0	0.0	13,836	1.5	61,106	1.9
1980 to 1989	0	0.0	30,099	3.2	157,402	4.9
1970 to 1979	0	0.0	67,095	7.2	276,489	8.6
1960 to 1969	0	0.0	123,594	13.3	485,725	15.2
1959 or earlier	24	100.0	680,595	73.1	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Value reported for Tract 144.02 only.

**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	164	100.0 %	60	100.0 %	-104	-63.4 %
Lived in same house	157	95.7	51	85.0	-106	-67.5
Lived in different house in U.S.	7	4.3	9	15.0	2	28.6
New York State	*7*	*100.0*	*0*	*0.0*	*-7*	*-100.0*
Same county	7	100.0	9	NA	2	28.6
Different county	0	0.0	9	NA	9	NA
Different state	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
Lived abroad	0	0.0	0	0.0	0	0.0
Puerto Rico	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	2,124,614	100.0 %	2,445,529	100.0 %	320,915	15.1 %
Lived in same house	1,366,689	64.3	1,436,657	58.7	69,968	5.1
Lived in different house in U.S.	613,831	28.9	848,566	34.7	234,735	38.2
New York State	*564,282*	*91.9*	*625,382*	*73.7*	*61,100*	*10.8*
Same county	478,924	84.9	522,749	83.6	43,825	9.2
Different county	85,358	15.1	102,633	16.4	17,275	20.2
Different state	*49,549*	*8.1*	*62,878*	*7.4*	*13,329*	*26.9*
Lived abroad	144,094	6.8	160,306	6.6	16,212	11.3
Puerto Rico	*8,096*	*5.6*	*5,289*	*3.3*	*-2,807*	*-34.7*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Education (School Enrollment and Educational Attainment)

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	174	100.0 %	60	100.0 %	-114	-65.5 %
Enrolled in school	34	19.5	7	11.7	-27	-79.4
Pre-primary school	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
Elementary or high school	*34*	*100.0*	*7*	*100.0*	*-27*	*-79.4*
College or beyond	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
Years of school completed						
Persons 25 years old and over	123	100.0 %	53	100.0 %	-70	-56.9 %
Less than 9th grade	9	7.3	9	17.0	0	0.0
Some high school	30	24.4	22	41.5	-8	-26.7
High school graduate only	31	25.2	16	30.2	-15	-48.4
Some college, no degree	0	0.0	6	11.3	6	NA
Associate degree	53	43.1	0	0.0	-53	-100.0
College graduate	0	0.0	0	0.0	0	0.0
Bachelor's degree	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
Graduate or Professional degree	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	2,193,723	100.0 %	2,357,861	100.0 %	164,138	7.5 %
Enrolled in school	643,175	29.3	731,672	31.0	88,497	13.8
Pre-primary school	*35,120*	*5.5*	*86,054*	*11.8*	*50,934*	*145.0*
Elementary or high school	*427,938*	*66.5*	*471,408*	*64.4*	*43,470*	*10.2*
College or beyond	*180,117*	*28.0*	*174,210*	*23.8*	*-5,907*	*-3.3*
Years of school completed						
Persons 25 years old and over	1,457,904	100.0 %	1,552,870	100.0 %	94,966	6.5 %
Less than 9th grade	227,204	15.6	203,190	13.1	-24,014	-10.6
Some high school	301,845	20.7	281,116	18.1	-20,729	-6.9
High school graduate only	415,668	28.5	414,868	26.7	-800	-0.2
Some college, no degree	202,892	13.9	225,716	14.5	22,824	11.2
Associate degree	68,996	4.7	88,730	5.7	19,734	28.6
College graduate	241,299	16.6	339,250	21.8	97,951	40.6
Bachelor's degree	*137,314*	*56.9*	*202,103*	*59.6*	*64,789*	*47.2*
Graduate or Professional degree	*103,985*	*43.1*	*137,147*	*40.4*	*33,162*	*31.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$10,418		$18,840		$8,422	80.8
Households	62	100.0 %	23	100.0 %	-39	-62.9 %
Less than $10,000	7	11.3	9	39.1	2	28.6
$10,000 to $14,999	0	0.0	0	0.0	0	0.0
$15,000 to $24,999	16	25.8	0	0.0	-16	-100.0
$25,000 to $34,999	12	19.4	0	0.0	-12	-100.0
$35,000 to $49,999	18	29.0	0	0.0	-18	-100.0
$50,000 to $74,999	9	14.5	8	34.8	-1	-11.1
$75,000 to $99,999	0	0.0	6	26.1	6	NA
$100,000 or more	0	0.0	0	0.0	0	0.0
Median Household Income'	$31,667		$55,781		$24,114	76.1
Families	55	100.0 %	14	100.0 %	-41	-74.5 %
Less than $10,000	0	0.0	0	0.0	0	0.0
$10,000 to $14,999	0	0.0	0	0.0	0	0.0
$15,000 to $24,999	16	29.1	0	0.0	-16	-100.0
$25,000 to $34,999	12	21.8	0	0.0	-12	-100.0
$35,000 to $49,999	18	32.7	0	0.0	-18	-100.0
$50,000 to $74,999	9	16.4	8	57.1	-1	-11.1
$75,000 to $99,999	0	0.0	6	42.9	6	600.0
$100,000 or more	0	0.0	0	0.0	0	0.0
Median Family Income*'	$32,396		$57,188		$24,792	76.5

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$12,388		$16,775		$4,387	35.4
Households	827,679	100.0 %	881,006	100.0 %	53,327	6.4 %
Less than $10,000	196,205	23.7	169,849	19.3	-26,356	-13.4
$10,000 to $14,999	70,317	8.5	74,280	8.4	3,963	5.6
$15,000 to $24,999	137,608	16.6	114,571	13.0	-23,037	-16.7
$25,000 to $34,999	118,349	14.3	107,095	12.2	-11,254	-9.5
$35,000 to $49,999	126,452	15.3	126,402	14.3	-50	0.0
$50,000 to $74,999	106,814	12.9	136,962	15.5	30,148	28.2
$75,000 to $99,999	40,917	4.9	68,813	7.8	27,896	68.2
$100,000 or more	31,017	3.7	83,034	9.4	52,017	167.7
Median Household Income'	$25,684		$32,135		$6,451	25.1
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Less than $10,000	102,120	18.1	88,633	15.1	-13,487	-13.2
$10,000 to $14,999	44,592	7.9	47,382	8.0	2,790	6.3
$15,000 to $24,999	92,345	16.4	77,426	13.1	-14,919	-16.2
$25,000 to $34,999	81,472	14.5	72,738	12.4	-8,734	-10.7
$35,000 to $49,999	95,016	16.9	85,883	14.6	-9,133	-9.6
$50,000 to $74,999	86,895	15.4	98,635	16.7	11,740	13.5
$75,000 to $99,999	34,778	6.2	52,237	8.9	17,459	50.2
$100,000 or more	26,065	4.6	65,936	11.2	39,871	153.0
Median Family Income*'	$30,033		$36,188		$6,155	20.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income'	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income*'	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape File 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value

**For 2000, includes all earning less than $10,000

***The data in this table are not adjusted for inflation

Poverty Status (All income levels in 1989)

Study Area (tr 320), Borough of Brooklyn, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	55	100.0 %	14	100.0 %	-41	-74.5 %
Below the poverty level	0	0.0	0	0.0	0	0.0
With related children under 18 years	19	34.5	6	42.9	-13	-68.4
Below the poverty level	*0*	*0.0*	*0*	*0.0*	0	0.0
Female householder, no husband present	19	34.5	0	0.0	-19	-100.0
Below the poverty level	*0*	*0.0*	*0*	*0.0*	0	0.0
With related children under 18 years	*7*	*36.8*	*0*	*0.0*	-7	-100.0
Below the poverty level	0	0.0	0	0.0	0	0.0
Persons for whom poverty status is determined	157	100.0 %	60	100.0 %	-97	-61.8 %
Below the poverty level	7	4.5	9	15.0	2	28.6
Persons under 18 years	34	21.7	7	11.7	-27	-79.4
Below the poverty level	*0*	*0.0*	*0*	*0.0*	0	0.0
65 years and over	3	1.9	15	25.0	12	400.0
Below the poverty level	*0*	*0.0*	*0*	*0.0*	0	0.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Below the poverty level	109,811	19.5	129,694	22.0	19,883	18.1
With related children under 18 years	310,556	55.1	339,685	57.7	29,129	9.4
Below the poverty level	*87,520*	*28.2*	*99,005*	*29.1*	11,485	13.1
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
Below the poverty level	*66,434*	*37.1*	*67,730*	*35.1*	1,296	2.0
With related children under 18 years	*119,777*	*66.9*	*130,806*	*67.7*	11,029	9.2
Below the poverty level	58,018	48.4	57,796	44.2	-222	-0.4
Persons for whom poverty status is determined	2,268,938	100.0 %	2,434,939	100.0 %	166,001	7.3 %
Below the poverty level	514,163	22.7	610,476	25.1	96,313	18.7
Persons under 18 years	*593,335*	26.2	*646,346*	26.5	53,011	8.9
Below the poverty level	199,895	*33.7*	221,255	*34.2*	21,360	10.7
65 years and over	*276,454*	12.2	*274,328*	11.3	-2,126	-0.8
Below the poverty level	51,856	*18.8*	59,068	*21.5*	7,212	13.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

1990
Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	232	1.8 %	312	2.5	544	4.3 %
5 to 19	552	4.4	531	4.2	1,083	8.6
20 to 34	2,282	18.1	1,658	13.2	3,940	31.3
35 to 49	1,962	15.6	1,326	10.5	3,288	26.1
50 to 64	1,070	8.5	916	7.3	1,986	15.8
65 +	1,157	9.2	603	4.8	1,760	14.0
Total	7,255	57.6	5,346	42.4	12,601	100.0

2000
Study Area

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
266	2.0 %	393	2.9 %	659	4.9 %
881	6.6	598	4.5	1,479	11.0
2,074	15.5	1,769	13.2	3,843	28.6
1,835	13.7	1,527	11.4	3,362	25.1
1,429	10.7	1,023	7.6	2,452	18.3
977	7.3	645	4.8	1,622	12.1
7,462	55.6	5,955	44.4	13,417	100.0

1990 - 2000
Study Area

Total Change	Percent Change
115	21.1 %
396	36.6
-97	-2.5
74	2.3
466	23.5
-138	-7.8
816	6.5

Manhattan

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	38,526	2.6 %	39,767	2.7 %	78,293	5.3 %
5 to 19	104,441	7.0	100,836	6.8	205,277	13.8
20 to 34	223,723	15.0	209,239	14.1	432,962	29.1
35 to 49	185,332	12.5	172,231	11.6	357,563	24.0
50 to 64	113,134	7.6	102,119	6.9	215,253	14.5
65 +	124,820	8.4	73,368	4.9	198,188	13.3
Total	789,976	53.1	697,560	46.9	1,487,536	100.0

Manhattan

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
36,115	2.3 %	39,065	2.5 %	75,180	4.9 %
106,984	7.0	108,957	7.1	215,941	14.0
235,875	15.3	216,422	14.1	452,297	29.4
185,653	12.1	183,479	11.9	369,132	24.0
130,380	8.5	107,617	7.0	237,997	15.5
114,198	7.4	72,450	4.7	186,648	12.1
809,205	52.6	727,990	47.4	1,537,195	100.0

Manhattan

Total Change	Percent Change
-3,113	-4.0 %
10,664	5.2
19,335	4.5
11,569	3.2
22,744	10.6
-11,540	-5.8
49,659	3.3

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

City

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
787,124	9.8	823,148	10.3	1,610,272	20.1
1,002,652	12.5	933,782	11.7	1,936,434	24.2
955,355	11.9	878,401	11.0	1,833,756	22.9
637,071	8.0	518,699	6.5	1,155,770	14.4
581,864	7.3	357,506	4.5	939,370	11.7
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

City

Total Change	Percent Change
30,568	6.1 %
233,835	17.0
5,163	0.3
295,926	19.2
133,583	13.1
-13,361	-1.4
685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing, Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	12,601	100.0 %	**Total Persons**	13,417	100.0 %	816	6.5 %
Not of Hispanic Origin	11,372	90.2	Not of Hispanic Origin	11,825	88.1	453	4.0
White	10,404	*91.5*	*White alone*	9,870	*83.5*		
Black	513	*4.5*	*Black or African American alone*	867	*7.3*		
American Indian, Eskimo, or Aleut	0	*0.0*	*American Indian and Alaska Native alone*	0	*0.0*		
Asian or Pacific Islander	455	*4.0*	*Asian alone*	950	*8.0*		
Other race	0	*0.0*	*Native Hawaiian and Other Pacific Islander alon*	0	*0.0*		
			Some other race alone	39	*0.3*		
			Two or more races	99	*0.8*		
Hispanic Origin	1229	9.8	Hispanic Origin	1592	11.9	363	29.5

Manhattan

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	1,487,536	100.0 %	**Total Persons**	1,537,195	100.0 %	49,659	3.3
Not of Hispanic Origin	1,106,839	74.4	Not of Hispanic Origin	1,119,190	72.8	12,351	1.1
White	*728,563*	*65.8*	*White alone*	*703,462*	*62.9*		
Black	*264,717*	*23.9*	*Black or African American alone*	*233,383*	*20.9*		
American Indian, Eskimo, or Aleut	*2,568*	*0.2*	*American Indian and Alaska Native alone*	*2,319*	*0.2*		
Asian or Pacific Islander	*107,199*	*9.7*	*Asian alone*	*143,028*	*12.8*		
Other race	*3,792*	*0.3*	*Native Hawaiian and Other Pacific Islander alon*	*354*	*0.0*		
			Some other race alone	*5,738*	*0.5*		
			Two or more races	*30,906*	*2.8*		
Hispanic Origin	380,697	25.6	Hispanic Origin	418,005	27.2	37,308	9.8

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alon*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	12,057	100.0 %	12,758	100 %	701	5.8 %
Speak a language other than English at home	2,882	23.9	3,455	27.1	573	19.9
Does not speak English "very well"	*920*	*31.9*	*1,019*	*29.5*	*99*	*10.8*
Speaks Spanish at home	*1,247*	*43.3*	*1,372*	*39.7*	*125*	*10.0*
Does not speak English "very well"	540	43.3	452	32.9	-88	-16.3
Speaks Asian or Pacific Islander language	*74*	*2.6*	*719*	*20.8*	*645*	*871.6*
Does not speak English "very well"	10	13.5	316	43.9	306	3060.0

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	1,409,243	100.0 %	1,462,015	100.0 %	52,772	3.7 %
Speak a language other than English at home	549,149	39.0	612,412	41.9	63,263	11.5
Does not speak English "very well"	*150,858*	*27.5*	*168,919*	*27.6*	*18,061*	*12.0*
Speaks Spanish at home	*337,801*	*61.5*	*364,141*	*59.5*	*26,340*	*7.8*
Does not speak English "very well"	104,424	30.9	113,220	31.1	8,796	8.4
Speaks Asian or Pacific Islander language	*87,022*	*15.8*	*108,035*	*17.6*	*21,013*	*24.1*
Does not speak English "very well"	36,379	41.8	43,606	40.4	7,227	19.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	*671,142*	*24.0*	*915,160*	*25.7*	*244,018*	*36.4*
Speaks Spanish at home	*1,498,548*	*53.6*	*1,832,402*	*51.5*	*333,854*	*22.3*
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	*354,684*	*12.7*	*515,157*	*14.5*	*160,473*	*45.2*
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	2,703	100.0 %	2,980	100.0 %	277	10.2 %
With own children under 18 years	*514*	*19.0*	*1,257*	*42.2*	*743*	*144.6*
Married-couple families	2,010	74.4	2,124	71.3	114	5.7
With own children under 18 years	*220*	*10.9*	*826*	*38.9*	*606*	*275.5*
Female householder, no husband present	519	19.2	719	24.1	200	38.5
With own children under 18 years	*161*	*31.0*	*368*	*51.2*	*207*	*128.6*

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	305,368	100.0 %	306,220	100.0 %	852	0.3 %
With own children under 18 years	*77,909*	*25.5*	*130,790*	*42.7*	*52,881*	*67.9*
Married-couple families	192,032	62.9	191,060	62.4	-972	-0.5
With own children under 18 years	*30,874*	*16.1*	*75,047*	*39.3*	*44,173*	*143.1*
Female householder, no husband present	92,925	30.4	91,594	29.9	-1,331	-1.4
With own children under 18 years	*40,965*	*44.1*	*48,064*	*52.5*	*7,099*	*17.3*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	*536,565*	*30.6*	*919,675*	*49.2*	*383,110*	*71.4*
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	*277,530*	*24.5*	*556,012*	*48.2*	*278,482*	*100.3*
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	*224,139*	*44.1*	*310,287*	*54.8*	*86,148*	*38.4*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990		2000		1990-2000 Change	Percent Change
Number of Households	7,197		7,487		290	4.0 %
Total Persons	12,601	100.0 %	13,417	100.0 %	816	6.5
In households	12,583	99.9	13,396	99.8	813	6.5
Total Persons per household*	1.75		1.79		0.04	2.3

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	716,811		739,167		22,356	3.1 %
Total Persons	1,487,536	100.0 %	1,537,195	100.0 %	49,659	3.3
In households	1,429,497	96.1	1,477,339	96.1	47,842	3.3
Total Persons per household*	1.99		2.00		0.00	0.2

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	1.9

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	11,208	100.0 %	11,600	100.0 %	392	3.5 %
Labor force	8,079	72.1	8,364	72.1	285	3.5
Not in labor force	3,129	27.9	3,236	27.9	107	3.4
Employed persons 16 years and over	7,755	100.0 %	7,915	100.0 %	160	2.1 %
Private wage and salary worker	6,382	82.3	6,469	81.7	87	1.4
Government worker	652	8.4	704	8.9	52	8.0
Self-employed worker	721	9.3	742	9.4	21	2.9
Unpaid family worker	0	0.0	0	0.0	0	0.0

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	1,266,398	100.0 %	1,307,423	100.0 %	41,025	3.2 %
Labor force	839,205	66.3	841,633	64.4	2,428	0.3
Not in labor force	427,193	33.7	465,790	35.6	38,597	9.0
Employed persons 16 years and over	770,084	100.0 %	770,443	100.0 %	359	0.0 %
Private wage and salary worker	601,222	78.1	620,832	80.6	19,610	3.3
Government worker	92,024	11.9	78,073	10.1	-13,951	-15.2
Self-employed worker	75,002	9.7	69,517	9.0	-5,485	-7.3
Unpaid family worker	1,836	0.2	1,861	0.2	25	1.4

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

	1990 *Study Area*	Percent of Total	1990 *Manhattan*	Percent of Total	1990 *City*	Percent of Total
Employed persons 16 years and over	7,755	100.0 %	770,084	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	4,571	58.9	366,546	47.6	995,364	30.6
Executive, administrative, and managerial occupations	*2,115*	*46.3*	*147,525*	*40.2*	*440,090*	*44.2*
Professional specialty occupations	*2,456*	*53.7*	*219,021*	*59.8*	*555,274*	*55.8*
Technical, sales, and administrative support occupations	2,229	28.7	223,166	29.0	1,108,923	34.0
Technicians and related support occupations	*205*	*9.2*	*23,266*	*10.4*	*101,012*	*9.1*
Sales occupations	*1,238*	*55.5*	*90,178*	*40.4*	*335,477*	*30.3*
Administrative support occupations, including clerical	*786*	*35.3*	*109,722*	*49.2*	*672,434*	*60.6*
Service occupations	582	7.5	93,536	12.1	520,974	16.0
Private household occupations	*48*	*8.2*	*5,527*	*5.9*	*24,211*	*4.6*
Protective service occupations	*56*	*9.6*	*9,657*	*10.3*	*89,619*	*17.2*
Service occupations, except protective and household	*478*	*82.1*	*78,352*	*83.8*	*407,144*	*78.2*
Farming, forestry, and fishing occupations	0	0.0	1,303	0.2	8,352	0.3
Precision production, craft, and repair occupations	231	3.0	26,503	3.4	244,817	7.5
Operators, fabricators, and laborers	142	1.8	59,030	7.7	379,207	11.6
Machine operators, assemblers, and inspectors	*57*	*40.1*	*31,023*	*52.6*	*158,981*	*41.9*
Transportation and material moving occupations	*40*	*28.2*	*13,998*	*23.7*	*120,642*	*31.8*
Handlers, equipment cleaners, helpers, and laborers	*45*	*31.7*	*14,009*	*23.7*	*99,584*	*26.3*

	2000 *Study Area*	Percent of Total	2000 *Manhattan*	Percent of Total	2000 *City*	Percent of Total
Employed persons 16 years and over	7,915	100.0 %	770,283	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	5,172	65.3	429,905	55.8	1,206,052	36.8
Management, business, and financial operations occupations:	*1,993*	*38.5*	*167,403*	*38.9*	*441,805*	*36.6*
Professional and related occupations:	*3,179*	*61.5*	*262,502*	*61.1*	*764,247*	*63.4*
Healthcare practitioners and technical occupations:	*674*	*13.0*	*33,092*	*7.7*	*146,885*	*12.2*
Service occupations:	716	9.0	95,778	12.4	608,383	18.6
Healthcare support occupations	*58*	*8.1*	*12,961*	*13.5*	*131,141*	*21.6*
Protective service occupations:	*132*	*18.4*	*9,486*	*9.9*	*96,073*	*15.8*
Food preparation and serving related occupations	*131*	*18.3*	*32,219*	*33.6*	*146,025*	*24.0*
Building and grounds cleaning and maintenance occupations	*137*	*19.1*	*19,378*	*20.2*	*124,119*	*20.4*
Personal care and service occupations	*258*	*36.0*	*21,734*	*22.7*	*111,025*	*18.2*
Sales and office occupations:	1,785	22.6	180,692	23.5	896,486	27.4
Farming, fishing, and forestry occupations	0	0.0	186	0.0	1,464	0.0
Construction, extraction, and maintenance occupations:	120	1.5	17,609	2.3	209,665	6.4
Production, transportation, and material moving occupations:	122	1.5	46,113	6.0	355,775	10.9
Production occupations	*71*	*58.2*	*26,652*	*57.8*	*176,684*	*49.7*
Transportation and material moving occupations:	*51*	*41.8*	*19,461*	*42.2*	*179,091*	*50.3*

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Industry Sector (employment by place of residence)*

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	7,755	100.0 %	7,915	100.0 %	160	2.1 %
Agriculture, forestry, fisheries, and mining	22	0.3	8	0.1	-14	-63.6
Construction	135	1.7	55	0.7	-80	-59.3
Manufacturing	715	9.2	269	3.4	-446	-62.4
Transportation	191	2.5	106	1.3	-85	-44.5
Communications and other public utilities	196	2.5	NA		NA	
Wholesale trade	376	4.8	190	2.4	-186	-49.5
Retail trade	689	8.9	382	4.8	-307	-44.6
Finance, insurance, and real estate	1,454	18.7	1,560	19.7	106	7.3
Business and repair services	615	7.9	NA		NA	
Personal, entertainment, and recreations services	499	6.4	469	5.9	-30	-6.0
Professional and related services	2,632	33.9	3,767	47.6	1,135	43.1
Health services	*816*	*31.0*	*1,186*	*31.5*	370	45.3
Educational services	*498*	*18.9*	*695*	*18.4*	197	39.6
Other professional and related services	*1,318*	*50.1*	*1,886*	*50.1*	568	43.1
Public administratior	231	3.0	269	3.4	38	16.5
Information	NA		637	8.0	NA	
Other services (except public administration)	NA		203	2.6	NA	
	7,755	100.0	7,915	100.0		

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	770,084	100.0 %	770,283	100.0 %	199	0.0 %
Agriculture, forestry, fisheries, and mining	2,173	0.3	445	0.1	-1,728	-79.5
Construction	15,396	2.0	13,097	1.7	-2,299	-14.9
Manufacturing	91,854	11.9	40,218	5.2	-51,636	-56.2
Transportation	26,672	3.5	21,139	2.7	-5,533	-20.7
Communications and other public utilities	16,874	2.2	NA		NA	
Wholesale trade	28,819	3.7	20,803	2.7	-8,016	-27.8
Retail trade	88,974	11.6	54,244	7.0	-34,730	-39.0
Finance, insurance, and real estate	104,176	13.5	114,957	14.9	10,781	10.3
Business and repair services	60,466	7.9	NA		NA	
Personal, entertainment, and recreations services	58,059	7.5	81,328	10.6	23,269	40.1
Professional and related services	250,851	32.6	292,157	37.9	41,306	16.5
Health services	*71,130*	*28.4*	*83,463*	*28.6*	12,333	17.3
Educational services	*64,556*	*25.7*	*68,540*	*23.5*	3,984	6.2
Other professional and related services	*115,165*	*45.9*	*140,154*	*48.0*	24,989	21.7
Public administration	25,770	3.3	24,422	3.2	-1,348	-5.2
Information	NA		71,725	9.3	NA	
Other services (except public administration)	NA		35,748	4.6	NA	
	770,084	100	770,283	100		

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	-6,729	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	-154,241	-41.5
Transportation	216,862	6.7	211,506	6.5	-5,356	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	-29,726	-22.6
Retail trade	428,960	13.2	295,803	9.0	-133,157	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	-28,956	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	-11,303	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	
	3,257,637	100	3,277,825	100		

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	7,576	100.0 %	7,592	100.0 %	16	0.2 %
Car, truck or van	1,372	18.1	1,093	14.4	-279	-20.3
Drove alone	*806*	*58.7*	*784*	*71.7*	*-22*	-2.7
Carpooled	*566*	*41.3*	*309*	*28.3*	*-257*	-45.4
Public transportation	4,716	62.2	5,192	68.4	476	10.1
Bus, trolley, streetcar	*1,754*	*37.2*	*1,558*	*30.0*	*-196*	-11.2
Subway	*2,424*	*51.4*	*3,186*	*61.4*	*762*	31.4
Railroad	*51*	*1.1*	*37*	*0.7*	*-14*	-27.5
Taxicab	*487*	*10.3*	*411*	*7.9*	*-76*	-15.6
Ferryboat	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Walked	1,034	13.6	858	11.3	-176	-17.0
Worked at home	288	3.8	353	4.6	65	22.6
Other means	166	2.2	96	1.3	-70	-42.2
	7,576	100.0	7,592	100.0		

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	754,148	100.0 %	753,114	100.0 %	-1,034	-0.1 %
Car, truck or van	87,512	11.6	82,754	11.0	-4,758	-5.4
Drove alone	*59,097*	*67.5*	*57,150*	*69.1*	*-1,947*	-3.3
Carpooled	*28,415*	*32.5*	*25,604*	*30.9*	*-2,811*	-9.9
Public transportation	440,228	58.4	449,013	59.6	8,785	2.0
Bus, trolley, streetcar	*109,322*	*24.8*	*76,860*	*17.1*	*-32,462*	-29.7
Subway	*287,412*	*65.3*	*328,246*	*73.1*	*40,834*	14.2
Railroad	*8,336*	*1.9*	*8,309*	*1.9*	*-27*	-0.3
Taxicab	*34,798*	*7.9*	*35,187*	*7.8*	*389*	1.1
Ferryboat	*360*	*0.1*	*411*	*0.1*	*51*	14.2
Walked	173,619	23.0	164,934	21.9	-8,685	-5.0
Worked at home	41,102	5.5	43,853	5.8	2,751	6.7
Other means	11,687	1.5	12,560	1.7	873	7.5
	754,148	100.0	753,114	100.0		

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9
	3,183,088	100.0	3,192,070	100.0		

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	7,785	100.0 %	7,961	100.0 %	176	2.3 %
Owner-occupied housing units	1,526	19.6	1,517	19.1	-9	-0.6
Renter-occupied housing units	5,699	73.2	5,933	74.5	234	4.1
Vacant housing units	560	7.2	511	6.4	-49	-8.8
Median value*	$500,001		$1,000,000+		$500,000+	100.0+
Median gross rent** **(specified renter-occupied housing units)**	$511		$781		$ 270	52.8

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	785,127	100.0 %	798,144	100.0 %	13,017	1.7 %
Owner-occupied housing units	127,973	16.3	148,695	18.6	20,722	16.2
Renter-occupied housing units	588,449	74.9	589,949	73.9	1,500	0.3
Vacant housing units	68,705	8.8	59,500	7.5	-9,205	-13.4
Median value	$470,700		1,000,000+		$530,000+	112.6
Median gross rent **(specified renter-occupied housing units)**	$513		$796		$283	55.2

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value	$187,900		$211,900		$24,000	12.8
Median gross rent **(specified renter-occupied housing units)**	$496		$705		$209	42.1

	Study Area 2000	Percent of Total	*Manhattan* 2000	Percent of Total	*City* 2000	Percent of Total
Year householder moved into unit						
Occupied housing units	7,450	100.0 %	738,644	100.0 %	3,021,588	100.0 %
1995 to March 2000	3,578	48.0	334,475	45.3	1,302,494	43.1
1990 to 1994	1,237	16.6	114,602	15.5	505,389	16.7
1980 to 1989	946	12.7	108,398	14.7	491,479	16.3
1970 to 1979	1,083	14.5	105,453	14.3	392,605	13.0
1969 or earlier	606	8.1	75,716	10.3	329,621	10.9
Year structure built						
Total housing units	7,961	100.0 %	798,144	100.0 %	3,200,912	100.0 %
1995 to March 2000	269	3.4	19,032	2.4	70,835	2.2
1990 to 1994	243	3.1	15,039	1.9	61,106	1.9
1980 to 1989	597	7.5	50,562	6.3	157,402	4.9
1970 to 1979	961	12.1	69,001	8.6	276,489	8.6
1960 to 1969	2,584	32.5	113,765	14.3	485,725	15.2
1959 or earlier	3,307	41.5	530,745	66.5	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.
*Value reported for Tract 144.02 only.
**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	12,057	100.0 %	12,758	100.0 %	701	5.8 %
Lived in same house	6,781	56.2	7,178	56.3	397	5.9
Lived in different house in U.S.	4,752	39.4	5,051	39.6	299	6.3
New York State	*3,273*	*68.9*	*3,431*	*67.9*	*158*	*4.8*
Same county	2,188	66.8	2,433	70.9	245	11.2
Different county	1,085	33.2	2,618	76.3	1,533	141.3
Different state	*1,479*	*31.1*	*1,620*	*32.1*	*141*	*9.5*
Lived abroad	524	4.3	529	4.1	5	1.0
Puerto Rico	*59*	*11.3*	*0*	*0.0*	*-59*	-100.0

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	1,409,243	100.0 %	1,462,015	100.0 %	52,772	3.7 %
Lived in same house	848,698	60.2	831,282	56.9	-17,416	-2.1
Lived in different house in U.S.	470,729	33.4	526,679	36.0	55,950	11.9
New York State	*351,202*	*74.6*	*371,500*	*70.5*	*20,298*	*5.8*
Same county	224,850	64.0	248,814	67.0	23,964	10.7
Different county	126,352	36.0	122,686	33.0	-3,666	-2.9
Different state	*119,527*	*25.4*	*155,179*	*29.5*	*35,652*	*29.8*
Lived abroad	89,816	6.4	104,054	7.1	14,238	15.9
Puerto Rico	*4,851*	*5.4*	*3,107*	*3.0*	*-1,744*	*-36.0*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, informatior gathered throughout in late 2000 and early 2001.

Education (School Enrollment and Educational Attainment)

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

	Study Area					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	12,214	100.0 %	13,006	100.0 %	792	6.5 %
Enrolled in school	2,057	16.8	2,456	18.9	399	19.4
Pre-primary school	*220*	*10.7*	*385*	*15.7*	*165*	*75.0*
Elementary or high school	*840*	*40.8*	*1,168*	*47.6*	*328*	*39.0*
College or beyond	*997*	*48.5*	*903*	*36.8*	*-94*	*-9.4*
Years of school completed						
Persons 25 years old and over	10,167	100.0 %	10,585	100.0 %	418	4.1 %
Less than 9th grade	559	5.5	357	3.4	-202	-36.1
Some high school	843	8.3	545	5.1	-298	-35.3
High school graduate only	1,432	14.1	1,139	10.8	-293	-20.5
Some college, no degree	942	9.3	900	8.5	-42	-4.5
Associate degree	325	3.2	301	2.8	-24	-7.4
College graduate	6,066	59.7	7,343	69.4	1,277	21.1
Bachelor's degree	*3,304*	*54.5*	*3,644*	*49.6*	*340*	*10.3*
Graduate or Professional degree	*2,762*	*45.5*	*3,699*	*50.4*	*937*	*33.9*

	Manhattan					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	1,438,218	100.0 %	1,490,830	100.0 %	52,612	3.7 %
Enrolled in school	332,012	23.1	358,066	24.0	26,054	7.8
Pre-primary school	*18,176*	*5.5*	*35,997*	*10.1*	*17,821*	*98.0*
Elementary or high school	*171,807*	*51.7*	*180,986*	*50.5*	*9,179*	*5.3*
College or beyond	*142,029*	*42.8*	*141,083*	*39.4*	*-946*	*-0.7*
Years of school completed						
Persons 25 years old and over	1,095,317	100.0 %	1,125,987	100.0 %	30,670	2.8 %
Less than 9th grade	136,204	12.4	117,448	10.4	-18,756	-13.8
Some high school	134,725	12.3	122,906	10.9	-11,819	-8.8
High school graduate only	174,018	15.9	151,995	13.5	-22,023	-12.7
Some college, no degree	146,194	13.3	138,579	12.3	-7,615	-5.2
Associate degree	41,887	3.8	38,866	3.5	-3,021	-7.2
College graduate	462,289	42.2	556,193	49.4	93,904	20.3
Bachelor's degree	*242,390*	*52.4*	*292,665*	*52.6*	*50,275*	*20.7*
Graduate or Professional degree	*219,899*	*47.6*	*263,528*	*47.4*	*43,629*	*19.8*

	City					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$37,773		$48,435		$10,662	28.2
Households	7,197	100.0 %	7,487	100.0 %	290	4.0 %
Less than $10,000	930	12.9	795	10.6	-135	-14.5
$10,000 to $14,999	356	4.9	242	3.2	-114	-32.0
$15,000 to $24,999	711	9.9	666	8.9	-45	-6.3
$25,000 to $34,999	876	12.2	560	7.5	-316	-36.1
$35,000 to $49,999	1,017	14.1	780	10.4	-237	-23.3
$50,000 to $74,999	1,177	16.4	1,293	17.3	116	9.9
$75,000 to $99,999	658	9.1	739	9.9	81	12.3
$100,000 or more	1,472	20.5	2,412	32.2	940	63.9
Median Household Income'	$34,611		$51,150		$16,539	47.8
Families	2,703	100.0 %	2,980	100.0 %	277	10.2 %
Less than $10,000	125	4.6	264	8.9	139	111.2
$10,000 to $14,999	151	5.6	90	3.0	-61	-40.4
$15,000 to $24,999	228	8.4	237	8.0	9	3.9
$25,000 to $34,999	244	9.0	197	6.6	-47	-19.3
$35,000 to $49,999	220	8.1	182	6.1	-38	-17.3
$50,000 to $74,999	409	15.1	376	12.6	-33	-8.1
$75,000 to $99,999	307	11.4	283	9.5	-24	-7.8
$100,000 or more	1,019	37.7	1,351	45.3	332	32.6
Median Family Income*'	$51,408		$60,606		$9,198	17.9

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$27,862		$42,922		$15,060	54.1
Households	716,811	100.0 %	739,167	100.0 %	22,356	3.1 %
Less than $10,000	138,153	19.3	106,521	14.4	-31,632	-22.9
$10,000 to $14,999	49,267	6.9	44,437	6.0	-4,830	-9.8
$15,000 to $24,999	97,535	13.6	71,941	9.7	-25,594	-26.2
$25,000 to $34,999	92,639	12.9	70,141	9.5	-22,498	-24.3
$35,000 to $49,999	103,545	14.4	90,586	12.3	-12,959	-12.5
$50,000 to $74,999	96,623	13.5	111,853	15.1	15,230	15.8
$75,000 to $99,999	46,313	6.5	66,838	9.0	20,525	44.3
$100,000 or more	92,736	12.9	176,850	23.9	84,114	90.7
Median Household Income'	$32,262		$47,030		$14,768	45.8
Families	305,368	100.0 %	306,220	100.0 %	852	0.3
Less than $10,000	50,568	16.6	38,486	12.6	-12,082	-23.9 %
$10,000 to $14,999	21,287	7.0	18,617	6.1	-2,670	-12.5
$15,000 to $24,999	40,741	13.3	32,942	10.8	-7,799	-19.1
$25,000 to $34,999	34,029	11.1	28,966	9.5	-5,063	-14.9
$35,000 to $49,999	38,196	12.5	33,551	11.0	-4,645	-12.2
$50,000 to $74,999	41,053	13.4	37,729	12.3	-3,324	-8.1
$75,000 to $99,999	22,258	7.3	25,176	8.2	2,918	13.1
$100,000 or more	57,236	18.7	90,753	29.6	33,517	58.6
Median Family Income*'	$36,831		$50,229		$13,398	36.4

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income'	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income*'	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing. Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value

**For 2000, includes all earning less than $10,000

***The data in this table are not adjusted for inflation

Poverty Status (All income levels in 1989)

Study Area (tr 152, 144.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	2,703	100.0 %	2,980	100.0 %	277	10.2 %
Below the poverty level	167	6.2	340	11.4	173	103.6
With related children under 18 years	1,024	37.9	242	8.1	-782	-76.4
Below the poverty level	*157*	*15.3*	*0*	*0.0*	-157	-100.0
Female householder, no husband present	519	19.2	262	8.8	-257	-49.5
Below the poverty level	*91*	*17.5*	*0*	*0.0*	-91	-100.0
With related children under 18 years	*270*	*52.0*	*228*	*87.0*	-42	-15.6
Below the poverty level	91	33.7	0	0.0	-91	-100.0
Persons for whom poverty status is determined	12,569	100.0 %	13,404	100.0 %	835	6.6 %
Below the poverty level	1,135	9.0	1,532	11.4	397	35.0
Persons under 18 years	1,511	12.0	2,022	15.1	511	33.8
Below the poverty level	*208*	*13.8*	*367*	*18.2*	159	76.4
65 years and over	1,742	13.9	1,622	12.1	-120	-6.9
Below the poverty level	*272*	*15.6*	*177*	*10.9*	-95	-34.9

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	305,368	100.0 %	306,220	100.0 %	852	0.3 %
Below the poverty level	53,160	17.4	53,792	17.6	632	1.2
With related children under 18 years	139,183	45.6	148,247	48.4	9,064	6.5
Below the poverty level	*40,891*	*29.4*	*39,756*	*26.8*	-1,135	-2.8
Female householder, no husband present	92,935	30.4	91,594	29.9	-1,341	-1.4
Below the poverty level	*34,952*	*37.6*	*33,157*	*36.2*	-1,795	-5.1
With related children under 18 years	*57,018*	*61.4*	*58,781*	*64.2*	1,763	3.1
Below the poverty level	29,763	52.2	27,084	46.1	-2,679	-9.0
Persons for whom poverty status is determined	1,450,698	100.0 %	1,491,423	100.0 %	40,725	2.8 %
Below the poverty level	297,617	20.5	298,231	20.0	614	0.2
Persons under 18 years	*241,208*	16.6	*249,149*	16.7	7,941	3.3
Below the poverty level	87,401	*36.2*	79,944	*32.1*	-7,457	-8.5
65 years and over	*191,938*	13.2	*181,112*	12.1	-10,826	-5.6
Below the poverty level	36,982	*19.3*	34,290	*18.9*	-2,692	-7.3

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 0907), Borough of Queens , and New York City

1990
Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	61	5.3 %	37	3.2 %	98	8.5 %
5 to 19	106	9.2	80	6.9	186	16.1
20 to 34	181	15.6	184	15.9	365	31.5
35 to 49	108	9.3	138	11.9	246	21.3
50 to 64	77	6.7	67	5.8	144	12.4
65 +	57	4.9	61	5.3	118	10.2
Total	590	51.0	567	49.0	1,157	100.0

2000
Study Area

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
24	1.9 %	59	4.7 %	83	6.7 %
150	12.1	90	7.2	240	19.3
149	12.0	147	11.8	296	23.8
120	9.7	99	8.0	219	17.6
140	11.3	113	9.1	253	20.4
79	6.4	73	5.9	152	12.2
662	53.3	581	46.7	1,243	100.0

1990 - 2000
Study Area

Total Change	Percent Change
-15	-15.3 %
54	29.0
-69	-18.9
-27	-11.0
109	75.7
34	28.8
86	7.4

Queens

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	58,011	3.0 %	60,272	3.1 %	118,283	6.1 %
5 to 19	164,426	8.4	173,374	8.9	337,800	17.3
20 to 34	252,666	12.9	254,492	13.0	507,158	26.0
35 to 49	210,450	10.8	195,233	10.0	405,683	20.8
50 to 64	161,876	8.3	134,550	6.9	296,426	15.2
65 +	177,483	9.1	108,765	5.6	286,248	14.7
Total	1,024,912	52.5	926,686	47.5	1,951,598	100.0

Queens

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
68,457	3.1 %	72,052	3.2 %	140,509	6.3 %
205,415	9.2	216,622	9.7	422,037	18.9
262,024	11.8	262,117	11.8	524,141	23.5
270,069	12.1	259,736	11.7	529,805	23.8
180,026	8.1	150,037	6.7	330,063	14.8
173,388	7.8	109,436	4.9	282,824	12.7
1,159,379	52.0	1,070,000	48.0	2,229,379	100.0

Queens

Total Change	Percent Change
22,226	18.8 %
84,237	24.9
16,983	3.3
124,122	30.6
33,637	11.3
-3,424	-1.2
277,781	14.2

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

City

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
787,124	9.8	823,148	10.3	1,610,272	20.1
1,002,652	12.5	933,782	11.7	1,936,434	24.2
955,355	11.9	878,401	11.0	1,833,756	22.9
637,071	8.0	518,699	6.5	1,155,770	14.4
581,864	7.3	357,506	4.5	939,370	11.7
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

City

Total Change	Percent Change
30,568	6.1 %
233,835	17.0
5,163	0.3
295,926	19.2
133,583	13.1
-13,361	-1.4
685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing, Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	1,157	100.0 %	**Total Persons**	1,243	100.0 %	86	7.4 %
Not of Hispanic Origin	1,005	86.9	Not of Hispanic Origin	929	74.7	-76	-7.6
White	921	*91.6*	*White alone*	618	*66.5*		
Black	0	*0.0*	*Black or African American alone*	5	*0.5*		
American Indian, Eskimo, or Aleut	0	*0.0*	*American Indian and Alaska Native alone*	0	*0.0*		
Asian or Pacific Islander	84	*8.4*	*Asian alone*	243	*26.2*		
Other race	0	*0.0*	*Native Hawaiian and Other Pacific Islander alon*	0	*0.0*		
			Some other race alone	0	*0.0*		
			Two or more races	63	*6.8*		
Hispanic Origin	152	13.1	Hispanic Origin	314	25.3	162	106.6

Queens

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	1,951,598	100.0 %	**Total Persons**	2,229,379	100.0 %	277,781	14.2
Not of Hispanic Origin	1,580,272	81.0	Not of Hispanic Origin	1,672,893	75.0	92,621	5.9
White	*941,890*	*59.6*	*White alone*	*732,968*	*43.8*		
Black	*394,170*	*24.9*	*Black or African American alone*	*419,902*	*25.1*		
American Indian, Eskimo, or Aleut	*4,702*	*0.3*	*American Indian and Alaska Native alone*	*5,606*	*0.3*		
Asian or Pacific Islander	*233,297*	*14.8*	*Asian alone*	*392,079*	*23.4*		
Other race	*6,213*	*0.4*	*Native Hawaiian and Other Pacific Islander alon*	*884*	*0.1*		
			Some other race alone	*26,427*	*1.6*		
			Two or more races	*95,027*	*5.7*		
Hispanic Origin	371,326	19.0	Hispanic Origin	556,486	25.0	185,160	49.9

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alon*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	1,059	100.0 %	1,160	100 %	101	9.5 %
Speak a language other than English at home	351	33.1	729	62.8	378	107.7
Does not speak English "very well"	*201*	*57.3*	*393*	*53.9*	*192*	*95.5*
Speaks Spanish at home	*97*	*27.6*	*239*	*32.8*	*142*	*146.4*
Does not speak English "very well"	62	63.9	162	67.8	100	161.3
Speaks Asian or Pacific Islander language	*76*	*21.7*	*166*	*22.8*	*90*	*118.4*
Does not speak English "very well"	50	65.8	115	69.3	65	130.0

Queens

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	1,833,315	100.0 %	2,088,870	100.0 %	255,555	13.9 %
Speak a language other than English at home	805,411	43.9	1,120,455	53.6	315,044	39.1
Does not speak English "very well"	*188,250*	*23.4*	*285,746*	*25.5*	*97,496*	*51.8*
Speaks Spanish at home	*330,098*	*41.0*	*485,046*	*43.3*	*154,948*	*46.9*
Does not speak English "very well"	90,438	27.4	144,494	29.8	54,056	59.8
Speaks Asian or Pacific Islander language	*283,473*	*35.2*	*237,391*	*21.2*	*-46,082*	*-16.3*
Does not speak English "very well"	50,858	17.9	78,121	32.9	27,263	53.6

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	*671,142*	*24.0*	*915,160*	*25.7*	*244,018*	*36.4*
Speaks Spanish at home	*1,498,548*	*53.6*	*1,832,402*	*51.5*	*333,854*	*22.3*
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	*354,684*	*12.7*	*515,157*	*14.5*	*160,473*	*45.2*
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	289	100.0 %	312	100.0 %	23	8.0 %
With own children under 18 years	*87*	*30.1*	*96*	*30.8*	*9*	*10.3*
Married-couple families	255	88.2	235	75.3	-20	-7.8
With own children under 18 years	*73*	*28.6*	*83*	*35.3*	*10*	*13.7*
Female householder, no husband present	19	6.6	69	22.1	50	263.2
With own children under 18 years	*8*	*42.1*	*13*	*18.8*	*5*	*62.5*

Queens

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	495,625	100.0 %	542,804	100.0 %	47,179	9.5 %
With own children under 18 years	*152,427*	*30.8*	*251,836*	*46.4*	*99,409*	*65.2*
Married-couple families	362,360	73.1	376,201	69.3	13,841	3.8
With own children under 18 years	*94,753*	*26.1*	*182,399*	*48.5*	*87,646*	*92.5*
Female householder, no husband present	100,076	20.2	121,631	22.4	21,555	21.5
With own children under 18 years	*48,047*	*48.0*	*55,139*	*45.3*	*7,092*	*14.8*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	*536,565*	*30.6*	*919,675*	*49.2*	*383,110*	*71.4*
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	*277,530*	*24.5*	*556,012*	*48.2*	*278,482*	*100.3*
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	*224,139*	*44.1*	*310,287*	*54.8*	*86,148*	*38.4*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990		2000		1990-2000 Change	Percent Change
Number of Households	386		390		4	1.0 %
Total Persons	1,157	100.0 %	1,243	100.0 %	86	7.4
In households	1,157	100.0	1,243	100.0	86	7.4
Total Persons per household*	3.00		3.19		0.19	6.3

Queens

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	718,377		782,646		64,269	8.9 %
Total Persons	1,951,598	100.0 %	2,229,379	100.0 %	277,781	14.2
In households	1,924,667	98.6	2,202,612	98.8	277,945	14.4
Total Persons per household*	2.68		2.44		-0.24	-9.0

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	1.9

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	912	100.0 %	1,002	100.0 %	90	9.9 %
Labor force	618	67.8	596	59.5	-22	-3.6
Not in labor force	294	32.2	406	40.5	112	38.1
Employed persons 16 years and over	574	100.0 %	570	100.0 %	-4	-0.7 %
Private wage and salary worker	468	81.5	486	85.3	18	3.8
Government worker	86	15.0	62	10.9	-24	-27.9
Self-employed worker	20	3.5	22	3.9	2	10.0
Unpaid family worker	0	0.0	0	0.0	0	0.0

Queens

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	1,588,591	100.0 %	1,775,449	100.0 %	186,858	11.8 %
Labor force	1,017,127	64.0	1,037,238	58.4	20,111	2.0
Not in labor force	571,464	36.0	738,211	41.6	166,747	29.2
Employed persons 16 years and over	938,996	100.0 %	956,784	100.0 %	17,788	1.9 %
Private wage and salary worker	736,320	78.4	757,583	79.2	21,263	2.9
Government worker	155,404	16.6	148,436	15.5	-6,968	-4.5
Self-employed worker	43,747	4.7	48,383	5.1	4,636	10.6
Unpaid family worker	3,525	0.4	2,382	0.2	-1,143	-32.4

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 0907), Borough of Queens , and New York City

	1990 *Study Area*	Percent of Total	1990 *Queens*	Percent of Total	1990 *City*	Percent of Total
Employed persons 16 years and over	574	100.0 %	938,996	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	105	18.3	244,972	26.1	995,364	30.6
Executive, administrative, and managerial occupations	*73*	*69.5*	*122,025*	*49.8*	*440,090*	*44.2*
Professional specialty occupations	*32*	*30.5*	*122,947*	*50.2*	*555,274*	*55.8*
Technical, sales, and administrative support occupations	177	30.8	337,260	35.9	1,108,923	34.0
Technicians and related support occupations	*17*	*9.6*	*29,844*	*8.8*	*101,012*	*9.1*
Sales occupations	*38*	*21.5*	*100,319*	*29.7*	*335,477*	*30.3*
Administrative support occupations, including clerical	*122*	*68.9*	*207,097*	*61.4*	*672,434*	*60.6*
Service occupations	101	17.6	150,474	16.0	520,974	16.0
Private household occupations	*0*	*0.0*	*7,276*	*4.8*	*24,211*	*4.6*
Protective service occupations	*20*	*19.8*	*26,142*	*17.4*	*89,619*	*17.2*
Service occupations, except protective and household	*81*	*80.2*	*117,056*	*77.8*	*407,144*	*78.2*
Farming, forestry, and fishing occupations	0	0.0	2,543	0.3	8,352	0.3
Precision production, craft, and repair occupations	82	14.3	85,372	9.1	244,817	7.5
Operators, fabricators, and laborers	109	19.0	118,375	12.6	379,207	11.6
Machine operators, assemblers, and inspectors	*10*	*9.2*	*47,776*	*40.4*	*158,981*	*41.9*
Transportation and material moving occupations	*59*	*54.1*	*40,931*	*34.6*	*120,642*	*31.8*
Handlers, equipment cleaners, helpers, and laborers	*40*	*36.7*	*29,668*	*25.1*	*99,584*	*26.3*

	2000 *Study Area*	Percent of Total	2000 *Queens*	Percent of Total	2000 *City*	Percent of Total
Employed persons 16 years and over	570	100.0 %	956,784	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	114	20.0	292,252	30.5	1,206,052	36.8
Management, business, and financial operations occupations:	*67*	*58.8*	*112,441*	*38.5*	*441,805*	*36.6*
Professional and related occupations:	*47*	*41.2*	*69,950*	*23.9*	*764,247*	*63.4*
Healthcare practitioners and technical occupations:	*10*	*8.8*	*43,078*	*14.7*	*146,885*	*12.2*
Service occupations:	111	19.5	186,613	19.5	608,383	18.6
Healthcare support occupations	*10*	*9.0*	*32,190*	*17.2*	*131,141*	*21.6*
Protective service occupations:	*15*	*13.5*	*26,921*	*14.4*	*96,073*	*15.8*
Food preparation and serving related occupations	*32*	*28.8*	*52,005*	*27.9*	*146,025*	*24.0*
Building and grounds cleaning and maintenance occupations	*26*	*23.4*	*40,050*	*21.5*	*124,119*	*20.4*
Personal care and service occupations	*28*	*25.2*	*35,447*	*19.0*	*111,025*	*18.2*
Sales and office occupations:	189	33.2	276,015	28.8	896,486	27.4
Farming, fishing, and forestry occupations	0	0.0	355	0.0	1,464	0.0
Construction, extraction, and maintenance occupations:	53	9.3	75,220	7.9	209,665	6.4
Production, transportation, and material moving occupations:	103	18.1	126,329	13.2	355,775	10.9
Production occupations	*55*	*53.4*	*62,564*	*49.5*	*176,684*	*49.7*
Transportation and material moving occupations:	*48*	*46.6*	*63,765*	*50.5*	*179,091*	*50.3*

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered

Industry Sector (employment by place of residence)*

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	574	100.0 %	570	100.0 %	-4	-0.7 %
Agriculture, forestry, fisheries, and mining	0	0.0	0	0.0	0	0.0
Construction	68	11.8	25	4.4	-43	-63.2
Manufacturing	53	9.2	54	9.5	1	1.9
Transportation	55	9.6	79	13.9	24	43.6
Communications and other public utilities	33	5.7	NA		NA	
Wholesale trade	38	6.6	41	7.2	3	7.9
Retail trade	62	10.8	78	13.7	16	25.8
Finance, insurance, and real estate	65	11.3	25	4.4	-40	-61.5
Business and repair services	46	8.0	NA		NA	
Personal, entertainment, and recreations services	27	4.7	31	5.4	4	14.8
Professional and related services	89	15.5	158	27.7	69	77.5
Health services	*26*	*29.2*	*69*	*43.7*	43	165.4
Educational services	*38*	*42.7*	*40*	*25.3*	2	5.3
Other professional and related services	*25*	*28.1*	*49*	*31.0*	24	96.0
Public administratior	38	6.6	18	3.2	-20	-52.6
Information	NA		38	6.7	NA	
Other services (except public administration)	NA		23	4.0	NA	
	574	100.0	570	100.0		

Queens

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	938,996	100.0 %	956,784	100.0 %	17,788	1.9 %
Agriculture, forestry, fisheries, and mining	2,624	0.3	552	0.1	(2,072)	-79.0
Construction	46,527	5.0	51,610	5.4	5,083	10.9
Manufacturing	111,480	11.9	75,346	7.9	(36,134)	-32.4
Transportation	80,051	8.5	79,700	8.3	(351)	-0.4
Communications and other public utilities	25,325	2.7	NA		NA	
Wholesale trade	44,208	4.7	34,670	3.6	(9,538)	-21.6
Retail trade	143,547	15.3	96,859	10.1	(46,688)	-32.5
Finance, insurance, and real estate	107,508	11.4	97,854	10.2	(9,654)	-9.0
Business and repair services	59,473	6.3	NA		NA	
Personal, entertainment, and recreations services	49,170	5.2	84,407	8.8	35,237	71.7
Professional and related services	224,843	23.9	293,296	30.7	68,453	30.4
Health services	*89,646*	*39.9*	*127,308*	*43.4*	37,662	42.0
Educational services	*62,925*	*28.0*	*69,757*	*23.8*	6,832	10.9
Other professional and related services	*72,272*	*32.1*	*96,231*	*32.8*	23,959	33.2
Public administration	44,240	4.7	41,372	4.3	(2,868)	-6.5
Information	NA		37,281	3.9	NA	
Other services (except public administration)	NA		63,837	6.7	NA	
	938,996	100	956,784	100		

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	(6,729)	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	(154,241)	-41.5
Transportation	216,862	6.7	211,506	6.5	(5,356)	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	(29,726)	-22.6
Retail trade	428,960	13.2	295,803	9.0	(133,157)	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	(28,956)	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	(11,303)	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	
	3,257,637	100	3,277,825	100		

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	579	100.0 %	570	100.0 %	-9	-1.6 %
Car, truck or van	402	69.4	357	62.6	-45	-11.2
Drove alone	*309*	*76.9*	*268*	*75.1*	*-41*	-13.3
Carpooled	*93*	*23.1*	*89*	*24.9*	*-4*	-4.3
Public transportation	135	23.3	161	28.2	26	19.3
Bus, trolley, streetcar	*73*	*54.1*	*52*	*32.3*	*-21*	-28.8
Subway	*62*	*45.9*	*87*	*54.0*	*25*	40.3
Railroad	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Taxicab	*0*	*0.0*	*22*	*13.7*	*22*	NA
Ferryboat	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Walked	42	7.3	33	5.8	-9	-21.4
Worked at home	0	0.0	5	0.9	5	NA
Other means	0	0.0	14	2.5	14	NA
	579	100.0	570	100.0		

Queens

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	918,063	100.0 %	931,709	100.0 %	13,646	1.5 %
Car, truck or van	405,930	44.2	414,516	44.5	8,586	2.1
Drove alone	*309,990*	*76.4*	*319,187*	*77.0*	*9,197*	3.0
Carpooled	*95,940*	*23.6*	*95,329*	*23.0*	*-611*	-0.6
Public transportation	438,402	47.8	441,177	47.4	2,775	0.6
Bus, trolley, streetcar	*94,390*	*21.5*	*94,729*	*21.5*	*339*	0.4
Subway	*317,421*	*72.4*	*319,225*	*72.4*	*1,804*	0.6
Railroad	*21,260*	*4.8*	*20,845*	*4.7*	*-415*	-2.0
Taxicab	*5,237*	*1.2*	*6,235*	*1.4*	*998*	19.1
Ferryboat	*94*	*0.0*	*143*	*0.0*	*49*	52.1
Walked	54,646	6.0	52,776	5.7	-1,870	-3.4
Worked at home	13,372	1.5	16,673	1.8	3,301	24.7
Other means	5,713	0.6	6,567	0.7	854	14.9
	918,063	100.0	931,709	100.0		

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9
	3,183,088	100.0	3,192,070	100.0		

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 0907), Borough of Queens, and New York City

	Study Area					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	417	100.0 %	448	100.0 %	31	7.4 %
Owner-occupied housing units	202	48.4	271	60.5	69	34.2
Renter-occupied housing units	196	47.0	171	38.2	-25	-12.8
Vacant housing units	19	4.6	6	1.3	-13	-68.4
Median value*	$212,300		$235,800		23,500	11.1
Median gross rent** **(specified renter-occupied housing units)**	$760		$784		24	3.2

	Queens					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	752,690	100.0 %	817,250	100.0 %	64,560	8.6 %
Owner-occupied housing units	306,127	40.7	334,894	41.0	28,767	9.4
Renter-occupied housing units	414,022	55.0	447,770	54.8	33,748	8.2
Vacant housing units	32,541	4.3	34,586	4.2	2,045	6.3
Median value	$189,100		$212,600		23,500	12.4
Median gross rent **(specified renter-occupied housing units)**	$560		$775		215	38.4

	City					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value	$187,900		$211,900		24,000	12.8
Median gross rent **(specified renter-occupied housing units)**	$496		$705		209	42.1

	Study Area		*Queens*		*City*	
	2000	Percent of Total	2000	Percent of Total	2000	Percent of Total
Year householder moved into unit						
Occupied housing units	442	100.0 %	782,664	100.0 %	3,021,588	100.0 %
1995 to March 2000	142	32.1	327,261	41.8	1,302,494	43.1
1990 to 1994	84	19.0	130,694	16.7	505,389	16.7
1980 to 1989	44	10.0	124,482	15.9	491,479	16.3
1970 to 1979	94	21.3	96,990	12.4	392,605	13.0
1969 or earlier	78	17.6	103,237	13.2	329,621	10.9
Year structure built						
Total housing units	448	100.0 %	817,250	100.0 %	3,200,912	100.0 %
1995 to March 2000	6	1.3	12,073	1.5	70,835	2.2
1990 to 1994	0	0.0	9,660	1.2	61,106	1.9
1980 to 1989	8	1.8	28,384	3.5	157,402	4.9
1970 to 1979	78	17.4	58,919	7.2	276,489	8.6
1960 to 1969	140	31.3	130,750	16.0	485,725	15.2
1959 or earlier	216	48.2	577,464	70.7	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Value reported for Tract 144.02 only.

**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	1,059	100.0 %	1,160	108.4 %	101	9.5 %
Lived in same house	673	63.6	812	70.0	139	20.7
Lived in different house in U.S.	346	32.7	348	30.0	2	0.6
New York State	*314*	*90.8*	*251*	*72.1*	*-63*	*-20.1*
Same county	276	87.9	218	86.9	-58	-21.0
Different county	38	12.1	33	13.1	-5	-13.2
Different state	*32*	*9.2*	*0*	*0.0*	*-32*	*-100.0*
Lived abroad	40	3.8	97	8.4	57	142.5
Puerto Rico	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*

Queens

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	1,833,315	100.0 %	2,088,870	100.0 %	255,555	13.9 %
Lived in same house	1,157,507	63.1	1,291,231	61.8	133,724	11.6
Lived in different house in U.S.	533,928	29.1	627,855	30.1	93,927	17.6
New York State	*491,423*	*92.0*	*581,963*	*92.7*	*90,540*	*18.4*
Same county	353,701	72.0	431,997	74.2	78,296	22.1
Different county	180,227	36.7	149,966	25.8	-30,261	-16.8
Different state	*42,505*	*8.0*	*45,892*	*7.3*	*3,387*	*8.0*
Lived abroad	141,880	7.7	169,784	8.1	27,904	19.7
Puerto Rico	*2,983*	*2.1*	*2,482*	*1.5*	*-501*	*-16.8*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Education (School Enrollment and Educational Attainment)

Study Area (tr 0907), Borough of Queens , and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	1,095	100.0 %	1,167	100.0 %	72	6.6 %
Enrolled in school	249	22.7	247	21.2	-2	-0.8
Pre-primary school	*9*	*3.6*	*9*	*3.6*	*0*	*0.0*
Elementary or high school	*173*	*69.5*	*176*	*71.3*	*3*	*1.7*
College or beyond	*67*	*26.9*	*62*	*25.1*	*-5*	*-7.5*
Years of school completed						
Persons 25 years old and over	722	100.0 %	796	115.2 %	74	10.2 %
Less than 9th grade	109	15.1	79	9.9	-30	-27.5
Some high school	156	21.6	209	26.3	53	34.0
High school graduate only	271	37.5	230	28.9	-41	-15.1
Some college, no degree	78	10.8	267	33.5	189	242.3
Associate degree	37	5.1	27	3.4	-10	-27.0
College graduate	71	9.8	105	13.2	34	47.9
Bachelor's degree	*49*	*69.0*	*78*	*74.3*	*29*	*59.2*
Graduate or Professional degree	*22*	*31.0*	*27*	*25.7*	*5*	*22.7*

Queens	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	1,877,715	100.0 %	2,145,914	100.0 %	268,199	14.3 %
Enrolled in school	468,837	25.0	586,090	27.3	117,253	25.0
Pre-primary school	*22,041*	*4.7*	*62,176*	*10.6*	*40,135*	*182.1*
Elementary or high school	*284,163*	*60.6*	*359,800*	*61.4*	*75,637*	*26.6*
College or beyond	*162,633*	*34.7*	*164,114*	*28.0*	*1,481*	*0.9*
Years of school completed						
Persons 25 years old and over	1,350,456	100.0 %	1,509,502	100.0 %	159,046	11.8 %
Less than 9th grade	171,381	12.7	170,222	11.3	-1,159	-0.7
Some high school	218,281	16.2	216,959	14.4	-1,322	-0.6
High school graduate only	401,918	29.8	418,381	27.7	16,463	4.1
Some college, no degree	210,705	15.6	249,688	16.5	38,983	18.5
Associate degree	70,145	5.2	87,380	5.8	17,235	24.6
College graduate	278,026	20.6	366,872	24.3	88,846	32.0
Bachelor's degree	*168,332*	*60.5*	*228,419*	*62.3*	*60,087*	*35.7*
Graduate or Professional degree	*109,694*	*39.5*	*138,453*	*37.7*	*28,759*	*26.2*

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$15,528		$17,735		$2,207	14.2
Households	386	100.0 %	390	100.0 %	4	1.0 %
Less than $10,000	48	12.4	47	12.1	-1	-2.1
$10,000 to $14,999	0	0.0	16	4.1	16	NA
$15,000 to $24,999	51	13.2	33	8.5	-18	-35.3
$25,000 to $34,999	69	17.9	37	9.5	-32	-46.4
$35,000 to $49,999	73	18.9	87	22.3	14	19.2
$50,000 to $74,999	77	19.9	75	19.2	-2	-2.6
$75,000 to $99,999	46	11.9	38	9.7	-8	-17.4
$100,000 or more	22	5.7	57	14.6	35	159.1
Median Household Income'	$41,522		$45,956		$4,434	10.7
Families	289	100.0 %	312	100.0 %	23	8.0 %
Less than $10,000	26	9.0	36	11.5	10	38.5
$10,000 to $14,999	0	0.0	9	2.9	9	NA
$15,000 to $24,999	20	6.9	26	8.3	6	30.0
$25,000 to $34,999	46	15.9	32	10.3	-14	-30.4
$35,000 to $49,999	73	25.3	84	26.9	11	15.1
$50,000 to $74,999	60	20.8	52	16.7	-8	-13.3
$75,000 to $99,999	42	14.5	16	5.1	-26	-61.9
$100,000 or more	22	7.6	57	18.3	35	159.1
Median Family Income*'	$45,529		$45,956		$427	0.9

Queens

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$15,348		$19,222		$3,874	25.2
Households	718,377	100.0 %	782,646	100.0 %	64,269	8.9 %
Less than $10,000	99,095	13.8	86,268	11.0	-12,827	-12.9
$10,000 to $14,999	48,834	6.8	47,850	6.1	-984	-2.0
$15,000 to $24,999	106,915	14.9	90,765	11.6	-16,150	-15.1
$25,000 to $34,999	111,540	15.5	94,613	12.1	-16,927	-15.2
$35,000 to $49,999	134,013	18.7	126,663	16.2	-7,350	-5.5
$50,000 to $74,999	130,702	18.2	155,763	19.9	25,061	19.2
$75,000 to $99,999	52,296	7.3	85,146	10.9	32,850	62.8
$100,000 or more	34,982	4.9	95,578	12.2	60,596	173.2
Median Household Income'	$34,186		$42,439		$8,253	24.1
Families	495,625	100.0 %	542,804	100.0 %	47,179	9.5 %
Less than $10,000	40,011	8.1	40,847	7.5	836	2.1
$10,000 to $14,999	26,607	5.4	26,406	4.9	-201	-0.8
$15,000 to $24,999	67,892	13.7	57,844	10.7	-10,048	-14.8
$25,000 to $34,999	74,950	15.1	64,081	11.8	-10,869	-14.5
$35,000 to $49,999	100,444	20.3	89,190	16.4	-11,254	-11.2
$50,000 to $74,999	109,872	22.2	116,741	21.5	6,869	6.3
$75,000 to $99,999	45,523	9.2	69,020	12.7	23,497	51.6
$100,000 or more	30,326	6.1	78,675	14.5	48,349	159.4
Median Family Income*'	$40,426		$48,608		$8,182	20.2

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income'	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income*'	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value

**For 2000, includes all earning less than $10,000

***The data in this table are not adjusted for inflation

Poverty Status (All income levels in 1989)

Study Area (tr 0907), Borough of Queens , and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	289	100.0 %	312	100.0 %	23	8.0 %
Below the poverty level	21	7.3	36	11.5	15	71.4
With related children under 18 years	161	55.7	117	37.5	-44	-27.3
Below the poverty level	*21*	*13.0*	*20*	*17.1*	-1	-4.8
Female householder, no husband present	19	6.6	69	22.1	50	263.2
Below the poverty level	*0*	*0.0*	*23*	*33.3*	23	*2,300.0*
With related children under 18 years	*6*	*31.6*	*19*	*27.5*	13	216.7
Below the poverty level	0	0.0	13	68.4	13	*1,300.0*
Persons for whom poverty status is determined	1,157	100.0 %	1,243	100.0 %	86	7.4 %
Below the poverty level	99	8.6	155	12.5	56	56.6
Persons under 18 years	250	21.6	252	20.3	2	0.8
Below the poverty level	*25*	*10.0*	*45*	*17.9*	20	80.0
65 years and over	118	10.2	152	12.2	34	28.8
Below the poverty level	*12*	*10.2*	*13*	*8.6*	1	8.3

Queens

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	495,625	100.0 %	542,804	100.0 %	47,179	9.5 %
Below the poverty level	41,138	8.3	64,468	11.9	23,330	56.7
With related children under 18 years	231,840	46.8	282,984	52.1	51,144	22.1
Below the poverty level	*29,358*	*12.7*	*46,593*	*16.5*	17,235	58.7
Female householder, no husband present	100,076	20.2	121,631	22.4	21,555	21.5
Below the poverty level	*18,890*	*18.9*	*26,648*	*21.9*	7,758	41.1
With related children under 18 years	*52,259*	*52.2*	*69,672*	*57.3*	17,413	33.3
Below the poverty level	15,661	30.0	21,880	31.4	6,219	39.7
Persons for whom poverty status is determined	1,925,639	100.0 %	2,203,306	100.0 %	277,667	14.4 %
Below the poverty level	210,057	10.9	321,102	14.6	111,045	52.9
Persons under 18 years	*400,085*	20.8	*496,380*	22.5	96,295	24.1
Below the poverty level	60,951	*15.2*	95,167	*19.2*	34,216	56.1
65 years and over	*274,585*	14.3	*272,918*	12.4	-1,667	-0.6
Below the poverty level	31,294	*11.4*	35,439	*13.0*	4,145	13.2

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 18), Borough of Brooklyn and New York City

1990
Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	-	0.0 %	-	0.0	4	100.0 %
5 to 19	-	0.0	-	0.0	-	-
20 to 34	-	0.0	-	0.0	-	-
35 to 49	-	0.0	-	0.0	-	-
50 to 64	-	0.0	-	0.0	-	-
65 +	1	25.0	3	75.0	-	-
Total	1	25.0	3	75.0	4	100.0

2000
Study Area

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
4	100.0 %	1	100.0 %	5	100.0 %
2	0.1	16	1.1	18	1.2
71	4.9	710	49.2	781	54.2
68	4.7	459	31.8	527	36.5
10	0.7	93	6.4	103	7.1
-	0.0	8	0.6	8	0.6
155	110.5	1,287	189.2	1,442	199.7

1990 - 2000
Study Area

Total Change	Percent Change
1	25.0 %
18	NA
781	NA
527	NA
103	NA
8	NA
1,438	NA

Brooklyn

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	86,449	3.8 %	89,601	3.9	176,050	7.7 %
5 to 19	244,171	10.6	249,319	10.8	493,490	21.4
20 to 34	304,114	13.2	274,367	11.9	578,481	25.1
35 to 49	246,880	10.7	213,789	9.3	460,669	20.0
50 to 64	171,003	7.4	134,060	5.8	305,063	13.3
65 +	178,895	7.8	108,016	4.7	286,911	12.5
Total	1,231,512	53.5	1,069,152	46.5	2,300,664	100.0

Brooklyn

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
88,086	3.6 %	92,017	3.7 %	180,103	7.3 %
267,781	10.9	280,042	11.4	547,823	22.2
297,917	12.1	269,995	11.0	567,912	23.0
288,961	11.7	251,828	10.2	540,789	21.9
193,250	7.8	152,167	6.2	345,417	14.0
176,004	7.1	107,278	4.4	283,282	11.5
1,311,999	53.2	1,153,327	46.8	2,465,326	100.0

Brooklyn

Total Change	Percent Change
4,053	2.3 %
54,333	11.0
-10,569	-1.8
80,120	17.4
40,354	13.2
-3,629	-1.3
164,662	7.2

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

City

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
787,124	9.8	823,148	10.3	1,610,272	20.1
1,002,652	12.5	933,782	11.7	1,936,434	24.2
955,355	11.9	878,401	11.0	1,833,756	22.9
637,071	8.0	518,699	6.5	1,155,770	14.4
581,864	7.3	357,506	4.5	939,370	11.7
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

City

Total Change	Percent Change
30,568	6.1 %
233,835	17.0
5,163	0.3
295,926	19.2
133,583	13.1
-13,361	-1.4
685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing, Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	4	100.0 %	**Total Persons**	1,442	100.0 %	1,438	NA %
Not of Hispanic Origin	4	100.0	Not of Hispanic Origin	733	50.8	729	NA
White	4	*100.0*	*White alone*	586	*79.9*		
Black	0	*0.0*	*Black or African American alone*	406	*55.4*		
American Indian, Eskimo, or Aleut	0	*0.0*	*American Indian and Alaska Native alone*	18	*2.5*		
Asian or Pacific Islander	0	*0.0*	*Asian alone*	61	*8.3*		
Other race	0	*0.0*	*Native Hawaiian and Other Pacific Islander alo*	1	*0.1*		
			Some other race alone	228	*31.1*		
			Two or more races	142	*19.4*		
Hispanic Origin	0	0.0	Hispanic Origin	709	49.2	709	NA

Brooklyn

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	2,300,664	100.0 %	**Total Persons**	2,465,326	100.0 %	164,662	7.2 %
Not of Hispanic Origin	1,853,059	80.5	Not of Hispanic Origin	1,977,163	80.2	124,104	6.7
White	*928,255*	*50.1*	*White alone*	*854,653*	*43.2*		
Black	*806,864*	*43.5*	*Black or African American alone*	*844,568*	*42.7*		
American Indian, Eskimo, or Aleut	*4,443*	*0.2*	*American Indian and Alaska Native alone*	*4,230*	*0.2*		
Asian or Pacific Islander	*108,461*	*5.9*	*Asian alone*	*184,498*	*9.3*		
Other race	*5,036*	*0.3*	*Native Hawaiian and Other Pacific Islander alo*	*898*	*0.0*		
			Some other race alone	*16,067*	*0.8*		
			Two or more races	*72,249*	*3.7*		
Hispanic Origin	447,605	19.5	Hispanic Origin	488,163	19.8	40,558	9.1

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4 %
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alo*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	5	100.0 %	1,454	100 %	1,449	NA %
Speak a language other than English at home	0	0.0	953	65.5	953	NA
Does not speak English "very well"	*0*	0.0	*605*	*63.5*	*605*	NA
Speaks Spanish at home	*0*	0.0	*682*	*71.6*	*682*	NA
Does not speak English "very well"	0	0.0	460	67.4	460	NA
Speaks Asian or Pacific Islander language	*0*	0.0	*89*	*9.3*	*89*	*NA*
Does not speak English "very well"	0	0.0	76	85.4	76	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	2,124,614	100.0 %	2,285,223	100.0 %	160,609	7.6 %
Speak a language other than English at home	844,374	39.7	1,068,102	46.7	223,728	26.5
Does not speak English "very well"	*197,382*	*23.4*	*281,941*	*26.4*	*84,559*	*42.8*
Speaks Spanish at home	*382,469*	*45.3*	*411,346*	*38.5*	*28,877*	*7.6*
Does not speak English "very well"	91,929	24.0	109,935	26.7	18,006	19.6
Speaks Asian or Pacific Islander language	*79,523*	*9.4*	*133,776*	*12.5*	*54,253*	*68.2*
Does not speak English "very well"	33,734	42.4	58,636	43.8	24,902	73.8

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	*671,142*	*24.0*	*915,160*	*25.7*	*244,018*	*36.4*
Speaks Spanish at home	*1,498,548*	*53.6*	*1,832,402*	*51.5*	*333,854*	*22.3*
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	*354,684*	*12.7*	*515,157*	*14.5*	*160,473*	*45.2*
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1	100.0 %	4	100.0 %	3	300.0 %
With own children under 18 years	*1*	*100.0*	2	*50.0*	*1*	*100.0*
Married-couple families	0	0.0	2	50.0	2	NA
With own children under 18 years	*0*	*0.0*	2	*100.0*	*2*	*NA*
Female householder, no husband present	2	200.0	1	25.0	-1	NA
With own children under 18 years	*0*	*0.0*	0	*0.0*	*0*	*NA*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
With own children under 18 years	*179,445*	*31.9*	*299,671*	*50.9*	*120,226*	*67.0*
Married-couple families	347,432	61.7	349,980	59.4	2,548	0.7
With own children under 18 years	*89,686*	*25.8*	*176,186*	*50.3*	*86,500*	*96.4*
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
With own children under 18 years	*78,808*	*44.0*	*107,110*	*55.4*	*28,302*	*35.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	*536,565*	*30.6*	*919,675*	*49.2*	*383,110*	*71.4*
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	*277,530*	*24.5*	*556,012*	*48.2*	*278,482*	*100.3*
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	*224,139*	*44.1*	*310,287*	*54.8*	*86,148*	*38.4*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990		2000		1990-2000 Change	Percent Change
Number of Households	3		7		4	133.3 %
Total Persons	4	100.0 %	1,442	100.0 %	1,438	NA
In households	4	100.0	21	1.5	17	425.0
Total Persons per household*	1.33		3.00		1.67	125.6

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	827,679		881,006		53,327	6.4 %
Total Persons	2,300,664	100.0 %	2,465,326	100.0 %	164,662	19.9
In households	2,266,754	98.5	2,426,044	98.4	159,290	7.0
Total Persons per household*	2.74		2.75		0.02	0.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	1.9

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	5	100.0 %	1,450	100.0 %	1,445	NA %
Labor force	0	0.0	7	0.5	7	NA
Not in labor force	5	100.0	1,443	99.5	1,438	NA
Employed persons 16 years and over	0	0.0 %	7	71.4 %	7	NA %
Private wage and salary worker	0	0.0	5	71.4	5	NA
Government worker	0	0.0	0	0.0	0	NA
Self-employed worker	0	0.0	0	0.0	0	NA
Unpaid family worker	0	0.0	0	0.0	0	0.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	2,483,739	100.0 %	1,877,751	100.0 %	-605,988	-24.4 %
Labor force	1,760,921	70.9	1,039,512	55.4	-721,409	-41.0
Not in labor force	722,818	29.1	838,239	44.6	115,421	16.0
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Private wage and salary worker	687,217	73.9	707,740	76.3	20,523	3.0
Government worker	197,875	21.3	171,085	18.5	-26,790	-13.5
Self-employed worker	41,497	4.5	45,971	5.0	4,474	10.8
Unpaid family worker	2,746	0.3	2,234	0.2	-512	-18.6

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 18), Borough of Brooklyn and New York City

	1990 *Study Area*	Percent of Total	1990 *Brooklyn*	Percent of Total	1990 *City*	Percent of Total
Employed persons 16 years and over	0	0.0 %	929,335	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	0	0.0	238,745	25.7	995,364	30.6
Executive, administrative, and managerial occupations	0	0.0	*103,826*	*43.5*	*440,090*	*44.2*
Professional specialty occupations	0	0.0	*134,919*	*56.5*	*555,274*	*55.8*
Technical, sales, and administrative support occupations	0	0.0	326,137	35.1	1,108,923	34.0
Technicians and related support occupations	0	0.0	*28,864*	*8.9*	*101,012*	*9.1*
Sales occupations	0	0.0	*85,300*	*26.2*	*335,477*	*30.3*
Administrative support occupations, including clerical	0	0.0	*211,973*	*65.0*	*672,434*	*60.6*
Service occupations	0	0.0	161,625	17.4	520,974	16.0
Private household occupations	0	0.0	*7,548*	*4.7*	*24,211*	*4.6*
Protective service occupations	0	0.0	*28,093*	*17.4*	*89,619*	*17.2*
Service occupations, except protective and household	0	0.0	*125,984*	*77.9*	*407,144*	*78.2*
Farming, forestry, and fishing occupations	0	0.0	2,316	0.2	8,352	0.3
Precision production, craft, and repair occupations	0	0.0	76,960	8.3	244,817	7.5
Operators, fabricators, and laborers	0	0.0	123,552	13.3	379,207	11.6
Machine operators, assemblers, and inspectors	0	0.0	*52,816*	*42.7*	*158,981*	*41.9*
Transportation and material moving occupations	0	0.0	*38,281*	*31.0*	*120,642*	*31.8*
Handlers, equipment cleaners, helpers, and laborers	0	0.0	*32,455*	*26.3*	*99,584*	*26.3*

	2000 *Study Area*	Percent of Total	2000 *Brooklyn*	Percent of Total	2000 *City*	Percent of Total
Employed persons 16 years and over	7	*100.0* %	927,030	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	5	71.4	301,569	32.5	1,206,052	36.8
Management, business, and financial operations occupations:	0	*NA*	*98,608*	*32.7*	*441,805*	*36.6*
Professional and related occupations:	0	*NA*	*202,961*	*67.3*	*764,247*	*63.4*
Healthcare practitioners and technical occupations:	0	*NA*	*38,856*	*12.9*	*146,885*	*12.2*
Service occupations:	0	*NA*	187,461	20.2	608,383	18.6
Healthcare support occupations	0	*NA*	*52,420*	*28.0*	*131,141*	*21.6*
Protective service occupations:	0	*NA*	*30,181*	*16.1*	*96,073*	*15.8*
Food preparation and serving related occupations	0	*NA*	*36,639*	*19.5*	*146,025*	*24.0*
Building and grounds cleaning and maintenance occupations	0	*NA*	*36,828*	*19.6*	*124,119*	*20.4*
Personal care and service occupations	0	*NA*	*31,393*	*16.7*	*111,025*	*18.2*
Sales and office occupations:	0	NA	256,891	27.7	896,486	27.4
Farming, fishing, and forestry occupations	0	NA	501	0.1	1,464	0.0
Construction, extraction, and maintenance occupations:	0	NA	67,024	7.2	209,665	6.4
Production, transportation, and material moving occupations:	0	NA	113,584	12.3	355,775	10.9
Production occupations	0	*NA*	*57,419*	*50.6*	*176,684*	*49.7*
Transportation and material moving occupations:	0	*NA*	*56,165*	*49.4*	*179,091*	*50.3*

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early

Industry Sector (employment by place of residence)*

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	0	100.0 %	5	100.0 %	5	NA %
Agriculture, forestry, fisheries, and mining	0	0.0	0	0.0	0	0.0
Construction	0	0.0	0	0.0	0	NA
Manufacturing	0	0.0	2	40.0	2	NA
Transportation	0	0.0	0	0.0	0	NA
Communications and other public utilities	0	0.0	0	NA	NA	
Wholesale trade	0	0.0	0	0.0	0	NA
Retail trade	0	0.0	0	0.0	0	NA
Finance, insurance, and real estate	0	0.0	3	60.0	3	NA
Business and repair services	0	0.0	0	NA	NA	NA
Personal, entertainment, and recreations services	0	0.0	0	0.0	0	NA
Professional and related services	0	0.0	0	0.0	0	NA
Health services	0	0.0	*0*	*0.0*	0	NA
Educational services	0	0.0	*0*	*0.0*	0	NA
Other professional and related services	0	0.0	*0*	*0.0*	0	NA
Public administration	0	0.0	0	0.0	0	NA
Information	NA		0	0.0	NA	
Other services (except public administration)	NA		0	0.0	NA	

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Agriculture, forestry, fisheries, and mining	2,404	0.3	571	0.1	-1,833	-76.2
Construction	41,299	4.4	44,696	4.8	3,397	8.2
Manufacturing	108,538	11.7	68,428	7.4	-40,110	-37.0
Transportation	65,496	7.0	66,453	7.2	957	1.5
Communications and other public utilities	24,662	2.7	NA		NA	
Wholesale trade	35,727	3.8	29,023	3.1	-6,704	-18.8
Retail trade	116,498	12.5	83,926	9.1	-32,572	-28.0
Finance, insurance, and real estate	116,935	12.6	94,825	10.2	-22,110	-18.9
Business and repair services	56,589	6.1	NA		NA	
Personal, entertainment, and recreations services	45,883	4.9	64,807	7.0	18,924	41.2
Professional and related services	265,168	28.5	336,296	36.3	71,128	26.8
Health services	*105,786*	*39.9*	*154,896*	*46.1*	49,110	46.4
Educational services	*78,846*	*29.7*	*84,571*	*25.1*	5,725	7.3
Other professional and related services	*80,536*	*30.4*	*96,829*	*28.8*	16,293	20.2
Public administration	50,136	5.4	43,443	4.7	-6,693	-13.3
Information	NA		41,639	4.5	NA	
Other services (except public administration)	NA		52,923	5.7	NA	

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	-6,729	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	-154,241	-41.5
Transportation	216,862	6.7	211,506	6.5	-5,356	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	-29,726	-22.6
Retail trade	428,960	13.2	295,803	9.0	-133,157	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	-28,956	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	-11,303	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	0	100.0 %	5	100.0 %	5	NA %
Car, truck or van	0	0.0	3	60.0	3	NA
Drove alone	*0*	0.0	*0*	*0.0*	*0*	NA
Carpooled	*0*	0.0	*0*	*0.0*	*0*	NA
Public transportation	0	0.0	2	40.0	2	NA
Bus, trolley, streetcar	*0*	0.0	*0*	*0.0*	*0*	NA
Subway	*0*	0.0	*0*	*0.0*	*0*	NA
Railroad	*0*	0.0	*0*	*0.0*	*0*	NA
Taxicab	*0*	0.0	*0*	*0.0*	*0*	NA
Ferryboat	*0*	0.0	*0*	*0.0*	*0*	NA
Walked	0	0.0	0	0.0	0	NA
Worked at home	0	0.0	0	0.0	0	NA
Other means	0	0.0	0	0.0	0	NA
	0	0.0	0	100.0		

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	907,010	100.0 %	901,027	100.0 %	-5,983	-0.7 %
Car, truck or van	283,765	31.3	274,301	30.4	-9,464	-3.3
Drove alone	*204,182*	*72.0*	*202,070*	*73.7*	*-2,112*	-1.0
Carpooled	*79,583*	*28.0*	*72,231*	*26.3*	*-7,352*	-9.2
Public transportation	526,303	58.0	517,635	57.4	-8,668	-1.6
Bus, trolley, streetcar	*107,343*	*20.4*	*95,566*	*18.5*	*-11,777*	-11.0
Subway	*399,067*	*75.8*	*403,327*	*77.9*	*4,260*	1.1
Railroad	*13,775*	*2.6*	*12,169*	*2.4*	*-1,606*	-11.7
Taxicab	*5,672*	*1.1*	*6,149*	*1.2*	*477*	8.4
Ferryboat	*446*	*0.1*	*424*	*0.1*	*-22*	-4.9
Walked	75,664	8.3	78,933	8.8	3,269	4.3
Worked at home	14,510	1.6	20,663	2.3	6,153	42.4
Other means	6,768	0.7	9,495	1.1	2,727	40.3
	907,010	100.0	901,027	100.0		

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9
	3,183,088	100.0	3,192,070	100.0		

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	3	100.0 %	7	100.0 %	4	133.3 %
Owner-occupied housing units	0	0.0	1	14.3	1	NA
Renter-occupied housing units	3	100.0	6	85.7	3	100.0
Vacant housing units	0	0.0	0	0.0	0	NA
Median value*	$0		$187,500		$187,500	NA
Median gross rent** **(specified renter-occupied housing units)**	$175		$950		$775	442.9

Brooklyn	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	873,671	100.0 %	930,866	100.0 %	57,195	6.5 %
Owner-occupied housing units	215,843	24.7	238,290	25.6	22,447	10.4
Renter-occupied housing units	612,356	70.1	642,437	69.0	30,081	4.9
Vacant housing units	45,472	5.2	50,139	5.4	4,667	10.3
Median value	$194,600		$224,100		$29,500	15.2
Median gross rent **(specified renter-occupied housing units)**	$477		$672		$195	40.9

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value	$187,900		$211,900		$24,000	12.8
Median gross rent **(specified renter-occupied housing units)**	$496		$705		$209	42.1

	Study Area 2000	Percent of Total	*Brooklyn* 2000	Percent of Total	*City* 2000	Percent of Total
Year householder moved into unit						
Occupied housing units	484	100.0 %	880,727	100.0 %	3,021,588	100.0 %
1995 to March 2000	203	41.9	375,631	42.7	1,302,494	43.1
1990 to 1994	88	18.2	155,311	17.6	505,389	16.7
1980 to 1989	121	25.0	149,472	17.0	491,479	16.3
1970 to 1979	50	10.3	107,784	12.2	392,605	13.0
1969 or earlier	22	4.5	92,529	10.5	329,621	10.9
Year structure built						
Total housing units	521	100.0 %	930,866	100.0 %	3,200,912	100.0 %
1995 to March 2000	5	1.0	15,647	1.7	70,835	2.2
1990 to 1994	0	0.0	13,836	1.5	61,106	1.9
1980 to 1989	0	0.0	30,099	3.2	157,402	4.9
1970 to 1979	51	9.8	67,095	7.2	276,489	8.6
1960 to 1969	47	9.0	123,594	13.3	485,725	15.2
1959 or earlier	418	80.2	680,595	73.1	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

* Value reported for Tract 18 only.

** Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	5	100.0 %	1,454	100.0 %	1,449	NA %
Lived in same house	5	100.0	228	15.7	223	NA
Lived in different house in U.S.	0	0.0	1,002	68.9	1,002	NA
New York State	*0*	0.0	*459*	*45.8*	*459*	NA
Same county	0	0.0	276	60.1	276	NA
Different county	0	0.0	726	158.2	726	NA
Different state	*0*	0.0	*267*	*26.6*	*267*	NA
Lived abroad	0	0.0	224	15.4	224	NA
Puerto Rico	*0*	0.0	*0*	*0.0*	*0*	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	2,124,614	100.0 %	2,445,529	100.0 %	320,915	15.1 %
Lived in same house	1,366,689	64.3	1,436,657	58.7	69,968	5.1
Lived in different house in U.S.	613,831	28.9	848,566	34.7	234,735	38.2
New York State	*564,282*	*91.9*	*625,382*	*73.7*	*61,100*	*10.8*
Same county	478,924	84.9	522,749	83.6	43,825	9.2
Different county	85,358	15.1	102,633	16.4	17,275	20.2
Different state	*49,549*	*8.1*	*62,878*	*7.4*	*13,329*	*26.9*
Lived abroad	144,094	6.8	160,306	6.6	16,212	11.3
Puerto Rico	*8,096*	*5.6*	*5,289*	*3.3*	*-2,807*	*-34.7*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Education (School Enrollment and Educational Attainment)

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years and Older Enrolled in School	0	100.0 %	143	100.0 %	143	NA %
Pre-primary school	*0*	0.0	*0*	NA	*0*	NA
Elementary or high school	*0*	0.0	*86*	*60.1*	*86*	NA
College or beyond	*0*	0.0	*57*	*39.9*	*57*	NA
Years of school completed						
Persons 25 years old and over	5	0.0 %	1,197	100.0 %	1,192	NA %
Less than 9th grade	0	0.0	171	14.3	171	NA
Some high school	5	0.0	342	28.6	337	NA
High school graduate only	0	0.0	383	32.0	383	NA
Some college, no degree	0	0.0	124	10.4	124	NA
Associate degree	0	0.0	34	2.8	34	NA
College graduate	0	0.0	143	11.9	143	NA
Bachelor's degree	*0*	*0.0*	*113*	*79.0*	*113*	NA
Graduate or Professional degree	*0*	*0.0*	*30*	*21.0*	*30*	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	2,193,723	100.0 %	2,357,861	100.0 %	164,138	7.5 %
Enrolled in school	643,175	29.3	731,672	31.0	88,497	13.8
Pre-primary school	*35,120*	*5.5*	*86,054*	*11.8*	*50,934*	*145.0*
Elementary or high school	*427,938*	*66.5*	*471,408*	*64.4*	*43,470*	*10.2*
College or beyond	*180,117*	*28.0*	*174,210*	*23.8*	*-5,907*	*-3.3*
Years of school completed						
Persons 25 years old and over	1,457,904	100.0 %	1,552,870	100.0 %	94,966	6.5 %
Less than 9th grade	227,204	15.6	203,190	13.1	-24,014	-10.6
Some high school	301,845	20.7	281,116	18.1	-20,729	-6.9
High school graduate only	415,668	28.5	414,868	26.7	-800	-0.2
Some college, no degree	202,892	13.9	225,716	14.5	22,824	11.2
Associate degree	68,996	4.7	88,730	5.7	19,734	28.6
College graduate	241,299	16.6	339,250	21.8	97,951	40.6
Bachelor's degree	*137,314*	*56.9*	*202,103*	*59.6*	*64,789*	*47.2*
Graduate or Professional degree	*103,985*	*43.1*	*137,147*	*40.4*	*33,162*	*31.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$5,500		$8,638		$3,138	57.1
Households	5	100.0 %	4	100.0 %	-1	-20.0 %
Less than $10,000	5	100.0	0	0.0	-5	-100.0
$10,000 to $14,999	0	0.0	0	0.0	0	NA
$15,000 to $24,999	0	0.0	0	0.0	0	NA
$25,000 to $34,999	0	0.0	0	0.0	0	NA
$35,000 to $49,999	0	0.0	2	50.0	2	NA
$50,000 to $74,999	0	0.0	0	0.0	0	NA
$75,000 to $99,999	0	0.0	0	0.0	0	2200.0
$100,000 or more	0	0.0	2	50.0	2	NA
Median Household Income*	$5,360		$85,000		$79,640	1485.8
Families	0	0.0 %	2	100.0 %	2	NA %
Less than $10,000	0	0.0	0	0.0	0	NA
$10,000 to $14,999	0	0.0	0	0.0	0	NA
$15,000 to $24,999	0	0.0	0	0.0	0	NA
$25,000 to $34,999	0	0.0	2	100.0	2	NA
$35,000 to $49,999	0	0.0	0	0.0	0	NA
$50,000 to $74,999	0	0.0	0	0.0	0	NA
$75,000 to $99,999	0	0.0	0	0.0	0	NA
$100,000 or more	0	0.0	0	0.0	0	NA
Median Family Income*'	$0		$33,750		$33,750	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$12,388		$16,775		$4,387	35.4
Households	827,679	100.0 %	881,006	100.0 %	53,327	6.4 %
Less than $10,000	196,205	23.7	169,849	19.3	-26,356	-13.4
$10,000 to $14,999	70,317	8.5	74,280	8.4	3,963	5.6
$15,000 to $24,999	137,608	16.6	114,571	13.0	-23,037	-16.7
$25,000 to $34,999	118,349	14.3	107,095	12.2	-11,254	-9.5
$35,000 to $49,999	126,452	15.3	126,402	14.3	-50	0.0
$50,000 to $74,999	106,814	12.9	136,962	15.5	30,148	28.2
$75,000 to $99,999	40,917	4.9	68,813	7.8	27,896	68.2
$100,000 or more	31,017	3.7	83,034	9.4	52,017	167.7
Median Household Income*	$25,684		$32,135		$6,451	25.1
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Less than $10,000	102,120	18.1	88,633	15.1	-13,487	-13.2
$10,000 to $14,999	44,592	7.9	47,382	8.0	2,790	6.3
$15,000 to $24,999	92,345	16.4	77,426	13.1	-14,919	-16.2
$25,000 to $34,999	81,472	14.5	72,738	12.4	-8,734	-10.7
$35,000 to $49,999	95,016	16.9	85,883	14.6	-9,133	-9.6
$50,000 to $74,999	86,895	15.4	98,635	16.7	11,740	13.5
$75,000 to $99,999	34,778	6.2	52,237	8.9	17,459	50.2
$100,000 or more	26,065	4.6	65,936	11.2	39,871	153.0
Median Family Income*'	$30,033		$36,188		$6,155	20.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income*	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income*'	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value

**For 2000, includes all earning less than $10,000

***The data in this table are not adjusted for inflation

Poverty Status (All income levels in 1989)

Study Area (tr 18), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	0	100.0 %	0	100.0 %	0	NA %
Below the poverty level	0	0.0	0	0.0	0	NA
With related children under 18 years	0	0.0	0	0.0	0	NA
Below the poverty level	*0*	0.0	0	0.0	0	NA
Female householder, no husband present	0	0.0	0	0.0	0	NA
Below the poverty level	*0*	0.0	0	0.0	0	NA
With related children under 18 years	*0*	0.0	0	0.0	0	NA
Below the poverty level	0	0.0	0	0.0	0	NA
Persons for whom poverty status is determined	5	100.0 %	1,440	100.0 %	1,435	NA %
Below the poverty level	5	0.0	2	0.1	-3	NA
Persons under 18 years	0	0.0	0	0.0	0	NA
Below the poverty level	*0*	0.0	2	*0.0*	2	NA
65 years and over	5	0.0	0	0.0	-5	NA
Below the poverty level	*5*	0.0	0	*0.0*	*-5*	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Below the poverty level	109,811	19.5	129,694	22.0	19,883	18.1
With related children under 18 years	310,556	55.1	339,685	57.7	29,129	9.4
Below the poverty level	*87,520*	*28.2*	*99,005*	*29.1*	11,485	13.1
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
Below the poverty level	*66,434*	*37.1*	*67,730*	*35.1*	1,296	2.0
With related children under 18 years	*119,777*	*66.9*	*130,806*	*67.7*	11,029	9.2
Below the poverty level	58,018	48.4	57,796	44.2	-222	-0.4
Persons for whom poverty status is determined	2,268,938	100.0 %	2,434,939	100.0 %	166,001	7.3 %
Below the poverty level	514,163	22.7	610,476	25.1	96,313	18.7
Persons under 18 years	*593,335*	26.2	*646,346*	26.5	53,011	8.9
Below the poverty level	199,895	*33.7*	221,255	*34.2*	21,360	10.7
65 years and over	*276,454*	12.2	*274,328*	11.3	-2,126	-0.8
Below the poverty level	51,856	*18.8*	59,068	*21.5*	7,212	13.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 455 and 0539), Borough of Brooklyn and New Yorl

1990

Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	277	5.6 %	590	11.9	591	11.9 %
5 to 19	373	7.5	667	13.4	2,239	45.1
20 to 34	371	7.5	576	11.6	624	12.6
35 to 49	465	9.4	431	8.7	896	18.1
50 to 64	161	3.2	120	2.4	281	5.7
65 +	172	3.5	157	3.2	329	6.6
Total	1,819	36.7	2,541	51.2	4,960	100.0

Brooklyn

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	86,449	3.8 %	89,601	3.9 %	176,050	7.7 %
5 to 19	244,171	10.6	249,319	10.8	493,490	21.4
20 to 34	304,114	13.2	274,367	11.9	578,481	25.1
35 to 49	246,880	10.7	213,789	9.3	460,669	20.0
50 to 64	171,003	7.4	134,060	5.8	305,063	13.3
65 +	178,895	7.8	108,016	4.7	286,911	12.5
Total	1,231,512	53.5	1,069,152	46.5	2,300,664	100.0

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

2000

Study Area

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
157	3.8 %	232	5.7 %	464	11.3 %
893	21.8	828	20.2	1,739	42.5
323	7.9	270	6.6	562	13.7
328	8.0	228	5.6	612	14.9
220	5.4	217	5.3	409	10.0
232	5.7	119	2.9	309	7.5
2,153	52.6	1,894	46.3	4,095	100.0

Brooklyn

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
88,086	3.6 %	92,017	3.7 %	180,103	7.3 %
267,781	10.9	280,042	11.4	547,823	22.2
297,917	12.1	269,995	11.0	567,912	23.0
288,961	11.7	251,828	10.2	540,789	21.9
193,250	7.8	152,167	6.2	345,417	14.0
176,004	7.1	107,278	4.4	283,282	11.5
1,311,999	53.2	1,153,327	46.8	2,465,326	100.0

City

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
787,124	9.8	823,148	10.3	1,610,272	20.1
1,002,652	12.5	933,782	11.7	1,936,434	24.2
955,355	11.9	878,401	11.0	1,833,756	22.9
637,071	8.0	518,699	6.5	1,155,770	14.4
581,864	7.3	357,506	4.5	939,370	11.7
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

1990 - 2000

Study Area

Total Change	Percent Change
-127	-21.5 %
-500	-22.3
-62	-9.9
-284	-31.7
128	45.6
-20	-6.1
-865	-17.4

Brooklyn

Total Change	Percent Change
4,053	2.3 %
54,333	11.0
-10,569	-1.8
80,120	17.4
40,354	13.2
-3,629	-1.3
164,662	7.2

City

Total Change	Percent Change
30,568	6.1 %
233,835	17.0
5,163	0.3
295,926	19.2
133,583	13.1
-13,361	-1.4
685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing, Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 455, 455.98, and 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	4,960	100.0 %	**Total Persons**	4,047	100.0 %	-913	-18.4 %
Not of Hispanic Origin	4,190	84.5	Not of Hispanic Origin	3,553	87.8	-637	-15.2
White	4,303	*102.7*	*White alone*	2,490	*70.1*	-1,813	-42.1
Black	236	*5.6*	*Black or African American alone*	134	*3.8*	-102	-43.2
American Indian, Eskimo, or Aleut	4	*0.1*	*American Indian and Alaska Native alone*	6	*0.2*	2	50.0
Asian or Pacific Islander	16	*0.4*	*Asian alone*	0	*0.0*	-16	-100.0
Other race	401	*9.6*	*Native Hawaiian and Other Pacific Islander alon*	0	*0.0*	-401	-100.0
			Some other race alone	800	*22.5*	800	
			Two or more races	617	*17.4*	617	
Hispanic Origin	770	15.5	Hispanic Origin	494	12.2	-276	-35.8

Brooklyn

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	2,300,664	100.0 %	**Total Persons**	2,465,326	100.0 %	164,662	7.2
Not of Hispanic Origin	1,853,059	80.5	Not of Hispanic Origin	1,977,163	80.2	124,104	6.7
White	*928,255*	*50.1*	*White alone*	*854,653*	*43.2*		
Black	*806,864*	*43.5*	*Black or African American alone*	*844,568*	*42.7*		
American Indian, Eskimo, or Aleut	*4,443*	*0.2*	*American Indian and Alaska Native alone*	*4,230*	*0.2*		
Asian or Pacific Islander	*108,461*	*5.9*	*Asian alone*	*184,498*	*9.3*		
Other race	*5,036*	*0.3*	*Native Hawaiian and Other Pacific Islander alon*	*898*	*0.0*		
			Some other race alone	*16,067*	*0.8*		
			Two or more races	*72,249*	*3.7*		
Hispanic Origin	447,605	19.5	Hispanic Origin	488,163	19.8	40,558	9.1

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alon*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	4,248	100.0 %	3,640	100 %	-608	-14.3 %
Speak a language other than English at home	3,842	90.4	3,115	85.6	-727	-18.9
Does not speak English "very well"	2,274	53.5	1,827	58.7	-447	-19.7
Speaks Spanish at home	744	17.5	440	14.1	-304	-40.9
Does not speak English "very well"	324	7.6	229	52.0	-95	-29.3
Speaks Asian or Pacific Islander language	0	0.0	0	0.0	0	
Does not speak English "very well"	0	0.0	0	NA	0	

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	2,124,614	100.0 %	2,285,223	100.0 %	160,609	7.6 %
Speak a language other than English at home	844,374	39.7	1,068,102	46.7	223,728	26.5
Does not speak English "very well"	197,382	23.4	281,941	26.4	84,559	42.8
Speaks Spanish at home	382,469	45.3	411,346	38.5	28,877	7.6
Does not speak English "very well"	91,929	24.0	109,935	26.7	18,006	19.6
Speaks Asian or Pacific Islander language	79,523	9.4	133,776	12.5	54,253	68.2
Does not speak English "very well"	33,734	42.4	58,636	43.8	24,902	73.8

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	671,142	24.0	915,160	25.7	244,018	36.4
Speaks Spanish at home	1,498,548	53.6	1,832,402	51.5	333,854	22.3
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	354,684	12.7	515,157	14.5	160,473	45.2
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	909	100.0 %	807	100.0 %	-102	-11.2 %
With own children under 18 years	901	99.1	462	57.2	-439	-48.7
Married-couple families	733	80.6	609	75.5	-124	-16.9
With own children under 18 years	68	NA	460	75.5	NA	NA
Female householder, no husband present	137	15.1	162	20.1	25	NA
With own children under 18 years	54	0.0	55	34.0	1	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
With own children under 18 years	179,445	31.9	299,671	50.9	120,226	67.0
Married-couple families	347,432	61.7	349,980	59.4	2,548	0.7
With own children under 18 years	89,686	25.8	176,186	50.3	86,500	96.4
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
With own children under 18 years	78,808	44.0	107,110	55.4	28,302	35.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	536,565	30.6	919,675	49.2	383,110	71.4
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	277,530	24.5	556,012	48.2	278,482	100.3
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	224,139	44.1	310,287	54.8	86,148	38.4

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990		2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	1,035		1,891		856	82.7 %
Total Persons	4,960	100.0 %	4,047	100.0 %	-913	-18.4
In households	4,960	100.0	4,047		-913	NA
Total Persons per household*	4.79		2.14		-2.65	-55.3

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	827,679		881,006		53,327	6.4 %
Total Persons	2,300,664	100.0 %	2,465,326	100.0 %	164,662	19.9
In households	2,266,754	98.5	2,426,044	98.4	159,290	7.0
Total Persons per household*	2.74		2.75		0.02	0.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	1.9

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	2,494	100.0 %	2,381	100.0 %	-113	-4.5 %
Labor force	1,001	40.1	880	37.0	-121	-12.1
Not in labor force	1,493	59.9	1,501	63.0	8	0.5
			0	0.0		
Employed persons 16 years and over	906	36.3 %	833	35.0 %	-73	-8.1 %
Private wage and salary worker	701	28.1	650	27.3	-51	-7.3
Government worker	128	5.1	125	5.2	-3	-2.3
Self-employed worker	70	2.8	58	2.4	-12	-17.1
Unpaid family worker	7	0.3	0	0.0	-7	-100.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	2,483,739	100.0 %	1,877,751	100.0 %	-605,988	-24.4 %
Labor force	1,760,921	70.9	1,039,512	55.4	-721,409	-41.0
Not in labor force	722,818	29.1	838,239	44.6	115,421	16.0
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Private wage and salary worker	687,217	73.9	707,740	76.3	20,523	3.0
Government worker	197,875	21.3	171,085	18.5	-26,790	-13.5
Self-employed worker	41,497	4.5	45,971	5.0	4,474	10.8
Unpaid family worker	2,746	0.3	2,234	0.2	-512	-18.6

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 0539), Borough of Brooklyn and New York City

	1990 *Study Area*	Percent of Total	1990 *Brooklyn*	Percent of Total	1990 *City*	Percent of Total
Employed persons 16 years and over	906	100.0 %	929,335	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations			238,745	25.7	995,364	30.6
Executive, administrative, and managerial occupations	141	15.6	103,826	43.5	440,090	44.2
Professional specialty occupations	128	14.1	134,919	56.5	555,274	55.8
Technical, sales, and administrative support occupations	10	1.1	326,137	35.1	1,108,923	34.0
Technicians and related support occupations			28,864	8.9	101,012	9.1
Sales occupations	134	14.8	85,300	26.2	335,477	30.3
Administrative support occupations, including clerical	206	22.7	211,973	65.0	672,434	60.6
Service occupations			161,625	17.4	520,974	16.0
Private household occupations			7,548	4.7	24,211	4.6
Protective service occupations	35	3.9	28,093	17.4	89,619	17.2
Service occupations, except protective and household	81	8.9	125,984	77.9	407,144	78.2
Farming, forestry, and fishing occupations			2,316	0.2	8,352	0.3
Precision production, craft, and repair occupations	68	7.5	76,960	8.3	244,817	7.5
Operators, fabricators, and laborers			123,552	13.3	379,207	11.6
Machine operators, assemblers, and inspectors	75	8.3	52,816	42.7	158,981	41.9
Transportation and material moving occupations	7	9.3	38,281	31.0	120,642	31.8
Handlers, equipment cleaners, helpers, and laborers	21	2.3	32,455	26.3	99,584	26.3

	2000 *Study Area*	Percent of Total	2000 *Brooklyn*	Percent of Total	2000 *City*	Percent of Total
Employed persons 16 years and over	833	100.0 %	927,030	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	242	29.1	301,569	32.5	1,206,052	36.8
Management, business, and financial operations occupations:			98,608	32.7	441,805	36.6
Professional and related occupations:	0	0.0	202,961	67.3	764,247	63.4
Healthcare practitioners and technical occupations:			38,856	12.9	146,885	12.2
Service occupations:	41	4.9	187,461	20.2	608,383	18.6
Healthcare support occupations			52,420	28.0	131,141	21.6
Protective service occupations:			30,181	16.1	96,073	15.8
Food preparation and serving related occupations			36,639	19.5	146,025	24.0
Building and grounds cleaning and maintenance occupations			36,828	19.6	124,119	20.4
Personal care and service occupations			31,393	16.7	111,025	18.2
Sales and office occupations:	382	45.9	256,891	27.7	896,486	27.4
Farming, fishing, and forestry occupations	0		501	0.1	1,464	0.0
Construction, extraction, and maintenance occupations:	58	7.0	67,024	7.2	209,665	6.4
Production, transportation, and material moving occupations:	110	13.2	113,584	12.3	355,775	10.9
Production occupations			57,419	50.6	176,684	49.7
Transportation and material moving occupations:	15	1.8	56,165	49.4	179,091	50.3

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001

Industry Sector (employment by place of residence)*

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	906	100.0 %	833	100.0 %	-73	NA %
Agriculture, forestry, fisheries, and mining	0	0.0	0	0.0	0	NA
Construction	35	3.9	46	5.5	11	31.4
Manufacturing	197	21.7	106	12.7	-91	-46.2
Transportation	15	1.7	0	0.0	-15	-100.0
Communications and other public utilities	16	1.8	NA	NA	NA	
Wholesale trade	82	9.1	59	7.1	-23	-28.0
Retail trade	183	20.2	139	16.7	-44	-24.0
Finance, insurance, and real estate	60	6.6	85	10.2	25	41.7
Information	12	1.3	NA	NA	NA	
Personal, entertainment, and recreations services	19	2.1	13	1.6	-6	-31.6
Professional and related services	7	0.8	63	7.6	56	800.0
Health services	16	1.8	*68*	8.2	52	325.0
Educational services	173	19.1	*202*	24.2	29	16.8
Other professional and related services	45	5.0	*9*	1.1	-36	-80.0
Public administration	37	4.1	43	5.2	6	16.2
Information	NA		0	0.0	NA	
Other services (except public administration)	NA		18	2.2	NA	

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Agriculture, forestry, fisheries, and mining	2,404	0.3	571	0.1	-1,833	-76.2
Construction	41,299	4.4	44,696	4.8	3,397	8.2
Manufacturing	108,538	11.7	68,428	7.4	-40,110	-37.0
Transportation	65,496	7.0	66,453	7.2	957	1.5
Communications and other public utilities	24,662	2.7	NA		NA	
Wholesale trade	35,727	3.8	29,023	3.1	-6,704	-18.8
Retail trade	116,498	12.5	83,926	9.1	-32,572	-28.0
Finance, insurance, and real estate	116,935	12.6	94,825	10.2	-22,110	-18.9
Business and repair services	56,589	6.1	NA		NA	
Personal, entertainment, and recreations services	45,883	4.9	64,807	7.0	18,924	41.2
Professional and related services	265,168	28.5	336,296	36.3	71,128	26.8
Health services	*105,786*	*39.9*	*154,896*	*46.1*	49,110	46.4
Educational services	*78,846*	*29.7*	*84,571*	*25.1*	5,725	7.3
Other professional and related services	*80,536*	*30.4*	*96,829*	*28.8*	16,293	20.2
Public administration	50,136	5.4	43,443	4.7	-6,693	-13.3
Information	NA		41,639	4.5	NA	
Other services (except public administration)	NA		52,923	5.7	NA	

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	-6,729	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	-154,241	-41.5
Transportation	216,862	6.7	211,506	6.5	-5,356	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	-29,726	-22.6
Retail trade	428,960	13.2	295,803	9.0	-133,157	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	-28,956	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	-11,303	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	906	100.0 %	833	100.0 %	-73	-8.1 %
Car, truck or van			240	28.8	240	
Drove alone	129	14.2	204	24.5	75	58.1
Carpooled	36	4.0	36	4.3	0	0.0
Public transportation			290	34.8	290	
Bus, trolley, streetcar	219	24.2	89	10.7	-130	-59.4
Subway	267	29.5	187	22.4	-80	-30.0
Railroad	0	0.0	0	0.0	0	
Taxicab	0	0.0	0	0.0	0	
Ferryboat	0	0.0	0	0.0	0	
Walked	222	24.5	218	26.2	-4	-1.8
Worked at home	20	2.2	27	3.2	7	
Other means	13	1.4	24	2.9	11	84.6
	0	0.0	2,148	257.9		

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	907,010	100.0 %	901,027	100.0 %	-5,983	-0.7 %
Car, truck or van	283,765	31.3	274,301	30.4	-9,464	-3.3
Drove alone	*204,182*	*72.0*	*202,070*	*73.7*	*-2,112*	-1.0
Carpooled	*79,583*	*28.0*	*72,231*	*26.3*	*-7,352*	-9.2
Public transportation	526,303	58.0	517,635	57.4	-8,668	-1.6
Bus, trolley, streetcar	*107,343*	*20.4*	*95,566*	*18.5*	*-11,777*	-11.0
Subway	*399,067*	*75.8*	*403,327*	*77.9*	*4,260*	1.1
Railroad	*13,775*	*2.6*	*12,169*	*2.4*	*-1,606*	-11.7
Taxicab	*5,672*	*1.1*	*6,149*	*1.2*	*477*	8.4
Ferryboat	*446*	*0.1*	*424*	*0.1*	*-22*	-4.9
Walked	75,664	8.3	78,933	8.8	3,269	4.3
Worked at home	14,510	1.6	20,663	2.3	6,153	42.4
Other means	6,768	0.7	9,495	1.1	2,727	40.3
	907,010	100.0	901,027	100.0		

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9
	3,183,088	100.0	3,192,070	100.0		

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	1,108	100.0 %	957	100.0 %	-151	-13.6 %
Owner-occupied housing units	0	0.0	0	0.0	0	NA
Renter-occupied housing units	990	89.4	833	87.0	-157	-15.9
Vacant housing units	0	0.0	0	0.0	0	NA
Median value*	$0		0			
Median gross rent** **(specified renter-occupied housing units)**	$267		$530			

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	873,671	100.0 %	930,866	100.0 %	57,195	6.5 %
Owner-occupied housing units	215,843	24.7	238,290	25.6	22,447	10.4
Renter-occupied housing units	612,356	70.1	642,437	69.0	30,081	4.9
Vacant housing units	45,472	5.2	50,139	5.4	4,667	10.3
Median value	$194,600		$224,100		$29,500	15.2
Median gross rent **(specified renter-occupied housing units)**	$477		$672		$195	40.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3200912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2109455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179324	5.6	6,556	3.8
Median value	$187,900		$211,900		$24,000	12.8
Median gross rent **(specified renter-occupied housing units)**	$496		$705		$209	42.1

	Study Area 2000	Percent of Total	*Brooklyn* 2000	Percent of Total	*City* 2000	Percent of Total
Year householder moved into unit						
Occupied housing units	957	100.4 %	880,727	100.0 %	3,021,588	100.0 %
1995 to March 2000	159	16.6	375,631	42.7	1,302,494	43.1
1990 to 1994	147	15.4	155,311	17.6	505,389	16.7
1980 to 1989	365	38.1	149,472	17.0	491,479	16.3
1970 to 1979	290	30.3	107,784	12.2	392,605	13.0
1969 or earlier	0	0.0	92,529	10.5	329,621	10.9
Year structure built						
Total housing units	957	102.0 %	930,866	100.0 %	3,200,912	100.0 %
1995 to March 2000	25	2.6	15,647	1.7	70,835	2.2
1990 to 1994	19	2.0	13,836	1.5	61,106	1.9
1980 to 1989	129	13.5	30,099	3.2	157,402	4.9
1970 to 1979	592	61.9	67,095	7.2	276,489	8.6
1960 to 1969	117	12.2	123,594	13.3	485,725	15.2
1959 or earlier	94	9.8	680,595	73.1	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Value reported for Tract 144.02 only.

**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	4,248	100.0 %	3,640	99.1 %	-608	-14.3 %
Lived in same house	3,109	73.2	3,294	90.5	185	6.0
Lived in different house in U.S.	1,120	26.4	315	8.7	-805	-71.9
New York State	1,120	26.4	27	0.7	-1,093	-97.6
Same county	1,078	25.4	288	7.9	-790	-73.3
Different county	42	1.0	27	0.7	-15	-35.7
Different state	0	0.0	0	0.0	0	
Lived abroad	19	0.4	0	0.0	-19	-100.0
Puerto Rico	0	0.0	0	0.0	0	

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	2,124,614	100.0 %	2,445,529	100.0 %	320,915	15.1 %
Lived in same house	1,366,689	64.3	1,436,657	58.7	69,968	5.1
Lived in different house in U.S.	613,831	28.9	848,566	34.7	234,735	38.2
New York State	*564,282*	*91.9*	*625,382*	*73.7*	*61,100*	*10.8*
Same county	478,924	84.9	522,749	83.6	43,825	9.2
Different county	85,358	15.1	102,633	16.4	17,275	20.2
Different state	*49,549*	*8.1*	*62,878*	*7.4*	*13,329*	*26.9*
Lived abroad	144,094	6.8	160,306	6.6	16,212	11.3
Puerto Rico	*8,096*	*5.6*	*5,289*	*3.3*	*-2,807*	*-34.7*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*			$6,050		$6,050	NA
Households	1030	100.0 %	970	100.0 %	-60	-5.8 %
Less than $10,000	444	0.4	272	28.0	-172	-38.7
$10,000 to $14,999	95	0.1	182	18.8	87	91.6
$15,000 to $24,999	203	0.2	104	10.7	-99	-48.8
$25,000 to $34,999	103	0.1	152	15.7	49	47.6
$35,000 to $49,999	132	0.1	112	11.5	-20	-15.2
$50,000 to $74,999	42	0.0	81	8.4	39	92.9
$75,000 to $99,999	0	0.0	40	4.1	40	NA
$100,000 to $149,000	11	0.0	0	0.0	-11	-100.0
$150,000 to $199,000	0	0.0	11	1.1	11	
$200,000 or more	0	0.0	0	0.0	0	
Median Household Income*	$13,571		$16,917			
Families	909	100.0 %	788	102.5 %	-121	-13.3 %
Less than $10,000	333	36.6	179	22.7	-154	-46.2
$10,000 to $14,999	95	10.5	149	18.9	54	56.8
$15,000 to $24,999	200	22.0	100	12.7	-100	-50.0
$25,000 to $34,999	133	14.6	136	17.3	3	2.3
$35,000 to $49,999	95	10.5	112	14.2	17	17.9
$50,000 to $74,999	42	4.6	74	9.4	32	76.2
$75,000 to $99,999	0	0.0	40	5.1	40	400.0
$100,000 or more	11	1.2	18	2.3	7	63.6
Median Family Income**	$15,720		$20,847		$5,127	32.6

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$12,388		$16,775		$4,387	35.4
Households	827,679	100.0 %	881,006	100.0 %	53,327	6.4 %
Less than $10,000	196,205	23.7	169,849	19.3	-26,356	-13.4
$10,000 to $14,999	70,317	8.5	74,280	8.4	3,963	5.6
$15,000 to $24,999	137,608	16.6	114,571	13.0	-23,037	-16.7
$25,000 to $34,999	118,349	14.3	107,095	12.2	-11,254	-9.5
$35,000 to $49,999	126,452	15.3	126,402	14.3	-50	0.0
$50,000 to $74,999	106,814	12.9	136,962	15.5	30,148	28.2
$75,000 to $99,999	40,917	4.9	68,813	7.8	27,896	68.2
$100,000 or more	31,017	3.7	83,034	9.4	52,017	167.7
Median Household Income*	$25,684		$32,135		$6,451	25.1
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Less than $10,000	102,120	18.1	88,633	15.1	-13,487	-13.2
$10,000 to $14,999	44,592	7.9	47,382	8.0	2,790	6.3
$15,000 to $24,999	92,345	16.4	77,426	13.1	-14,919	-16.2
$25,000 to $34,999	81,472	14.5	72,738	12.4	-8,734	-10.7
$35,000 to $49,999	95,016	16.9	85,883	14.6	-9,133	-9.6
$50,000 to $74,999	86,895	15.4	98,635	16.7	11,740	13.5
$75,000 to $99,999	34,778	6.2	52,237	8.9	17,459	50.2
$100,000 or more	26,065	4.6	65,936	11.2	39,871	153.0
Median Family Income**	$30,033		$36,188		$6,155	20.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income*	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income**	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value.

**For 2000, includes all earning less than $10,000.

***The data in this table are not adjusted for inflation.

Education (School Enrollment and Educational Attainment)

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	2,444	100.0 %	1,827	100.0 %		NA %
Enrolled in school	112	4.6	71	3.9	1,827	
Nursery School			95	5.2		
Kindergarden	*0*		*866*	47.4	*71*	
Elementary	*2,029*	83.0	*551*	30.2	*95*	
High School	*0*		*244*	13.4	*866*	
College or Graduate School	303	12.4				
Years of school completed						
Persons 25 years old and over	1,778	NA %	1,724	94.4 %	-54	NA %
Less than 9th grade	439	NA	324	18.8	-115	
Some high school	581	NA	671	38.9	90	
High school graduate only	466	NA	426	24.7	-40	
Some college, no degree	203	NA	192	11.1	-11	
Associate degree	48	NA	14	0.8	-34	
Bachelor's degree	*28*	NA	*58*	3.4	*30*	
Graduate or Professional degree	*13*	NA	*39*	2.3	*26*	

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	2,193,723	100.0 %	2,357,861	100.0 %	164,138	7.5 %
Enrolled in school	643,175	29.3	731,672	31.0	88,497	13.8
Pre-primary school	*35,120*	*5.5*	*86,054*	*11.8*	*50,934*	*145.0*
Elementary or high school	*427,938*	*66.5*	*471,408*	*64.4*	*43,470*	*10.2*
College or beyond	*180,117*	*28.0*	*174,210*	*23.8*	*-5,907*	*-3.3*
Years of school completed						
Persons 25 years old and over	1,457,904	100.0 %	1,552,870	100.0 %	94,966	6.5 %
Less than 9th grade	227,204	15.6	203,190	13.1	-24,014	-10.6
Some high school	301,845	20.7	281,116	18.1	-20,729	-6.9
High school graduate only	415,668	28.5	414,868	26.7	-800	-0.2
Some college, no degree	202,892	13.9	225,716	14.5	22,824	11.2
Associate degree	68,996	4.7	88,730	5.7	19,734	28.6
College graduate	241,299	16.6	339,250	21.8	97,951	40.6
Bachelor's degree	*137,314*	*56.9*	*202,103*	*59.6*	*64,789*	*47.2*
Graduate or Professional degree	*103,985*	*43.1*	*137,147*	*40.4*	*33,162*	*31.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Poverty Status (All income levels in 1989)

Study Area (tr 0539), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	909	100.0 %	358	100.0 %	-551	*-60.6* %
Below the poverty level	456	*50.2*	0		-456	*-100.0*
With related children under 18 years	686	*75.5*	314	*87.7*	-372	*-40.9*
Below the poverty level	384	*42.2*	0		-384	*-42.2*
Female householder, no husband present	174	*19.1*	37	*10.3*	-137	*-15.1*
Below the poverty level	76	*8.4*	0		-76	*-8.4*
With related children under 18 years	127	*14.0*	37	*10.3*	-90	*-9.9*
Below the poverty level	61	*6.7*	0		-61	*-6.7*
Persons for whom poverty status is determined	4,912	100.0 %	2,254	100.0 %	9	*0.0* %
Below the poverty level	2,864	*0.0*	0	*0.0*	-2,864	*0.0*
Persons under 18 years	2,670	*0.0*	990	*43.9*	-1,680	*0.0*
Below the poverty level	*1,973*	*0.0*	*0*	*0.0*	-1,973	*0.0*
65 years and over	287	*0.0*	146	*0.0*	-141	*0.0*
Below the poverty level	*157*	*0.0*	*0*	*0.0*	*-157*	*0.0*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Below the poverty level	109,811	19.5	129,694	22.0	19,883	18.1
With related children under 18 years	310,556	55.1	339,685	57.7	29,129	9.4
Below the poverty level	*87,520*	*28.2*	*99,005*	*29.1*	11,485	13.1
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
Below the poverty level	*66,434*	*37.1*	*67,730*	*35.1*	1,296	2.0
With related children under 18 years	*119,777*	*66.9*	*130,806*	*67.7*	11,029	9.2
Below the poverty level	58,018	48.4	57,796	44.2	-222	-0.4
Persons for whom poverty status is determined	2,268,938	100.0 %	2,434,939	100.0 %	166,001	7.3 %
Below the poverty level	514,163	22.7	610,476	25.1	96,313	18.7
Persons under 18 years	*593,335*	26.2	*646,346*	26.5	53,011	8.9
Below the poverty level	199,895	*33.7*	221,255	*34.2*	21,360	10.7
65 years and over	*276,454*	12.2	*274,328*	11.3	-2,126	-0.8
Below the poverty level	51,856	*18.8*	59,068	*21.5*	7,212	13.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 0097), Borough of the Bronx, and New York City

1990
Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	5	4.4 %	0	0.0 %	5	4.4 %
5 to 19	4	3.5	11	9.7	15	13.3
20 to 34	5	4.4	21	18.6	26	23.0
35 to 49	11	9.7	6	5.3	17	15.0
50 to 64	50	44.2	0	0.0	50	44.2
65 +	0	0.0	0	0.0	0	0.0
Total	75	66.4	38	33.6	113	100.0

2000
Study Area

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
0	0.0 %	0	0.0 %	0	0.0 %
3	3.3	7	7.6	10	10.9
3	3.3	10	10.9	13	14.1
22	23.9	32	34.8	54	58.7
0	0.0	0	0.0	0	0.0
7	7.6	8	8.7	15	16.3
35	38.0	57	62.0	92	100.0

1990 - 2000
Study Area

Total Change	Percent Change
-5	-100.0 %
-5	-33.3
-13	-50.0
37	217.6
-50	-100.0
15	NA
-21.0	-18.6

Bronx

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	49,793	4.1 %	51,743	4.3 %	101,536	8.4 %
5 to 19	131,588	10.9	135,716	11.3	267,304	22.2
20 to 34	164,786	13.7	149,980	12.5	314,766	26.1
35 to 49	126,025	10.5	102,160	8.5	228,185	19.0
50 to 64	87,623	7.3	64,891	5.4	152,514	12.7
65 +	90,173	7.5	49,311	4.1	139,484	11.6
Total	649,988	54.0	553,801	46.0	1,203,789	100.0

Bronx

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
43,018	3.3 %	54,166	4.1 %	97,184	7.3 %
161,354	12.2	168,815	12.8	330,169	25.0
161,754	12.2	140,872	10.7	302,626	22.9
155,435	11.8	131,096	9.9	286,531	21.7
95,820	7.2	74,838	5.7	170,658	12.9
86,974	6.6	48,134	3.6	135,108	10.2
704,355	53.3	617,921	46.7	1,322,276	100.0

Bronx

Total Change	Percent Change
-4,352	-4.3 %
62,865	23.5
-12,140	-3.9
58,346	25.6
18,144	11.9
-4376	-3.1
118,487	9.8

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

City

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
787,124	9.8	823,148	10.3	1,610,272	20.1
1,002,652	12.5	933,782	11.7	1,936,434	24.2
955,355	11.9	878,401	11.0	1,833,756	22.9
637,071	8.0	518,699	6.5	1,155,770	14.4
581,864	7.3	357,506	4.5	939,370	11.7
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

City

Total Change	Percent Change
30,568	6.1 %
233,835	17.0
5,163	0.3
295,926	19.2
133,583	13.1
-13361	-1.4
685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing, Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	113	100.0 %	**Total Persons**	92	100.0 %	-21	-18.6 %
Not of Hispanic Origin	84	74.3	Not of Hispanic Origin	13	14.1	-71	-84.5
White	0	*0.0*	*White alone*	0	*0.0*		
Black	49	*58.3*	*Black or African American alone*	13	*100.0*		
American Indian, Eskimo, or Aleut	0	*0.0*	*American Indian and Alaska Native alone*	0	*0.0*		
Asian or Pacific Islander	35	*41.7*	*Asian alone*	0	*0.0*		
Other race	0	*0.0*	*Native Hawaiian and Other Pacific Islander alone*	0	*0.0*		
			Some other race alone	0	*0.0*		
			Two or more races	0	*0.0*		
Hispanic Origin	29	25.7	Hispanic Origin	79	85.9	50	172.4

Bronx

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	1,203,789	100.0 %	**Total Persons**	1,332,650	100.0 %	128,861	10.7 %
Not of Hispanic Origin	694,923	57.7	Not of Hispanic Origin	687,428	51.6	-7,495	-1.1
White	*276,221*	*39.7*	*White alone*	*194,312*	*28.3*		
Black	*380,670*	*54.8*	*Black or African American alone*	*415,381*	*60.4*		
American Indian, Eskimo, or Aleut	*2,907*	*0.4*	*American Indian and Alaska Native alone*	*3,330*	*0.5*		
Asian or Pacific Islander	*30,948*	*4.5*	*Asian alone*	*37,868*	*5.5*		
Other race	*4,177*	*0.6*	*Native Hawaiian and Other Pacific Islander alone*	*423*	*0.1*		
			Some other race alone	*8,041*	*1.2*		
			Two or more races	*28,073*	*4.1*		
Hispanic Origin	508,866	42.3	Hispanic Origin	645,222	48.4	136,356	26.8

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4 %
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alone*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	108	100.0 %	92	100 %	-16	-14.8 %
Speak a language other than English at home	24	22.2	79	85.9	55	229.2
Does not speak English "very well"	*0*	*0.0*	*69*	*87.3*	*69*	*NA*
Speaks Spanish at home	*24*	*100.0*	*79*	*100.0*	*55*	*229.2*
Does not speak English "very well"	0	0.0	69	87.3	69	NA
Speaks Asian or Pacific Islander language	*0*	*0.0*	*0*	*0.0*	*0*	*NA*
Does not speak English "very well"	0	0.0	0	0.0	0	NA

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	1,102,253	100.0 %	3,096,280	100.0 %	1,994,027	180.9 %
Speak a language other than English at home	526,910	47.8	2,517,284	81.3	1,990,374	377.7
Does not speak English "very well"	*126,324*	*24.0*	*162,760*	*6.5*	*36,436*	*28.8*
Speaks Spanish at home	*428,376*	*81.3*	*534,660*	*21.2*	*106,284*	*24.8*
Does not speak English "very well"	109,549	25.6	142,554	26.7	33,005	30.1
Speaks Asian or Pacific Islander language	*19,136*	*3.6*	*19,531*	*0.8*	*395*	*2.1*
Does not speak English "very well"	6,671	34.9	5,811	29.8	-860	-12.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	*671,142*	*24.0*	*915,160*	*25.7*	*244,018*	*36.4*
Speaks Spanish at home	*1,498,548*	*53.6*	*1,832,402*	*51.5*	*333,854*	*22.3*
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	*354,684*	*12.7*	*515,157*	*14.5*	*160,473*	*45.2*
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	12	100.0 %	13	100.0 %	1	8.3 %
With own children under 18 years	*7*	*58.3*	*3*	*23.1*	*-4*	*-57.1*
Married-couple families	11	91.7	0	0.0	-11	-100.0
With own children under 18 years	*6*	*54.5*	*0*	*0.0*	*-6*	*-100.0*
Female householder, no husband present	1	8.3	3	23.1	2	200.0
With own children under 18 years	*1*	*100.0*	*3*	*100.0*	*2*	*200.0*

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	291,978	100.0 %	317,248	100.0 %	25,270	8.7 %
With own children under 18 years	*95,903*	*32.8*	*180,363*	*56.9*	*84,460*	*88.1*
Married-couple families	148,894	51.0	149,201	47.0	307	0.2
With own children under 18 years	*40,308*	*27.1*	*78,014*	*52.3*	*37,706*	*93.5*
Female householder, no husband present	121,329	41.6	139,726	44.0	18,397	15.2
With own children under 18 years	*49,336*	*40.7*	*89,465*	*64.0*	*40,129*	*81.3*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	*536,565*	*30.6*	*919,675*	*49.2*	*383,110*	*71.4*
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	*277,530*	*24.5*	*556,012*	*48.2*	*278,482*	*100.3*
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	*224,139*	*44.1*	*310,287*	*54.8*	*86,148*	*38.4*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area	1990		2000		1990-2000 Change	Percent Change
Number of Households	61		45		-16	-26.2 %
Total Persons	113	100.0 %	92	100.0 %	-21	-18.6
In households	113	100.0	92	100.0	-21	-18.6
Total Persons per household*	1.85		2.04		0.19	

Bronx	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	423,191		463,242		40,051	9.5 %
Total Persons	1,203,789	100.0 %	1,332,650	100.0 %	128,861	10.7
In households	1,163,536	96.7	1,285,507	96.5	121,971	10.5
Total Persons per household*	2.75		2.78		0.03	0.9

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	104	100.0 %	82	100.0 %	-22	-21.2 %
Labor force	82	78.8	24	29.3	-58	-70.7
Not in labor force	22	21.2	58	70.7	36	163.6
Employed persons 16 years and over	82	100.0 %	10	100.0 %	-72	-87.8 %
Private wage and salary worker	29	35.4	10	100.0	-19	-65.5
Government worker	53	64.6	0	0.0	-53	-100.0
Self-employed worker	0	0.0	0	0.0	0	0.0
Unpaid family worker	0	0.0	0	0.0	0	0.0

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	905,919	100.0 %	975,755	100.0 %	69,836	7.7 %
Labor force	502,324	55.4	500,716	51.3	-1,608	-0.3
Not in labor force	403,595	44.6	475,039	48.7	71,444	17.7
Employed persons 16 years and over	441,957	100.0 %	428,654	100.0 %	-13,303	-3.0 %
Private wage and salary worker	322,399	72.9	324,215	75.6	1,816	0.6
Government worker	103,888	23.5	86,867	20.3	-17,021	-16.4
Self-employed worker	14,205	3.2	16,572	3.9	2,367	16.7
Unpaid family worker	1,465	0.3	1,000	0.2	-465	-31.7

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 0097), Borough of the Bronx, and New York City

	1990 *Study Area*	Percent of Total	1990 *Bronx*	Percent of Total	1990 *City*	Percent of Total
Employed persons 16 years and over	82	100.0 %	441,957	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	0	0.0	93,232	21.1	995,364	30.6
Executive, administrative, and managerial occupations	*0*	*0.0*	*40,927*	*43.9*	*440,090*	*44.2*
Professional specialty occupations	*0*	*0.0*	*52,305*	*56.1*	*555,274*	*55.8*
Technical, sales, and administrative support occupations	57	69.5	155,642	35.2	1,108,923	34.0
Technicians and related support occupations	*0*	*0.0*	*13,104*	*8.4*	*101,012*	*9.1*
Sales occupations	*0*	*0.0*	*38,001*	*24.4*	*335,477*	*30.3*
Administrative support occupations, including clerical	*57*	*100.0*	*104,537*	*67.2*	*672,434*	*60.6*
Service occupations	4	4.9	90,915	20.6	520,974	16.0
Private household occupations	*0*	*0.0*	*3,386*	*3.7*	*24,211*	*4.6*
Protective service occupations	*4*	*100.0*	*16,554*	*18.2*	*89,619*	*17.2*
Service occupations, except protective and household	*0*	*0.0*	*70,975*	*78.1*	*407,144*	*78.2*
Farming, forestry, and fishing occupations	0	0.0	1,517	0.3	8,352	0.3
Precision production, craft, and repair occupations	15	18.3	39,003	8.8	244,817	7.5
Operators, fabricators, and laborers	6	7.3	61,648	13.9	379,207	11.6
Machine operators, assemblers, and inspectors	*0*	*0.0*	*23,238*	*37.7*	*158,981*	*41.9*
Transportation and material moving occupations	*6*	*100.0*	*20,373*	*33.0*	*120,642*	*31.8*
Handlers, equipment cleaners, helpers, and laborers	*0*	*0.0*	*18,037*	*29.3*	*99,584*	*26.3*

	2000 *Study Area*	Percent of Total	2000 *Bronx*	Percent of Total	2000 *City*	Percent of Total
Employed persons 16 years and over	10	100.0 %	428,654	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	0	0.0	114,023	26.6	1,206,052	36.8
Management, business, and financial operations occupations:	*0*	*0.0*	*36,861*	*32.3*	*441,805*	*36.6*
Professional and related occupations:	*0*	*0.0*	*77,162*	*67.7*	*764,247*	*63.4*
Healthcare practitioners and technical occupations:	*0*	*0.0*	*20,160*	*17.7*	*146,885*	*12.2*
Service occupations:	0	0.0	105,015	24.5	608,383	18.6
Healthcare support occupations	*0*	*0.0*	*27,520*	*26.2*	*131,141*	*21.6*
Protective service occupations:	*0*	*0.0*	*17,869*	*17.0*	*96,073*	*15.8*
Food preparation and serving related occupations	*0*	*0.0*	*19,031*	*18.1*	*146,025*	*24.0*
Building and grounds cleaning and maintenance occupations	*0*	*0.0*	*22,736*	*21.7*	*124,119*	*20.4*
Personal care and service occupations	*0*	*0.0*	*17,859*	*17.0*	*111,025*	*18.2*
Sales and office occupations:	0	0.0	123,693	28.9	896,486	27.4
Farming, fishing, and forestry occupations	0	0.0	336	0.1	1,464	0.0
Construction, extraction, and maintenance occupations:	10	100.0	33,054	7.7	209,665	6.4
Production, transportation, and material moving occupations:	0	0.0	52,533	12.3	355,775	10.9
Production occupations	*0*	*0.0*	*23,541*	*44.8*	*176,684*	*49.7*
Transportation and material moving occupations:	*0*	*0.0*	*28,992*	*55.2*	*179,091*	*50.3*

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early

Industry Sector (employment by place of residence)*

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	82	100.0 %	10	100.0 %	-72	-87.8 %
Agriculture, forestry, fisheries, and mining	0	0.0	0	0.0	0	0.0
Construction	0	0.0	10	100.0	10	NA
Manufacturing	6	7.3	0	0.0	-6	-100.0
Transportation	0	0.0	0	0.0	0	0.0
Communications and other public utilities	0	0.0	NA		NA	
Wholesale trade	10	12.2	0	0.0	-10	-100.0
Retail trade	1	1.2	0	0.0	-1	-100.0
Finance, insurance, and real estate	1	1.2	0	0.0	-1	-100.0
Business and repair services	11	13.4	NA		NA	
Personal, entertainment, and recreations services	0	0.0	0	0.0	0	0.0
Professional and related services	49	59.8	0	0.0	-49	-100.0
Health services	*0*	*0.0*	*0*	*0.0*	0	0.0
Educational services	*0*	*0.0*	*0*	*0.0*	0	0.0
Other professional and related services	*49*	*100.0*	*0*	*0.0*	-49	-100.0
Public administration	4	4.9	0	0.0	-4	-100.0
Information	NA		0	0.0	NA	
Other services (except public administration)	NA		0	0.0	NA	
	82	100.0	10	100.0		

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	441,957	100.0 %	428,654	100.0 %	-13,303	-3.0 %
Agriculture, forestry, fisheries, and mining	994	0.2	457	0.1	-537	-54.0
Construction	21,209	4.8	19,102	4.5	-2,107	-9.9
Manufacturing	48,403	11.0	26,750	6.2	-21,653	-44.7
Transportation	31,248	7.1	29,070	6.8	-2,178	-7.0
Communications and other public utilities	13,357	3.0	NA		NA	
Wholesale trade	16,198	3.7	12,329	2.9	-3,869	-23.9
Retail trade	57,248	13.0	42,648	9.9	-14,600	-25.5
Finance, insurance, and real estate	42,810	9.7	37,212	8.7	-5,598	-13.1
Business and repair services	26,859	6.1	NA		NA	
Personal, entertainment, and recreations services	22,292	5.0	31,134	7.3	8,842	39.7
Professional and related services	136,898	31.0	166,308	38.8	29,410	21.5
Health services	*62,865*	*45.9*	*89,508*	*53.8*	26,643	42.4
Educational services	*37,945*	*27.7*	*40,001*	*24.1*	2,056	5.4
Other professional and related services	*36,088*	*26.4*	*36,799*	*22.1*	711	2.0
Public administration	24,441	5.5	22,161	5.2	-2,280	-9.3
Information	NA		15,350	3.6	NA	
Other services (except public administration)	NA		26,133	6.1	NA	
	441,957	100	428,654	100		

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	-6,729	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	-154,241	-41.5
Transportation	216,862	6.7	211,506	6.5	-5,356	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	-29,726	-22.6
Retail trade	428,960	13.2	295,803	9.0	-133,157	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	-28,956	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	-11,303	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	
	3,257,637	100	3,277,825	100		

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	82	100.0 %	10	100.0 %	-72	-87.8 %
Car, truck or van	6	7.3	0	0.0	-6	-100.0
Drove alone	*6*	*100.0*	*0*	*0.0*	*-6*	-100.0
Carpooled	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Public transportation	67	81.7	0	0.0	-67	-100.0
Bus, trolley, streetcar	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Subway	*18*	*26.9*	*0*	*0.0*	*-18*	-100.0
Railroad	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Taxicab	*49*	*73.1*	*0*	*0.0*	*-49*	-100.0
Ferryboat	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Walked	9	11.0	10	100.0	1	11.1
Worked at home	0	0.0	0	0.0	0	0.0
Other means	0	0.0	0	0.0	0	0.0
	82	100.0	10	100.0		

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	429,777	100.0 %	415,075	100.0 %	-14,702	-3.4 %
Car, truck or van	147,789	34.4	150,885	36.4	3,096	2.1
Drove alone	*107,020*	*72.4*	*112,159*	*74.3*	*5,139*	4.8
Carpooled	*40,769*	*27.6*	*38,726*	*25.7*	*-2,043*	-5.0
Public transportation	243,201	56.6	222,835	53.7	-20,366	-8.4
Bus, trolley, streetcar	*72,018*	*29.6*	*65,587*	*29.4*	*-6,431*	-8.9
Subway	*158,679*	*65.2*	*143,534*	*64.4*	*-15,145*	-9.5
Railroad	*8,737*	*3.6*	*8,113*	*3.6*	*-624*	-7.1
Taxicab	*3,670*	*1.5*	*143,534*	*64.4*	*139,864*	3811.0
Ferryboat	*97*	*0.0*	*106*	*0.0*	*9*	9.3
Walked	30,422	7.1	30,076	7.2	-346	-1.1
Worked at home	5,379	1.3	7,756	1.9	2,377	44.2
Other means	2,986	0.7	11,457	2.8	8,471	283.7
	429,777	100.0	423,009	101.9		

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9
	3,183,088	100.0	3,192,070	100.0		

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	37	100.0 %	38	100.0 %	1	2.7 %
Owner-occupied housing units	9	24.3	27	71.1	18	200.0
Renter-occupied housing units	28	75.7	5	13.2	-23	-82.1
Vacant housing units	0	0.0	6	15.8	6	600.0
Median value*	$87,500		$225,000		$137,500	157.1
Median gross rent** **(specified renter-occupied housing units)**	$375		$625		$250	66.7

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	440,955	100.0 %	490,659	100.0 %	49,704	11.3 %
Owner-occupied housing units	75,820	17.2	90,522	18.4	14,702	19.4
Renter-occupied housing units	348,292	79.0	372,690	76.0	24,398	7.0
Vacant housing units	16,843	3.8	27,447	5.6	10,604	63.0
Median value	$173,000		$190,400		$17,400	10.1
Median gross rent **(specified renter-occupied housing units)**	$443		$620		$177	40.0

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value	$187,900		$211,900		$24,000	12.8
Median gross rent **(specified renter-occupied housing units)**	$496		$705		$209	42.1

	Study Area 2000	Percent of Total	*Bronx* 2000	Percent of Total	*City* 2000	Percent of Total
Year householder moved into unit						
Occupied housing units	32	100.0 %	463,212	100.0 %	3,021,588	100.0 %
1995 to March 2000	27	84.4	200,084	43.2	1,302,494	43.1
1990 to 1994	5	15.6	80,379	17.4	505,389	16.7
1980 to 1989	0	0.0	80,536	17.4	491,479	16.3
1970 to 1979	0	0.0	62,755	13.5	392,605	13.0
1969 or earlier	0	0.0	39,458	8.5	329,621	10.9
Year structure built						
Total housing units	38	100.0 %	490,659	100.0 %	3,200,912	100.0 %
1995 to March 2000	17	44.7	11,176	2.3	70,835	2.2
1990 to 1994	0	0.0	12,669	2.6	61,106	1.9
1980 to 1989	6	15.8	21,576	4.4	157,402	4.9
1970 to 1979	5	13.2	51,740	10.5	276,489	8.6
1960 to 1969	0	0.0	90,949	18.5	485,725	15.2
1959 or earlier	10	26.3	302,549	61.7	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Value reported for Tract 144.02 only.
**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	108	100.0 %	92	100.0 %	-16	-14.8 %
Lived in same house	73	67.6	45	48.9	-28	-38.4
Lived in different house in U.S.	35	32.4	25	27.2	-10	-28.6
New York State	*0*	*0.0*	*25*	*100.0*	*25*	NA
Same county	35	NA	25	100.0	-10	-28.6
Different county	0	0.0	0	0.0	0	0.0
Different state	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
Lived abroad	0	0.0	22	23.9	22	NA
Puerto Rico	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	1,027,751	107.2 %	1,225,092	100.0 %	197,341	19.2 %
Lived in same house	703,248	68.4	741,648	60.5	38,400	5.5
Lived in different house in U.S.	324,503	31.6	406,708	33.2	82,205	25.3
New York State	*304,468*	*93.8*	*379,453*	*93.3*	*74,985*	*24.6*
Same county	219,996	72.3	279,341	73.6	59,345	27.0
Different county	84,472	27.7	100,112	26.4	15,640	18.5
Different state	*20,035*	*6.2*	*27,255*	*6.7*	*7,220*	*36.0*
Lived abroad	74,502	7.2	76,736	6.3	2,234	3.0
Puerto Rico	*14,229*	*19.1*	*13,853*	*18.1*	*-376*	*-2.6*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Education (School Enrollment and Educational Attainment)

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	108	100.0 %	92	100.0 %	-16	-14.8 %
Enrolled in school	15	13.9	13	14.1	-2	-13.3
Pre-primary school	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*
Elementary or high school	*15*	*100.0*	*10*	*76.9*	*-5*	*-33.3*
College or beyond	*0*	*0.0*	*3*	*23.1*	*3*	*NA*
Years of school completed						
Persons 25 years old and over	71	100.0 %	82	100.0 %	11	15.5 %
Less than 9th grade	12	16.9	15	18.3	3	25.0
Some high school	53	74.6	0	0.0	-53	-100.0
High school graduate only	5	7.0	10	12.2	5	100.0
Some college, no degree	1	1.4	35	42.7	34	3,400.0
Associate degree	0	0.0	0	0.0	0	0.0
College graduate	0	0.0	22	26.8	22	NA
Bachelor's degree	*0*	*0.0*	*22*	*100.0*	*22*	*NA*
Graduate or Professional degree	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	1,141,598	100.0 %	1,268,414	100.0 %	126,816	11.1 %
Enrolled in school	342,170	30.0	419,114	33.0	76,944	22.5
Pre-primary school	*15,597*	*4.6*	*47,686*	*11.4*	*32,089*	*205.7*
Elementary or high school	*233,710*	*68.3*	*285,414*	*68.1*	*51,704*	*22.1*
College or beyond	*92,863*	*27.1*	*86,014*	*20.5*	*-6,849*	*-7.4*
Years of school completed						
Persons 25 years old and over	735,022	100.0 %	794,792	100.0 %	59,770	8.1 %
Less than 9th grade	135,918	18.5	125,385	15.8	-10,533	-7.7
Some high school	169,011	23.0	174,301	21.9	5,290	3.1
High school graduate only	207,262	28.2	205,246	25.8	-2,016	-1.0
Some college, no degree	101,869	13.9	130,163	16.4	28,294	27.8
Associate degree	31,201	4.2	43,293	5.4	12,092	38.8
College graduate	89,761	12.2	116,404	14.6	26,643	29.7
Bachelor's degree	*53,649*	*59.8*	*69,854*	*60.0*	*16,205*	*30.2*
Graduate or Professional degree	*36,112*	*40.2*	*46,550*	*40.0*	*10,438*	*28.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$15,595		$5,889		-$9,706	-62.2
Households	61	100.0 %	45	100.0 %	-16	-26.2 %
Less than $10,000	0	0.0	32	71.1	32	NA
$10,000 to $14,999	0	0.0	0	0.0	0	0.0
$15,000 to $24,999	49	80.3	0	0.0	-49	-100.0
$25,000 to $34,999	0	0.0	0	0.0	0	0.0
$35,000 to $49,999	1	1.6	13	28.9	12	1,200.0
$50,000 to $74,999	5	8.2	0	0.0	-5	-100.0
$75,000 to $99,999	6	9.8	0	0.0	-6	2,200.0
$100,000 or more	0	0.0	0	0.0	0	0.0
Median Household Income*	$19,056		$2,500		-$16,556	-86.9
Families	12	100.0 %	13	100.0 %	1	8.3 %
Less than $10,000	0	0.0	0	0.0	0	0.0
$10,000 to $14,999	0	0.0	0	0.0	0	0.0
$15,000 to $24,999	0	0.0	0	0.0	0	0.0
$25,000 to $34,999	0	0.0	0	0.0	0	0.0
$35,000 to $49,999	1	8.3	13	100.0	12	1,200.0
$50,000 to $74,999	5	41.7	0	0.0	-5	-100.0
$75,000 to $99,999	6	50.0	0	0.0	-6	400.0
$100,000 or more	0	0.0	0	0.0	0	0.0
Median Family Income**	$67,500		$40,875		-$26,625	-39.4

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$10,535		$13,959		$3,424	32.5
Households	423,191	100.0 %	463,242	100.0 %	40,051	9.5 %
Less than $10,000	121,678	28.8	109,177	23.6	-12,501	-10.3
$10,000 to $14,999	37,006	8.7	40,001	8.6	2,995	8.1
$15,000 to $24,999	73,093	17.3	63,874	13.8	-9,219	-12.6
$25,000 to $34,999	58,045	13.7	60,959	13.2	2,914	5.0
$35,000 to $49,999	60,105	14.2	65,028	14.0	4,923	8.2
$50,000 to $74,999	47,593	11.2	65,911	14.2	18,318	38.5
$75,000 to $99,999	16,024	3.8	30,029	6.5	14,005	87.4
$100,000 or more	9,647	2.3	28,263	6.1	18,616	193.0
Median Household Income*	$21,944		$27,611		$5,667	25.8
Families	291,978	100.0 %	317,248	100.0 %	25,270	8.7
Less than $10,000	70,902	24.3	64,989	20.5	-5,913	-8.3 %
$10,000 to $14,999	23,798	8.2	25,573	8.1	1,775	7.5
$15,000 to $24,999	48,993	16.8	43,691	13.8	-5,302	-10.8
$25,000 to $34,999	40,959	14.0	41,825	13.2	866	2.1
$35,000 to $49,999	45,435	15.6	45,478	14.3	43	0.1
$50,000 to $74,999	39,402	13.5	48,427	15.3	9,025	22.9
$75,000 to $99,999	14,189	4.9	23,956	7.6	9,767	68.8
$100,000 or more	8,300	2.8	23,309	7.3	15,009	180.8
Median Family Income**	$25,479		$30,682		$5,203	20.4

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income*	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income**	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value.

**For 2000, includes all earning less than $10,000.

***The data in this table are not adjusted for inflation.

Poverty Status (All income levels in 1989)

Study Area (tr 0097), Borough of the Bronx, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	12	100.0 %	13	100.0 %	1	8.3 %
Below the poverty level	0	0.0	0	0.0	0	0.0
With related children under 18 years	11	91.7	3	23.1	-8	-72.7
Below the poverty level	*0*	*0.0*	*0*	*0.0*	0	0.0
Female householder, no husband present	1	8.3	3	23.1	2	200.0
Below the poverty level	*.0*	*0.0*	*0*	*0.0*	0	0.0
With related children under 18 years	*0*	*0.0*	*3*	*100.0*	3	NA
Below the poverty level	0	0.0	0	0.0	0	0.0
Persons for whom poverty status is determined	113	100.0 %	92	100.0 %	-21	-18.6 %
Below the poverty level	0	0.0	32	34.8	32	NA
Persons under 18 years	14	12.4	10	10.9	-4	-28.6
Below the poverty level	*0*	*0.0*	*0*	*0.0*	0	0.0
65 years and over	0	0.0	15	16.3	15	NA
Below the poverty level	*0*	*0.0*	*0*	*0.0*	0	0.0

Bronx

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	291,978	100.0 %	317,248	100.0 %	25,270	8.7 %
Below the poverty level	75,148	25.7	88,848	28.0	13,700	18.2
With related children under 18 years	172,530	59.1	203,803	64.2	31,273	18.1
Below the poverty level	*62,356*	*36.1*	*74,405*	*36.5*	12,049	19.3
Female householder, no husband present	121,329	41.6	139,726	44.0	18,397	15.2
Below the poverty level	*55,460*	*45.7*	*61,791*	*44.2*	6,331	11.4
With related children under 18 years	*86,517*	*71.3*	*104,377*	*74.7*	17,860	20.6
Below the poverty level	49,182	56.8	54,867	52.6	5,685	11.6
Persons for whom poverty status is determined	1,163,947	100.0 %	1,288,234	100.0 %	124,287	10.7 %
Below the poverty level	334,137	28.7	395,263	30.7	61,126	18.3
Persons under 18 years	*323,070*	27.8	*384,133*	29.8	61,063	18.9
Below the poverty level	137,711	*42.6*	160,344	*41.7*	22,633	16.4
65 years and over	*129,321*	11.1	*124,899*	9.7	-4,422	-3.4
Below the poverty level	26,576	*20.6*	26,660	*21.3*	84	0.3

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 0579), Borough of Brooklyn and New York City

1990

Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	59	4.6 %	61	4.7	120	9.3 %
5 to 19	116	9.0	159	12.3	275	21.4
20 to 34	155	12.0	175	13.6	330	25.6
35 to 49	130	10.1	131	10.2	261	20.3
50 to 64	129	10.0	59	4.6	188	14.6
65 +	64	5.0	50	3.9	114	8.9
Total	653	50.7	635	49.3	1,288	100.0

Brooklyn

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	86,449	3.8 %	89,601	3.9 %	176,050	7.7 %
5 to 19	244,171	10.6	249,319	10.8	493,490	21.4
20 to 34	304,114	13.2	274,367	11.9	578,481	25.1
35 to 49	246,880	10.7	213,789	9.3	460,669	20.0
50 to 64	171,003	7.4	134,060	5.8	305,063	13.3
65 +	178,895	7.8	108,016	4.7	286,911	12.5
Total	1,231,512	53.5	1,069,152	46.5	2,300,664	100.0

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

2000

Study Area

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
78	5.4 %	40	2.8 %	118	8.2 %
123	8.5	167	11.6	290	20.1
184	12.8	226	15.7	410	28.5
175	12.2	130	9.0	305	21.2
50	3.5	122	8.5	172	11.9
98	6.8	47	3.3	145	10.1
708	49.2	732	50.8	1,440	100.0

Brooklyn

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
88,086	3.6 %	92,017	3.7 %	180,103	7.3 %
267,781	10.9	280,042	11.4	547,823	22.2
297,917	12.1	269,995	11.0	567,912	23.0
288,961	11.7	251,828	10.2	540,789	21.9
193,250	7.8	152,167	6.2	345,417	14.0
176,004	7.1	107,278	4.4	283,282	11.5
1,311,999	53.2	1,153,327	46.8	2,465,326	100.0

City

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
787,124	9.8	823,148	10.3	1,610,272	20.1
1,002,652	12.5	933,782	11.7	1,936,434	24.2
955,355	11.9	878,401	11.0	1,833,756	22.9
637,071	8.0	518,699	6.5	1,155,770	14.4
581,864	7.3	357,506	4.5	939,370	11.7
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

1990 - 2000

Study Area

Total Change	Percent Change
-2	-1.7 %
15	5.5
80	24.2
44	16.9
-16	-8.5
31	27.2
152	11.8

Brooklyn

Total Change	Percent Change
4,053	2.3 %
54,333	11.0
-10,569	-1.8
80,120	17.4
40,354	13.2
-3,629	-1.3
164,662	7.2

City

Total Change	Percent Change
30,568	6.1 %
233,835	17.0
5,163	0.3
295,926	19.2
133,583	13.1
-13,361	-1.4
685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing, Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	1,288	100.0 %	**Total Persons**	1,440	100.0 %	152	11.8 %
Not of Hispanic Origin	567	44.0	Not of Hispanic Origin	586	40.7	19	3.4
White	537	*94.7*	*White alone*	435	*74.2*		
Black	30	*5.3*	*Black or African American alone*	34	*5.8*		
American Indian, Eskimo, or Aleut	0	*0.0*	*American Indian and Alaska Native alone*	0	*0.0*		
Asian or Pacific Islander	0	*0.0*	*Asian alone*	70	*11.9*		
Other race	0	*0.0*	*Native Hawaiian and Other Pacific Islander alo*	0	*0.0*		
			Some other race alone	13	*2.2*		
			Two or more races	34	*5.8*		
Hispanic Origin	721	56.0	Hispanic Origin	854	59.3	133	18.4

Brooklyn

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	2,300,664	100.0 %	**Total Persons**	2,465,326	100.0 %	164,662	7.2
Not of Hispanic Origin	1,853,059	80.5	Not of Hispanic Origin	1,977,163	80.2	124,104	6.7
White	*928,255*	*50.1*	*White alone*	*854,653*	*43.2*		
Black	*806,864*	*43.5*	*Black or African American alone*	*844,568*	*42.7*		
American Indian, Eskimo, or Aleut	*4,443*	*0.2*	*American Indian and Alaska Native alone*	*4,230*	*0.2*		
Asian or Pacific Islander	*108,461*	*5.9*	*Asian alone*	*184,498*	*9.3*		
Other race	*5,036*	*0.3*	*Native Hawaiian and Other Pacific Islander alo*	*898*	*0.0*		
			Some other race alone	*16,067*	*0.8*		
			Two or more races	*72,249*	*3.7*		
Hispanic Origin	447,605	19.5	Hispanic Origin	488,163	19.8	40,558	9.1

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alo*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	1,168	100.0 %	1,322	100 %	154	13.2 %
Speak a language other than English at home	821	70.3	886	67.0	65	7.9
Does not speak English "very well"	*462*	*56.3*	*336*	*37.9*	*-126*	*-27.3*
Speaks Spanish at home	*632*	*77.0*	*649*	*73.3*	*17*	*2.7*
Does not speak English "very well"	320	50.6	312	48.1	-8	-2.5
Speaks Asian or Pacific Islander language	*0*	*0.0*	*45*	*5.1*	*45*	NA
Does not speak English "very well"	0	0.0	37	82.2	37	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	2,124,614	100.0 %	2,285,223	100.0 %	160,609	7.6 %
Speak a language other than English at home	844,374	39.7	1,068,102	46.7	223,728	26.5
Does not speak English "very well"	*197,382*	*23.4*	*281,941*	*26.4*	*84,559*	*42.8*
Speaks Spanish at home	*382,469*	*45.3*	*411,346*	*38.5*	*28,877*	*7.6*
Does not speak English "very well"	91,929	24.0	109,935	26.7	18,006	19.6
Speaks Asian or Pacific Islander language	*79,523*	*9.4*	*133,776*	*12.5*	*54,253*	*68.2*
Does not speak English "very well"	33,734	42.4	58,636	43.8	24,902	73.8

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	*671,142*	*24.0*	*915,160*	*25.7*	*244,018*	*36.4*
Speaks Spanish at home	*1,498,548*	*53.6*	*1,832,402*	*51.5*	*333,854*	*22.3*
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	*354,684*	*12.7*	*515,157*	*14.5*	*160,473*	*45.2*
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	313	100.0 %	325	100.0 %	12	3.8 %
With own children under 18 years	*101*	*32.3*	*152*	*46.8*	*51*	*50.5*
Married-couple families	153	48.9	198	60.9	45	29.4
With own children under 18 years	*51*	*33.3*	*109*	*55.1*	*58*	*113.7*
Female householder, no husband present	132	42.2	94	28.9	-38	-28.8
With own children under 18 years	*42*	*31.8*	*38*	*40.4*	*-4*	*-9.5*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
With own children under 18 years	*179,445*	*31.9*	*299,671*	*50.9*	*120,226*	*67.0*
Married-couple families	347,432	61.7	349,980	59.4	2,548	0.7
With own children under 18 years	*89,686*	*25.8*	*176,186*	*50.3*	*86,500*	*96.4*
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
With own children under 18 years	*78,808*	*44.0*	*107,110*	*55.4*	*28,302*	*35.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	*536,565*	*30.6*	*919,675*	*49.2*	*383,110*	*71.4*
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	*277,530*	*24.5*	*556,012*	*48.2*	*278,482*	*100.3*
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	*224,139*	*44.1*	*310,287*	*54.8*	*86,148*	*38.4*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area	1990		2000		1990-2000 Change	Percent Change
Number of Households	450		543		93	20.7 %
Total Persons	1,288	100.0 %	1,440	100.0 %	152	11.8
In households	1,288	100.0	1,440	100.0	152	11.8
Total Persons per household*	2.86		2.65		-0.21	-7.3

Brooklyn	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	827,679		881,006		53,327	6.4 %
Total Persons	2,300,664	100.0 %	2,465,326	100.0 %	164,662	19.9
In households	2,266,754	98.5	2,426,044	98.4	159,290	7.0
Total Persons per household*	2.74		2.75		0.02	0.5

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	1.9

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	975	100.0 %	1,104	100.0 %	129	13.2 %
Labor force	595	61.0	647	58.6	52	8.7
Not in labor force	380	39.0	457	41.4	77	20.3
Employed persons 16 years and over	543	100.0 %	550	100.0 %	7	1.3 %
Private wage and salary worker	475	87.5	455	82.7	-20	-4.2
Government worker	68	12.5	72	13.1	4	5.9
Self-employed worker	0	0.0	23	4.2	23	NA
Unpaid family worker	0	0.0	0	0.0	0	0.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	2,483,739	100.0 %	1,877,751	100.0 %	-605,988	-24.4 %
Labor force	1,760,921	70.9	1,039,512	55.4	-721,409	-41.0
Not in labor force	722,818	29.1	838,239	44.6	115,421	16.0
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Private wage and salary worker	687,217	73.9	707,740	76.3	20,523	3.0
Government worker	197,875	21.3	171,085	18.5	-26,790	-13.5
Self-employed worker	41,497	4.5	45,971	5.0	4,474	10.8
Unpaid family worker	2,746	0.3	2,234	0.2	-512	-18.6

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 0579), Borough of Brooklyn and New York City

	1990 *Study Area*		1990 *Brooklyn*		1990 *City*	
		Percent of Total		Percent of Total		Percent of Total
Employed persons 16 years and over	543	100.0 %	929,335	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	65	12.0	238,745	25.7	995,364	30.6
Executive, administrative, and managerial occupations	*23*	*35.4*	*103,826*	*43.5*	*440,090*	*44.2*
Professional specialty occupations	*42*	*64.6*	*134,919*	*56.5*	*555,274*	*55.8*
Technical, sales, and administrative support occupations	135	24.9	326,137	35.1	1,108,923	34.0
Technicians and related support occupations	*0*	*0.0*	*28,864*	*8.9*	*101,012*	*9.1*
Sales occupations	*7*	*5.2*	*85,300*	*26.2*	*335,477*	*30.3*
Administrative support occupations, including clerical	*128*	*94.8*	*211,973*	*65.0*	*672,434*	*60.6*
Service occupations	103	19.0	161,625	17.4	520,974	16.0
Private household occupations	*0*	*0.0*	*7,548*	*4.7*	*24,211*	*4.6*
Protective service occupations	*4*	*3.9*	*28,093*	*17.4*	*89,619*	*17.2*
Service occupations, except protective and household	*99*	*96.1*	*125,984*	*77.9*	*407,144*	*78.2*
Farming, forestry, and fishing occupations	0	0.0	2,316	0.2	8,352	0.3
Precision production, craft, and repair occupations	87	16.0	76,960	8.3	244,817	7.5
Operators, fabricators, and laborers	153	28.2	123,552	13.3	379,207	11.6
Machine operators, assemblers, and inspectors	*109*	*71.2*	*52,816*	*42.7*	*158,981*	*41.9*
Transportation and material moving occupations	*24*	*15.7*	*38,281*	*31.0*	*120,642*	*31.8*
Handlers, equipment cleaners, helpers, and laborers	*20*	*13.1*	*32,455*	*26.3*	*99,584*	*26.3*
	543	100	100			

	2000 *Study Area*		2000 *Brooklyn*		2000 *City*	
		Percent of Total		Percent of Total		Percent of Total
Employed persons 16 years and over	550	100.0 %	927,030	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	65	11.8	301,569	32.5	1,206,052	36.8
Management, business, and financial operations occupations:	*7*	*10.8*	*98,608*	*32.7*	*441,805*	*36.6*
Professional and related occupations:	*58*	*89.2*	*202,961*	*67.3*	*764,247*	*63.4*
Healthcare practitioners and technical occupations:	*0*	*0.0*	*38,856*	*12.9*	*146,885*	*12.2*
Service occupations:	140	25.5	187,461	20.2	608,383	18.6
Healthcare support occupations	*15*	*10.7*	*52,420*	*28.0*	*131,141*	*21.6*
Protective service occupations:	*38*	*27.1*	*30,181*	*16.1*	*96,073*	*15.8*
Food preparation and serving related occupations	*37*	*26.4*	*36,639*	*19.5*	*146,025*	*24.0*
Building and grounds cleaning and maintenance occupations	*27*	*19.3*	*36,828*	*19.6*	*124,119*	*20.4*
Personal care and service occupations	*23*	*16.4*	*31,393*	*16.7*	*111,025*	*18.2*
Sales and office occupations:	104	18.9	256,891	27.7	896,486	27.4
Farming, fishing, and forestry occupations	0	0.0	501	0.1	1,464	0.0
Construction, extraction, and maintenance occupations:	93	16.9	67,024	7.2	209,665	6.4
Production, transportation, and material moving occupations:	148	26.9	113,584	12.3	355,775	10.9
Production occupations	*80*	*54.1*	*57,419*	*50.6*	*176,684*	*49.7*
Transportation and material moving occupations:	*68*	*45.9*	*56,165*	*49.4*	*179,091*	*50.3*

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered

Industry Sector (employment by place of residence)*

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	543	100.0 %	550	100.0 %	7	1.3 %
Agriculture, forestry, fisheries, and mining	0	0.0	0	0.0	0	0.0
Construction	43	7.9	71	12.9	28	65.1
Manufacturing	135	24.9	90	16.4	-45	-33.3
Transportation	23	4.2	47	8.5	24	104.3
Communications and other public utilities	24	4.4	NA		NA	
Wholesale trade	62	11.4	14	2.5	-48	-77.4
Retail trade	59	10.9	62	11.3	3	5.1
Finance, insurance, and real estate	58	10.7	13	2.4	-45	-77.6
Business and repair services	59	10.9	NA		NA	
Personal, entertainment, and recreations services	0	0.0	41	7.5	41	NA
Professional and related services	55	10.1	127	23.1	72	130.9
Health services	*36*	*65.5*	*33*	*26.0*	-3	-8.3
Educational services	*13*	*23.6*	*30*	*23.6*	17	130.8
Other professional and related services	*6*	*10.9*	*64*	*50.4*	58	966.7
Public administration	25	4.6	10	1.8	-15	-60.0
Information	NA		22	4.0	NA	
Other services (except public administration)	NA		53	9.6	NA	

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Agriculture, forestry, fisheries, and mining	2,404	0.3	571	0.1	-1,833	-76.2
Construction	41,299	4.4	44,696	4.8	3,397	8.2
Manufacturing	108,538	11.7	68,428	7.4	-40,110	-37.0
Transportation	65,496	7.0	66,453	7.2	957	1.5
Communications and other public utilities	24,662	2.7	NA		NA	
Wholesale trade	35,727	3.8	29,023	3.1	-6,704	-18.8
Retail trade	116,498	12.5	83,926	9.1	-32,572	-28.0
Finance, insurance, and real estate	116,935	12.6	94,825	10.2	-22,110	-18.9
Business and repair services	56,589	6.1	NA		NA	
Personal, entertainment, and recreations services	45,883	4.9	64,807	7.0	18,924	41.2
Professional and related services	265,168	28.5	336,296	36.3	71,128	26.8
Health services	*105,786*	*39.9*	*154,896*	*46.1*	49,110	46.4
Educational services	*78,846*	*29.7*	*84,571*	*25.1*	5,725	7.3
Other professional and related services	*80,536*	*30.4*	*96,829*	*28.8*	16,293	20.2
Public administration	50,136	5.4	43,443	4.7	-6,693	-13.3
Information	NA		41,639	4.5	NA	
Other services (except public administration)	NA		52,923	5.7	NA	

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	-6,729	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	-154,241	-41.5
Transportation	216,862	6.7	211,506	6.5	-5,356	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	-29,726	-22.6
Retail trade	428,960	13.2	295,803	9.0	-133,157	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	-28,956	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	-11,303	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	511	100.0 %	535	100.0 %	24	4.7 %
Car, truck or van	167	32.7	145	27.1	-22	-13.2
Drove alone	*125*	*74.9*	*121*	*83.4*	*-4*	-3.2
Carpooled	*42*	*25.1*	*24*	*16.6*	*-18*	-42.9
Public transportation	279	54.6	259	48.4	-20	-7.2
Bus, trolley, streetcar	*43*	*15.4*	*54*	*20.8*	*11*	25.6
Subway	*224*	*80.3*	*200*	*77.2*	*-24*	-10.7
Railroad	*12*	*4.3*	*5*	*1.9*	*-7*	-58.3
Taxicab	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Ferryboat	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Walked	65	12.7	81	15.1	16	24.6
Worked at home	0	0.0	8	1.5	8	NA
Other means	0	0.0	42	7.9	42	NA
	511	100.0	535	100.0		

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	907,010	100.0 %	901,027	100.0 %	-5,983	-0.7 %
Car, truck or van	283,765	31.3	274,301	30.4	-9,464	-3.3
Drove alone	*204,182*	*72.0*	*202,070*	*73.7*	*-2,112*	-1.0
Carpooled	*79,583*	*28.0*	*72,231*	*26.3*	*-7,352*	-9.2
Public transportation	526,303	58.0	517,635	57.4	-8,668	-1.6
Bus, trolley, streetcar	*107,343*	*20.4*	*95,566*	*18.5*	*-11,777*	-11.0
Subway	*399,067*	*75.8*	*403,327*	*77.9*	*4,260*	1.1
Railroad	*13,775*	*2.6*	*12,169*	*2.4*	*-1,606*	-11.7
Taxicab	*5,672*	*1.1*	*6,149*	*1.2*	*477*	8.4
Ferryboat	*446*	*0.1*	*424*	*0.1*	*-22*	-4.9
Walked	75,664	8.3	78,933	8.8	3,269	4.3
Worked at home	14,510	1.6	20,663	2.3	6,153	42.4
Other means	6,768	0.7	9,495	1.1	2,727	40.3
	907,010	100.0	901,027	100.0		

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9
	3,183,088	100.0	3,192,070	100.0		

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	509	100.0 %	521	100.0 %	12	2.4 %
Owner-occupied housing units	73	14.3	24	4.6	-49	-67.1
Renter-occupied housing units	392	77.0	460	88.3	68	17.3
Vacant housing units	44	8.6	37	7.1	-7	-15.9
Median value*	$42,500		$233,900		$191,400	450.4
Median gross rent** **(specified renter-occupied housing units)**	$426		$585		$159	37.3

Brooklyn	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	873,671	100.0 %	930,866	100.0 %	57,195	6.5 %
Owner-occupied housing units	215,843	24.7	238,290	25.6	22,447	10.4
Renter-occupied housing units	612,356	70.1	642,437	69.0	30,081	4.9
Vacant housing units	45,472	5.2	50,139	5.4	4,667	10.3
Median value	$194,600		$224,100		$29,500	15.2
Median gross rent **(specified renter-occupied housing units)**	$477		$672		$195	40.9

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value	$187,900		$211,900		$24,000	12.8
Median gross rent **(specified renter-occupied housing units)**	$496		$705		$209	42.1

	Study Area 2000	Percent of Total	*Brooklyn* 2000	Percent of Total	*City* 2000	Percent of Total
Year householder moved into unit						
Occupied housing units	484	100.0 %	880,727	100.0 %	3,021,588	100.0 %
1995 to March 2000	203	41.9	375,631	42.7	1,302,494	43.1
1990 to 1994	88	18.2	155,311	17.6	505,389	16.7
1980 to 1989	121	25.0	149,472	17.0	491,479	16.3
1970 to 1979	50	10.3	107,784	12.2	392,605	13.0
1969 or earlier	22	4.5	92,529	10.5	329,621	10.9
Year structure built						
Total housing units	521	100.0 %	930,866	100.0 %	3,200,912	100.0 %
1995 to March 2000	5	1.0	15,647	1.7	70,835	2.2
1990 to 1994	0	0.0	13,836	1.5	61,106	1.9
1980 to 1989	0	0.0	30,099	3.2	157,402	4.9
1970 to 1979	51	9.8	67,095	7.2	276,489	8.6
1960 to 1969	47	9.0	123,594	13.3	485,725	15.2
1959 or earlier	418	80.2	680,595	73.1	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Value reported for Tract 144.02 only.

**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	1,168	100.0 %	1,322	100.0 %	154	13.2 %
Lived in same house	782	67.0	900	68.1	118	15.1
Lived in different house in U.S.	188	16.1	307	23.2	119	63.3
New York State	*188*	*100.0*	*231*	*75.2*	*43*	*22.9*
Same county	188	100.0	192	83.1	4	2.1
Different county	0	0.0	39	16.9	115	*NA*
Different state	*0*	*0.0*	*76*	*24.8*	*76*	*NA*
Lived abroad	198	17.0	115	8.7	-83	-41.9
Puerto Rico	*16*	*8.1*	*33*	*28.7*	*17*	106.3

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	2,124,614	100.0 %	2,445,529	100.0 %	320,915	15.1 %
Lived in same house	1,366,689	64.3	1,436,657	58.7	69,968	5.1
Lived in different house in U.S.	613,831	28.9	848,566	34.7	234,735	38.2
New York State	*564,282*	*91.9*	*625,382*	*73.7*	*61,100*	*10.8*
Same county	478,924	84.9	522,749	83.6	43,825	9.2
Different county	85,358	15.1	102,633	16.4	17,275	20.2
Different state	*49,549*	*8.1*	*62,878*	*7.4*	*13,329*	*26.9*
Lived abroad	144,094	6.8	160,306	6.6	16,212	11.3
Puerto Rico	*8,096*	*5.6*	*5,289*	*3.3*	*-2,807*	*-34.7*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Education (School Enrollment and Educational Attainment)

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	1,225	100.0 %	1,366	100.0 %	141	11.5 %
Enrolled in school	306	25.0	406	29.7	100	32.7
Pre-primary school	*4*	*1.3*	*57*	*14.0*	*53*	*1,325.0*
Elementary or high school	*223*	*72.9*	*271*	*66.7*	*48*	*21.5*
College or beyond	*79*	*25.8*	*78*	*19.2*	*-1*	*-1.3*
Years of school completed						
Persons 25 years old and over	784	100.0 %	854	100.0 %	70	8.9 %
Less than 9th grade	174	22.2	228	26.7	54	31.0
Some high school	243	31.0	180	21.1	-63	-25.9
High school graduate only	182	23.2	199	23.3	17	9.3
Some college, no degree	66	8.4	135	15.8	69	104.5
Associate degree	26	3.3	12	1.4	-14	-53.8
College graduate	93	11.9	100	11.7	7	7.5
Bachelor's degree	*56*	*60.2*	*69*	*69.0*	*13*	*23.2*
Graduate or Professional degree	*37*	*39.8*	*31*	*31.0*	*-6*	*-16.2*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	2,193,723	100.0 %	2,357,861	100.0 %	164,138	7.5 %
Enrolled in school	643,175	29.3	731,672	31.0	88,497	13.8
Pre-primary school	*35,120*	*5.5*	*86,054*	*11.8*	*50,934*	*145.0*
Elementary or high school	*427,938*	*66.5*	*471,408*	*64.4*	*43,470*	*10.2*
College or beyond	*180,117*	*28.0*	*174,210*	*23.8*	*-5,907*	*-3.3*
Years of school completed						
Persons 25 years old and over	1,457,904	100.0 %	1,552,870	100.0 %	94,966	6.5 %
Less than 9th grade	227,204	15.6	203,190	13.1	-24,014	-10.6
Some high school	301,845	20.7	281,116	18.1	-20,729	-6.9
High school graduate only	415,668	28.5	414,868	26.7	-800	-0.2
Some college, no degree	202,892	13.9	225,716	14.5	22,824	11.2
Associate degree	68,996	4.7	88,730	5.7	19,734	28.6
College graduate	241,299	16.6	339,250	21.8	97,951	40.6
Bachelor's degree	*137,314*	*56.9*	*202,103*	*59.6*	*64,789*	*47.2*
Graduate or Professional degree	*103,985*	*43.1*	*137,147*	*40.4*	*33,162*	*31.9*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$9,220		$11,075		$1,855	20.1
Households	450	100.0 %	543	100.0 %	93	20.7 %
Less than $10,000	153	34.0	164	30.2	11	7.2
$10,000 to $14,999	30	6.7	26	4.8	-4	-13.3
$15,000 to $24,999	53	11.8	107	19.7	54	101.9
$25,000 to $34,999	110	24.4	101	18.6	-9	-8.2
$35,000 to $49,999	58	12.9	33	6.1	-25	-43.1
$50,000 to $74,999	42	9.3	82	15.1	40	95.2
$75,000 to $99,999	0	0.0	22	4.1	22	NA
$100,000 or more	4	0.9	8	1.5	4	100.0
Median Household Income'	$22,188		$23,445		$1,257	5.7
Families	313	100.0 %	325	100.0 %	12	3.8 %
Less than $10,000	70	22.4	38	11.7	-32	-45.7
$10,000 to $14,999	35	11.2	17	5.2	-18	-51.4
$15,000 to $24,999	67	21.4	98	30.2	31	46.3
$25,000 to $34,999	53	16.9	91	28.0	38	71.7
$35,000 to $49,999	48	15.3	19	5.8	-29	-60.4
$50,000 to $74,999	36	11.5	50	15.4	14	38.9
$75,000 to $99,999	0	0.0	4	1.2	4	NA
$100,000 or more	4	1.3	8	2.5	4	100.0
Median Family Income*'	$21,719		$25,594		$3,875	17.8

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$12,388		$16,775		$4,387	35.4
Households	827,679	100.0 %	881,006	100.0 %	53,327	6.4 %
Less than $10,000	196,205	23.7	169,849	19.3	-26,356	-13.4
$10,000 to $14,999	70,317	8.5	74,280	8.4	3,963	5.6
$15,000 to $24,999	137,608	16.6	114,571	13.0	-23,037	-16.7
$25,000 to $34,999	118,349	14.3	107,095	12.2	-11,254	-9.5
$35,000 to $49,999	126,452	15.3	126,402	14.3	-50	0.0
$50,000 to $74,999	106,814	12.9	136,962	15.5	30,148	28.2
$75,000 to $99,999	40,917	4.9	68,813	7.8	27,896	68.2
$100,000 or more	31,017	3.7	83,034	9.4	52,017	167.7
Median Household Income'	$25,684		$32,135		$6,451	25.1
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Less than $10,000	102,120	18.1	88,633	15.1	-13,487	-13.2
$10,000 to $14,999	44,592	7.9	47,382	8.0	2,790	6.3
$15,000 to $24,999	92,345	16.4	77,426	13.1	-14,919	-16.2
$25,000 to $34,999	81,472	14.5	72,738	12.4	-8,734	-10.7
$35,000 to $49,999	95,016	16.9	85,883	14.6	-9,133	-9.6
$50,000 to $74,999	86,895	15.4	98,635	16.7	11,740	13.5
$75,000 to $99,999	34,778	6.2	52,237	8.9	17,459	50.2
$100,000 or more	26,065	4.6	65,936	11.2	39,871	153.0
Median Family Income*'	$30,033		$36,188		$6,155	20.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income'	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income*'	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3 As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value

**For 2000, includes all earning less than $10,000

***The data in this table are not adjusted for inflation

Poverty Status (All income levels in 1989)

Study Area (tr 0579), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	313	100.0 %	325	100.0 %	12	3.8 %
Below the poverty level	77	24.6	49	15.1	-28	-36.4
With related children under 18 years	189	60.4	35	10.8	-154	-81.5
Below the poverty level	*77*	*40.7*	*35*	*100.0*	-42	-54.5
Female householder, no husband present	132	42.2	30	9.2	-102	-77.3
Below the poverty level	*62*	*47.0*	*30*	*100.0*	-32	-51.6
With related children under 18 years	*101*	*76.5*	*23*	*76.7*	-78	-77.2
Below the poverty level	62	61.4	23	100.0	-39	-62.9
Persons for whom poverty status is determined	1,288	100.0 %	1,440	100.0 %	152	11.8 %
Below the poverty level	406	31.5	372	25.8	-34	-8.4
Persons under 18 years	350	27.2	363	25.2	13	3.7
Below the poverty level	*208*	*59.4*	*115*	*31.7*	-93	-44.7
65 years and over	114	8.9	145	10.1	31	27.2
Below the poverty level	*0*	*0.0*	*72*	*49.7*	*72*	*NA*

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Below the poverty level	109,811	19.5	129,694	22.0	19,883	18.1
With related children under 18 years	310,556	55.1	339,685	57.7	29,129	9.4
Below the poverty level	*87,520*	*28.2*	*99,005*	*29.1*	11,485	13.1
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
Below the poverty level	*66,434*	*37.1*	*67,730*	*35.1*	1,296	2.0
With related children under 18 years	*119,777*	*66.9*	*130,806*	*67.7*	11,029	9.2
Below the poverty level	58,018	48.4	57,796	44.2	-222	-0.4
Persons for whom poverty status is determined	2,268,938	100.0 %	2,434,939	100.0 %	166,001	7.3 %
Below the poverty level	514,163	22.7	610,476	25.1	96,313	18.7
Persons under 18 years	*593,335*	26.2	*646,346*	26.5	53,011	8.9
Below the poverty level	199,895	*33.7*	221,255	*34.2*	21,360	10.7
65 years and over	*276,454*	12.2	*274,328*	11.3	-2,126	-0.8
Below the poverty level	51,856	*18.8*	59,068	*21.5*	7,212	13.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

1990
Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	148	3.9 %	157	4.1	305	8.0 %
5 to 19	412	10.7	447	11.7	859	22.4
20 to 34	463	12.1	481	12.5	944	24.6
35 to 49	506	13.2	273	7.1	779	20.3
50 to 64	322	8.4	200	5.2	522	13.6
65 +	339	8.8	88	2.3	427	11.1
Total	2,190	57.1	1,646	42.9	3,836	100.0

2000
Study Area

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
145	3.5 %	165	4.0 %	310	7.6 %
538	13.1	512	12.5	1,050	25.6
461	11.2	354	8.6	815	19.9
539	13.1	366	8.9	905	22.1
355	8.7	232	5.7	587	14.3
273	6.7	162	3.9	435	10.6
2,311	56.3	1,791	43.7	4,102	100.0

1990 - 2000
Study Area

Total Change	Percent Change
5	1.6 %
191	22.2
-129	-13.7
126	16.2
65	12.5
8	1.9
266	6.9

Manhattan

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	38,526	2.6 %	39,767	2.7 %	78,293	5.3 %
5 to 19	104,441	7.0	100,836	6.8	205,277	13.8
20 to 34	223,723	15.0	209,239	14.1	432,962	29.1
35 to 49	185,332	12.5	172,231	11.6	357,563	24.0
50 to 64	113,134	7.6	102,119	6.9	215,253	14.5
65 +	124,820	8.4	73,368	4.9	198,188	13.3
Total	789,976	53.1	697,560	46.9	1,487,536	100.0

Manhattan

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
36,115	2.3 %	39,065	2.5 %	75,180	4.9 %
106,984	7.0	108,957	7.1	215,941	14.0
235,875	15.3	216,422	14.1	452,297	29.4
185,653	12.1	183,479	11.9	369,132	24.0
130,380	8.5	107,617	7.0	237,997	15.5
114,198	7.4	72,450	4.7	186,648	12.1
809,205	52.6	727,990	47.4	1,537,195	100.0

Manhattan

Total Change	Percent Change
-3,113	-4.0 %
10,664	5.2
19,335	4.5
11,569	3.2
22,744	10.6
-11,540	-5.8
49,659	3.3

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

City

Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
787,124	9.8	823,148	10.3	1,610,272	20.1
1,002,652	12.5	933,782	11.7	1,936,434	24.2
955,355	11.9	878,401	11.0	1,833,756	22.9
637,071	8.0	518,699	6.5	1,155,770	14.4
581,864	7.3	357,506	4.5	939,370	11.7
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

City

Total Change	Percent Change
30,568	6.1 %
233,835	17.0
5,163	0.3
295,926	19.2
133,583	13.1
-13,361	-1.4
685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing. Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	3,836	100.0 %	**Total Persons**	4,102	100.0 %	266	6.9 %
Not of Hispanic Origin	1,968	51.3	Not of Hispanic Origin	1,403	34.2	-565	-28.7
White	89	*4.5*	*White alone*	37	*2.6*		
Black	1,823	*92.6*	*Black or African American alone*	1,294	*92.2*		
American Indian, Eskimo, or Aleut	0	*0.0*	*American Indian and Alaska Native alone*	0	*0.0*		
Asian or Pacific Islander	25	*1.3*	*Asian alone*	0	*0.0*		
Other race	31	*1.6*	*Native Hawaiian and Other Pacific Islander alo*	0	*0.0*		
			Some other race alone	0	*0.0*		
			Two or more races	72	*5.1*		
Hispanic Origin	1,868	48.7	Hispanic Origin	2,699	65.8	831	44.5

Manhattan

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	1,487,536	100.0 %	**Total Persons**	1,537,195	100.0 %	49,659	3.3
Not of Hispanic Origin	1,106,839	74.4	Not of Hispanic Origin	1,119,190	72.8	12,351	1.1
White	*728,563*	*65.8*	*White alone*	*703,462*	*62.9*		
Black	*264,717*	*23.9*	*Black or African American alone*	*233,383*	*20.9*		
American Indian, Eskimo, or Aleut	*2,568*	*0.2*	*American Indian and Alaska Native alone*	*2,319*	*0.2*		
Asian or Pacific Islander	*107,199*	*9.7*	*Asian alone*	*143,028*	*12.8*		
Other race	*3,792*	*0.3*	*Native Hawaiian and Other Pacific Islander alo*	*354*	*0.0*		
			Some other race alone	*5,738*	*0.5*		
			Two or more races	*30,906*	*2.8*		
Hispanic Origin	380,697	25.6	Hispanic Origin	418,005	27.2	37,308	9.8

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alo*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	3,531	100.0 %	3,792	100 %	261	7.4 %
Speak a language other than English at home	1,776	50.3	2,476	65.3	700	39.4
Does not speak English "very well"	*552*	*31.1*	*1,343*	*54.2*	*791*	*143.3*
Speaks Spanish at home	*1,702*	*95.8*	*2,367*	*95.6*	*665*	*39.1*
Does not speak English "very well"	552	32.4	1,331	56.2	779	141.1
Speaks Asian or Pacific Islander language	*0*	*0.0*	*5*	*0.2*	*5*	*NA*
Does not speak English "very well"	0	0.0	0	0.0	0	0.0

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	1,409,243	100.0 %	1,462,015	100.0 %	52,772	3.7 %
Speak a language other than English at home	549,149	39.0	612,412	41.9	63,263	11.5
Does not speak English "very well"	*150,858*	*27.5*	*168,919*	*27.6*	*18,061*	*12.0*
Speaks Spanish at home	*337,801*	*61.5*	*364,141*	*59.5*	*26,340*	*7.8*
Does not speak English "very well"	104,424	30.9	113,220	31.1	8,796	8.4
Speaks Asian or Pacific Islander language	*87,022*	*15.8*	*108,035*	*17.6*	*21,013*	*24.1*
Does not speak English "very well"	36,379	41.8	43,606	40.4	7,227	19.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	*671,142*	*24.0*	*915,160*	*25.7*	*244,018*	*36.4*
Speaks Spanish at home	*1,498,548*	*53.6*	*1,832,402*	*51.5*	*333,854*	*22.3*
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	*354,684*	*12.7*	*515,157*	*14.5*	*160,473*	*45.2*
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	875	100.0 %	987	100.0 %	112	12.8 %
With own children under 18 years	*335*	*38.3*	*538*	*54.5*	*203*	*60.6*
Married-couple families	365	41.7	400	40.5	35	9.6
With own children under 18 years	*130*	*35.6*	*197*	*49.3*	*67*	*51.5*
Female householder, no husband present	429	49.0	501	50.8	72	16.8
With own children under 18 years	*184*	*42.9*	*320*	*63.9*	*136*	*73.9*

Manhattan	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	305,368	100.0 %	306,220	100.0 %	852	0.3 %
With own children under 18 years	*77,909*	*25.5*	*130,790*	*42.7*	*52,881*	*67.9*
Married-couple families	192,032	62.9	191,060	62.4	-972	-0.5
With own children under 18 years	*30,874*	*16.1*	*75,047*	*39.3*	*44,173*	*143.1*
Female householder, no husband present	92,925	30.4	91,594	29.9	-1,331	-1.4
With own children under 18 years	*40,965*	*44.1*	*48,064*	*52.5*	*7,099*	*17.3*

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	*536,565*	*30.6*	*919,675*	*49.2*	*383,110*	*71.4*
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	*277,530*	*24.5*	*556,012*	*48.2*	*278,482*	*100.3*
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	*224,139*	*44.1*	*310,287*	*54.8*	*86,148*	*38.4*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area

	1990		2000		1990-2000 Change	Percent Change
Number of Households	1,468		1,582		114	7.8 %
Total Persons	3,836	100.0 %	4,102	100.0 %	266	6.9
In households	3,836	100.0	4,099	99.9	263	6.9
Total Persons per household*	2.61		2.59		-0.02	-0.8

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	716,811		739,167		22,356	3.1 %
Total Persons	1,487,536	100.0 %	1,537,195	100.0 %	49,659	3.3
In households	1,429,497	96.1	1,477,339	96.1	47,842	3.3
Total Persons per household*	1.99		2.00		0.00	0.2

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	1.9

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	2,961	100.0 %	3,066	100.0 %	105	3.5 %
Labor force	1,591	53.7	1,388	45.3	-203	-12.8
Not in labor force	1,370	46.3	1,678	54.7	308	22.5
Employed persons 16 years and over	1,310	100.0 %	1,148	100.0 %	-162	-12.4 %
Private wage and salary worker	817	62.4	783	68.2	-34	-4.2
Government worker	469	35.8	251	21.9	-218	-46.5
Self-employed worker	24	1.8	114	9.9	90	375.0
Unpaid family worker	0	0.0	0	0.0	0	0.0

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	1,266,398	100.0 %	1,307,423	100.0 %	41,025	3.2 %
Labor force	839,205	66.3	841,633	64.4	2,428	0.3
Not in labor force	427,193	33.7	465,790	35.6	38,597	9.0
Employed persons 16 years and over	770,084	100.0 %	770,443	100.0 %	359	0.0 %
Private wage and salary worker	601,222	78.1	620,832	80.6	19,610	3.3
Government worker	92,024	11.9	78,073	10.1	-13,951	-15.2
Self-employed worker	75,002	9.7	69,517	9.0	-5,485	-7.3
Unpaid family worker	1,836	0.2	1,861	0.2	25	1.4

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

	1990 *Study Area*		1990 *Manhattan*		1990 *City*	
		Percent of Total		Percent of Total		Percent of Total
Employed persons 16 years and over	1,310	100.0 %	770,084	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	251	19.2	366,546	47.6	995,364	30.6
Executive, administrative, and managerial occupations	*137*	*54.6*	*147,525*	*40.2*	*440,090*	*44.2*
Professional specialty occupations	*114*	*45.4*	*219,021*	*59.8*	*555,274*	*55.8*
Technical, sales, and administrative support occupations	525	40.1	223,166	29.0	1,108,923	34.0
Technicians and related support occupations	*6*	*1.1*	*23,266*	*10.4*	*101,012*	*9.1*
Sales occupations	*122*	*23.2*	*90,178*	*40.4*	*335,477*	*30.3*
Administrative support occupations, including clerical	*397*	*75.6*	*109,722*	*49.2*	*672,434*	*60.6*
Service occupations	356	27.2	93,536	12.1	520,974	16.0
Private household occupations	*11*	*3.1*	*5,527*	*5.9*	*24,211*	*4.6*
Protective service occupations	*21*	*5.9*	*9,657*	*10.3*	*89,619*	*17.2*
Service occupations, except protective and household	*324*	*91.0*	*78,352*	*83.8*	*407,144*	*78.2*
Farming, forestry, and fishing occupations	0	0.0	1,303	0.2	8,352	0.3
Precision production, craft, and repair occupations	93	7.1	26,503	3.4	244,817	7.5
Operators, fabricators, and laborers	85	6.5	59,030	7.7	379,207	11.6
Machine operators, assemblers, and inspectors	*60*	*70.6*	*31,023*	*52.6*	*158,981*	*41.9*
Transportation and material moving occupations	*14*	*16.5*	*13,998*	*23.7*	*120,642*	*31.8*
Handlers, equipment cleaners, helpers, and laborers	*11*	*12.9*	*14,009*	*23.7*	*99,584*	*26.3*

	2000 *Study Area*		2000 *Manhattan*		2000 *City*	
		Percent of Total		Percent of Total		Percent of Total
Employed persons 16 years and over	1,148	100.0 %	770,283	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	353	30.7	429,905	55.8	1,206,052	36.8
Management, business, and financial operations occupations:	*142*	*40.2*	*167,403*	*38.9*	*441,805*	*36.6*
Professional and related occupations:	*211*	*59.8*	*262,502*	*61.1*	*764,247*	*63.4*
Healthcare practitioners and technical occupations:	*10*	*2.8*	*33,092*	*7.7*	*146,885*	*12.2*
Service occupations:	239	20.8	95,778	12.4	608,383	18.6
Healthcare support occupations	*68*	*28.5*	*12,961*	*13.5*	*131,141*	*21.6*
Protective service occupations:	*57*	*23.8*	*9,486*	*9.9*	*96,073*	*15.8*
Food preparation and serving related occupations	*34*	*14.2*	*32,219*	*33.6*	*146,025*	*24.0*
Building and grounds cleaning and maintenance occupations	*56*	*23.4*	*19,378*	*20.2*	*124,119*	*20.4*
Personal care and service occupations	*24*	*10.0*	*21,734*	*22.7*	*111,025*	*18.2*
Sales and office occupations:	358	31.2	180,692	23.5	896,486	27.4
Farming, fishing, and forestry occupations	0	0.0	186	0.0	1,464	0.0
Construction, extraction, and maintenance occupations:	55	4.8	17,609	2.3	209,665	6.4
Production, transportation, and material moving occupations:	143	12.5	46,113	6.0	355,775	10.9
Production occupations	*43*	*30.1*	*26,652*	*57.8*	*176,684*	*49.7*
Transportation and material moving occupations:	*100*	*69.9*	*19,461*	*42.2*	*179,091*	*50.3*

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Industry Sector (employment by place of residence)*

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	1,310	100.0 %	1,148	100.0 %	-162	-12.4 %
Agriculture, forestry, fisheries, and mining	0	0.0	0	0.0	0	0.0
Construction	10	0.8	34	3.0	24	240.0
Manufacturing	123	9.4	47	4.1	-76	-61.8
Transportation	93	7.1	116	10.1	23	24.7
Communications and other public utilities	47	3.6	NA		NA	
Wholesale trade	47	3.6	30	2.6	-17	-36.2
Retail trade	178	13.6	95	8.3	-83	-46.6
Finance, insurance, and real estate	149	11.4	91	7.9	-58	-38.9
Business and repair services	45	3.4	NA		NA	
Personal, entertainment, and recreations services	83	6.3	79	6.9	-4	-4.8
Professional and related services	455	34.7	326	28.4	-129	-28.4
Health services	*149*	*32.7*	*180*	*55.2*	31	20.8
Educational services	*149*	*32.7*	*146*	*44.8*	-3	-2.0
Other professional and related services	*157*	*34.5*	*66*	*20.2*	-91	-58.0
Public administration	80	6.1	61	5.3	-19	-23.8
Information	NA		61	5.3	NA	
Other services (except public administration)	NA		42	3.7	NA	
	1,310	100.0	982	85.5		

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	770,084	100.0 %	770,283	100.0 %	199	0.0 %
Agriculture, forestry, fisheries, and mining	2,173	0.3	445	0.1	-1,728	-79.5
Construction	15,396	2.0	13,097	1.7	-2,299	-14.9
Manufacturing	91,854	11.9	40,218	5.2	-51,636	-56.2
Transportation	26,672	3.5	21,139	2.7	-5,533	-20.7
Communications and other public utilities	16,874	2.2	NA		NA	
Wholesale trade	28,819	3.7	20,803	2.7	-8,016	-27.8
Retail trade	88,974	11.6	54,244	7.0	-34,730	-39.0
Finance, insurance, and real estate	104,176	13.5	114,957	14.9	10,781	10.3
Business and repair services	60,466	7.9	NA		NA	
Personal, entertainment, and recreations services	58,059	7.5	81,328	10.6	23,269	40.1
Professional and related services	250,851	32.6	292,157	37.9	41,306	16.5
Health services	*71,130*	*28.4*	*83,463*	*28.6*	12,333	17.3
Educational services	*64,556*	*25.7*	*68,540*	*23.5*	3,984	6.2
Other professional and related services	*115,165*	*45.9*	*140,154*	*48.0*	24,989	21.7
Public administration	25,770	3.3	24,422	3.2	-1,348	-5.2
Information	NA		71,725	9.3	NA	
Other services (except public administration)	NA		35,748	4.6	NA	
	770,084	100	770,283	100		

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	-6,729	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	-154,241	-41.5
Transportation	216,862	6.7	211,506	6.5	-5,356	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	-29,726	-22.6
Retail trade	428,960	13.2	295,803	9.0	-133,157	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	-28,956	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	-11,303	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	
	3,257,637	100	3,277,825	100		

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	1,310	100.0 %	1,110	100.0 %	-200	-15.3 %
Car, truck or van	127	9.7	171	15.4	44	34.6
Drove alone	*91*	*71.7*	*144*	*84.2*	*53*	58.2
Carpooled	*36*	*28.3*	*27*	*15.8*	*-9*	-25.0
Public transportation	1,094	83.5	779	70.2	-315	-28.8
Bus, trolley, streetcar	*301*	*27.5*	*159*	*20.4*	*-142*	-47.2
Subway	*761*	*69.6*	*565*	*72.5*	*-196*	-25.8
Railroad	*32*	*2.9*	*34*	*4.4*	*2*	6.3
Taxicab	*0*	*0.0*	*21*	*2.7*	*21*	NA
Ferryboat	*0*	*0.0*	*0*	*0.0*	*0*	0.0
Walked	76	5.8	114	10.3	38	50.0
Worked at home	0	0.0	46	4.1	46	NA
Other means	0	0.0	0	0.0	0	0.0
	1,297	99.0	1,110	100.0		

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	754,148	100.0 %	753,114	100.0 %	-1,034	-0.1 %
Car, truck or van	87,512	11.6	82,754	11.0	-4,758	-5.4
Drove alone	*59,097*	*67.5*	*57,150*	*69.1*	*-1,947*	-3.3
Carpooled	*28,415*	*32.5*	*25,604*	*30.9*	*-2,811*	-9.9
Public transportation	440,228	58.4	449,013	59.6	8,785	2.0
Bus, trolley, streetcar	*109,322*	*24.8*	*76,860*	*17.1*	*-32,462*	-29.7
Subway	*287,412*	*65.3*	*328,246*	*73.1*	*40,834*	14.2
Railroad	*8,336*	*1.9*	*8,309*	*1.9*	*-27*	-0.3
Taxicab	*34,798*	*7.9*	*35,187*	*7.8*	*389*	1.1
Ferryboat	*360*	*0.1*	*411*	*0.1*	*51*	14.2
Walked	173,619	23.0	164,934	21.9	-8,685	-5.0
Worked at home	41,102	5.5	43,853	5.8	2,751	6.7
Other means	11,687	1.5	12,560	1.7	873	7.5
	754,148	100.0	753,114	100.0		

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9
	3,183,088	100.0	3,192,070	100.0		

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

	Study Area					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	1,464	100.0 %	1,600	100.0 %	136	9.3 %
Owner-occupied housing units	40	2.7	71	4.4	31	77.5
Renter-occupied housing units	1,402	95.8	1,510	94.4	108	7.7
Vacant housing units	22	1.5	19	1.2	-3	-13.6
Median value*	$0		$0		0	0.0
Median gross rent** **(specified renter-occupied housing units)**	$324		$496		$172	53.1

	Manhattan					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	785,127	100.0 %	798,144	100.0 %	13,017	1.7 %
Owner-occupied housing units	127,973	16.3	148,695	18.6	20,722	16.2
Renter-occupied housing units	588,449	74.9	589,949	73.9	1,500	0.3
Vacant housing units	68,705	8.8	59,500	7.5	-9,205	-13.4
Median value*	$470,700		1,000,000+		$530,000+	112.6
Median gross rent** **(specified renter-occupied housing units)**	$513		$796		283	55.2

	City					
	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value*	$187,900		$211,900		24,000	12.8
Median gross rent** **(specified renter-occupied housing units)**	$496		$705		209	42.1

	Study Area		*Manhattan*		*City*	
	2000	Percent of Total	2000	Percent of Total	2000	Percent of Total
Year householder moved into unit						
Occupied housing units	1,581	100.0 %	738,644	100.0 %	3,021,588	100.0 %
1995 to March 2000	469	29.7	334,475	45.3	1,302,494	43.1
1990 to 1994	320	20.2	114,602	15.5	505,389	16.7
1980 to 1989	339	21.4	108,398	14.7	491,479	16.3
1970 to 1979	412	26.1	105,453	14.3	392,605	13.0
1969 or earlier	41	2.6	75,716	10.3	329,621	10.9
Year structure built						
Total housing units	1,600	100.0 %	798,144	100.0 %	3,200,912	100.0 %
1995 to March 2000	0	0.0	19,032	2.4	70,835	2.2
1990 to 1994	0	0.0	15,039	1.9	61,106	1.9
1980 to 1989	144	9.0	50,562	6.3	157,402	4.9
1970 to 1979	1,068	66.8	69,001	8.6	276,489	8.6
1960 to 1969	122	7.6	113,765	14.3	485,725	15.2
1959 or earlier	266	16.6	530,745	66.5	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Value reported for census tract with lowest value or lowest median value.

**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	3,531	100.0 %	3,792	100.0 %	261	7.4 %
Lived in same house	2,730	77.3	2,677	70.6	-53	-1.9
Lived in different house in U.S.	649	18.4	913	24.1	264	40.7
New York State	*602*	*92.8*	*821*	*89.9*	*219*	*36.4*
Same county	376	62.5	616	75.0	240	63.8
Different county	226	37.5	205	25.0	-21	-9.3
Different state	*47*	*7.2*	*92*	*10.1*	*45*	*95.7*
Lived abroad	152	4.3	202	5.3	50	32.9
Puerto Rico	*45*	*29.6*	*25*	*12.4*	*-20*	*-44.4*

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	1,409,243	100.0 %	1,462,015	100.0 %	52,772	3.7 %
Lived in same house	848,698	60.2	831,282	56.9	-17,416	-2.1
Lived in different house in U.S.	470,729	33.4	526,679	36.0	55,950	11.9
New York State	*351,202*	*74.6*	*371,500*	*70.5*	*20,298*	*5.8*
Same county	224,850	64.0	248,814	67.0	23,964	10.7
Different county	126,352	36.0	122,686	33.0	-3,666	-2.9
Different state	*119,527*	*25.4*	*155,179*	*29.5*	*35,652*	*29.8*
Lived abroad	89,816	6.4	104,054	7.1	14,238	15.9
Puerto Rico	*4,851*	*5.4*	*3,107*	*3.0*	*-1,744*	*-36.0*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Education (School Enrollment and Educational Attainment)

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	3,643	100.0 %	3,892	100.0 %	249	6.8 %
Enrolled in school	1,129	31.0	1,329	34.1	200	17.7
Pre-primary school	*39*	*3.5*	*113*	*8.5*	*74*	*189.7*
Elementary or high school	*804*	*71.2*	*976*	*73.4*	*172*	*21.4*
College or beyond	*286*	*25.3*	*240*	*18.1*	*-46*	*-16.1*
Years of school completed						
Persons 25 years old and over	2,360	100.0 %	2,528	100.0 %	168	7.1 %
Less than 9th grade	567	24.0	527	20.8	-40	-7.1
Some high school	494	20.9	495	19.6	1	0.2
High school graduate only	666	28.2	569	22.5	-97	-14.6
Some college, no degree	325	13.8	549	21.7	224	68.9
Associate degree	116	4.9	131	5.2	15	12.9
College graduate	192	8.1	257	10.2	65	33.9
Bachelor's degree	*81*	*42.2*	*159*	*61.9*	*78*	*96.3*
Graduate or Professional degree	*111*	*57.8*	*98*	*38.1*	*-13*	*-11.7*

Manhattan	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	1,438,218	100.0 %	1,490,830	100.0 %	52,612	3.7 %
Enrolled in school	332,012	23.1	358,066	24.0	26,054	7.8
Pre-primary school	*18,176*	*5.5*	*35,997*	*10.1*	*17,821*	*98.0*
Elementary or high school	*171,807*	*51.7*	*180,986*	*50.5*	*9,179*	*5.3*
College or beyond	*142,029*	*42.8*	*141,083*	*39.4*	*-946*	*-0.7*
Years of school completed						
Persons 25 years old and over	1,095,317	100.0 %	1,125,987	100.0 %	30,670	2.8 %
Less than 9th grade	136,204	12.4	117,448	10.4	-18,756	-13.8
Some high school	134,725	12.3	122,906	10.9	-11,819	-8.8
High school graduate only	174,018	15.9	151,995	13.5	-22,023	-12.7
Some college, no degree	146,194	13.3	138,579	12.3	-7,615	-5.2
Associate degree	41,887	3.8	38,866	3.5	-3,021	-7.2
College graduate	462,289	42.2	556,193	49.4	93,904	20.3
Bachelor's degree	*242,390*	*52.4*	*292,665*	*52.6*	*50,275*	*20.7*
Graduate or Professional degree	*219,899*	*47.6*	*263,528*	*47.4*	*43,629*	*19.8*

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$7,187		$11,235		$4,048	56.3
Households	1,468	100.0 %	1,582	100.0 %	114	7.8 %
Less than $10,000	613	41.8	554	35.0	-59	-9.6
$10,000 to $14,999	156	10.6	167	10.6	11	7.1
$15,000 to $24,999	205	14.0	204	12.9	-1	-0.5
$25,000 to $34,999	212	14.4	206	13.0	-6	-2.8
$35,000 to $49,999	141	9.6	105	6.6	-36	-25.5
$50,000 to $74,999	129	8.8	195	12.3	66	51.2
$75,000 to $99,999	5	0.3	83	5.2	78	2,200.0
$100,000 or more	7	0.5	68	4.3	61	871.4
Median Household Income*	$11,937		$17,400		$5,463	45.8
Families	875	100.0 %	987	100.0 %	112	12.8 %
Less than $10,000	219	25.0	246	24.9	27	12.3
$10,000 to $14,999	101	11.5	92	9.3	-9	-8.9
$15,000 to $24,999	139	15.9	141	14.3	2	1.4
$25,000 to $34,999	185	21.1	164	16.6	-21	-11.4
$35,000 to $49,999	118	13.5	83	8.4	-35	-29.7
$50,000 to $74,999	113	12.9	142	14.4	29	25.7
$75,000 to $99,999	0	0.0	86	8.7	86	NA
$100,000 or more	0	0.0	33	3.3	33	NA
Median Family Income*'	$22,412		$25,196		$2,784	12.4

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$27,862		$42,922		$15,060	54.1
Households	716,811	100.0 %	739,167	100.0 %	22,356	3.1 %
Less than $10,000	138,153	19.3	106,521	14.4	-31,632	-22.9
$10,000 to $14,999	49,267	6.9	44,437	6.0	-4,830	-9.8
$15,000 to $24,999	97,535	13.6	71,941	9.7	-25,594	-26.2
$25,000 to $34,999	92,639	12.9	70,141	9.5	-22,498	-24.3
$35,000 to $49,999	103,545	14.4	90,586	12.3	-12,959	-12.5
$50,000 to $74,999	96,623	13.5	111,853	15.1	15,230	15.8
$75,000 to $99,999	46,313	6.5	66,838	9.0	20,525	44.3
$100,000 or more	92,736	12.9	176,850	23.9	84,114	90.7
Median Household Income*	$32,262		$47,030		$14,768	45.8
Families	305,368	100.0 %	306,220	100.0 %	852	0.3
Less than $10,000	50,568	16.6	38,486	12.6	-12,082	-23.9 %
$10,000 to $14,999	21,287	7.0	18,617	6.1	-2,670	-12.5
$15,000 to $24,999	40,741	13.3	32,942	10.8	-7,799	-19.1
$25,000 to $34,999	34,029	11.1	28,966	9.5	-5,063	-14.9
$35,000 to $49,999	38,196	12.5	33,551	11.0	-4,645	-12.2
$50,000 to $74,999	41,053	13.4	37,729	12.3	-3,324	-8.1
$75,000 to $99,999	22,258	7.3	25,176	8.2	2,918	13.1
$100,000 or more	57,236	18.7	90,753	29.6	33,517	58.6
Median Family Income*'	$36,831		$50,229		$13,398	36.4

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income*	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income*'	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup. information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value

**For 2000, includes all earning less than $10,000

***The data in this table are not adjusted for inflation

Poverty Status (All income levels in 1989)

Study Area (tr 223.02, 313), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	875	100.0 %	987	100.0 %	112	12.8 %
Below the poverty level	263	30.1	332	33.6	69	26.2
With related children under 18 years	598	68.3	614	62.2	16	2.7
Below the poverty level	*211*	*35.3*	*262*	*42.7*	51	24.2
Female householder, no husband present	429	49.0	501	50.8	72	16.8
Below the poverty level	*143*	*33.3*	*204*	*40.7*	61	42.7
With related children under 18 years	*322*	*75.1*	*366*	*73.1*	44	13.7
Below the poverty level	101	31.4	181	49.5	80	79.2
Persons for whom poverty status is determined	3,836	100.0 %	4,061	100.0 %	225	5.9 %
Below the poverty level	1,301	33.9	1,510	37.2	209	16.1
Persons under 18 years	1,031	26.9	1,145	28.2	114	11.1
Below the poverty level	*368*	*35.7*	*542*	*47.3*	174	47.3
65 years and over	427	11.1	435	10.7	8	1.9
Below the poverty level	*234*	*54.8*	*162*	*37.2*	-72	-30.8

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	305,368	100.0 %	306,220	100.0 %	852	0.3 %
Below the poverty level	53,160	17.4	53,792	17.6	632	1.2
With related children under 18 years	139,183	45.6	148,247	48.4	9,064	6.5
Below the poverty level	*40,891*	*29.4*	*39,756*	*26.8*	-1,135	-2.8
Female householder, no husband present	92,935	30.4	91,594	29.9	-1,341	-1.4
Below the poverty level	*34,952*	*37.6*	*33,157*	*36.2*	-1,795	-5.1
With related children under 18 years	*57,018*	*61.4*	*58,781*	*64.2*	1,763	3.1
Below the poverty level	29,763	52.2	27,084	46.1	-2,679	-9.0
Persons for whom poverty status is determined	1,450,698	100.0 %	1,491,423	100.0 %	40,725	2.8 %
Below the poverty level	297,617	20.5	298,231	20.0	614	0.2
Persons under 18 years	*241,208*	16.6	*249,149*	16.7	7,941	3.3
Below the poverty level	87,401	*36.2*	79,944	*32.1*	-7,457	-8.5
65 years and over	*191,938*	13.2	*181,112*	12.1	-10,826	-5.6
Below the poverty level	36,982	*19.3*	34,290	*18.9*	-2,692	-7.3

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

1990 *Study Area* Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	24	1.9 %	54	4.2 %	78	6.1 %
5 to 19	15	1.2	38	3.0	53	4.1
20 to 34	240	18.8	456	35.7	696	54.5
35 to 49	178	13.9	168	13.1	346	27.1
50 to 64	31	2.4	44	3.4	75	5.9
65 +	21	1.6	9	0.7	30	2.3
Total	509	39.8	769	60.2	1,278	100.0

2000 *Study Area* Female	Percent of Total	Male	Percent of Total	Total	Percent of Total	1990 - 2000 *Study Area* Total Change	Percent Change
28	1.3 %	45	2.0 %	73	3.3 %	-5	-6.4 %
295	13.4	133	6.1	428	19.5	375	707.5
598	27.2	538	24.5	1,136	51.7	440	63.2
210	9.6	156	7.1	366	16.7	20	5.8
77	3.5	59	2.7	136	6.2	61	81.3
53	2.4	6	0.3	59	2.7	29	96.7
1,261	57.4	937	42.6	2,198	100.0	920	72.0

Manhattan Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	38,526	2.6 %	39,767	2.7 %	78,293	5.3 %
5 to 19	104,441	7.0	100,836	6.8	205,277	13.8
20 to 34	223,723	15.0	209,239	14.1	432,962	29.1
35 to 49	185,332	12.5	172,231	11.6	357,563	24.0
50 to 64	113,134	7.6	102,119	6.9	215,253	14.5
65 +	124,820	8.4	73,368	4.9	198,188	13.3
Total	789,976	53.1	697,560	46.9	1,487,536	100.0

Manhattan Female	Percent of Total	Male	Percent of Total	Total	Percent of Total	*Manhattan* Total Change	Percent Change
36,115	2.3 %	39,065	2.5 %	75,180	4.9 %	-3,113	-4.0 %
106,984	7.0	108,957	7.1	215,941	14.0	10,664	5.2
235,875	15.3	216,422	14.1	452,297	29.4	19,335	4.5
185,653	12.1	183,479	11.9	369,132	24.0	11,569	3.2
130,380	8.5	107,617	7.0	237,997	15.5	22,744	10.6
114,198	7.4	72,450	4.7	186,648	12.1	-11,540	-5.8
809,205	52.6	727,990	47.4	1,537,195	100.0	49,659	3.3

City Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

City Female	Percent of Total	Male	Percent of Total	Total	Percent of Total	*City* Total Change	Percent Change
260,119	3.2 %	272,557	3.4 %	532,676	6.7 %	30,568	6.1 %
787,124	9.8	823,148	10.3	1,610,272	20.1	233,835	17.0
1,002,652	12.5	933,782	11.7	1,936,434	24.2	5,163	0.3
955,355	11.9	878,401	11.0	1,833,756	22.9	295,926	19.2
637,071	8.0	518,699	6.5	1,155,770	14.4	133,583	13.1
581,864	7.3	357,506	4.5	939,370	11.7	-13,361	-1.4
4,224,185	52.7	3,784,093	47.3	8,008,278	100.0	685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing, Summary Tape Files 3*. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	1,278	100.0 %	**Total Persons**	2,198	100.0 %	920	72.0 %
Not of Hispanic Origin	1,012	79.2	Not of Hispanic Origin	2,066	94.0	1,054	104.2
White	497	*49.1*	*White alone*	1,318	*63.8*		
Black	317	*31.3*	*Black or African American alone*	190	*9.2*		
American Indian, Eskimo, or Aleut	0	*0.0*	*American Indian and Alaska Native alone*	15	*0.7*		
Asian or Pacific Islander	198	*19.6*	*Asian alone*	478	*23.1*		
Other race	0	*0.0*	*Native Hawaiian and Other Pacific Islander alon*	0	*0.0*		
			Some other race alone	0	*0.0*		
			Two or more races	65	*3.1*		
Hispanic Origin	266	20.8	Hispanic Origin	132	6.0	-134	-50.4

Manhattan

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	1,487,536	100.0 %	**Total Persons**	1,537,195	100.0 %	49,659	3.3
Not of Hispanic Origin	1,106,839	74.4	Not of Hispanic Origin	1,119,190	72.8	12,351	1.1
White	*728,563*	*65.8*	*White alone*	*703,462*	*62.9*		
Black	*264,717*	*23.9*	*Black or African American alone*	*233,383*	*20.9*		
American Indian, Eskimo, or Aleut	*2,568*	*0.2*	*American Indian and Alaska Native alone*	*2,319*	*0.2*		
Asian or Pacific Islander	*107,199*	*9.7*	*Asian alone*	*143,028*	*12.8*		
Other race	*3,792*	*0.3*	*Native Hawaiian and Other Pacific Islander alon*	*354*	*0.0*		
			Some other race alone	*5,738*	*0.5*		
			Two or more races	*30,906*	*2.8*		
Hispanic Origin	380,697	25.6	Hispanic Origin	418,005	27.2	37,308	9.8

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alon*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	1,200	100.0 %	2,125	100 %	925	77.1 %
Speak a language other than English at home	509	42.4	728	34.3	219	43.0
Does not speak English "very well"	*83*	*16.3*	*187*	*25.7*	*104*	*125.3*
Speaks Spanish at home	*216*	*42.4*	*95*	*13.0*	*-121*	*-56.0*
Does not speak English "very well"	57	26.4	31	32.6	-26	-45.6
Speaks Asian or Pacific Islander language	*128*	*25.1*	*301*	*41.3*	*173*	*135.2*
Does not speak English "very well"	9	7.0	83	27.6	74	822.2

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	1,409,243	100.0 %	1,462,015	100.0 %	52,772	3.7 %
Speak a language other than English at home	549,149	39.0	612,412	41.9	63,263	11.5
Does not speak English "very well"	*150,858*	*27.5*	*168,919*	*27.6*	*18,061*	*12.0*
Speaks Spanish at home	*337,801*	*61.5*	*364,141*	*59.5*	*26,340*	*7.8*
Does not speak English "very well"	104,424	30.9	113,220	31.1	8,796	8.4
Speaks Asian or Pacific Islander language	*87,022*	*15.8*	*108,035*	*17.6*	*21,013*	*24.1*
Does not speak English "very well"	36,379	41.8	43,606	40.4	7,227	19.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	*671,142*	*24.0*	*915,160*	*25.7*	*244,018*	*36.4*
Speaks Spanish at home	*1,498,548*	*53.6*	*1,832,402*	*51.5*	*333,854*	*22.3*
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	*354,684*	*12.7*	*515,157*	*14.5*	*160,473*	*45.2*
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	146	100.0 %	326	100.0 %	180	123.3 %
With own children under 18 years	*16*	*11.0*	*130*	*39.9*	*114*	*712.5*
Married-couple families	96	65.8	239	73.3	143	149.0
With own children under 18 years	*5*	*5.2*	*121*	*50.6*	*116*	*2,320.0*
Female householder, no husband present	50	34.2	60	18.4	10	20.0
With own children under 18 years	*11*	*22.0*	*4*	*6.7*	*-7*	*-63.6*

Manhattan	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	305,368	100.0 %	306,220	100.0 %	852	0.3 %
With own children under 18 years	*77,909*	*25.5*	*130,790*	*42.7*	*52,881*	*67.9*
Married-couple families	192,032	62.9	191,060	62.4	-972	-0.5
With own children under 18 years	*30,874*	*16.1*	*75,047*	*39.3*	*44,173*	*143.1*
Female householder, no husband present	92,925	30.4	91,594	29.9	-1,331	-1.4
With own children under 18 years	*40,965*	*44.1*	*48,064*	*52.5*	*7,099*	*17.3*

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	*536,565*	*30.6*	*919,675*	*49.2*	*383,110*	*71.4*
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	*277,530*	*24.5*	*556,012*	*48.2*	*278,482*	*100.3*
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	*224,139*	*44.1*	*310,287*	*54.8*	*86,148*	*38.4*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area

	1990		2000		1990-2000 Change	Percent Change
Number of Households	609		789		180	29.6 %
Total Persons	1,278	100.0 %	2,198	100.0 %	920	72.0
In households	893	69.9	1,337	60.8	444	49.7
Total Persons per household*	1.47		1.69		0.23	15.6

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	716,811		739,167		22,356	3.1 %
Total Persons	1,487,536	100.0 %	1,537,195	100.0 %	49,659	3.3
In households	1,429,497	96.1	1,477,339	96.1	47,842	3.3
Total Persons per household*	1.99		2.00		0.00	0.2

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	1.9

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	1,160	100.0 %	2,033	100.0 %	873	75.3 %
Labor force	703	60.6	1,436	70.6	733	104.3
Not in labor force	457	39.4	597	29.4	140	30.6
Employed persons 16 years and over	689	100.0 %	1,384	100.0 %	695	100.9 %
Private wage and salary worker	589	85.5	1,271	91.8	682	115.8
Government worker	88	12.8	70	5.1	-18	-20.5
Self-employed worker	12	1.7	43	3.1	31	258.3
Unpaid family worker	0	0.0	0	0.0	0	0.0

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	1,266,398	100.0 %	1,307,423	100.0 %	41,025	3.2 %
Labor force	839,205	66.3	841,633	64.4	2,428	0.3
Not in labor force	427,193	33.7	465,790	35.6	38,597	9.0
Employed persons 16 years and over	770,084	100.0 %	770,443	100.0 %	359	0.0 %
Private wage and salary worker	601,222	78.1	620,832	80.6	19,610	3.3
Government worker	92,024	11.9	78,073	10.1	-13,951	-15.2
Self-employed worker	75,002	9.7	69,517	9.0	-5,485	-7.3
Unpaid family worker	1,836	0.2	1,861	0.2	25	1.4

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/ BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

	1990 *Study Area*	Percent of Total	1990 *Manhattan*	Percent of Total	1990 *City*	Percent of Total
Employed persons 16 years and over	689	100.0 %	770,084	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	617	89.6	366,546	47.6	995,364	30.6
Executive, administrative, and managerial occupations	*65*	*10.5*	*147,525*	*40.2*	*440,090*	*44.2*
Professional specialty occupations	*552*	*89.5*	*219,021*	*59.8*	*555,274*	*55.8*
Technical, sales, and administrative support occupations	38	5.5	223,166	29.0	1,108,923	34.0
Technicians and related support occupations	*17*	*44.7*	*23,266*	*10.4*	*101,012*	*9.1*
Sales occupations	*0*	*0.0*	*90,178*	*40.4*	*335,477*	*30.3*
Administrative support occupations, including clerical	*21*	*55.3*	*109,722*	*49.2*	*672,434*	*60.6*
Service occupations	18	2.6	93,536	12.1	520,974	16.0
Private household occupations	*0*	*0.0*	*5,527*	*5.9*	*24,211*	*4.6*
Protective service occupations	*7*	*38.9*	*9,657*	*10.3*	*89,619*	*17.2*
Service occupations, except protective and household	*11*	*61.1*	*78,352*	*83.8*	*407,144*	*78.2*
Farming, forestry, and fishing occupations	0	0.0	1,303	0.2	8,352	0.3
Precision production, craft, and repair occupations	0	0.0	26,503	3.4	244,817	7.5
Operators, fabricators, and laborers	16	2.3	59,030	7.7	379,207	11.6
Machine operators, assemblers, and inspectors	*0*	*0.0*	*31,023*	*52.6*	*158,981*	*41.9*
Transportation and material moving occupations	*16*	*100.0*	*13,998*	*23.7*	*120,642*	*31.8*
Handlers, equipment cleaners, helpers, and laborers	*0*	*0.0*	*14,009*	*23.7*	*99,584*	*26.3*

	2000 *Study Area*	Percent of Total	2000 *Manhattan*	Percent of Total	2000 *City*	Percent of Total
Employed persons 16 years and over	1,384	100.0 %	770,283	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	958	69.2	429,905	55.8	1,206,052	36.8
Management, business, and financial operations occupations:	*189*	*19.7*	*167,403*	*38.9*	*441,805*	*36.6*
Professional and related occupations:	*769*	*80.3*	*262,502*	*61.1*	*764,247*	*63.4*
Healthcare practitioners and technical occupations:	*461*	*48.1*	*33,092*	*7.7*	*146,885*	*12.2*
Service occupations:	117	8.5	95,778	12.4	608,383	18.6
Healthcare support occupations	*16*	*13.7*	*12,961*	*13.5*	*131,141*	*21.6*
Protective service occupations:	*6*	*5.1*	*9,486*	*9.9*	*96,073*	*15.8*
Food preparation and serving related occupations	*75*	*64.1*	*32,219*	*33.6*	*146,025*	*24.0*
Building and grounds cleaning and maintenance occupations	*5*	*4.3*	*19,378*	*20.2*	*124,119*	*20.4*
Personal care and service occupations	*15*	*12.8*	*21,734*	*22.7*	*111,025*	*18.2*
Sales and office occupations:	279	20.2	180,692	23.5	896,486	27.4
Farming, fishing, and forestry occupations	0	0.0	186	0.0	1,464	0.0
Construction, extraction, and maintenance occupations:	6	0.4	17,609	2.3	209,665	6.4
Production, transportation, and material moving occupations:	24	1.7	46,113	6.0	355,775	10.9
Production occupations	*24*	*100.0*	*26,652*	*57.8*	*176,684*	*49.7*
Transportation and material moving occupations:	*0*	*0.0*	*19,461*	*42.2*	*179,091*	*50.3*

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Industry Sector (employment by place of residence)*

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	689	100 %	1,384	100 %	695	100.9 %
Agriculture, forestry, fisheries, and mining	0	0.0	0	0.0	0	0.0
Construction	5	0.7	0	0.0	-5	-100.0
Manufacturing	19	2.8	50	3.6	31	163.2
Transportation	9	1.3	11	0.8	2	22.2
Communications and other public utilities	0	0.0	NA		NA	
Wholesale trade	0	0.0	9	0.7	9	900.0
Retail trade	13	1.9	57	4.1	44	338.5
Finance, insurance, and real estate	8	1.2	109	7.9	101	1262.5
Business and repair services	0	0.0	NA		NA	
Personal, entertainment, and recreations services	7	1.0	104	7.5	97	1385.7
Professional and related services	594	86.2	934	67.5	340	57.2
Health services	*559*	*94.1*	*568*	*60.8*	9	1.6
Educational services	*16*	*2.7*	*192*	*20.6*	176	1,100.0
Other professional and related services	*19*	*3.2*	*0*	*0.0*	-19	-100.0
Public administratior	34	4.9	16	1.2	-18	-52.9
Information	NA		83	6.0	NA	
Other services (except public administration)	NA		11	0.8	NA	

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	770,084	100 %	770,283	100 %	199	0.0 %
Agriculture, forestry, fisheries, and mining	2,173	0.3	445	0.1	-1,728	-79.5
Construction	15,396	2.0	13,097	1.7	-2,299	-14.9
Manufacturing	91,854	11.9	40,218	5.2	-51,636	-56.2
Transportation	26,672	3.5	21,139	2.7	-5,533	-20.7
Communications and other public utilities	16,874	2.2	NA		NA	
Wholesale trade	28,819	3.7	20,803	2.7	-8,016	-27.8
Retail trade	88,974	11.6	54,244	7.0	-34,730	-39.0
Finance, insurance, and real estate	104,176	13.5	114,957	14.9	10,781	10.3
Business and repair services	60,466	7.9	NA		NA	
Personal, entertainment, and recreations services	58,059	7.5	81,328	10.6	23,269	40.1
Professional and related services	250,851	32.6	292,157	37.9	41,306	16.5
Health services	*71,130*	*28.4*	*83,463*	*28.6*	12,333	17.3
Educational services	*64,556*	*25.7*	*68,540*	*23.5*	3,984	6.2
Other professional and related services	*115,165*	*45.9*	*140,154*	*48.0*	24,989	21.7
Public administration	25,770	3.3	24,422	3.2	-1,348	-5.2
Information	NA		71,725	9.3	NA	
Other services (except public administration)	NA		35,748	4.6	NA	

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100 %	3,277,825	100 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	-6,729	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	-154,241	-41.5
Transportation	216,862	6.7	211,506	6.5	-5,356	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	-29,726	-22.6
Retail trade	428,960	13.2	295,803	9.0	-133,157	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	-28,956	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	-11,303	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	681	100.0 %	1,358	100.00 %	677	99.4 %
Car, truck or van	24	3.5	131	9.65	107	445.8
Drove alone	*18*	*75.0*	*123*	*93.89*	*105*	583.3
Carpooled	*6*	*25.0*	*8*	*6.11*	*2*	33.3
Public transportation	246	36.1	592	43.59	346	140.7
Bus, trolley, streetcar	*113*	*45.9*	*155*	*26.18*	*42*	37.2
Subway	*100*	*40.7*	*353*	*59.63*	*253*	253.0
Railroad	*5*	*2.0*	*10*	*1.69*	*5*	100.0
Taxicab	*28*	*11.4*	*74*	*12.50*	*46*	164.3
Ferryboat	*0*	*0.0*	*0*	*0.00*	*0*	0.0
Walked	396	58.1	581	42.78	185	46.7
Worked at home	0	0.0	35	2.58	35	NA
Other means	15	2.2	19	1.40	4	26.7

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	754,148	100.0 %	753,114	100.00 %	-1,034	-0.1 %
Car, truck or van	87,512	11.6	82,754	10.99	-4,758	-5.4
Drove alone	*59,097*	*67.5*	*57,150*	*69.06*	*-1,947*	-3.3
Carpooled	*28,415*	*32.5*	*25,604*	*30.94*	*-2,811*	-9.9
Public transportation	440,228	58.4	449,013	59.62	8,785	2.0
Bus, trolley, streetcar	*109,322*	*24.8*	*76,860*	*17.12*	*-32,462*	-29.7
Subway	*287,412*	*65.3*	*328,246*	*73.10*	*40,834*	14.2
Railroad	*8,336*	*1.9*	*8,309*	*1.85*	*-27*	-0.3
Taxicab	*34,798*	*7.9*	*35,187*	*7.84*	*389*	1.1
Ferryboat	*360*	*0.1*	*411*	*0.09*	*51*	14.2
Walked	173,619	23.0	164,934	21.90	-8,685	-5.0
Worked at home	41,102	5.5	43,853	5.82	2,751	6.7
Other means	11,687	1.5	12,560	1.67	873	7.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.00 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.88	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.70*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.30*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.78	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.93*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.18*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.04*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.19*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.66*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.41	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.89	15,332	20.0
Other means	28,346	0.9	33,409	1.05	5,063	17.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	522	100.0 %	866	100.0 %	344	65.9 %
Owner-occupied housing units	0	0.0	7	0.8	7	NA
Renter-occupied housing units	522	100.0	827	95.5	305	58.4
Vacant housing units	0	0.0	32	3.7	32	NA
Median value*	$0		0		$0	0.0
Median gross rent** **(specified renter-occupied housing units)**	$382		$1,174		$792	207.3

Manhattan	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	785,127	100.0 %	798,144	100.0 %	13,017	1.7 %
Owner-occupied housing units	127,973	16.3	148,695	18.6	20,722	16.2
Renter-occupied housing units	588,449	74.9	589,949	73.9	1,500	0.3
Vacant housing units	68,705	8.8	59,500	7.5	-9,205	-13.4
Median value	$470,700		1,000,000+		$530,000+	112.6
Median gross rent **(specified renter-occupied housing units)**	$513		$796		283	55.2

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value	$187,900		$211,900		$24,000	12.8
Median gross rent **(specified renter-occupied housing units)**	$496		$705		$209	42.1

	Study Area 2000	Percent of Total	*Manhattan* 2000	Percent of Total	*City* 2000	Percent of Total
Year householder moved into unit						
Occupied housing units	834	100.0 %	738,644	100.0 %	3,021,588	100.0 %
1995 to March 2000	528	63.3	334,475	45.3	1,302,494	43.1
1990 to 1994	139	16.7	114,602	15.5	505,389	16.7
1980 to 1989	96	11.5	108,398	14.7	491,479	16.3
1970 to 1979	71	8.5	105,453	14.3	392,605	13.0
1969 or earlier	0	0.0	75,716	10.3	329,621	10.9
Year structure built						
Total housing units	866	100.0 %	798,144	100.0 %	3,200,912	100.0 %
1995 to March 2000	19	2.2	19,032	2.4	70,835	2.2
1990 to 1994	280	32.3	15,039	1.9	61,106	1.9
1980 to 1989	89	10.3	50,562	6.3	157,402	4.9
1970 to 1979	327	37.8	69,001	8.6	276,489	8.6
1960 to 1969	83	9.6	113,765	14.3	485,725	15.2
1959 or earlier	68	7.9	530,745	66.5	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Value reported for Tract 144.02 only.

**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	1,200	100.0 %	2,125	100.0 %	925	77.1 %
Lived in same house	407	33.9	507	23.9	100	24.6
Lived in different house in U.S.	629	52.4	1,393	65.6	764	121.5
New York State	*522*	*83.0*	*379*	*27.2*	*-143*	*-27.4*
Same county	211	40.4	155	40.9	-56	-26.5
Different county	311	59.6	1,238	326.6	927	298.1
Different state	*107*	*17.0*	*859*	*61.7*	*752*	*702.8*
Lived abroad	164	13.7	225	10.6	61	37.2
Puerto Rico	*0*	*0.0*	*0*	*0.0*	*0*	*0.0*

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	1,409,243	100.0 %	1,462,015	100.0 %	52,772	3.7 %
Lived in same house	848,698	60.2	831,282	56.9	-17,416	-2.1
Lived in different house in U.S.	470,729	33.4	526,679	36.0	55,950	11.9
New York State	*351,202*	*74.6*	*371,500*	*70.5*	*20,298*	*5.8*
Same county	224,850	64.0	248,814	67.0	23,964	10.7
Different county	126,352	36.0	122,686	33.0	-3,666	-2.9
Different state	*119,527*	*25.4*	*155,179*	*29.5*	*35,652*	*29.8*
Lived abroad	89,816	6.4	104,054	7.1	14,238	15.9
Puerto Rico	*4,851*	*5.4*	*3,107*	*3.0*	*-1,744*	*-36.0*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Education (School Enrollment and Educational Attainment)

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	1,222	100.0 %	2,150	100.0 %	928	75.9 %
Enrolled in school	216	17.7	1,055	49.1	839	388.4
Pre-primary school	*9*	*4.2*	*31*	*2.9*	*22*	*244.4*
Elementary or high school	*103*	*47.7*	*84*	*8.0*	*-19*	*-18.4*
College or beyond	*104*	*48.1*	*940*	*89.1*	*836*	*803.8*
Years of school completed						
Persons 25 years old and over	1,068	100.0 %	1,219	100.0 %	151	14.1 %
Less than 9th grade	53	5.0	25	2.1	-28	-52.8
Some high school	123	11.5	4	0.3	-119	-96.7
High school graduate only	106	9.9	46	3.8	-60	-56.6
Some college, no degree	88	8.2	54	4.4	-34	-38.6
Associate degree	97	9.1	44	3.6	-53	-54.6
College graduate	601	56.3	1,046	85.8	445	74.0
Bachelor's degree	*265*	*44.1*	*444*	*42.4*	*179*	*67.5*
Graduate or Professional degree	*336*	*55.9*	*602*	*57.6*	*266*	*79.2*

Manhattan	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	1,438,218	100.0 %	1,490,830	100.0 %	52,612	3.7 %
Enrolled in school	332,012	23.1	358,066	24.0	26,054	7.8
Pre-primary school	*18,176*	*5.5*	*35,997*	*10.1*	*17,821*	*98.0*
Elementary or high school	*171,807*	*51.7*	*180,986*	*50.5*	*9,179*	*5.3*
College or beyond	*142,029*	*42.8*	*141,083*	*39.4*	*-946*	*-0.7*
Years of school completed						
Persons 25 years old and over	1,095,317	100.0 %	1,125,987	100.0 %	30,670	2.8 %
Less than 9th grade	136,204	12.4	117,448	10.4	-18,756	-13.8
Some high school	134,725	12.3	122,906	10.9	-11,819	-8.8
High school graduate only	174,018	15.9	151,995	13.5	-22,023	-12.7
Some college, no degree	146,194	13.3	138,579	12.3	-7,615	-5.2
Associate degree	41,887	3.8	38,866	3.5	-3,021	-7.2
College graduate	462,289	42.2	556,193	49.4	93,904	20.3
Bachelor's degree	*242,390*	*52.4*	*292,665*	*52.6*	*50,275*	*20.7*
Graduate or Professional degree	*219,899*	*47.6*	*263,528*	*47.4*	*43,629*	*19.8*

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$34,403		$41,355		$6,952	20.2
Households	609	100.0 %	789	100.0 %	180	29.6 %
Less than $10,000	35	5.7	24	3.0	-11	-31.4
$10,000 to $14,999	0	0.0	0	0.0	0	0.0
$15,000 to $24,999	28	4.6	53	6.7	25	89.3
$25,000 to $34,999	158	25.9	39	4.9	-119	-75.3
$35,000 to $49,999	197	32.3	169	21.4	-28	-14.2
$50,000 to $74,999	99	16.3	169	21.4	70	70.7
$75,000 to $99,999	57	9.4	100	12.7	43	75.4
$100,000 or more	35	5.7	235	29.8	200	571.4
Median Household Income*	$41,091		$68,750		$27,659	67.3
Families	146	100.0 %	326	100.0 %	180	123.3 %
Less than $10,000	11	7.5	6	1.8	-5	-45.5
$10,000 to $14,999	0	0.0	0	0.0	0	0.0
$15,000 to $24,999	5	3.4	8	2.5	3	60.0
$25,000 to $34,999	26	17.8	5	1.5	-21	-80.8
$35,000 to $49,999	11	7.5	37	11.3	26	236.4
$50,000 to $74,999	56	38.4	80	24.5	24	42.9
$75,000 to $99,999	15	10.3	44	13.5	29	193.3
$100,000 or more	22	15.1	146	44.8	124	563.6
Median Family Income**	$60,982		$93,164		$32,182	52.8

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$27,862		$42,922		$15,060	54.1
Households	716,811	100.0 %	739,167	100.0 %	22,356	3.1 %
Less than $10,000	138,153	19.3	106,521	14.4	-31,632	-22.9
$10,000 to $14,999	49,267	6.9	44,437	6.0	-4,830	-9.8
$15,000 to $24,999	97,535	13.6	71,941	9.7	-25,594	-26.2
$25,000 to $34,999	92,639	12.9	70,141	9.5	-22,498	-24.3
$35,000 to $49,999	103,545	14.4	90,586	12.3	-12,959	-12.5
$50,000 to $74,999	96,623	13.5	111,853	15.1	15,230	15.8
$75,000 to $99,999	46,313	6.5	66,838	9.0	20,525	44.3
$100,000 or more	92,736	12.9	176,850	23.9	84,114	90.7
Median Household Income*	$32,262		$47,030		$14,768	45.8
Families	305,368	100.0 %	306,220	100.0 %	852	0.3
Less than $10,000	50,568	16.6	38,486	12.6	-12,082	-23.9 %
$10,000 to $14,999	21,287	7.0	18,617	6.1	-2,670	-12.5
$15,000 to $24,999	40,741	13.3	32,942	10.8	-7,799	-19.1
$25,000 to $34,999	34,029	11.1	28,966	9.5	-5,063	-14.9
$35,000 to $49,999	38,196	12.5	33,551	11.0	-4,645	-12.2
$50,000 to $74,999	41,053	13.4	37,729	12.3	-3,324	-8.1
$75,000 to $99,999	22,258	7.3	25,176	8.2	2,918	13.1
$100,000 or more	57,236	18.7	90,753	29.6	33,517	58.6
Median Family Income**	$36,831		$50,229		$13,398	36.4

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-40.7
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-36.2
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-23.9
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-8.7
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	44.4
$75,000 to $99,999	169,956	6.0	275,552	9.1	103,596	50.2
$100,000 or more	179,250	6.4	413,989	13.7	234,739	113.8
Median Household Income*	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income**	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Because of the inconsistencies with the data for tract 317.02 (see below), the numbers reported for each of the three income categories were those from census tract 147.

**For 2000, includes all earning less than $10,000.

***The data in this table are not adjusted for inflation.

Poverty Status (All income levels in 1989)

Study Area (tr 147, 317.02), Borough of Manhattan, and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	146	100.0 %	326	100.0 %	180	123.3 %
Below the poverty level	5	3.4	6	1.8	1	20.0
With related children under 18 years	82	56.2	143	43.9	61	74.4
Below the poverty level	*0*	*0.0*	*0*	*0.0*	0	0.0
Female householder, no husband present	50	34.2	60	18.4	10	20.0
Below the poverty level	*5*	*10.0*	*0*	*0.0*	-5	-100.0
With related children under 18 years	*34*	*68.0*	*17*	*28.3*	-17	-50.0
Below the poverty level	0	0.0	0	0.0	0	0.0
Persons for whom poverty status is determined	904	100.0 %	1,337	100.0 %	433	47.9 %
Below the poverty level	47	5.2	50	3.7	3	6.4
Persons under 18 years	131	14.5	175	13.1	44	33.6
Below the poverty level	*0*	*0.0*	*0*	*0.0*	0	0.0
65 years and over	30	3.3	59	4.4	29	96.7
Below the poverty level	*5*	*16.7*	*0*	*0.0*	-5	-100.0

Manhattan

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	305,368	100.0 %	306,220	100.0 %	852	0.3 %
Below the poverty level	53,160	17.4	53,792	17.6	632	1.2
With related children under 18 years	139,183	45.6	148,247	48.4	9,064	6.5
Below the poverty level	*40,891*	*29.4*	*39,756*	*26.8*	-1,135	-2.8
Female householder, no husband present	92,925	30.4	91,594	29.9	-1,331	-1.4
Below the poverty level	*34,952*	*37.6*	*33,157*	*36.2*	-1,795	-5.1
With related children under 18 years	*57,018*	*61.4*	*58,781*	*64.2*	1,763	3.1
Below the poverty level	29,763	52.2	27,084	46.1	-2,679	-9.0
Persons for whom poverty status is determined	1,450,698	100.0 %	1,491,423	100.0 %	40,725	2.8 %
Below the poverty level	297,617	20.5	298,231	20.0	614	0.2
Persons under 18 years	*241,208*	16.6	*249,149*	16.7	7,941	3.3
Below the poverty level	87,401	*36.2*	79,944	*32.1*	-7,457	-8.5
65 years and over	*191,938*	13.2	*181,112*	12.1	-10,826	-5.6
Below the poverty level	36,982	*19.3*	34,290	*18.9*	-2,692	-7.3

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	*224,988*	*24.8*	*266,616*	*25.8*	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	*179,357*	*35.3*	*194,083*	*34.3*	14,726	8.2
With related children under 18 years	*324,124*	*63.7*	*375,869*	*66.3*	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	*496,999*	*30.1*	*571,756*	*30.3*	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	*150,322*	*16.5*	*160,277*	*17.8*	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Population by Age and Sex Cohort

Study Area (tr 0455), Borough of Brooklyn and New York City

1990

Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	1	11.1 %	0	0.0	1	11.1 %
5 to 19	1	11.1	0	0.0	1	11.1
20 to 34	3	33.3	4	44.4	6	66.7
35 to 49	0	0.0	0	0.0	0	-
50 to 64	0	0.0	1	11.1	1	11.1
65 +	0	0.0	0	0.0	0	-
Total	5	55.6	5	55.6	9	100.0

Brooklyn

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	86,449	3.8 %	89,601	3.9 %	176,050	7.7 %
5 to 19	244,171	10.6	249,319	10.8	493,490	21.4
20 to 34	304,114	13.2	274,367	11.9	578,481	25.1
35 to 49	246,880	10.7	213,789	9.3	460,669	20.0
50 to 64	171,003	7.4	134,060	5.8	305,063	13.3
65 +	178,895	7.8	108,016	4.7	286,911	12.5
Total	1,231,512	53.5	1,069,152	46.5	2,300,664	100.0

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	246,080	3.4 %	256,028	3.5 %	502,108	6.9 %
5 to 19	677,804	9.3	698,633	9.5	1,376,437	18.8
20 to 34	995,979	13.6	935,292	12.8	1,931,271	26.4
35 to 49	813,196	11.1	724,634	9.9	1,537,830	21.0
50 to 64	562,017	7.7	460,170	6.3	1,022,187	14.0
65 +	597,119	8.2	355,612	4.9	952,731	13.0
Total	3,892,195	53.2	3,430,369	46.8	7,322,564	100.0

2000

Study Area

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	5	4.9 %	2	1.9 %	55	53.4 %
5 to 19	5	4.9	4	3.9	9	8.7
20 to 34	9	8.7	12	11.7	21	20.4
35 to 49	8	7.8	2	1.9	10	9.7
50 to 64	3	2.9	4	3.9	7	6.8
65 +	1	1.0	0	0.0	1	1.0
Total	31	30.1	24	23.3	103	100.0

Brooklyn

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	87,471	3.9 %	90,949	4.0 %	178,420	7.9 %
5 to 19	228,071	10.1	232,107	10.2	460,178	20.3
20 to 34	305,445	13.5	279,139	12.3	584,584	25.8
35 to 49	246,393	10.9	212,458	9.4	458,851	20.3
50 to 64	166,881	7.4	131,462	5.8	298,343	13.2
65 +	177,692	7.8	107,365	4.7	285,057	12.6
Total	1,211,953	53.5	1,053,480	46.5	2,265,433	100.0

City

Age	Female	Percent of Total	Male	Percent of Total	Total	Percent of Total
under 5	260,119	3.2 %	272,557	3.4 %	532,676	6.7 %
5 to 19	787,124	9.8	823,148	10.3	1,610,272	20.1
20 to 34	1,002,652	12.5	933,782	11.7	1,936,434	24.2
35 to 49	955,355	11.9	878,401	11.0	1,833,756	22.9
50 to 64	637,071	8.0	518,699	6.5	1,155,770	14.4
65 +	581,864	7.3	357,506	4.5	939,370	11.7
Total	4,224,185	52.7	3,784,093	47.3	8,008,278	100.0

1990 - 2000

Study Area

Age	Total Change	Percent Change
under 5	54	NA %
5 to 19	8	800.0
20 to 34	15	250.0
35 to 49	10	NA
50 to 64	6	600.0
65 +	1	NA
Total	94	1044.4

Brooklyn

Age	Total Change	Percent Change
under 5	2,370	1.3 %
5 to 19	-33,312	-6.8
20 to 34	6,103	1.1
35 to 49	-1,818	-0.4
50 to 64	-6,720	-2.2
65 +	-1,854	-0.6
Total	-35,231	-1.5

City

Age	Total Change	Percent Change
under 5	30,568	6.1 %
5 to 19	233,835	17.0
20 to 34	5,163	0.3
35 to 49	295,926	19.2
50 to 64	133,583	13.1
65 +	-13,361	-1.4
Total	685,714	9.4

Source: United States Bureau of the Census. *1990 Decennial Census of Population and Housing, Summary Tape Files 3* . As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Race and Hispanic Origin

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	9	100.0 %	**Total Persons**	55	100.0 %	46	511.1 %
Not of Hispanic Origin	9	100.0	Not of Hispanic Origin	28	50.9	19	211.1
White	0	*0.0*	*White alone*	36	*128.6*		
Black	9	*100.0*	*Black or African American alone*	2	*7.1*		
American Indian, Eskimo, or Aleut	0	*0.0*	*American Indian and Alaska Native alone*	0	*0.0*		
Asian or Pacific Islander	0	*0.0*	*Asian alone*	0	*0.0*		
Other race	0	*0.0*	*Native Hawaiian and Other Pacific Islander alon*	0	*0.0*		
			Some other race alone	17	*60.7*		
			Two or more races	0	*0.0*		
Hispanic Origin	0	0.0	Hispanic Origin	27	49.1	27	NA

Brooklyn

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	2,300,664	100.0 %	**Total Persons**	2,465,326	100.0 %	164,662	7.2
Not of Hispanic Origin	1,853,059	80.5	Not of Hispanic Origin	1,977,163	80.2	124,104	6.7
White	*928,255*	*50.1*	*White alone*	*854,653*	*43.2*		
Black	*806,864*	*43.5*	*Black or African American alone*	*844,568*	*42.7*		
American Indian, Eskimo, or Aleut	*4,443*	*0.2*	*American Indian and Alaska Native alone*	*4,230*	*0.2*		
Asian or Pacific Islander	*108,461*	*5.9*	*Asian alone*	*184,498*	*9.3*		
Other race	*5,036*	*0.3*	*Native Hawaiian and Other Pacific Islander alon*	*898*	*0.0*		
			Some other race alone	*16,067*	*0.8*		
			Two or more races	*72,249*	*3.7*		
Hispanic Origin	447,605	19.5	Hispanic Origin	488,163	19.8	40,558	9.1

City

	1990	Percent of Total		2000	Percent of Total	1990-2000 Change	Percent Change
Total Persons	7,322,564	100.0 %	**Total Persons**	8,008,278	100.0 %	685,714	9.4
Not of Hispanic Origin	5,584,637	76.3	Not of Hispanic Origin	5,846,748	73.0	262,111	4.7
White	*3,178,712*	*56.9*	*White alone*	*2,801,995*	*47.9*		
Black	*1,874,892*	*33.6*	*Black or African American alone*	*1,952,953*	*33.4*		
American Indian, Eskimo, or Aleut	*15,149*	*0.3*	*American Indian and Alaska Native alone*	*16,022*	*0.3*		
Asian or Pacific Islander	*496,287*	*8.9*	*Asian alone*	*781,736*	*13.4*		
Other race	*19,597*	*0.4*	*Native Hawaiian and Other Pacific Islander alon*	*2,711*	*0.0*		
			Some other race alone	*57,145*	*1.0*		
			Two or more races	*234,186*	*4.0*		
Hispanic Origin	1,737,927	23.7	Hispanic Origin	2,161,530	27.0	423,603	24.4

**2000 Census introduced option of identifying self as two- or more races, thus categories are not comparable from 1990 to 2000, except for larger grouping, Hispanic/non-Hispanic.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Language Spoken at Home and Ability to Speak English

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	0	100.0 %	30	100 %	30	NA %
Speak a language other than English at home	0	NA	21	70.0	21	NA
Does not speak English "very well"	0	NA	7	33.3	7	NA
Speaks Spanish at home	0	NA	21	100.0	21	NA
Does not speak English "very well"	0	NA	7	33.3	7	NA
Speaks Asian or Pacific Islander language	0	NA	0	0.0	0	NA
Does not speak English "very well"	0	0.0	0	NA	0	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	2,124,614	100.0 %	2,285,223	100.0 %	160,609	7.6 %
Speak a language other than English at home	844,374	39.7	1,068,102	46.7	223,728	26.5
Does not speak English "very well"	197,382	23.4	281,941	26.4	84,559	42.8
Speaks Spanish at home	382,469	45.3	411,346	38.5	28,877	7.6
Does not speak English "very well"	91,929	24.0	109,935	26.7	18,006	19.6
Speaks Asian or Pacific Islander language	79,523	9.4	133,776	12.5	54,253	68.2
Does not speak English "very well"	33,734	42.4	58,636	43.8	24,902	73.8

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Speak a language other than English at home	2,793,773	41.0	3,554,805	47.6	761,032	27.2
Does not speak English "very well"	671,142	24.0	915,160	25.7	244,018	36.4
Speaks Spanish at home	1,498,548	53.6	1,832,402	51.5	333,854	22.3
Does not speak English "very well"	399,108	26.6	516,880	28.2	117,772	29.5
Speaks Asian or Pacific Islander language	354,684	12.7	515,157	14.5	160,473	45.2
Does not speak English "very well"	129,820	36.6	189,381	36.8	59,561	45.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Family Status

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	2	100.0 %	6	100.0 %	4	200.0 %
With own children under 18 years	1	50.0	5	83.3	4	400.0
Married-couple families	1	50.0	4	66.7	3	300.0
With own children under 18 years	1	100.0	3	75.0	2	200.0
Female householder, no husband present	0	0.0	1	16.7	1	NA
With own children under 18 years	0	0.0	1	100.0	1	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
With own children under 18 years	179,445	31.9	299,671	50.9	120,226	67.0
Married-couple families	347,432	61.7	349,980	59.4	2,548	0.7
With own children under 18 years	89,686	25.8	176,186	50.3	86,500	96.4
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
With own children under 18 years	78,808	44.0	107,110	55.4	28,302	35.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families (total)	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
With own children under 18 years	536,565	30.6	919,675	49.2	383,110	71.4
Married-couple families	1,130,660	64.4	1,154,636	61.8	23,976	2.1
With own children under 18 years	277,530	24.5	556,012	48.2	278,482	100.3
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
With own children under 18 years	224,139	44.1	310,287	54.8	86,148	38.4

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Household Type and Composition

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990		2000		1990-2000 Change	Percent Change
Number of Households	2		21		19	950.0 %
Total Persons	9	100.0 %	55	100.0 %	46	511.1
In households	9	100.0	55	100.0	46	511.1
Total Persons per household*	4.50		2.62		-1.88	-41.8

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	827,679		881,006		53,327	6.4 %
Total Persons	2,300,664	100.0 %	2,465,326	100.0 %	164,662	19.9
In households	2,266,754	98.5	2,426,044	98.4	159,290	7.0
Total Persons per household*	2.74		2.75		0.02	0.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Number of Households	2,816,274		3,022,477		206,203	7.3 %
Total Persons	7,322,564	100.0 %	8,008,278	100.0 %	685,714	9.4
In households	7,156,015	97.7	7,826,067	97.7	670,052	9.4
Total Persons per household*	2.54		2.59		0.05	1.9

**Total persons per household is the calculation of "Total persons in households" divided by "Number of households."

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Labor Force and Class of Worker

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	0	NA %	30	100.0 %	30	NA %
Labor force	0	NA	23	76.7	23	NA
Not in labor force	0	NA	7	23.3	7	NA
Employed persons 16 years and over	0	NA %	23	100.0 %	23	NA %
Private wage and salary worker	0	NA	7	30.4	7	NA
Government worker	0	NA	7	30.4	7	NA
Self-employed worker	0	NA	9	39.1	9	NA
Unpaid family worker	0	NA	0	0.0	0	0.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Persons 16 years and over	2,483,739	100.0 %	1,877,751	100.0 %	-605,988	-24.4 %
Labor force	1,760,921	70.9	1,039,512	55.4	-721,409	-41.0
Not in labor force	722,818	29.1	838,239	44.6	115,421	16.0
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Private wage and salary worker	687,217	73.9	707,740	76.3	20,523	3.0
Government worker	197,875	21.3	171,085	18.5	-26,790	-13.5
Self-employed worker	41,497	4.5	45,971	5.0	4,474	10.8
Unpaid family worker	2,746	0.3	2,234	0.2	-512	-18.6

City

	1990		2000		1990-2000 Change	Percent Change
Persons 16 years and over	5,817,015	100.0 %	6,279,431	100.0 %	462,416	7.9 %
Labor force	3,586,428	61.7	3,626,865	57.8	40,437	1.1
Not in labor force	2,230,587	38.3	2,652,566	42.2	421,979	18.9
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Private wage and salary worker	2,478,254	76.1	2,553,998	77.9	75,744	3.1
Government worker	588,006	18.1	527,902	16.1	-60,104	-10.2
Self-employed worker	181,294	5.6	188,054	5.7	6,760	3.7
Unpaid family worker	10,083	0.3	7,871	0.2	-2,212	-21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Occupation (employment by place of residence)*

Study Area (tr 0455), Borough of Brooklyn and New York City

	1990 *Study Area*	Percent of Total	1990 *Brooklyn*	Percent of Total	1990 *City*	Percent of Total
Employed persons 16 years and over	0	NA %	929,335	100.0 %	3,257,637	100.0 %
Managerial and professional specialty occupations	0	NA	238,745	25.7	995,364	30.6
Executive, administrative, and managerial occupations	0	NA	103,826	43.5	440,090	44.2
Professional specialty occupations	0	NA	134,919	56.5	555,274	55.8
Technical, sales, and administrative support occupations	0	NA	326,137	35.1	1,108,923	34.0
Technicians and related support occupations	0	NA	28,864	8.9	101,012	9.1
Sales occupations	0	NA	85,300	26.2	335,477	30.3
Administrative support occupations, including clerical	0	NA	211,973	65.0	672,434	60.6
Service occupations	0	NA	161,625	17.4	520,974	16.0
Private household occupations	0	NA	7,548	4.7	24,211	4.6
Protective service occupations	0	NA	28,093	17.4	89,619	17.2
Service occupations, except protective and household	0	NA	125,984	77.9	407,144	78.2
Farming, forestry, and fishing occupations	0	NA	2,316	0.2	8,352	0.3
Precision production, craft, and repair occupations	0	NA	76,960	8.3	244,817	7.5
Operators, fabricators, and laborers	0	NA	123,552	13.3	379,207	11.6
Machine operators, assemblers, and inspectors	0	NA	52,816	42.7	158,981	41.9
Transportation and material moving occupations	0	NA	38,281	31.0	120,642	31.8
Handlers, equipment cleaners, helpers, and laborers	0	NA	32,455	26.3	99,584	26.3

	2000 *Study Area*	Percent of Total	2000 *Brooklyn*	Percent of Total	2000 *City*	Percent of Total
Employed persons 16 years and over		NA %	927,030	100.0 %	3,277,825	100.0 %
Management, professional, and related occupations:	16	NA	301,569	32.5	1,206,052	36.8
Management, business, and financial operations occupations:		NA	98,608	32.7	441,805	36.6
Professional and related occupations:		NA	202,961	67.3	764,247	63.4
Healthcare practitioners and technical occupations:		NA	38,856	12.9	146,885	12.2
Service occupations:		NA	187,461	20.2	608,383	18.6
Healthcare support occupations		NA	52,420	28.0	131,141	21.6
Protective service occupations:		NA	30,181	16.1	96,073	15.8
Food preparation and serving related occupations		NA	36,639	19.5	146,025	24.0
Building and grounds cleaning and maintenance occupations		NA	36,828	19.6	124,119	20.4
Personal care and service occupations		NA	31,393	16.7	111,025	18.2
Sales and office occupations:	7	NA	256,891	27.7	896,486	27.4
Farming, fishing, and forestry occupations		NA	501	0.1	1,464	0.0
Construction, extraction, and maintenance occupations:		NA	67,024	7.2	209,665	6.4
Production, transportation, and material moving occupations:		NA	113,584	12.3	355,775	10.9
Production occupations		NA	57,419	50.6	176,684	49.7
Transportation and material moving occupations:		NA	56,165	49.4	179,091	50.3

*The 2000 Census introduced a new set of occupational categories; therefore, the change in employment trends 1990-2000 is not quantified as part of this study.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Industry Sector (employment by place of residence)*

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	0	100.0 %		100.0 %	0	NA %
Agriculture, forestry, fisheries, and mining	0	NA		NA	0	0.0
Construction	0	NA		NA	0	NA
Manufacturing	0	NA		NA	0	NA
Transportation	0	NA		NA	0	NA
Communications and other public utilities	0	NA	NA		NA	
Wholesale trade	0	NA		NA	0	NA
Retail trade	0	NA	7	30.4	7	NA
Finance, insurance, and real estate	0	NA		NA	0	NA
Business and repair services	0	NA	NA		NA	
Personal, entertainment, and recreations services	0	NA		NA	0	NA
Professional and related services	0	NA		NA	0	NA
Health services	*0*	NA		*NA*	0	NA
Educational services	*0*	NA	*7*	*30.4*	7	NA
Other professional and related services	*0*	NA	*9*	*39.1*	9	NA
Public administration	0	NA		NA	0	NA
Information	NA			NA	NA	
Other services (except public administration)	NA			NA	NA	

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Employed persons 16 years and over	929,335	100.0 %	927,030	100.0 %	-2,305	-0.2 %
Agriculture, forestry, fisheries, and mining	2,404	0.3	571	0.1	-1,833	-76.2
Construction	41,299	4.4	44,696	4.8	3,397	8.2
Manufacturing	108,538	11.7	68,428	7.4	-40,110	-37.0
Transportation	65,496	7.0	66,453	7.2	957	1.5
Communications and other public utilities	24,662	2.7	NA		NA	
Wholesale trade	35,727	3.8	29,023	3.1	-6,704	-18.8
Retail trade	116,498	12.5	83,926	9.1	-32,572	-28.0
Finance, insurance, and real estate	116,935	12.6	94,825	10.2	-22,110	-18.9
Business and repair services	56,589	6.1	NA		NA	
Personal, entertainment, and recreations services	45,883	4.9	64,807	7.0	18,924	41.2
Professional and related services	265,168	28.5	336,296	36.3	71,128	26.8
Health services	*105,786*	*39.9*	*154,896*	*46.1*	49,110	46.4
Educational services	*78,846*	*29.7*	*84,571*	*25.1*	5,725	7.3
Other professional and related services	*80,536*	*30.4*	*96,829*	*28.8*	16,293	20.2
Public administration	50,136	5.4	43,443	4.7	-6,693	-13.3
Information	NA		41,639	4.5	NA	
Other services (except public administration)	NA		52,923	5.7	NA	

City

	1990		2000		1990-2000 Change	Percent Change
Employed persons 16 years and over	3,257,637	100.0 %	3,277,825	100.0 %	20,188	0.6 %
Agriculture, forestry, fisheries, and mining	8,830	0.3	2,101	0.1	-6,729	-76.2
Construction	133,954	4.1	139,385	4.3	5,431	4.1
Manufacturing	371,843	11.4	217,602	6.6	-154,241	-41.5
Transportation	216,862	6.7	211,506	6.5	-5,356	-2.5
Communications and other public utilities	87,396	2.7	NA		NA	
Wholesale trade	131,538	4.0	101,812	3.1	-29,726	-22.6
Retail trade	428,960	13.2	295,803	9.0	-133,157	-31.0
Finance, insurance, and real estate	401,765	12.3	372,809	11.4	-28,956	-7.2
Business and repair services	212,276	6.5	NA		NA	
Personal, entertainment, and recreations services	181,047	5.6	272,210	8.3	91,163	50.4
Professional and related services	925,056	28.4	1,156,861	35.3	231,805	25.1
Health services	*348,893*	*37.7*	*484,831*	*41.9*	135,938	39.0
Educational services	*258,237*	*27.9*	*281,074*	*24.3*	22,837	8.8
Other professional and related services	*317,926*	*34.4*	*390,956*	*33.8*	73,030	23.0
Public administration	158,110	4.9	146,807	4.5	-11,303	-7.1
Information	NA		173594	5.3	NA	
Other services (except public administration)	NA		187335	5.7	NA	

* The 2000 Census introduced a new set of industrial sectors categories; therefore, the change in industrial trends 1990-2000 is quantified only where industrial sectors categories remain comparable.

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Means of Commutation

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	0	100.0 %	23	100.0 %	23	NA %
Car, truck or van	0	NA	0	0.0	0	NA
Drove alone	0	NA	0	NA	0	NA
Carpooled	0	NA	0	NA	0	NA
Public transportation	0	NA	14	60.9	14	NA
Bus, trolley, streetcar	0	NA	0	0.0	0	NA
Subway	0	NA	0	0.0	0	NA
Railroad	0	NA	0	0.0	0	NA
Taxicab	0	NA	0	0.0	0	0.0
Ferryboat	0	NA	0	0.0	0	0.0
Walked	0	NA	0	0.0	0	NA
Worked at home	0	NA	9	39.1	9	NA
Other means	0	NA	0	0.0	0	NA
	0	NA	46	100.0		

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	907,010	100.0 %	901,027	100.0 %	-5,983	-0.7 %
Car, truck or van	283,765	31.3	274,301	30.4	-9,464	-3.3
Drove alone	*204,182*	*72.0*	*202,070*	*73.7*	*-2,112*	-1.0
Carpooled	*79,583*	*28.0*	*72,231*	*26.3*	*-7,352*	-9.2
Public transportation	526,303	58.0	517,635	57.4	-8,668	-1.6
Bus, trolley, streetcar	*107,343*	*20.4*	*95,566*	*18.5*	*-11,777*	-11.0
Subway	*399,067*	*75.8*	*403,327*	*77.9*	*4,260*	1.1
Railroad	*13,775*	*2.6*	*12,169*	*2.4*	*-1,606*	-11.7
Taxicab	*5,672*	*1.1*	*6,149*	*1.2*	*477*	8.4
Ferryboat	*446*	*0.1*	*424*	*0.1*	*-22*	-4.9
Walked	75,664	8.3	78,933	8.8	3,269	4.3
Worked at home	14,510	1.6	20,663	2.3	6,153	42.4
Other means	6,768	0.7	9,495	1.1	2,727	40.3
	907,010	100.0	901,027	100.0		

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Workers 16 years and over	3,183,088	100.0 %	3,192,070	100.0 %	8,982	0.3 %
Car, truck or van	1,036,654	32.6	1,049,396	32.9	12,742	1.2
Drove alone	*765,151*	*73.8*	*794,422*	*75.7*	*29,271*	3.8
Carpooled	*271,503*	*26.2*	*254,974*	*24.3*	*-16,529*	-6.1
Public transportation	1,701,192	53.4	1,684,850	52.8	-16,342	-1.0
Bus, trolley, streetcar	*411,415*	*24.2*	*369,509*	*21.9*	*-41,906*	-10.2
Subway	*1,168,346*	*68.7*	*1,199,226*	*71.2*	*30,880*	2.6
Railroad	*54,716*	*3.2*	*51,141*	*3.0*	*-3,575*	-6.5
Taxicab	*50,096*	*2.9*	*53,781*	*3.2*	*3,685*	7.4
Ferryboat	*16,619*	*1.0*	*11,193*	*0.7*	*-5,426*	-32.6
Walked	340,077	10.7	332,264	10.4	-7,813	-2.3
Worked at home	76,819	2.4	92,151	2.9	15,332	20.0
Other means	28,346	0.9	33,409	1.0	5,063	17.9
	3,183,088	100.0	3,192,070	100.0		

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Housing

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2	NA %	21	100.0 %	19	NA %
Owner-occupied housing units	0	NA	2	9.5	2	NA
Renter-occupied housing units	2	NA	19	90.5	17	NA
Vacant housing units	0	NA	0	0.0	0	NA
Median value*	$0		$0		$0	NA
Median gross rent** (specified renter-occupied housing units)	$500		$813		$313	NA

Brooklyn	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	873,671	100.0 %	930,866	100.0 %	57,195	6.5 %
Owner-occupied housing units	215,843	24.7	238,290	25.6	22,447	10.4
Renter-occupied housing units	612,356	70.1	642,437	69.0	30,081	4.9
Vacant housing units	45,472	5.2	50,139	5.4	4,667	10.3
Median value	$194,600		$224,100		$29,500	15.2
Median gross rent (specified renter-occupied housing units)	$477		$672		$195	40.9

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Total housing units	2,992,169	100.0 %	3,200,912	100.0 %	208,743	7.0 %
Owner-occupied housing units	808,901	27.0	912,133	28.5	103,232	12.8
Renter-occupied housing units	2,010,500	67.2	2,109,455	65.9	98,955	4.9
Vacant housing units	172,768	5.8	179,324	5.6	6,556	3.8
Median value	$187,900		$211,900		$24,000	12.8
Median gross rent (specified renter-occupied housing units)	$496		$705		$209	42.1

	Study Area 2000	Percent of Total	*Brooklyn* 2000	Percent of Total	*City* 2000	Percent of Total
Year householder moved into unit						
Occupied housing units	484	100.0 %	880,727	100.0 %	3,021,588	100.0 %
1995 to March 2000	203	41.9	375,631	42.7	1,302,494	43.1
1990 to 1994	88	18.2	155,311	17.6	505,389	16.7
1980 to 1989	121	25.0	149,472	17.0	491,479	16.3
1970 to 1979	50	10.3	107,784	12.2	392,605	13.0
1969 or earlier	22	4.5	92,529	10.5	329,621	10.9
Year structure built						
Total housing units	521	100.0 %	930,866	100.0 %	3,200,912	100.0 %
1995 to March 2000	5	1.0	15,647	1.7	70,835	2.2
1990 to 1994	0	0.0	13,836	1.5	61,106	1.9
1980 to 1989	0	0.0	30,099	3.2	157,402	4.9
1970 to 1979	51	9.8	67,095	7.2	276,489	8.6
1960 to 1969	47	9.0	123,594	13.3	485,725	15.2
1959 or earlier	418	80.2	680,595	73.1	2,149,355	67.1

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Value reported for Tract 455 only.

**Reported for the census tract with lowest value or lowest median value.

Residential Mobility

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	0	NA %	30	100.0 %	30	NA %
Lived in same house	0	NA	21	70.0	21	NA
Lived in different house in U.S.	0	NA	9	30.0	9	NA
New York State	0	NA	9	100.0	9	NA
Same county	0	NA	0	0.0	0	NA
Different county	0	NA	9	100.0	9	NA
Different state	0	NA	0	0.0	0	NA
Lived abroad	0	NA	0	0.0	0	NA
Puerto Rico	0	NA	0	NA	0	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	2,124,614	100.0 %	2,445,529	100.0 %	320,915	15.1 %
Lived in same house	1,366,689	64.3	1,436,657	58.7	69,968	5.1
Lived in different house in U.S.	613,831	28.9	848,566	34.7	234,735	38.2
New York State	*564,282*	*91.9*	*625,382*	*73.7*	*61,100*	*10.8*
Same county	478,924	84.9	522,749	83.6	43,825	9.2
Different county	85,358	15.1	102,633	16.4	17,275	20.2
Different state	*49,549*	*8.1*	*62,878*	*7.4*	*13,329*	*26.9*
Lived abroad	144,094	6.8	160,306	6.6	16,212	11.3
Puerto Rico	*8,096*	*5.6*	*5,289*	*3.3*	*-2,807*	*-34.7*

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Residence five years prior to the census						
Persons 5 years of age and over	6,820,456	100.0 %	7,475,602	100.0 %	655,146	9.6 %
Lived in same house	4,301,304	63.1	4,562,898	61.0	261,594	6.1
Lived in different house in U.S.	2,062,493	30.2	2,391,061	32.0	328,568	15.9
New York State	*1,821,936*	*88.3*	2,089,818	*87.4*	*267,882*	*14.7*
Same county	1,343,137	73.7	1,566,156	74.9	223,019	16.6
Different county	478,799	26.3	523,662	25.1	44,863	9.4
Different state	*240,557*	*11.7*	301,243	*12.6*	*60,686*	*25.2*
Lived abroad	456,659	6.7	521,643	7.0	64,984	14.2
Puerto Rico	*30,471*	*6.7*	25,063	*4.8*	*-5,408*	*-17.7*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Income Level (1989, 1999)***

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$0		$29,773		$29,773	NA
Households	0	NA %	16	0.0 %	16	NA %
Less than $10,000	0	NA	0	0.0	0	NA
$10,000 to $14,999	0	NA	0	0.0	0	NA
$15,000 to $24,999	0	NA	0	0.0	0	NA
$25,000 to $34,999	0	NA	0	0.0	0	NA
$35,000 to $49,999	0	NA	0	0.0	0	NA
$50,000 to $74,999	0	NA	0	0.0	0	NA
$75,000 to $99,999	0	NA	0	0.0	0	NA
$100,000 or more	0	NA	7	43.8	7	NA
Median Household Income'	$0		$17,222		$17,222	NA
Families	0	NA %	0	NA %	0	NA %
Less than $10,000	0	NA	0	NA	0	NA
$10,000 to $14,999	0	NA	0	NA	0	NA
$15,000 to $24,999	0	NA	0	NA	0	NA
$25,000 to $34,999	0	NA	0	NA	0	NA
$35,000 to $49,999	0	NA	0	NA	0	NA
$50,000 to $74,999	0	NA	0	NA	0	NA
$75,000 to $99,999	0	NA	0	NA	0	NA
$100,000 or more	0	NA	7	NA	7	NA
Median Family Income*'	$0		$102,264		$102,264	NA

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$12,388		$16,775		$4,387	35.4
Households	827,679	100.0 %	881,006	100.0 %	53,327	6.4 %
Less than $10,000	196,205	23.7	169,849	19.3	-26,356	-13.4
$10,000 to $14,999	70,317	8.5	74,280	8.4	3,963	5.6
$15,000 to $24,999	137,608	16.6	114,571	13.0	-23,037	-16.7
$25,000 to $34,999	118,349	14.3	107,095	12.2	-11,254	-9.5
$35,000 to $49,999	126,452	15.3	126,402	14.3	-50	0.0
$50,000 to $74,999	106,814	12.9	136,962	15.5	30,148	28.2
$75,000 to $99,999	40,917	4.9	68,813	7.8	27,896	68.2
$100,000 or more	31,017	3.7	83,034	9.4	52,017	167.7
Median Household Income'	$25,684		$32,135		$6,451	25.1
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Less than $10,000	102,120	18.1	88,633	15.1	-13,487	-13.2
$10,000 to $14,999	44,592	7.9	47,382	8.0	2,790	6.3
$15,000 to $24,999	92,345	16.4	77,426	13.1	-14,919	-16.2
$25,000 to $34,999	81,472	14.5	72,738	12.4	-8,734	-10.7
$35,000 to $49,999	95,016	16.9	85,883	14.6	-9,133	-9.6
$50,000 to $74,999	86,895	15.4	98,635	16.7	11,740	13.5
$75,000 to $99,999	34,778	6.2	52,237	8.9	17,459	50.2
$100,000 or more	26,065	4.6	65,936	11.2	39,871	153.0
Median Family Income*'	$30,033		$36,188		$6,155	20.5

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Per capita income*	$16,281		$22,402		$6,121	37.6
Households	2,816,274	100.0 %	3,022,477	100.0 %	206,203	7.3 %
Less than $10,000	569,303	20.2	485,306	16.1	-83,997	-14.8
$10,000 to $14,999	212,526	7.5	214,421	7.1	1,895	0.9
$15,000 to $24,999	428,978	15.2	354,413	11.7	-74,565	-17.4
$25,000 to $34,999	395,984	14.1	346,777	11.5	-49,207	-12.4
$35,000 to $49,999	448,153	15.9	430,297	14.2	-17,856	-4.0
$50,000 to $74,999	412,124	14.6	503,722	16.7	91,598	22.2
$75,000 to $99,999	169,956	6.0	273,552	9.1	103,596	61.0
$100,000 or more	179,250	6.4	413,989	13.7	234,739	131.0
Median Household Income'	$29,823		$38,293		$8,470	28.4
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Less than $10,000	269,927	15.4	239,026	12.8	-30,901	-11.4
$10,000 to $14,999	119,966	6.8	121,766	6.5	1,800	1.5
$15,000 to $24,999	258,707	14.7	219,424	11.7	-39,283	-15.2
$25,000 to $34,999	241,975	13.8	216,498	11.6	-25,477	-10.5
$35,000 to $49,999	298,556	17.0	269,417	14.4	-29,139	-9.8
$50,000 to $74,999	304,424	17.3	327,498	17.5	23,074	7.6
$75,000 to $99,999	130,152	7.4	190,152	10.2	60,000	46.1
$100,000 or more	132,011	7.5	286,028	15.3	154,017	116.7
Median Family Income*'	$34,360		$41,887		$7,527	21.9

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

*Reported for the census tract with lowest value or lowest median value

**For 2000, includes all earning less than $10,000

***The data in this table are not adjusted for inflation

Education (School Enrollment and Educational Attainment)

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	0	100.0 %	0	100.0 %	0	NA %
Enrolled in school	0	NA	0	NA	0	NA
Pre-primary school	*0*	NA	*0*	NA	*0*	NA
Elementary or high school	*0*	NA	*0*	NA	*0*	NA
College or beyond	*0*	NA	*0*	NA	*0*	NA
Years of school completed						
Persons 25 years old and over	0	NA %	30	100.0 %	30	NA %
Less than 9th grade	0	NA	0	0.0	0	NA
Some high school	0	NA	0	0.0	0	NA
High school graduate only	0	NA	7	23.3	7	NA
Some college, no degree	0	NA	7	23.3	7	NA
Associate degree	0	NA	0	0.0	0	NA
College graduate	0	NA	16	53.3	16	NA
Bachelor's degree	*0*	NA	*9*	*56.3*	*9*	NA
Graduate or Professional degree	*0*	NA	*7*	*43.8*	*7*	NA

Brooklyn	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	2,193,723	100.0 %	2,357,861	100.0 %	164,138	7.5 %
Enrolled in school	643,175	29.3	731,672	31.0	88,497	13.8
Pre-primary school	*35,120*	*5.5*	*86,054*	*11.8*	*50,934*	*145.0*
Elementary or high school	*427,938*	*66.5*	*471,408*	*64.4*	*43,470*	*10.2*
College or beyond	*180,117*	*28.0*	*174,210*	*23.8*	*-5,907*	*-3.3*
Years of school completed						
Persons 25 years old and over	1,457,904	100.0 %	1,552,870	100.0 %	94,966	6.5 %
Less than 9th grade	227,204	15.6	203,190	13.1	-24,014	-10.6
Some high school	301,845	20.7	281,116	18.1	-20,729	-6.9
High school graduate only	415,668	28.5	414,868	26.7	-800	-0.2
Some college, no degree	202,892	13.9	225,716	14.5	22,824	11.2
Associate degree	68,996	4.7	88,730	5.7	19,734	28.6
College graduate	241,299	16.6	339,250	21.8	97,951	40.6
Bachelor's degree	*137,314*	*56.9*	*202,103*	*59.6*	*64,789*	*47.2*
Graduate or Professional degree	*103,985*	*43.1*	*137,147*	*40.4*	*33,162*	*31.9*

City	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
School enrollment						
Persons 3 years old and older	7,013,257	100.0 %	7,689,373	100.0 %	676,116	9.6 %
Enrolled in school	1,885,658	26.9	2,217,245	28.8	331,587	17.6
Pre-primary school	*98,824*	*5.2*	*246,791*	*11.1*	*147,967*	*149.7*
Elementary or high school	*1,180,484*	*62.6*	*1,376,790*	*62.1*	*196,306*	*16.6*
College or beyond	*606,350*	*32.2*	*593,664*	*26.8*	*-12,686*	*-2.1*
Years of school completed						
Persons 25 years old and over	4,884,274	100.0 %	5,276,946	100.0 %	392,672	8.0 %
Less than 9th grade	688,490	14.1	632,595	12.0	-55,895	-8.1
Some high school	858,657	17.6	830,095	15.7	-28,562	-3.3
High school graduate only	1,285,196	26.3	1,289,335	24.4	4,139	0.3
Some college, no degree	704,762	14.4	801,572	15.2	96,810	13.7
Associate degree	224,841	4.6	276,516	5.2	51,675	23.0
College graduate	1,122,328	23.0	1,446,833	27.4	324,505	28.9
Bachelor's degree	*631,961*	*56.3*	*834,558*	*57.7*	*202,597*	*32.1*
Graduate or Professional degree	*490,367*	*43.7*	*612,275*	*42.3*	*121,908*	*24.9*

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

Poverty Status (All income levels in 1989)

Study Area (tr 0455), Borough of Brooklyn and New York City

Study Area

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	0	100.0 %	0	100.0 %	30	0.0 %
Below the poverty level	0	0.0	0	0.0	0	0.0
With related children under 18 years	0	0.0	0	0.0	0	0.0
Below the poverty level	0	0.0	0	0.0	0	0.0
Female householder, no husband present	0	0.0	0	0.0	0	0.0
Below the poverty level	0	0.0	0	0.0	0	0.0
With related children under 18 years	0	0.0	0	0.0	0	0.0
Below the poverty level	0	0.0	0	0.0	0	0.0
Persons for whom poverty status is determined	0	100.0 %	0	100.0 %	9	0.0 %
Below the poverty level	0	0.0	0	0.0	0	0.0
Persons under 18 years	0	0.0	0	0.0	0	0.0
Below the poverty level	0	0.0	0	0.0	0	0.0
65 years and over	0	0.0	0	0.0	0	0.0
Below the poverty level	0	0.0	0	0.0	0	0.0

Brooklyn

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	563,283	100.0 %	588,870	100.0 %	25,587	4.5 %
Below the poverty level	109,811	19.5	129,694	22.0	19,883	18.1
With related children under 18 years	310,556	55.1	339,685	57.7	29,129	9.4
Below the poverty level	87,520	28.2	99,005	29.1	11,485	13.1
Female householder, no husband present	179,069	31.8	193,169	32.8	14,100	7.9
Below the poverty level	66,434	37.1	67,730	35.1	1,296	2.0
With related children under 18 years	119,777	66.9	130,806	67.7	11,029	9.2
Below the poverty level	58,018	48.4	57,796	44.2	-222	-0.4
Persons for whom poverty status is determined	2,268,938	100.0 %	2,434,939	100.0 %	166,001	7.3 %
Below the poverty level	514,163	22.7	610,476	25.1	96,313	18.7
Persons under 18 years	593,335	26.2	646,346	26.5	53,011	8.9
Below the poverty level	199,895	33.7	221,255	34.2	21,360	10.7
65 years and over	276,454	12.2	274,328	11.3	-2,126	-0.8
Below the poverty level	51,856	18.8	59,068	21.5	7,212	13.9

City

	1990	Percent of Total	2000	Percent of Total	1990-2000 Change	Percent Change
Families	1,755,718	100.0 %	1,869,809	100.0 %	114,091	6.5 %
Below the poverty level	285,476	16.3	345,834	18.5	60,358	21.1
With related children under 18 years	905,409	51.6	1,035,122	55.4	129,713	14.3
Below the poverty level	224,988	24.8	266,616	25.8	41,628	18.5
Female householder, no husband present	508,463	29.0	566,530	30.3	58,067	11.4
Below the poverty level	179,357	35.3	194,083	34.3	14,726	8.2
With related children under 18 years	324,124	63.7	375,869	66.3	51,745	16.0
Below the poverty level	155,912	48.1	165,691	44.1	9,779	6.3
Persons for whom poverty status is determined	7,181,155	100.0 %	7,854,530	100.0 %	673,375	9.4 %
Below the poverty level	1,384,994	19.3	1,668,938	21.2	283,944	20.5
Persons under 18 years	1,650,729	23.0	1,887,687	24.0	236,958	14.4
Below the poverty level	496,999	30.1	571,756	30.3	74,757	15.0
65 years and over	911,110	12.7	901,920	11.5	-9,190	-1.0
Below the poverty level	150,322	16.5	160,277	17.8	9,955	6.6

Source: United States Bureau of the Census. 1990 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://venus.census.gov/cdrom/lookup, information gathered throughout 1999. 2000 Decennial Census of Population and Housing, Summary Tape Files 3. As reported in computer files available on-line via http://factfinder.census.gov/servlet/BasicFactsServlet, information gathered throughout in late 2000 and early 2001.

APPENDIX C

ESSENTIAL FISH HABITAT ASSESSMENT FOR DSNY EIGHT MTSs

Essential Fish Habitat Assessment for DSNY Eight MTS

June 2004

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ESSENTIAL FISH HABITAT ASSESSMENT

1.0 Introduction

The Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), set forth several new mandates for the U.S. Department of Commerce (USDOC), National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), as well as regional fishery management councils and other federal agencies, to identify and protect important marine and anadromous fish habitat. Although the concept of Essential Fish Habitat (EFH) is similar to "critical habitat" under the Endangered Species Act of 1973, measures recommended to protect EFH are advisory, rather than prescriptive. In October 1996, EFH provisions were added to the Magnuson Fishery Conservation and Management Act through an amendment entitled, The Sustainable Fisheries Act. The EFH requires the NOAA to protect "...those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity." Additionally, the EFH includes associated physical, chemical, and biological properties used by fish and necessary to support a managed level of fish biomass production.

The amended Magnuson Stevens Act requires that Federal agencies work with NMFS to minimize damage to EFH when funding activities that "may adversely affect" EFH.[1] An "adverse effect" is defined as any impact which reduces quality and/or quantity of EFH.[2] An adverse effect can result from the following types of impacts:

- Direct: e.g. contamination or physical disruption.
- Indirect: e.g. loss of prey, reduction in fecundity.
- Individual, cumulative or synergistic.

A consultation with NMFS is required for Federally funded proposed activities that may impact EFH. The goal of the consult is to develop EFH Conservation Recommendations. The consult satisfies the response requirements of sections 305(b)(4)(A) and 305(b)(4)(B) of the Magnuson-Stevens Act. The end products of the consult usually contain the following:

- A description of the proposed Federal action to NMFS.
- Analysis of the effects of the proposed action on EFH, the managed fish species, and major prey species.
- An assessment of EFH provided to NMFS by the agency.
- EFH Conservation Recommendations provided by NMFS. These recommendations may include measures to offset adverse effects on EFH.
- Response to NMFS' EFH Conservation Recommendations provided by the Federal agency proposing the action.

NMFS does not have the authority to veto Federal projects adversely affecting EFH. This process guides Federal agencies through a mandate preventing habitat damage before an activity begins. The main goal of the EFH is to ensure a sustainable harvest of fisheries

resources. In addition to EFH, Fishery Management Plans have identified Habitat Areas of Particular Concern (HAPC).[2] HAPC must fulfill at least on of the following criteria:

- Provide important ecological functions.
- Be sensitive to human-induced environmental degradation.
- Be rare.
- Development activities must represent a current or potential stress for the habitat.

New York Harbor does not contain any HAPC. Therefore, an analysis of HAPC was not necessary for this assessment.

The NMFS Mid-Atlantic Fishery Management Council (MAFMC) has identified and delineated regions of EFH in their fishery management plan. NMFS has created maps of EFH areas using a variety of sampling methods and analyses in order to determine which areas to consider as EFH for species groups. NMFS has mapped these geographic areas on a grid. Each grid represents a 10' x 10' square of latitude and longitude (quadrat). The associated quadrats in which the New York City Department of Sanitation (DSNY) Marine Transfer Stations (MTS) are located are shown in Figure 1.[3] The study area includes two quadrats. The quadrat outlined in purple contains the Southwest Brooklyn MTS. The quadrat outlined in orange contains the North Shore, South Bronx, East 91st Street, Greenpoint, Hamilton Avenue, West 135th Street, and West 59th Street MTS. Each quadrat has an associated list of species and life stages designated as EFH by NMFS. Table 1 lists the finfish species designated as EFH species by the NMFS occurring in the two quadrats of Figure 1. In addition, Table 1 lists each applicable life stage along with the specified quadrat the species is found.[3] Table 2 lists the management councils responsible for governing each EFH designated species.[4]

Table 3 lists all pertinent EFH information for benthic and pelagic finfish species found in the study areas where it is anticipated potential habitat will either be lost or impacted as a result of the proposed project. The following parameters are listed for each species: life stage, water temperature, salinity, depth, season, habitat, and comments on migrations and food habits.[4,5]

A total of twenty finfish species are listed by NMFS as important EFH species in the study area. Of the twenty finfish species, the following three shark species are considered highly migratory: dusky shark *(Carcharinus obscurus),* sandbar shark *(Carcharinus plumbeus),* and sand tiger shark *(Odontaspis taurus).* Although these species are included in the EFH analysis, they are not common in the study area and based on their life history, will most likely not be impacted by the project. Note that EFH information is lacking for the early life stages (eggs, larvae) of several of these highly migratory species. The distribution of the sharks is mostly influenced by temperature. Due to overfishing and the relatively old age-at-maturity these stocks are highly exploited.

In addition to the highly migratory species, some other species rarely occur in the region and will likely not be impacted by the proposed project. The following three species are rare in the New York Bight, and more commonly found in the South Atlantic Bight: king mackerel (*Scomberomorus cavalla),* Spanish mackerel (*Scomberomorus maculatus),* and cobia (*Rachycentron canadum*).

2.0 Project Description

The New York City Department of Sanitation (DSNY) has eight marine transfer stations (MTS) located throughout New York City. There are three MTS in Manhattan (East 91st Street, West 59th Street, and West 135th Street); three MTS in Brooklyn (SW Brooklyn, Hamilton Avenue, and Greenpoint); one MTS in Queens (North Shore); and one MTS in the Bronx (South Bronx). The locations of these MTS are shown in Figure 2. These facilities were used to move municipal solid waste (MSW) from truck to barge, and the barges were transported to Fresh Kills Landfill on Staten Island to dispose of the MSW. The MTS became inactive with the closing of Fresh Kills Landfill, except for West 59th Street, which is used for paper recycling. DSNY is considering modifying the MTS facilities and restoring solid waste transfer operations at these facilities. This EFH Assessment was conducted because the modification and new operations planned for the facilities will require varying degrees of over-water (and on-shore) construction.

3.0 Essential Fish Habitat

As previously mentioned, EFH designations are specified for 10-minute by 10-minute grids. The Southwest Brooklyn MTS is located in a grid bounded by 40° 40.0' N to the north, 74° 00.0' W to the east, 40° 30.0' N to the south, and 74° 10.0' W to the west. The seven other MTS are located within a grid bounded by 40° 50.0' N to the north, 73° 50.0' W to the east, 40° 40.0' N to the south, and 74° 00.0' W to the west. The grids are outlined in Figure 1. EFH designations for these areas were based on information compiled by the NOAA / National Ocean Services (NOS) Estuarine Living Marine Resources (ELMR) Program, the New England Fisheries management Council (NEFMC), and NMFS.

EEA conducted a year-long marine biological study of the eight MTS in 2003.[6] During that study, ten of the twenty EFH designated species were collected. Table 4 lists the species collected in 2003. Table 5 lists the EFH designated species collected at each MTS and the life stages collected (eggs, larvae, juveniles, and adults). This table also indicates the life stages for which EFH is designated by NMFS at each MTS. Note that this table only lists the ten species that were collected during the sampling period. Also note that adult, juvenile, larvae, and eggs were sampled at North Shore, South Bronx, Greenpoint, Southwest Brooklyn, West 135th Street, and West 59th Street, however, bottom topography at East 91st Street and Hamilton Avenue only enabled egg and larval sampling.

The ten EFH listed species collected during the year-long study were: Atlantic butterfish, Atlantic herring, black sea bass, bluefish, little skate, scup, summer flounder, windowpane flounder, winter flounder, and winter skate.[6] Each MTS will be analyzed below for the EFH species observed on site. For a more detailed description of the biological analysis of each MTS, refer to the MTS Marine Biological Studies report.

3.1 North Shore

Three EFH listed species were collected from the North Shore MTS: Atlantic herring, windowpane flounder, and winter flounder (see Table 5). The larvae, juvenile, and adult life stages of Atlantic herring have EFH designation at North Shore, but only the adults were observed at the North Shore MTS in 2003. Both windowpane flounder and winter flounder have egg, larvae, juvenile, and adult designations at this MTS, but only windowpane flounder eggs and winter flounder larvae and adults were collected during EEA's study.

3.2 South Bronx

Six EFH listed species were collected at the South Bronx MTS (see Table 5). The species collected were Atlantic butterfish, Atlantic herring, bluefish, summer flounder, windowpane flounder, and winter flounder. Adults of all of these species were collected in 2003, except for the Atlantic butterfish, where only juveniles were collected. Several life stages of the flounders were collected during the sampling period. Juvenile and adult summer flounder; eggs, larvae, and adult windowpane flounder; and all four life stages of winter flounder were collected at the South Bronx MTS.

3.3 East 91st Street

Three EFH listed species were found at the East 91st Street MTS: summer flounder, windowpane flounder, and winter flounder (see Table 5). Due to physical restraints of the bottom topography, sampling could not be conducted for adult finfish, only ichthyoplankton. The larvae of all three aforementioned species and eggs of windowpane and winter flounder were collected during sampling in 2003.

3.4 Greenpoint

Five EFH listed species were collected at Greenpoint (see Table 5). Most of the individuals collected were adults. Adult Atlantic herring, bluefish, summer flounder, and winter flounder were collected at this MTS. Larval windowpane flounder and winter flounder were also collected here in 2003.

3.5 Hamilton Avenue

Three EFH listed species were collected from this MTS: Atlantic herring, windowpane flounder, and winter flounder (see Table 5). Due to physical restraints of the bottom topography, sampling could not be conducted for adult finfish, only ichthyoplankton. Larvae of all three aforementioned species plus eggs of windowpane flounder were collected during the 2003 MTS biological studies.

3.6 Southwest Brooklyn

The greatest number of EFH listed species (10) was collected at SW Brooklyn (see Table 5). Adult Atlantic herring, bluefish, little skate, scup, summer flounder, windowpane flounder, winter flounder, and winter skate were collected in 2003. Larval and juvenile Atlantic butterfish and juvenile black sea bass were also collected. Of the species already mentioned, other life stages were also collected during the year. Juvenile Atlantic herring, scup, and summer, windowpane, and winter flounder were collected. Larvae of scup, windowpane flounder, and winter flounder, and eggs of windowpane flounder were also present.

3.7 West 135th Street

Five EFH listed species were collected at West 135th Street (see Table 5). Juvenile and adult Atlantic butterfish and bluefish were collected, along with adult summer flounder. Also, larval and juvenile windowpane flounder and winter flounder were observed at this MTS.

3.8 West 59th Street

Six EFH listed species were collected from the West 59th Street MTS: Atlantic butterfish, Atlantic herring, bluefish, summer flounder, windowpane flounder, and winter flounder (see Table 5). Juvenile and adult Atlantic butterfish, larval and adult Atlantic herring, and adult bluefish were collected in 2003. Juvenile and adult summer flounder; eggs larvae, and juvenile windowpane flounder; and all four life stages of winter flounder were present at the West 59th Street MTS.

4.0 Species Assessments

Twenty finfish species have EFH designated in the quadrats in which the MTS are located.[3] Ten of these species were collected during a year-long marine biological survey.[6] Species specific information on the twenty species with EFH designations are outlined in Table 3. This table describes temperature and salinity tolerances, depth preferences, seasonal occurrence, and habitat preferences for each life stage of the listed species. General comments are also listed for the species. Detailed information about the ten species collected at the eight MTS in 2003 is presented in the MTS Marine Biological Study report.

5.0 Impact Assessments

The potential impacts to the finfish species living in the areas where MTS construction is slated follow. Over-water construction will entail dredging and pile driving, activities which cause both turbidity and siltation. Finfish communities and their food sources, benthic and epibenthic organisms, will be discussed as the impact on the finfish community will be greatly determined by the impact on their food sources. Construction and operation of the MTS for the proposed containerization program will have both short and long term impacts on the surrounding marine environment and ambient natural resources. In this section, two types of

impacts will be discussed: short term or construction impacts, and long term or operational impacts.

5.1 Construction Impacts. Construction impacts to the marine environment result from both the demolition of existing structures and the fabrication of new facilities. Construction impacts are limited temporally to the span of the activities, typically a few years. On a generic basis these impacts include, but are not limited to, loss of benthic habitat due to dredging, turbidity and siltation from piling removal or installation, loss of encrusting organism habitat from piling removal, and general disruption due to human and mechanical activity. Minor water quality impacts such as localized anoxia may result if newly exposed reduced sediments draw down dissolved oxygen on contact. A list of the potential impacts at the MTS is presented in Table 1. The proposed construction plans call for some activity at each of the eight MTS, but the extent varies with some sites being totally rebuilt and others having relatively minor alterations.

5.1.1 Benthic Communities. Benthic organisms, being immobile (at least in the adult stages) are subject to impacts of construction activities that have the potential for disruption or even obliteration of the populations in the impact zone. The benthic species found at each MTS are listed in Table 2. If benthic species diversity is the accepted indicator for overall "health" of the communities around each MTS, it follows that the MTS zones with the highest diversities are likely to be more greatly impacted than those with lower diversities. While species diversity is an accepted indicator, caution must be used in interpreting the data because certain specific monocultures can also be considered highly valuable systems. Nonetheless, lower diversity benthic communities are usually opportunistic species with high abundances and toleration for more degraded environments. The most abundant species observed at these MTS were those species tolerant of degraded environments: *Streblospio benedict, Capitella capitata*, polychaetes, and oligochaetes. With these caveats in mind, benthic species diversity will be used in this impact analysis to determine probable impacts to the benthic communities.

The Shannon-Weaver Index for benthic organisms was computed for all MTS. This index is used as a measure of community diversity but also accounts for numbers of individual organisms. In rank of the indices from the highest to the lowest, where a high index indicates a high species diversity, the stations and their respective indices were:

MTS	Shannon-Weaver Index	Rank
W. 135th Street	2.014	High
South Bronx	1.921	High
S. W. Brooklyn	1.815	High
Hamilton Avenue	1.509	Medium
North Shore	1.487	Medium
W. 59th Street	1.286	Medium
E. 91st Street	1.116	Medium
Greenpoint	0.780	Low
Mean, all MTS	1.700	

The ranking of high, medium, and low are somewhat arbitrary; however, this ranking can be used as a general grouping of the respective MTS indices to determine impacts. A Shannon-

Weaver Index above 1.8 was given a high rank, and index between 1.0 and 1.8 was assigned a medium rank, and an index below 1.0 was given a low rank.

At present the plan is for the following degrees of activity and consequent potential for benthic impacts. The MTS that will have construction involving the construction of mew platforms, causing turbidity and siltation, were assigned a high impact rank. Those with minimal or no construction were assigned a low or no impact rank.

MTS	Construction Activity	Marine Resource Impacts	
W. 135th Street	New, larger platform	Turbidity, siltation	(high)
W. 59th Street	New, larger platform	Turbidity, siltation	(high)
E. 91st Street	New, larger platform	Turbidity, siltation	(high)
South Bronx	New, larger platform	Turbidity, siltation	(high)
Greenpoint	New, smaller platform	Turbidity, siltation	(high)
Hamilton Avenue	Existing platform removed	Minimal	(low)
S.W. Brooklyn	Existing platform to remain	None	(none)
North Shore	New, larger platform	Turbidity, siltation	(high)

If the two above tables are combined the following matrix can be constructed. In order to determine the expected impacts, turbidity and siltation received a high rank, while the removal of platforms with no new construction received a low rank. If two high ranks were compared, the expected impact was high. If a high and medium rank was compared, the expected impact was moderate. If the Shannon-Weaver Index or construction activity had a low rank, the expected impact was ranked as minimal or none.

MTS	Degree of Expected Impacts
W. 135th Street	High
South Bronx	High
S. W. Brooklyn	None
Hamilton Avenue	Minimal
North Shore	Moderate
W. 59th Street	Moderate
E. 91st Street	Moderate
Greenpoint	Minimal

The needs of the project require that the old platforms be removed and new ones constructed. SW Brooklyn is an exception; the existing platform will remain in place. The construction of new platforms will cause turbidity and siltation, which could smother benthic communities. Impacts will be greatest to the benthic communities at the MTS that have the most diverse benthic communities. The above ranking of expected benthic impacts from construction appears logical as West 135th Street and South Bronx had the highest Shannon-Weaver indices and significant construction activities. Conversely, SW Brooklyn, Greenpoint and Hamilton Avenue ranked low on impacts. No impacts are expected at SW Brooklyn, as no over-water platform construction is slated. No new over-water construction is planned at Hamilton Avenue

and the benthic community at Greenpoint is not very diverse, so the limited construction should not result in drastic impacts.

5.1.2 Epibenthic Communities. Examination of the colonization plates revealed that most of the MTS had extensive macrofaunal communities within a single growing season. Most growth was observed in the spring and summer months. The most abundant species were those that are tolerant of degraded environments, such as the amphipod *Corophium insidiosum*, the polychaete worm, *Polydora sp.*, and the tunicate *Molgula manhattensis*. All species found on the colonization arrays at each MTS are listed in Table 3. Removal of the existing structures will temporarily eliminate these communities and cause a localized loss of food sources for fish species (e.g., tautog) that prey on them. At Hamilton Avenue MTS this impact will be the most pronounced compared to the others because substrate for growth will be permanently removed. Greenpoint will also have a loss of macrofauna due to a reduction in platform size. The other MTS will have as much or more new hard surface available for colonization so this initial habitat loss will not be significant. The epibenthic community is expected to remain at SW Brooklyn, as no pier removal or construction is planned at this MTS.

It is important to note that colonization was observed during one sampling season and therefore the new structures are expected to be colonized fairly quickly. However, colonization may be delayed if treated lumber is used in construction. Treated lumber prevents marine growth until enough of the treatment has leached out of the lumber to allow a suitable environment for growth. Two widely used treatments for marine construction are creosote and chromated copper arsenate (CCA). Although both are used to deter marine growth, studies have suggested that they do not pose a significant risk to aquatic life.[6] Creosote releases polycyclic aromatic hydrocarbons (PAHs) and CCA releases copper, chromium, and arsenic, however, the most leaching occurs with the initial introduction to the water and leaching decreases with time.[7] The leachate from both types of treated lumber is absorbed by the sediment and is either metabolized by microorganisms or becomes biologically unavailable.[7] Because leaching decreases with time, both benthic and epibenthic organisms are expected to recolonize the sediment and reclaim the submerged structures. It must also be noted that many of the benthic and epibenthic organisms found around the MTS were those tolerant of degraded environments and would generally be the first to be found again.

5.1.3 Adult Finfish. Construction impacts such as turbidity and siltation will be limited spatially to the immediate area of the transfer station. These impacts will also be restricted temporally to the time of construction, approximately one to one and a half years. Adult finfish impacts are not expected because motile organisms will avoid construction activities that produce less than optimal environmental conditions. Fish generally display avoidance behavior of areas that have a milligram per liter or more of suspended sediment.[8] Some fish are more tolerant of suspended sediment than others. For example, bottom dwellers, such as flounders, are more tolerant of suspended particles than pelagic species, and clupeids (herring) are most sensitive to suspended sediment as it easily clogs their gills.[8] Table 4 shows the relative sensitivity of the finfish collected at the MTS to suspended particles in the water column.

The pile-driving activity associated with pier construction may also cause fish to avoid the construction sites. Relative finfish sensitivity to noise is listed in Table 4. Studies on the effects of offshore pile-driving on finfish, which may be more intense than the type used in this project, have indicated that in general, bottom dwelling fish (flatfish, etc.) are less sensitive to pile-driving than pelagic fish (whose swim bladders are sensitive to pressure changes, which in turn effects the ear).[9] Herring have been documented to show escape responses to pile-driving.[9] Avoidance response of juvenile salmonids to pile-driving activity in harbors has also been documented.[10] Although there were no salmonids at any of the MTS studied, this study may be extrapolated to suggest that finfish would probably avoid the areas where marine construction is occurring.

Table 5 lists the adult finfish species collected at each MTS. The flatfishes (flounders) and clupeids were totaled for each MTS. Four of the six MTS that were trawled (South Bronx, Southwest Brooklyn, W. 135th Street, and W. 59th Street) had substantially more flatfish than herrings. The finfish communities at the above mentioned MTS indicate that there may possibly be a less drastic community shift at those MTS during platform modification than an MTS with a high clupeid population. North Shore and Greenpoint had more herrings surrounding the MTS, and may experience more finfish avoidance behavior than the other MTS. General avoidance behavior of the finfish that live near the MTS was observed during the summer months when the dissolved oxygen levels decreased in the water resulting in the movement of fish away from the affected areas. A similar response would occur if marine construction released anoxic sediment that absorbed the oxygen form the water, causing a temporary drop in dissolved oxygen levels.

5.1.4 Ichthyoplankton. Ichthyoplankton are more sensitive to construction impacts than adult finfish. This is due to high mortality experienced in egg and larval stages. The lethal concentration of suspended sediment for finfish eggs and larvae is generally one milligram per liter of water.[8] For demersal fish eggs (those that lay on the substratum) the impacts are similar to those of the benthic invertebrates. These eggs could be smothered by sediment during construction. Pelagic eggs are free floating and could be carried or swept through an impact zone, but given the current velocities in most of the MTS areas, are unlikely to stay for any extended period. Table 6 indicates the time of year and egg type of the more abundant species located in the central part of the Mid-Atlantic Bight. This table may be used as an indicator of those species more at risk to impacts from construction.

Larval forms that have motility (e.g., can swim) will behave like the adult finfish and avoid areas where the environmental conditions are unfavorable. As with the eggs, any that are swept through the construction sites by currents would not be exposed to suspended sediments for extended periods of time due to current velocities in the areas.

Currents may play an important factor in reducing impacts to non-motile finfish eggs and larvae. Most of the MTS have slated construction that would cause siltation, however, any egg or larvae swept into the construction zone should be swept out of the zone fairly quickly due to strong currents experienced at MTS sites. The two MTS that are on restricted waterbodies with less strong current regimes, Greenpoint and Hamilton Avenue, are places where eggs and larvae may have a greater residence time and exposure to suspended sediment. However, these MTS

have a lesser degree of over-water construction planned than most other MTS and had among the lowest concentrations of finfish eggs and larvae, so impacts should be minimal.

The finfish eggs and larvae collected at each MTS are presented in Tables 7 and 8. Winter flounder is the only species collected at the MTS that lays demersal eggs. Because of its recreational importance and declining numbers, winter flounder is of concern to fisheries biologists and regulatory scientists.[11] Winter flounder eggs were collected at three of the MTS – South Bronx, East 91st Street, and West 59th Street. Winter flounder larvae were collected at all eight MTS. Construction impacts are expected to be negligible to winter flounder or other ichthyoplankton species.

5.2 Operational Impacts. While the construction impacts are limited to the duration of the activities, the operational impacts will persist for the duration of the facilities life span, a time span measured in decades. The major operational impact will be the footprint of the structures over water. While the littoral zone covered by the structures will not be devoid of invertebrate and finfish resources, the coverage will block sunlight and hinder primary production. Each of the MTS has differing amounts of existing and proposed coverage, but in summary the differences are as follows:

MTS	Existing sq. ft.	Proposed sq. ft.	Difference
W. 135th Street	52,905	97,019	44,114
W. 59th Street	65,275	92,468	27,193
E. 91st Street	34,717	73,410	38,693
South Bronx	42,610	64,559	21,949
Greenpoint	34,695	13,048	(21,647)
Hamilton Ave.	34,905	0	(34,905)
S.W. Brooklyn	23,855	23,855	0
North Shore	40,747	86,669	45,922
Total	329,709	451,028	121,319

Inspection of the above table reveals that Greenpoint, Hamilton Avenue, and Southwest Brooklyn MTS can be eliminated from the long term impact discussion since they are either remaining in place or are being replaced with facilities that have substantially smaller footprints.

It is safe to say that the impacts of large platforms on the harbor estuary ecology are controversial. Studies conducted by EEA in the late 1980's showed similar finfish and benthic communities in the interpier and underpier environments in two large scale programs on the Hudson and East Rivers, respectively.[12,13,14] Other studies, primarily by Able *et., al.* have shown that caged winter flounder failed to thrive underneath large platforms.[15,16] Able's studies are controversial, however, because the fish were caged, and this may impact the results of the study. Some fish are even known to associate with submerged structures, as it provides shelter and surfaces for food to grow. While the field tests appear to be contradictory for finfish, there is no doubt that fish do indeed inhabit at least the interface of platforms and the benthic invertebrate communities are virtually identical in the underpier and interpier zones.

From a regulatory perspective, there is acceptance that platforms do not necessarily cause the underpier zones to be devoid of life but they are still considered to be a taking of marine environmental resources and the procedural, if not environmental, equivalent of fill.

5.2.1 Benthic Communities. The studies done by EEA and published in the late 1980's and early 1990's were conclusive regarding the benthic organism communities under large platforms in the Hudson and East Rivers. A comparison involving hundreds of grab samples from the inter and underpier zones indicated there was no statistically significant difference in species composition and abundance.[12,13,14] Based largely upon these published studies and benthic analysis in the 2003 program, it appears unlikely that the reconstruction, or even enlargement of the present platforms will materially alter the benthic meiofauna communities over the long term. Benthic communities that may have experienced toxicity due to leachate from treated lumber used to build the piers would quickly be rebuilt as the leaching decreases and the pollution-tolerant organisms, that had dominated the benthic communities before construction started, would come back. Those communities displaced by construction would begin reclaiming the sediment soon after construction was completed.[17,18] The opportunistic species would appear first, followed by longer lived species.[17,18]

5.2.2 Epibenthic Communities. The long term impact to the epibenthic communities will be beneficial. The planned enlargement of the platforms will provide significantly more hard surface for macrofauna and the finfish that use them as a food source. The five MTS that will have increased platforms, and therefore increased areas for epibenthic growth, once the treated lumber has lost its toxicity, are W. 135th Street, W. 59th Street, E 91st Street, South Bronx, and North Shore. The increase in epibenthic colonizers should lead to an increase in finfish species that feed on these organisms (e.g. cunner and tautog).

5.2.3 Adult Finfish. The EEA studies on the East River showed altered finfish communities in the under and interpier zones. Abundances of fish under South Street Seaport Pier 17, which was used as a model, did show moderately lower numbers under piers and different types of finfish in the two zones.[12] It is possible, even likely, that construction of larger platforms at E. 91st Street and South Bronx, located on the East River, and possibly North Shore, located in Flushing Bay off the East River, will cause population declines and shifts in finfish species composition underneath these platforms. Interpier-underpier studies on the Hudson River also showed slightly different finfish densities for several species beneath piers as opposed to in open water.[13,14] Using this study as a model, there is a possibility of a shift in the finfish communities at the W. 59th and W. 135th Street MTS with the expansion of piers. Conversely, MTS that have a reduction in pier coverage, Greenpoint and Hamilton Avenue, may also see a small shift in local finfish communities. Because finfish for the most part are transient, these shifts cannot be quantified absent a future monitoring program. Regardless, a conservative approach would be to allow for some reduction, measurable or not, in local fish stocks due to construction of the enlarged platforms.

The present plan is to construct 121,319 sq. ft. (approximately 2.8 acres) of new platforms in the harbor estuary should full build out be accomplished. Based upon existing data and previous studies, the MTS which will experience a net gain in pier coverage will be the most likely finfish impact receptors.

5.2.4 Ichthyoplankton. Aside from the possible population shifts at the MTS with increased pier structures, there is little likelihood that the enlarged MTS would have any significant or even measurable impacts on ichthyoplankton communities.

5.3 Overview of Marine Environmental Impacts. Construction, or short term impacts resulting from the project will be limited both spatially and temporally. The greatest impacts will be temporary destruction of benthic and epibenthic communities and avoidance by finfish due to suspended particles and food source reduction. While they may not be amenable to avoidance or reduction, these impacts will be limited and will not last beyond one seasonal cycle for invertebrates. Construction impacts on finfish will not be quantifiable.

Full build out of the project will result in an additional 2.8 acres of new platform in the harbor marine environment. From a regulatory perspective, this impact may be significant due to the time-frame of the project (e.g., decades). If the judgment of the agencies is a finding of significant negative impact, then mitigation programs may need to be devised, assuming that no landside alternative is possible.

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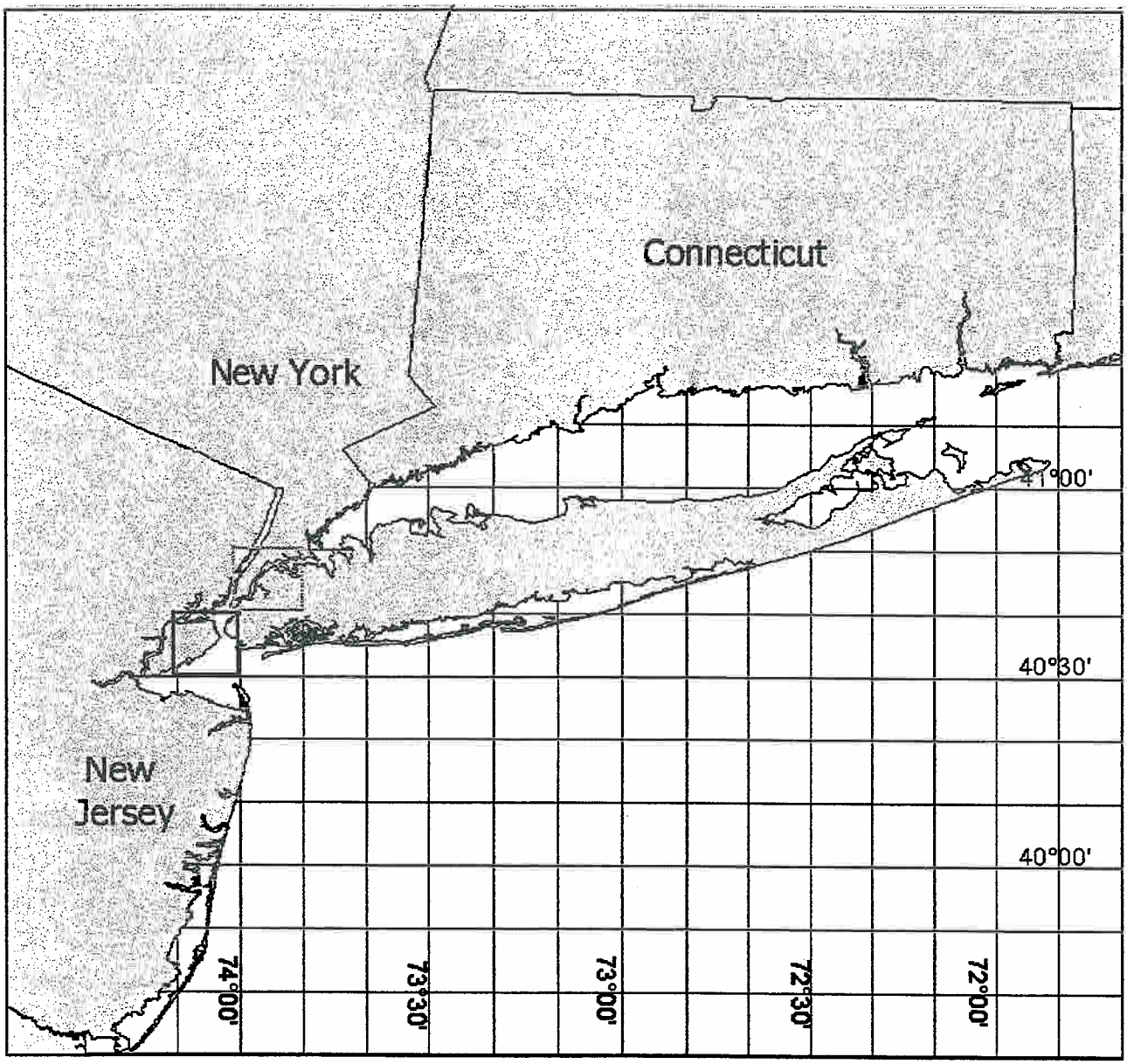
Figure 1
Quadrats in which MTS are Located



Southwest Brooklyn

North Shore
South Bronx
East 91st Street
Greenpoint
Hamilton Avenue
West 135th Street
West 59th Street

Source: National Marine Fisheries Web Page. http://www.nero.noaa.gov/ro/STATES4/ConnNYNJ.htm

Table 1
EFH Designated Life Stages at MTS

Species	MTS	
	North Shore South Bronx East 91st Street Greenpoint Hamilton Avenue West 135th Street West 59th Street	Southwest Brooklyn
Atlantic Butterfish	L,J,A	L,J,A
Atlantic Herring	L,J,A	L,J,A
Atlantic Mackerel	J,A	J,A
Black Sea Bass	J,A	J,A
Bluefish	J,A	J,A
Clearnose Skate	J,A	J,A
Cobia	E,L,J,A	E,L,J,A
Dusky Shark	L	L,J
King Mackerel	E,L,J,A	E,L,J,A
Little Skate	J,A	J,A
Pollock	J,A	
Red Hake	L,J,A	E,L,J
Sand Tiger Shark	L	L
Sandbar Shark	L,A	L,A
Scup	E,L,J,A	E,L,J,A
Spanish Mackerel	E,L,J,A	E,L,J,A
Summer Flounder	L,J,A	L,J,A
Windowpane Flounder	E,L,J,A	E,L,J,A
Winter Flounder	E,L,J,A	E,L,J,A
Winter Skate	J,A	J,A

E = Eggs
L = Larvae
J = Juveniles
A = Adults

Source: National Marine Fisheries Service Web Page. http://www.nero.noaa.gov/ro/STATES4/ConnNYNJ.htm

Table 2
List of Management Councils that Govern EFH Species

New England Fishery Management Council (NEFMC)

Common Name	Scientific Name
Atlantic (Sea) Herring	*Clupea harengus*
Clearnose Skate	*Raja eglanteria*
Little Skate	*Raja erinacea*
Red Hake	*Urophycis chuss*
Windowpane Flounder	*Scopthalmus aquosus*
Winter Flounder	*Pleuronectes americanus*
Winter Skate	*Raja ocellata*

Mid-Atlantic Fishery Management Council (MAFMC)

Common Name	Scientific Name
Atlantic Butterfish	*Peprilus triacanthus*
Atlantic Mackerel	*Scomber scombrus*
Black Sea Bass	*Centroptistus striata*
Bluefish	*Pomatomus saltatrix*
Scup	*Stenotomus chrysops*
Summer Flounder / Fluke	*Paralicthys dentatus*

South Atlantic Fishery Management Council (SAFMC)

Common Name	Scientific Name
Cobia	*Rachycentron canadum*
King Mackerel*	*Scomberomorus cavalla*
Spanish Mackerel*	*Scomberomorus maculatus*

Atlantic States & Gulf Coast States Marine Fishery Comission (ASMFC, GCMFC)

Common Name	Scientific Name
Dusky Shark*	*Charcharinus obscurus*
Sand Tiger Shark*	*Odontaspis taurus*
Sandbar Shark*	*Charcharinus plumbeus*

* Indicates species also managed by NMFS.

Source: National Marine Fisheries Service. Guide to Essential Habitat Descriptions. National Marine Fisheries Service Web Page. http://www.nero.noaa.gov/ro/doc/list.htm

Essential Fish Habitat Species Located Near MTS

Species	Life Stage	Temp. °C	Salinity °/oo	Depth m	Seasonal Occurrence	Habitat	Comments
Carcharinus obscurus (dusky shark)	Larvae Juveniles	Warm, Temperate	-	0-25	-	Inlets, estuaries and shallow coastal waters.	Highly migratory. Prey- small schooling fish.
Carcharinus plumbeus (sandbar shark)	Larvae Adults	-	-	0-25	-	Shallow, coastal waters; submerged flats (1-4m).	Highly migratory.
Centropristis striata (black sea bass)	Juveniles	>6	>18	<10	Apr. to Dec.,peak June to Nov.-coastal. Winter-offshore south of NJ. Summer & Spring-estuaries.	Rough bottom, shellfish, eelgrass beds; man-made structures-sandy-shelly areas, offshore clam beds, shell patches-wintering.	YOY use salt marsh edges, channels-high habitat fidelity.
	Adults	>6	>20	10-20	May to Oct.-inshore, estuaries. Winter offshore south of NY.	Structured habitats (natural & man-made); sand & shell preferred.	Spawn in coastal bays, change sex to males with growth. Prey: benthic, near-bottom inverts, squid, small fish.
Clupea harengus (Atlantic sea herring)	Larvae	22-24	1.4-60; prefer 10-20	Surface	-	May associate with vegetation.	Major prey: copepod nauplii and copepodites. Diurnal vertical migrations to move into estuaries.
	Juveniles	<10	26-32	15-135	-	Pelagic waters & bottom habitats.	School, negative response to light, feed on zooplankton.
	Adults	<10	>28	20-130	-	Pelagic waters & bottom habitats.	Selective feeding on zooplankton.
	Spawning Adults	<15	32-33	20-80	July through Nov.	Bottom habitats-gravel, sand, cobble and shell. Also on aquatic macrophytes.	Overwinter after spawning.
Odontaspis taurus (sand tiger shark)	Larvae	-	-	-	-	Shallow coastal waters, bottom or dermersal. Sandy coastal waters, shallow bays, estuaries and rocky or tropical reefs	Highly migratory. Feeds on fish, small sharks, rays, squid, crustaceans.

Essential Fish Habitat Species Located Near MTS

Species	Life Stage	Temp. °C	Salinity °/oo	Depth m	Seasonal Occurrence	Habitat	Comments
Paralichthys dentatus (summer flounder/fluke)	Larvae	9-12	23-33 fresh in Hudson, Raritan	1-70	Sep. to Feb. (MAB)	Pelagic Waters-larvae mostly 19-83km offshore.	High use of tidal creeks and creek mouths.
	Juveniles	>11	10-30	1-70; 0.5-5 in estuary	-	Demersal Waters, muddy substrate but prefer sand; lower estuary flats, channels, slat marsh creeks and eelgrass.	HAPC-macroalgae, seagrasses, fw & tidal macrophytes-any size bed & loose aggregations, within adult & juv. EFH. Major prey: mysid, shrimp.
	Adults	-	-	1-360	Warmer months-shallow coast & estuarine, offshore in colder months.	Demersal waters and estuaries.	HAPC-macroalgae, seagrasses, fw & tidal macrophytes-any size bed & loose aggregations, within adult & juv. EFH. Major prey: fish, shrimp, squid, polychaetes.
Peprilus triacanthus (Atlantic butterfish)	Juveniles	3-28	3-37	10-365 (most <120)	Winter-shelf Summer to Fall-estuaries	Pelagic Waters Larger fish-sandy, muddy substrates.	
	Adults	3-28	4-26	10-365 (most <120)	Winter-shelf Summer to Fall-estuaries	Pelagic Waters (schools over sandy, sandy-silt, muddy substrates)	
Pollachius virens (pollock)	Juveniles	0-15.6	29-32	5-250; most 25-75	July to November	Inshore, sand, mud, rocky or aquatic vegetation bottoms. Shallow intertidal.	Intertidal important nursery. Major prey is crustaceans.
	Adults	<14	31-34	15-365	-	Hard bottom habitats including artificial reefs	Major prey: crustaceans, fish, mollusks
Pomatomus saltatrix (bluefish)	Juveniles	19-24	23-36	-	May to Oct.	Pelagic waters, ubiquitous in mixing and seawater zones. Seldom found beyond Continental Shelf. Shallow nearshore habitats. Estuaries as nursery.	Highly migratory, major prey fish. Visual feeders on polychaetes, crustaceans, fish. Can change depths rapidly-secretes gas into swim bladder fastest rate known.
	Adults	14-16	>25	-	April to Oct.		

Essential Fish Habitat Species Located Near MTS

Species	Life Stage	Temp. °C	Salinity °/oo	Depth m	Seasonal Occurrence	Habitat	Comments
Pseudopleuronectes americanus (winter flounder)	Eggs	<10: spawn at 3	10-32	Inshore 0.3-4.5	February to June	Bottom habitats, substrate of sand, mud, gravel, algae.	Demersal, adhesive eggs.
	Larvae	<15; most 2-15	3.2-30	Inshore 1-4.5	March to July	Pelagic and bottom waters. Fine sand, gravel.	Feed on copepods and phytoplankton.
	Juveniles (YOY)	2-29.4; prefer 19.5	5-33	Inshore 0.5-12	Yearly, abundant summer and fall.	Benthic substrate near shallow natal waters. Mud, sand with shell/leaf litter. Ulva, eelgrass.	Feed on copepods nauplii, polychaetes, nemerteans, ostracods.
	Juveniles (Age 1+)	10-25	10-30	<200; LIS: 18-27	Yearly, abundant spring, winter and fall.	Bottom habitats, substrate of mud, fine-grained sand, silt, shell.	Major prey: amphipods, copepods, polychaetes, bivalve siphons.
	Adults	0.6-23; prefer 12-15	15-33	1-100	Yearly, abundant spring, winter and fall.	Inshore waters, estuaries. Bottom habitats,of mud.	Major prey: annelids, cnidarians and mollusks.
	Spawning Adults	<25	5.5-36; most 31-32.5	Inshore 1-30	February to June	Inshore waters, estuaries. Bottom habitats,of mud, sand, gravel, cobble, rock.	
Rachycentron canadum (cobia)	Eggs Larvae Juveniles Adults	>20	>25	-	-	Sandy shoals of capes, offshore bars; high profile rock bottoms, barrier island oceanside waters from surf to shelf from Gulfstream shoreward; high salinity bays, estuaries, seagrass habitats.	All coastal inlets. Life stages not separated.
Raja erinacea (little skate)	Juveniles	1-21	15-35	0-371 most < 111	-	Sand and gravel bottoms. Sometimes mud.	Buries in bottom depressions suring day and active at night. Prey: polychaetes and amphipods.
	Adults	2-19	18-35	0-371 most < 111	-	Sand and gravel bottoms. Sometimes mud.	Buries in bottom depressions suring day and active at night. Prey: polychaetes, amphipods, and fish.

Essential Fish Habitat Species Located Near MTS

Species	Life Stage	Temp. °C	Salinity °/oo	Depth m	Seasonal Occurrence	Habitat	Comments
Raja ocellata (winter skate)	Juveniles	-1.2 - 21	15-35	0-371 most < 111	-	Sand and gravel bottoms. Sometimes mud.	Buries in bottom depressions suring day and active at night. Prey: polychaetes and amphipods.
	Adults	-1.2 - 21	15-35	0-371 most < 111	-	Sand and gravel bottoms. Sometimes mud.	Buries in bottom depressions suring day and active at night. Prey: polychaetes, amphipods, and fish.
Scomber scombrus (Atlantic mackerel)	Juveniles	4-22; most 10.	>25	0-320	Year round.	Pelagic Waters	
	Adults	4-16	>25	0-380	Year-round.	One group overwinters in deep shelf waters. Spring move inshore, summer shelf edge.	Opportunistic feeders-filter or select prey. Major prey: crustaceans, pelagic mollusks, polychaetes, squid, fish.
Scomberomorus cavalla (king mackerel)	Eggs Larvae Juveniles Adults	>20	>30	-	-	Sandy shoals of capes, offshore bars; high profile rock bottoms, barrier island oceanside waters from surf to shelf from Gulfstream shoreward; high salinity bays, estuaries, seagrass habitats.	All coastal inlets. Life stages not separated.
Scomberomorus maculatus (Spanish mackerel)	Eggs Larvae Juveniles Adults	>20	>30	Through-out water column, outer estuary.	-	Sandy shoals of capes, offshore bars; high profile rock bottoms, barrier island oceanside waters from surf to shelf from Gulfstream shoreward; high salinity bays, estuaries, seagrass habitats.	All coastal inlets. Life stages not separated.

TABLE 3 (continued)

Essential Fish Habitat Species Located Near MTS

Species	Life Stage	Temp. °C	Salinity °/oo	Depth m	Seasonal Occurrence	Habitat	Comments
Scophthalmus aquosus (windowpane)	Eggs	<20	-	<70	Feb. to Nov. Peaks May & Oct. (MAB)	Surface Waters	
	Larvae	<20	-	<70	Feb. to Nov. Peaks May & Oct. (MAB)	Pelagic Waters	
	Juveniles	<25	5.5-36	1-100	-	Bottom habitats-mud, fine-grained sand.	
	Adults	<25	5.5-36	1-75	-		
	Spawning Adults	<21	5.5-36	1-75	Feb. to Dec. Peak in May (MAB)		
Squalus acanthias (spiny dogfish)	Eggs Larvae	n/a (Juv 1-28)	n/a	n/a (Juv 5-481)	n/a	n/a	Juveniles and adults prey on fish, crabs, squids.
Stenotomus chrysops (scup)	Eggs	13-23	>15	<30	May to August	Pelagic waters in estuaries.	
	Larvae	13-23	>15	<20	May to September	Pelagic waters in estuaries.	
	Juveniles	>7	>15	0-38	Spring, Summer-estuaries, bays.	Demersal waters; inshore sands, mud, mussel & eelgrass substrates.	
	Adults	>7	>15	2-185	Adults winter offshore south of NY.	Demersal waters, inshore estuaries on various substrates.	Spawn <30m during inshore migration May-Aug. Prey: small benthic invertebrates.

Essential Fish Habitat Species Located Near MTS

Species	Life Stage	Temp. °C	Salinity °/oo	Depth m	Seasonal Occurrence	Habitat	Comments
Urophycis chuss (red hake)	Eggs	<10	<25		May to November Peaks June and July	Surface waters of the inner continental shelf.	New larvae need shelter, including live sea scallops, floating or mid-water objects.
	Larvae	<19	>0.5	<200	May to December Peaks September/October	Surface Waters	
	Juveniles	2-22; most 3-16	>22; most 31-33	<100	Year round.	Bottom habitats w/ shell substrate, incl. areas with many live scallops. Estuaries, outer shelf.	Feed on crustaceans, polychaetes, amphipods.
	Adults	2-22; most 8-10	>20; most 33-34	5-300+; prefer 30-130	Year round.		Feed on fish and crustaceans.

Sources: National Marine Fisheries Service. Guide to Essential Habitat Descriptions. National Marine Fisheries Service Web Page. http://www.nero.noaa.gov/ro/doc/list.htm

National Marine Fisheries Service. Summary of Essential Fish Habitat (EFH) and General Habitat Parameters for Federally Managed Species. http://www.nero.noaa.gov/ro/doc/efhtables.pdf

Figure 2
Marine Transfer Station Locations

★ Location of MTS

Table 4
EFH Listed Species Collected by EEA in 2003

Common Nane	Scientific Name
Atlantic (Sea) Herring	*Clupea harengus*
Atlantic Butterfish	*Peprilus triacanthus*
Black Sea Bass	*Centroptistus striata*
Bluefish	*Pomatomus saltatrix*
Little Skate	*Raja erinacea*
Scup	*Stenotomus chrysops*
Summer Flounder / Fluke	*Paralicthys dentatus*
Windowpane Flounder	*Scopthalmus aquosus*
Winter Flounder	*Pleuronectes americanus*
Winter Skate	*Raja ocellata*

Source: New York City Department of Sanitation (DSNY). 2004. MTS Marine Biological studies. Prepared by EEA, Inc.

Table 5

EFH Designations and Observations at MTS

Species	North Shore		South Bronx		East 91st Street	
	EFH Designated Life Stages	Life Stages Observed	EFH Designated Life Stages	Life Stages Observed	EFH Designated Life Stages	Life Stages Observed
Atlantic Butterfish	L,J,A		L,J,A	J	L,J,A	
Atlantic Herring	L,J,A	A	L,J,A	A	L,J,A	
Black Sea Bass	J,A		J,A		J,A	
Bluefish	J,A		J,A	A	J,A	
Little Skate	J,A		J,A		J,A	
Scup	E,L,J,A		E,L,J,A		E,L,J,A	
Summer Flounder	L,J,A		L,J,A	J,A	L,J,A	L
Windowpane Flounder	E,L,J,A	E	E,L,J,A	E,L,A	E,L,J,A	E,L
Winter Flounder	E,L,J,A	L,A	E,L,J,A	E,L,J,A	E,L,J,A	E,L
Winter Skate	J,A		J,A		J,A	

Species	Greenpoint		Hamilton Avenue		Southwest Brooklyn	
	EFH Designated Life Stages	Life Stages Observed	EFH Designated Life Stages	Life Stages Observed	EFH Designated Life Stages	Life Stages Observed
Atlantic Butterfish	L,J,A		L,J,A		L,J,A	L,J
Atlantic Herring	L,J,A	A	L,J,A	L	L,J,A	J,A
Black Sea Bass	J,A		J,A		J,A	J
Bluefish	J,A	A	J,A		J,A	A
Little Skate	J,A		J,A		J,A	A
Scup	E,L,J,A		E,L,J,A		E,L,J,A	L,J,A
Summer Flounder	L,J,A	A	L,J,A		L,J,A	J,A
Windowpane Flounder	E,L,J,A	L	E,L,J,A	E,L	E,L,J,A	E,L,J,A
Winter Flounder	E,L,J,A	L,A	E,L,J,A	L	E,L,J,A	L,J,A
Winter Skate	J,A		J,A		J,A	A

Species	West 135th Street		West 59th Street	
	EFH Designated Life Stages	Life Stages Observed	EFH Designated Life Stages	Life Stages Observed
Atlantic Butterfish	L,J,A	J,A	L,J,A	J,A
Atlantic Herring	L,J,A		L,J,A	L,A
Black Sea Bass	J,A		J,A	
Bluefish	J,A	J,A	J,A	A
Little Skate	J,A		J,A	
Scup	E,L,J,A		E,L,J,A	
Summer Flounder	L,J,A	A	L,J,A	J,A
Windowpane Flounder	E,L,J,A	L,J	E,L,J,A	E,L,J
Winter Flounder	E,L,J,A	L,J	E,L,J,A	E,L,J,A
Winter Skate	J,A		J,A	

E = Eggs, **L** = Larvae, **J** = Juveniles, **A** = Adults

* Observed juveniles were age 0 and adults were age 1 and older

* North Shore, South Bronx, Greenpoint, SW Brooklyn, W 135th Street, and W 59th Street were samples for E,L,J, and A.
* E 91st Street and Hamilton Ave. were only sampled for E and L due to physical restraints of the areas.

* **This table only lists the finfish species collected by EEA in 2003 that have EFH designations in New York Harbor.** Several other species in the Harbor have EFH listing, but were not collected during this study.

Sources: New York City Department of Sanitation (DSNY). 2004. MTS Marine Biological Studies. Prepared by EEA, Inc.

National Marine Fisheries Service. Guide to Essential Fish Habitat Designations in the Northeastern United States. Image Map. National Marine Fisheries Service Web Page. http://www.nero.noaa.gov/ro/STATES4/ConnNYNJ.htm

Table 6
List of Potential Impacts to Marine Communities at MTS

mical
vy metals released from sediment during dredging
vy metals and PAHs intruduced to sediment and water from treated lumber used in construction
pended particles from marine construction and dredging
xia from release of reduced sediments during dredging
logical
upted communities
noval of food sources
sical
nnel dredging
dged material disposal
dging and filling
itat degradation

Organisms Collected in Benthic Grabs at Each MTS
January – October 2003

North Shore

Species	Total Number	Species	Total Number
Streblospio benedicti	4751	*Nephtys* sp.	5
Oligochaeta	1459	Capitellidae	4
Haploscoloplos sp.	1457	Hesionidae	4
Eteone sp.	192	*Cassura longicirrata*	4
Annelida	150	Gasrtopoda	3
Corophium sp.	83	*Edotea triloba*	3
Mulinea lateralis	68	Nudibranchia	3
Sigambra sp.	59	*Mya arenaria*	2
Nereis sp.	45	*Tellina agilis*	2
Ilyanassa sp.	36	Sabellidae	2
Cirratulidae	29	*Mytilus edulis*	2
Phyllodocidae	25	*Cirratulus cirratus*	2
Neomysis americana	23	*Cossura longocirrata*	2
Pagurus sp.	22	*Molgula* sp.	2
Polydora sp.	19	*Glycera* sp.	1
Capitella capitata	15	*Melita nitida*	1
Bivalvia	15	*Rictaxis punctostriatus*	1
Amphipoda	13	*Molgula manhattensis*	1
Polychaeta	13	*Gammurus* sp.	1
Leucon americanus	12	*Ilyanassa obsoleta*	1
Polydora ligni	12	Caprellidae	1
Pectinaria gouldii	10	Atherinidae	1
Hypaniola grayi	9	Pysnogonidae	1
Ampelisca sp.	8	*Tharyx* sp.	1
Nereis succinea	7	*Paranaitis speciosa*	1
Crangon septemspinosa	7	*Jassa falcata*	1
Anemone	5	*Limulus polyphemus*	1
Spionidae	5	Sipunculid	1
Total			**8603**

South Bronx

Species	Total Number	Species	Total Number	Species	Total Number
Streblospio benedicti	6497	Caprellidae	11	*Crangon septemspinosa*	2
Oligochaeta	2861	Actinaria	10	*Heteromysis formosa*	2
Cirratulidae	1025	Polynoidae	10	*Crepidula fornicata*	2
Haploscoloplos sp.	678	*Edotea triloba*	8	*Eumida sanguinea*	2
Hypaniola grayi	321	Atherinidae	8	Nudibranchia	2
Eteone sp.	224	*Molgula manhattensis*	7	*Lysianopsis alba*	2
Nereis sp.	205	Ampharetidae	7	*Lepidonotus* sp.	2
Polydora sp.	105	*Corophium* sp.	6	*Cirratulis grandis*	2
Mulinea lateralis	100	*Sigambra* sp.	6	*Parapholis spinosus*	2
Pectinaria gouldii	98	Platyhelminthes	6	*Neomysis americana*	1
Nereis succinea	77	Anemone	5	*Leucon americanus*	1
Capitellidae	66	Amphithoidae	5	*Edotea* sp.	1
Parametopella cypris	66	*Yolida* sp.	5	*Acteocina canaliculata*	1
Phyllodocidae	61	Bivalvia	4	*Erichthonius* sp.	1
Elasmopus levis	59	*Ampelisca* sp.	4	*Spio* sp.	1
Spionidae	50	*Gammurus* sp.	4	*Glycera americana*	1
Xanthidae	48	Hesionidae	4	Syllidae	1
Melitidae	46	*Sabelleria vulgaris*	4	*Hyatella* sp.	1
Mya arenaria	30	Polychaeta	3	*Cassura longicirrata*	1
Amphipoda	27	Corophidae	3	*Ampharete artila*	1
Capitella capitata	21	Pysnogonidae	3	*Asabellides* sp.	1
Podarke obscura	21	Decapoda	3	*Crepidula plana*	1
Glycera sp.	18	Aoridae	3	*Dyspanopeus sayi*	1
Melita nitida	17	*Cerepus tubularis*	3	*Sabella microphthalmus*	1
Gasrtopoda	15	*Panopeus herbstii*	3	*Schistomeringos* sp.	1
Tellina agilis	11	*Podarke* sp.	3	*Tellina* sp.	1
Sabellidae	11	*Polydora ligni*	2		
Total					**12933**

Organisms Collected in Benthic Grabs at Each MTS
January – October 2003

East 91st Street			
Species	**Total Number**	**Species**	**Total Number**
Streblospio benedicti	16952	*Ilyanassa obsoleta*	5
Oligochaeta	1738	*Neomysis americana*	4
Annelida	1637	*Gammurus* sp.	4
Haploscoloplos sp.	569	Amphithoidae	4
Hypaniola grayi	401	*Tharyx* sp.	4
Eteone sp.	393	*Nereis succinea*	3
Spionidae	324	*Parametopella cypris*	3
Cirratulidae	151	Xanthidae	3
Mulinea lateralis	136	*Acteocina canaliculata*	3
Nereis sp.	79	Caprellidae	3
Polydora sp.	65	Actinaria	3
Pectinaria gouldii	55	Corophidae	3
Phyllodocidae	35	*Sigambra* sp.	2
Capitella capitata	25	Polychaeta	2
Ilyanassa sp.	20	*Tellina agilis*	2
Glycera sp.	19	Nudibranchia	2
Bivalvia	17	*Lysianopsis alba*	2
Corophium sp.	13	Decapoda	2
Amphipoda	13	*Fabrica sabella*	2
Rictaxis punctostriatus	13	*Leucon americanus*	1
Mya arenaria	12	*Polydora ligni*	1
Edotea triloba	10	*Scolocolepides viridis*	1
Anemone	8	*Crepidula fornicata*	1
Sabellidae	8	*Erichthonius* sp.	1
Podarke obscura	7	*Glycera americana*	1
Crangon septemspinosa	6	Isopoda	1
Elasmopus levis	6	*Mytilus edulis*	1
Molgula manhattensis	6	*Idotea balthica*	1
Ampharetidae	6	*Ovatella myosotis*	1
Gasrtopoda	5	*Pinnixa* sp.	1
Ampelisca sp.	5		
Total			**22801**

Greenpoint			
Species	**Total Number**	**Species**	**Total Number**
Streblospio benedicti	23169	*Corophium* sp.	5
Capitella capitata	1338	*Sigambra* sp.	3
Oligochaeta	1071	*Mya arenaria*	3
Eteone sp.	958	Anemone	2
Annelida	497	*Scolocolepides viridis*	2
Polydora sp.	248	*Glycera* sp.	2
Haploscoloplos sp.	113	*Podarke obscura*	2
Polydora ligni	112	*Melita nitida*	2
Capitellidae	58	*Unciola* sp.	2
Nereis sp.	55	*Ilyanassa* sp.	1
Cirratulidae	36	Bivalvia	1
Phyllodocidae	26	Amphipoda	1
Neomysis americana	23	*Elasmopus levis*	1
Mulinea lateralis	17	*Ampelisca* sp.	1
Spionidae	16	*Edotea triloba*	1
Ilyanassa obsoleta	16	*Pagurus* sp.	1
Crangon septemspinosa	15	Syllidae	1
Hypaniola grayi	9	*Gammarus mucronatus*	1
Nereis virens	7	*Palaemonetes* sp.	1
Nereis succinea	6		
Total			**27823**

Organisms Collected in Benthic Grabs at Each MTS
January – October 2003

Hamilton Avenue			
Species	**Total Number**	**Species**	**Total Number**
Capitella capitata	4746	Nematoda	6
Streblospio benedicti	1702	*Ilyanassa* sp.	5
Oligochaeta	1196	*Corophium* sp.	5
Polydora sp.	462	*Nereis succinea*	4
Annelida	210	*Palaeomonetes vulgaris*	4
Nereis sp.	126	*Leucon americanus*	3
Edotea sp.	115	*Ampelisca* sp.	3
Platyhelminthes	54	*Glycera* sp.	3
Haploscoloplos sp.	29	*Mulinea lateralis*	2
Neomysis americana	26	*Mya arenaria*	2
Phyllodocidae	24	Polychaeta	2
Polydora ligni	22	*Balanus* sp.	2
Podarke obscura	22	*Phyllodoce arenae*	2
Crangon septemspinosa	20	*Schistomeringos rudolphi*	2
Spionidae	13	Amphipoda	1
Capitellidae	12	Sabellidae	1
Cirratulidae	10	*Monoculodes edwardsi*	1
Eumida sanguinea	9	*Nephtys* sp.	1
Scolocolepides viridis	7	*Nereis virens*	1
Hesionidae	7	Decapoda	1
Molgula manhattensis	6	*Fabrica sabella*	1
Syllidae	6	*Hippolyte* sp.	1
Total			**8877**

Southwest Brooklyn			
Species	**Total Number**	**Species**	**Total Number**
Streblospio benedicti	4058	*Mya arenaria*	5
Oligochaeta	991	*Pagurus* sp.	5
Haploscoloplos sp.	477	*Hypaniola grayi*	4
Annelida	336	Bivalvia	4
Capitellidae	162	*Eumida sanguinea*	4
Nereis sp.	159	*Gammurus* sp.	3
Gasrtopoda	104	Hesionidae	3
Phyllodocidae	75	Atherinidae	3
Heteromysis formosa	72	*Palaeomonetes vulgaris*	3
Eteone sp.	62	Isopoda	3
Acteocina canaliculata	54	*Paranaitis speciosa*	3
Cirratulidae	51	*Cirratulus* sp.	3
Capitella capitata	45	*Polydora* sp.	2
Ilyanassa sp.	45	*Polydora ligni*	2
Crepidula fornicata	42	*Podarke obscura*	2
Pectinaria gouldii	35	*Edotea triloba*	2
Ampelisca sp.	34	*Sabelleria vulgaris*	2
Erichthonius sp.	34	*Nephtys* sp.	2
Amphipoda	22	*Pagurus longicarpus*	2
Melita nitida	20	*Leucon americanus*	1
Glycera sp.	19	*Corophium* sp.	1
Eulalia viridis	17	*Scolocolepides viridis*	1
Nereis succinea	15	Polychaeta	1
Tellina agilis	15	Caprellidae	1
Elasmopus levis	13	Syllidae	1
Rictaxis punctostriatus	13	Nudibranchia	1
Glycera americana	12	*Lysianopsis alba*	1
Mytillidae	12	*Mytilus edulis*	1
Xanthidae	10	*Lepidonotus* sp.	1
Paranatus sp.	10	*Oxyurustylis smithi*	1
Notoacmea testudinalis	9	*Clymenella* sp.	1
Neomysis americana	8	*Idotea metallica*	1
Ampelisca venili	8	*Microphthalmus aberrans*	1
Crangon septemspinosa	7	*Phyllodoce* sp.	1
Ilyanassa obsoleta	7	*Polinices duplicata*	1
Mulinea lateralis	5	*Sigalionidae* sp.	1
Spionidae	5		
Total			**7137**

Table 7 Continued

Organisms Collected in Benthic Grabs at Each MTS

January – October 2003

West 135th Street			
Species	**Total Number**	**Species**	**Total Number**
Oligochaeta	2866	Leptosynapta	8
Streblospio benedicti	1095	*Crangon septemspinosa*	7
Annelida	992	*Edotea triloba*	6
Mulinea lateralis	381	*Monoculodes edwardsi*	6
Neomysis americana	379	*Corophium* sp.	5
Haploscoloplos sp.	361	*Hyatella* sp.	5
Eteone sp.	164	*Podarke obscura*	4
Phyllodocidae	147	*Cyathura polita*	4
Leucon americanus	106	*Glycera* sp.	3
Bivalvia	66	*Gammurus* sp.	3
Scolocolepides viridis	65	Gasrtopoda	2
Nereis sp.	61	*Ampelisca* sp.	2
Capitella capitata	40	Isopoda	2
Spio sp.	28	Cumacea	2
Spionidae	25	*Molgula manhattensis*	1
Notomastus sp.	21	*Sabelleria vulgaris*	1
Polychaeta	18	Pysnogonidae	1
Mulinea sp.	17	*Gammarus mucronatus*	1
Amphipoda	16	*Callinectes sapidus*	1
Ilyanassa sp.	14	*Gammarus* sp.	1
Capitellidae	13	*Macoma* sp.	1
Nereis succinea	9	*Portunus* sp.	1
Mya arenaria	8		
Total			**6959**

West 59th Street			
Species	**Total Number**	**Species**	**Total Number**
Oligochaeta	2486	*Sabelleria vulgaris*	3
Streblospio benedicti	1220	*Nereis succinea*	2
Polydora sp.	122	*Corophium* sp.	2
Eteone sp.	74	*Scolocolepides viridis*	2
Haploscoloplos sp.	68	*Podarke obscura*	2
Leucon americanus	57	*Melita nitida*	2
Capitella capitata	35	*Monoculodes edwardsi*	2
Annelida	31	Orbiniidae	2
Nereis sp.	31	Anemone	1
Crangon septemspinosa	27	Phyllodocidae	1
Ampelisca sp.	14	*Ilyanassa* sp.	1
Cirratulidae	12	*Sigambra* sp.	1
Neomysis americana	10	*Glycera* sp.	1
Mulinea lateralis	8	Xanthidae	1
Edotea triloba	7	*Mulinea* sp.	1
Pectinaria gouldii	6	*Palaeomonetes vulgaris*	1
Capitellidae	5	Pysnogonidae	1
Stenopleustes gracilis	5	*Mytilus edulis*	1
Bivalvia	4	*Lepidonotus* sp.	1
Spionidae	3	Cumacea	1
Amphipoda	3	*Oxyurustylis smithi*	1
Gammurus sp.	3		
Total			**4261**

Epibenthic Organisms Collected at Each MTS
April 2003 – February 2004

North Shore
Ampellisca sp.
Antinoella sarsi
Balanus sp.
Copepoda
Corophium insidiosum
Corophium sp.
Elasmopus levis
Gammarus mucronatus
Hydrozoa, Mud, & Algal Film
Jassa falcata
Melita nitida
Microdeutopus sp.
Molgula manhattensis
Nereis succinea
Phyllodoce arenea
Phyllodocidae
Pleusymtes glaber
Polydora sp.
Sabella microphthalma
Spionidae
Stenothoidae

South Bronx
Ampellisca sp.
Antinoella sarsi
Balanus sp.
Caprella sp.
Corophium insidiosum
Crustacea
Elasmopus levis
Eumida sanguinea
Hydrozoa, Mud, & Algal Film
Isopoda
Jassa falcata
Melita nitida
Microdeutopus sp.
Molgula manhattensis
Mytilus edulis
Nereis succinea
Paracaprella tenuis
Phyllodoce arenae
Pleusymtes glaber
Polydora sp.
Sabella microphthalma
Scoloplos sp.
Sipunculoidea
Stenothoidae
Tharyx sp.

East 91st Street
Ampellisca sp.
Antinoella sarsi
Balanus sp.
Brania wellfleetensis
Caprella penantis
Corophium insidiosum
Corophium sp.
Elasmopus levis
Erichthonius brasiliensis
Eumida sanguinea
Exogone dispar
Hydrozoa, Mud, & Algal Film
Jassa falcata
Lyonsia sp.
Melita nitida
Microdeutopus sp.
Molgula manhettansis
Mytilus edulis
Nereis succinea
Paracaprella tenuis
Phyllodoce arenae
Phyllodoce sp.
Pleusymtes glaber
Polydora sp.
Polynoidae
Sabella microphthalma
Sabellaria vulgaris
Sabellidae
Spionidae
Stenothoidae
Xanthidae

Greenpoint
Ampellisca sp.
Balanus sp.
Corophium insidiosum
Corophium sp.
Eumida sanguinea
Gammarus mucronatus
Hydrozoa, Mud, & Algal Film
Melita nitida
Microdeutopus sp.
Molgula manhattensis
Mytilus edulis
Nereis succinea
Pleusymtes glaber
Polydora sp.
Sabella microphthalma
Spionidae
Stenothoidae
Syllidae

Epibenthic Organisms Collected at Each MTS
April 2003 – February 2004

Hamilton Avenue
Ampellisca sp.
Balanus sp.
Copepoda
Corophium insidiosum
Corophium sp.
Eumida sanguinea
Gammarus mucronatus
Hydrozoa, Mud, & Algal Film
Isopoda
Jassa falcata
Lepidonotus squamatus
Lysonia sp.
Melita nitida
Microdeutopus sp.
Molgula manhattensis
Mytilus edulis
Nereidae
Nereis sp.
Nereis succinea
Phyllodocidae
Pleusymtes glaber
Polydora sp.
Sabella microphthalma
Sabellaria vulgaris
Sabellidae
Stenothoidae
Syllidae

Southwest Brooklyn
Actinaria
Ampellisca sp.
Ampithoe valida
Antinoella sarsi
Aoridae
Balanus sp.
Caprella penantis
Caprella sp.
Corophium insidiosum
Corophium sp.
Crepidula fornicata
Crepidula plana
Elasmopus levis
Enrichthonius sp.
Eumida sanguinea
Gammarus oceanicus
Hydrozoa, Mud, & Algal Film
Isopoda
Jassa falcata
Lepidonotus squamatus
Lyonsia sp.
Melita nitida
Melitidae
Microdeutopus sp.
Molgula manhattensis
Mytilus edulis
Nereis sp.
Nereis succinea
Paracaprella sp.
Paracaprella tenuis
Phyllodocidae
Pleusymtes glaber
Polydora sp.
Stenothoidae
Syllidae

West 135th Street
Ampellisca sp.
Ampithoe valida
Balanus sp.
Corophium insidiosum
Corophium sp.
Hydrozoa, Mud, & Algal Film
Isopoda
Jassa falcata
Lyonsia sp.
Melita nitida
Nereis sp.
Nereis succinea
Pleusymtes glaber
Polydora sp.
Sabella microphthalma
Spionidae
Stenothoidae

West 59th Street
Ampellisca sp.
Ampithoe valida
Balanus sp.
Corophium insidiosum
Corophium sp.
Eumida sanguinea
Gammarus sp.
Hydrozoa, Mud, & Algal Film
Isopoda
Lyonsia sp.
Melita nitida
Molgula manhattensis
Nereis succinea
Phyllodoce arenea
Pleusymtes glaber
Polydora sp.
Spionidae
Stenothoidae

Table 9
t Finfish Sensitivity to Suspended Particles and Noise Associated with Marine Constructi

Common Name	Suspended Particles	Noise
Alewife	High	High
American Eel	Moderate	Moderate
American Shad	High	High
Atlantic Butterfish	Moderate	Moderate
Atlantic Croaker	Moderate	Moderate
Atlantic Herring	High	High
Atlantic Menhaden	High	High
Atlantic Silverside	Moderate	Moderate
Atlantic Tomcod	Moderate	Moderate
Bay Anchovy	Moderate	Moderate
Black Sea Bass	Moderate	Moderate
Blueback Herring	High	High
Bluefish	Moderate	Moderate
Cunner	Moderate	Moderate
Gizzard Shad	High	High
Grubby Sculpin	Moderate	Moderate
Hickory Shad	High	High
Hogchoker	Low	Low
Lined Sea Horse	Moderate	Moderate
Little Skate	Low	Low
Naked Goby	Moderate	Low
Northern Pipefish	Moderate	Moderate
Oyster Toadfish	Low	Low
Scup	Moderate	Moderate
Smallmouth Flounder	Low	Low
Smooth Dogfish	Moderate	Low
Spotted Hake	Moderate	Moderate
Striped Bass	Moderate	Moderate
Striped Searobin	Moderate	Moderate
Summer Flounder	Low	Low
Tautog	Moderate	Moderate
Weakfish	Moderate	Moderate
White Perch	Moderate	Moderate
Windowpane	Low	Low
Winter Flounder	Low	Low
Winter Skate	Low	Low

te: This table uses information from the below sources to show a relative sensitivity of the fish collected at the
S to activities associated with marine construction. Both studies were conducted in Europe and discuss
›pean species. The families of the fish studied were used to determine impact on the local finfish families.

Sources:
Bio/consultant as. Evaluation of the Effect of Sediment Spill from Offshore Wind Farm Construction on Marine Fish.
Bio/consultant as. Evaluation of the Effect of Noise from Offshore Pile-Driving on Marine Fish.

Table 10
Number of Adult Finfish Collected at Each MTS
January – December 2003

North Shore		
Species	**Total Number**	**EFH Listed**
Atlantic Silverside	44	
Atlantic Herring	40	*
Atlantic Menhaden	21	
Striped Bass	15	
Bay Anchovy	2	
Winter Flounder	2	*
Grubby Sculpin	1	
Northern Pipefish	1	
Total	**126**	**2**

South Bronx		
Species	**Total Number**	**EFH Listed**
Bay Anchovy	25	
Atlantic Butterfish	16	*
Atlantic Croaker	9	
Striped Bass	8	
Summer Flounder	6	*
Winter Flounder	5	*
Atlantic Tomcod	4	
Spotted Hake	4	
Tautog	4	
Grubby Sculpin	3	
Atlantic Herring	2	*
Bluefish	2	*
Windowpane	2	*
Atlantic Menhaden	1	
Cunner	1	
Hickory Shad	1	
Northern Pipefish	1	
Smallmouth Flounder	1	
Total	**95**	**6**

Greenpoint		
Species	**Total Number**	**EFH Listed**
Striped Bass	35	
Atlantic Menhaden	10	
Atlantic Tomcod	10	
Atlantic Silverside	8	
Atlantic Herring	5	*
Bluefish	5	*
Naked Goby	5	
Winter Flounder	5	*
American Shad	4	
Spotted Hake	3	
White Perch	3	
American Eel	1	
Bay Anchovy	1	
Striped Searobin	1	
Summer Flounder	1	*
Tautog	1	
Total	**98**	**4**

Table 10 Continued
Number of Adult Finfish Collected at Each MTS
January – December 2003

Southwest Brooklyn		
Species	**Total Number**	**EFH Listed**
Bay Anchovy	898	
Weakfish	69	
Scup	68	*
Little Skate	39	
Windowpane	38	*
Summer Flounder	35	*
Atlantic Croaker	24	
Atlantic Herring	20	*
Atlantic Silverside	18	
Striped Bass	15	
Striped Searobin	14	
Winter Flounder	10	*
Spotted Hake	9	
Atlantic Butterfish	8	*
Atlantic Menhaden	6	
Atlantic Tomcod	4	
Bluefish	4	*
Smooth Dogfish	3	
Black Sea Bass	2	*
Northern Pipefish	2	
Winter Skate	2	
Alewife	1	
Grubby Sculpin	1	
Lined Sea Horse	1	
Oyster Toadfish	1	
Smallmouth Flounder	1	
Total	**1293**	**8**

West 135th Street		
Species	**Total Number**	**EFH Listed**
Atlantic Croaker	881	
Striped Bass	23	
Winter Flounder	17	*
Hogchoker	5	
White Perch	5	
Atlantic Menhaden	3	
Bluefish	3	*
Atlantic Butterfish	2	*
Hickory Shad	2	
Windowpane	2	*
American Eel	1	
Atlantic Tomcod	1	
Bay Anchovy	1	
Gizzard Shad	1	
Summer Flounder	1	*
Total	**948**	**5**

West 59th Street		
Species	**Total Number**	**EFH Listed**
Striped Bass	356	
Hogchoker	282	
Atlantic Tomcod	174	
Weakfish	119	
Bay Anchovy	104	
Spotted Hake	85	
Atlantic Croaker	79	
White Perch	67	
Windowpane	30	*
Atlantic Butterfish	19	*
Winter Flounder	16	*
Summer Flounder	13	*
Grubby Sculpin	8	
Hickory Shad	7	
Atlantic Herring	5	*
American Eel	4	
Northern Pipefish	4	
Striped Searobin	4	
Atlantic Menhaden	3	
Blueback Herring	3	
Smallmouth Flounder	3	
Atlantic Silverside	2	
Bluefish	1	*
Cunner	1	
Gizzard Shad	1	
Total	**1390**	**6**

Table 11
Life History Characteristics of Finfish Found in the Central Part of the Mid-Atlantic Bight

Scientific Name	Common Name	Spawning Time	Spawning Location	Egg Type	Habitat Summer	Habitat Winter
Mustelus canis	Smooth Dogfish	March - May	Estuary / Mid-Atlantic Bight	Live	Estuary	Ocean
Anguilla rostrata	American Eel	March - May	Sargasso Sea	?	Estuary	Estuary
Conger oceanicus	Conger Eel	June - February	Sargasso Sea	?	Estuary	?
Alosa aestivalis	Blueback Herring	March - May	Fresh Water	Pelagic	Estuary	Ocean
Alosa mediocris	Hickory Shad	March - May	Fresh Water	Demersal / Pelagic	?	?
Alosa pseudoharengus	Alewife	March - May	Fresh Water	Pelagic	Estuary	Ocean
Alosa sapidissima	American Shad	March - May	Fresh Water	Demersal / Pelagic	Fresh Water / Estaury	Ocean
Brevoortia tyrannus	Atlantic Menhaden	Sept.-Nov. & Mar.-May	Mid and South Atlantic Bight	Pelagic	Estuary	Ocean
Clupea harengus	Atlantic Herring	March - May	Mid-Atlantic Bight	Demersal	?	?
Anchoa hepsetus	Striped Anchovy	June - August	Mid-Atlantic Bight	Pelagic	Estuary / Ocean	Estuary / Ocean
Anchoa mitchilli	Bay Anchovy	June - August	Estuary / Mid-Atlantic Bight	Pelagic	Estuary	Ocean
Osmerus mordax	Rainbow Smelt	March - May	Fresh Water	Demersal	Brackish	Estuary
Synodus foetens	Inshore Lizardfish	?	South Atlantic Bight	?	?	Ocean
Microgadus tomcod	Atlantic Tomcod	December - February	Fresh Water	Demersal	Estuary / Fresh Water	Fresh Water
Pollachius virens	Pollock	September - February	Mid-Atlantic Bight	Pelagic	Estaury	Ocean
Urophycis chuss	Red Hake	June - August	Mid-Atlantic Bight	Pelagic	Ocean	Ocean
Urophycis regia	Spotted Hake	June-Nov. & Mar.-May	Mid-Atlantic Bight	Pelagic	Ocean	Ocean
Urophycis tenuis	White Hake	March - May	Mid-Atlantic Bight	Pelagic	Ocean	Ocean
Ophidion marginatum	Striped Cusk-Eel	June - November	Mid-Atlantic Bight	Pelagic	Estuary / Ocean	Ocean
Opsanus tau	Oyster Toadfish	March - August	Estuary	Demersal	Estuary	Estuary
Strongylura marina	Atlantic Needlefish	March - May	Estuary	Demersal	Estuary	?
Cyprinodon variegatus	Sheepshaed minnow	March - August	Estuary	Demersal	Marsh	Estuary
Fundulus heteroclitus	Mummichog	March - August	Estuary	Demersal	Marsh	Estuary
Fundulus luciae	Spotfin Killifish	March - August	Estuary	Demersal	Marsh	Estuary
Fundulus majalis	Striped Killifish	March - August	Estuary	Demersal	Creeks / Shores	Estuary
Lucania parva	Rainwater Killifish	March - August	Estuary	Demersal	Marsh	Estuary
Gambusia holbrooki	Eastern Mosquitofish	June - August	Fresh Water	Live	Fresh Water / Estaury	Fresh Water / Estuary
Menidia beryllina	Inland Silverside	March - August	Estuary	Demersal	Marsh	Estuary
Menidia menidia	Atlantic Silverside	March - August	Estuary	Demersal	Estuary	Ocean
Apeltes quadracus	Fourspine Stickleback	March - May	Estuary	Demersal	Eelgrass	Estuary
Gasterosteus aculeatus	Threespine Stickleback	March - May	Estuary	Demersal	Marsh	Ocean
Hippocampus erectus	Lined Seahorse	March - August	Estuary / Mid-Atlantic Bight	Live	Estuary	Ocean
Syngnathus fuscus	Northern Pipefish	June - August	Estuary	Live	Estuary	Ocean
Prionotus carolinus	Northern Searobin	June - November	Mid-Atlantic Bight (Estuary?)	Pelagic	Estuary / Ocean	Ocean
Prionotus evolans	Striped Searobin	June - November	Mid-Atlantic Bight (Estuary?)	Pelagic	Estuary / Ocean	Ocean
Myoxocephalus aenaeus	Grubby	December - February	Estuary / Mid-Atlantic Bight	Demersal	Estuary / Ocean?	Estuary / Ocean?

Table 11 Continued
Life History Characteristics of Finfish Found in the Central Part of the Mid-Atlantic Bight

Scientific Name	Common Name	Spawning Time	Spawning Location	Egg Type	Habitat Summer	Habitat Winter
Morone americana	White Perch	March - May	Fresh Water	Demersal / Pelagic	Estuary / Fresh Water	Estuary
Morone saxatilus	Striped Bass	March - May	Fresh Water	Pelagic	Estuary / Fresh Water	Estuary
Centropristis striata	Black Sea Bass	March - November	Mid-Atlantic Bight	Pelagic	Estuary / Ocean	Ocean
Pomatomus saltatrix	Bluefish	March - August	Mid and South Atlantic Bight	Pelagic	Estuary	Ocean
Caranx hippos	Crevalle Jack	?	South Atlantic Bight	Pelagic	Estuary	?
Lutjanus griseus	Gray Snapper	June - August	South Atlantic Bight	Pelagic	?	?
Stenotomus chrysops	Scup	March - August	Estuaries, Bays, Cont Shelf	Pelagic	Estuary	Ocean
Bairdiella chrysoura	Silver Perch	June - August	?	Pelagic	Estuary	?
Cynoscion regalis	Weakfish	March - August	Estuary / Mid-Atlantic Bight	Pelagic	Estuary	Ocean
Leiostomus xanthurus	Spot	December - February	Southern Mid-Atlantic Bight	Pelagic	Estuary	Ocean
Menticirrhus saxatilis	Northern Kingfish	June - August	Mid-Atlantic Bight	Pelagic	Ocean / Estuary	Ocean
Micropogonias undulatus	Atlantic Croaker	June - November	Southern Mid-Atlantic Bight	Pelagic	Estuary	Estuary
Pogonias cromis	Black Drum	June - August	Mid-Atlantic Night	Pelagic	Estuary	Ocean
Chaetodon ocellatus	Spotfin Butterflyfish	?	South Atlantic Bight	Pelagic	Estuary	?
Mugil cephalus	Striped Mullet	December - February	South Atlantic Bight	Pelagic	Estuary / Fresh Water	Ocean
Mugil curema	White Mullet	March - May	South Atlantic Bight	Pelagic	Estuary	Ocean
Sphyraena borealis	Northern Sennet	March - May	South Atlantic Bight	Pelagic	Estuary	?
Tautoga onitis	Tautog	March - November	Estuary / Mid-Atlantic Bight	Pelagic	Estaury	Estuary
Tautogolabrus adspersus	Cunner	March - November	Mid-Atlantic Bight	Pelagic	Estuary	Estuary / Ocean
Pholis gunnellus	Rock Gunnel	December - February	Estuary / Mid-Atlantic Bight	Demersal	Estuary	Ocean
Astroscopus guttatus	Northern Stargazer	June - August	Estuary / Mid-Atlantic Bight	?	Estuary / Ocean	?
Hypsoblennius hentz	Feather Blenny	June - August	Estuary	Demersal	Estuary	Estuary
Ammodytes americanus	American Sand Lance	December - February	?	Demersal	Estuary	Estuary
Gobionellus boleosoma	Darter Goby	June - August	Estuary	Demersal	Estuary	Estuary
Gobiosoma bosc	Naked Goby	March - August	Estuary	Demersal	Estuary	Estuary
Gobiosoma ginsburgi	Seaboard Goby	June - August	Estuary	Demersal	Estuary / Ocean	?
Peprilus triacanthus	Butterfish	June - August	Estuary / Mid-Atlantic Bight	Pelagic	Estuary / Ocean	Ocean
Scophthalmus aquosus	Windowpane	Mar.-May & Sept.-Nov.	Estuary / Mid-Atlantic Bight	Pelagic	Estuary / Ocean	Ocean
Eutropus microstomus	Smallmouth Flounder	March - November	Mid-Atlantic Bight	Pelagic	Estuary / Ocean	Ocean
Paralichthys dentatus	Summer Flounder	September - February	Mid-Atlantic Bight	Pelagic	Estuary	Estuary
Pseudopleuronectes americanus	Winter Flounder	December - February	Estuary / Mid-Atlantic Bight	Demersal	Estuary	Estuary / Ocean?
Trinectes maculatus	Hogchoker	March - November	Estaury	Pelagic	Estaury	Estuary
Sphoeroides maculatus	Northern Puffer	March - August	Estuary	Demersal	Estuary	Ocean

Source : Able, K.W. & Fahay, M.P. 1998 The First Year in the Life of Estuarine Fishes in the Middle Atlantic Bight. Rutgers University Press. New Brunswick, NJ.

Table 12
Finfish Eggs Collected at Each MTS
January – September 2003

ast 91st Street	EFH Listed	Greenpoint	EFH Listed	Hamilton Avenue	EFH Listed	North Shore	EFH Listed
Cunner		Bay Anchovy		Cunner		Cunner	
Bay Anchovy		Cunner		Bay Anchovy		Atlantic Menhaden	
antic Menhaden		Labridae		Tautog		Labridae	
Labridae		Tautog		Atlantic Menhaden		Tautog	
Tautog		Atlantic Menhaden		Windowpane	*	Fourbeard Rockling	
ırbeard Rockling		Fourbeard Rockling		Labridae		Bay Anchovy	
Hogchoker				Searobin spp.		Windowpane	*
Searobin ssp.				Fourbeard Rockling		Searobin spp.	
Windowpane	*			Smallmouth Flounder		Smallmouth Flounder	
Vinter Flounder	*						

South Bronx	EFH Listed	Southwest Brooklyn	EFH Listed	West 135th Street	EFH Listed	West 59th Street	EFH Listed
lantic Menhaden		Atlantic Menhaden		Bay Anchovy		Bay Anchovy	
Cunner		Bay Anchovy		Labridae		Atlantic Menhaden	
urbeard Rockling		Cunner		Atlantic Menhaden		Labridae	
Labridae		Tautog		Cunner		Cunner	
Tautog		Searobin spp.		Tautog		Fourbeard Rockling	
Searobin spp.		Windowpane	*	Anchovy spp.		Tautog	
Bay Anchovy		Labridae		Searobin spp.		Hogchoker	
Vinter Flounder	*	Smallmouth Flounder		Northern Pipefish		Winter Flounder	*
Windowpane	*	Fourbeard Rockling				Windowpane	*
Hogchoker							

Table 13
Finfish Larvae Collected at Each MTS
January – September 2003

East 91st Street	EFH Listed
Winter Flounder	*
Anchovy spp.	
Goby spp.	
ıtlantic Menhaden	
Herring spp.	
Sculpin spp.	
ɔurbeard Rockling	
Northern Pipefish	
Weakfish	
Windowpane	*
Rock Gunnel	
Tautog	
eespine Stickleback	
Summer Flounder	*

Greenpoint	EFH Listed
Anchovy spp.	
Goby spp.	
Atlantic Menhaden	
Winter Flounder	*
Herring spp.	
Sculpin spp.	
Labridae	
Fourbeard Rockling	
Rock Gunnel	
American Sand Lance	
American Eel	
Banded Killifish	
Windowpane	*

Hamilton Avenue	EFH Listed
Winter Flounder	*
Anchovy spp.	
Atlantic Mehnaden	
Goby spp.	
Sculpin spp.	
Tautog	
Windowpane	*
Weakfish	
Herring spp.	
Rock Gunnel	
Northern Pipefish	
Alewife	
American Sand Lance	
Atlantic Herring	*
Labridae	
Fourbeard Rockling	
Feather Blenny	
Striped Bass	
Cunner	

North Shore	EFH Listed
Herring spp.	
Atlantic Menhaden	
Anchovy spp.	
Winter Flounder	*
Goby spp.	
Atlantic Menhaden	
Sculpin spp.	
Tautog	
Cunner	
Northern Pipefish	
Rock Gunnel	

South Bronx	EFH Listed
ıtlantic Menhaden	
Winter Flounder	*
Goby spp.	
Anchovy spp.	
Sculpin spp.	
Herring spp.	
Rock Gunnel	
Tautog	
Northern Pipefish	
Weakfish	
Atlantic Silverside	
Windowpane	*
Cunner	

Southwest Brooklyn	EFH Listed
Winter Flounder	*
Anchovy spp.	
Goby spp.	
Atlantic Menhaden	
Windowpane	*
Herring spp.	
Sculpin spp.	
Northern Pipefish	
Weakfish	
American Sand Lance	
Tautog	
Threespine Stickleback	
Fourbeard Rockling	
Smallmouth Flounder	
Labridae	
Searobin spp.	
Rock Gunnel	
Scup	*
Cunner	
Fourspot Flounder	
Atlantic Butterfish	*
Striped Searobin	

West 135th Street	EFH Listed
Winter Flounder	*
Anchovy spp.	
Goby spp.	
Atlantic Menhaden	
Weakfish	
Sculpin spp.	
American Sand Lance	
Herring spp.	
Atlantic Tomcod	
Hogchoker	
Atlantic Silverside	
Rock Gunnel	
Windowpane	*

West 59th Street	EFH Listed
Anchovy spp.	
Winter Flounder	*
Goby spp.	
Atlantic Menhaden	
Weakfish	
Atlantic Herring	*
Threespine Stickleback	
Windowpane	*
Herring spp.	
Sculpin spp.	
Tautog	
Rock Gunnel	
American Sand Lance	
American Eel	
Labridae	
Northern Pipefish	
Hogchoker	

APPENDIX D

COMMERCIAL WASTE TO THE MTS SUMMARY REPORT AND REVISED TABLES

Revised Table A.4-1
Highest Estimated Concentrations of the Criteria Pollutants from On-Site Emissions
DSNY-managed Waste Plus Commercial Waste
West 135th Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	2,100	4,400	6,500	40,000	NA
	8-hour(6)	1,000	3,300	4,300	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	6	77	83	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	27	61	88	150	NA
	Annual	7	21	28	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.029(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	264	265	529	1,300	NA
	24-hour(6)	7	139	146	365	NA
	Annual	1	37	38	80	NA

Notes:

~~1.~~(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

~~2.~~(2) Background concentrations were obtained from the NYCDEP in a memorandum dated ~~April 18, 2003.~~ February 18, 2005.

~~3.~~(3) NAAQS = National Ambient Air Quality Standard.

~~4.~~(4) Screening threshold value (STV) established by the NYCDEP and NYSDEC.

~~5.~~(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

~~6.~~(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

~~7.~~(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is ~~quite~~ very conservative.

NA = Not Applicable

Revised Table A.4-2
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutants from On-Site Emissions
DSNY-managed Waste Plus Commercial Waste
West 135th Street Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) [2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) [5] (μg/m³)	Chronic Non-Cancer Hazard Index [6]	Highest Estimated Long-Term (Annual) Pollutant Conc. [4] (μg/m³)	Unit Risk Factors [7] (μg/m³)	Maximum Cancer Risk [8,9]
Carcinogenic Pollutants										
1	Benzene	1.41E-01	1.30E+03	1.08E-04	2.54E-03	1.30E-01	1.95E-02	2.54E-03	8.30E-06	2.11E-08
2	Formaldehyde	1.78E-01	3.00E+01	5.95E-03	3.21E-03	6.00E-02	5.35E-02	3.21E-03	1.30E-05	4.17E-08
3	1,3 Butadiene	5.91E-03	-	-	1.06E-04	3.60E-03	2.95E-02	1.06E-04	2.80E-04	2.98E-08
4	Acetaldehyde	1.16E-01	4.50E+03	2.58E-05	2.08E-03	4.50E-01	4.63E-03	2.08E-03	2.20E-06	4.59E-09
5	Benzo(a)pyrene	2.84E-05	-	-	5.11E-07	2.00E-03	2.56E-04	5.11E-07	1.70E-03	8.69E-10
Non-Carcinogenic Pollutants [10]										
6	Propylene	3.90E-01	-	-	7.01E-03	3.00E+03	2.34E-06	7.01E-03	NA	NA
7	Acrolein	1.40E-02	1.90E-01	7.36E-02	2.52E-04	2.00E-02	1.26E-02	2.52E-04	NA	NA
8	Toluene	6.18E-02	3.70E+04	1.67E-06	1.11E-03	4.00E+02	2.78E-06	1.11E-03	NA	NA
9	Xylenes	4.31E-02	4.30E+03	1.00E-05	7.75E-04	7.00E+02	1.11E-06	7.75E-04	NA	NA
10	Anthracene	2.83E-04	-	-	5.08E-06	2.00E-02	2.54E-04	5.08E-06	NA	NA
11	Benzo(a)anthracene	2.54E-04	-	-	4.57E-06	2.00E-02	2.28E-04	4.57E-06	NA	NA
12	Chrysene	5.34E-05	-	-	9.60E-07	2.00E-02	4.80E-05	9.60E-07	NA	NA
13	Naphthalene	1.28E-02	7.90E+03	1.62E-06	2.31E-04	3.00E+00	7.68E-05	2.31E-04	NA	NA
14	Pyrene	7.23E-04	-	-	1.30E-05	2.00E-02	6.50E-04	1.30E-05	NA	NA
15	Phenanthrene	4.44E-03	-	-	7.99E-05	2.00E-02	4.00E-03	7.99E-05	NA	NA
16	Dibenz(a,h)anthracene	8.82E-05	-	-	1.59E-06	2.00E-02	7.93E-05	1.59E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**7.97E-02**	**Total Estimated Chronic Non-Cancer Hazard Index**		**1.25E-01**	**Total Estimated Combined Cancer Risk**		**9.80E-08**
		Acute Non-Cancer Hazard Index Threshold [11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold** [11]		**1.0E+00**	**Cancer Risk Threshold** [11]		**1.0E-06**

Notes to Table A.4-2:

(1) Estimated by multiplying the total 1-hour HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total HCs.

(2) Short-term (1-hour) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hour concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total HCs.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

NA = Not Applicable

Revised Table A.4-3
Highest Estimated Concentrations of the Criteria Pollutants from On-Site Emissions
DSNY-managed Waste Plus Commercial Waste
East 91st Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	1,060	3,781	4,841	40,000	NA
	8-hour(6)	401	2,635	3,036	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	11	77	88	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	38	61	99	150	NA
	Annual	9	21	30	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	4.9	-	-	NA	5
	Annual Neighborhood Average	0.040	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	46	265	311	1,300	NA
	24-hour(6)	3	139	142	365	NA
	Annual	0.5	37	38	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP memorandum dated February 18, 2005. Maximum background data were used unless otherwise noted.

(3) NAAQS = National Ambient Air Quality Standard.

(4) Screening threshold value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison ~~is very~~ provides a conservative comparison with the standard.

NA = Not Applicable

Table A.4-4
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
East 91st Street Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk: Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Acute Non-Cancer Risk: Short-Term (1-hr) Guideline Conc. (SGCs)[2] (μg/m³)	Acute Non-Cancer Risk: Acute Non-Cancer Hazard Index[3]	Chronic Non-Cancer Risk: Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Chronic Non-Cancer Risk: Long-Term (Annual) Guideline Conc. (AGCs)[5] (μg/m³)	Chronic Non-Cancer Risk: Chronic Non-Cancer Hazard Index[6]	Cancer Risk: Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Cancer Risk: Unit Risk Factors[7] (μg/m³)	Cancer Risk: Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	2.98E-01	1.30E+03	2.30E-04	3.95E-03	1.30E-01	3.04E-02	7.69E-03	8.30E-06	3.28E-08
2	Formaldehyde	3.78E-01	3.00E+01	1.26E-02	5.00E-03	6.00E-02	8.33E-02	9.72E-03	1.30E-05	6.49E-08
3	1,3 Butadiene	1.25E-02	-	-	1.66E-04	3.60E-03	4.60E-02	3.22E-04	2.80E-04	4.64E-08
4	Acetaldehyde	2.45E-01	4.50E+03	5.45E-05	3.25E-03	4.50E-01	7.22E-03	6.32E-03	2.20E-06	7.14E-09
5	Benzo(a)pyrene	6.01E-05	-	-	7.96E-07	2.00E-03	3.98E-02	1.55E-06	1.70E-03	1.35E-09
Non-Carcinogenic Pollutants[10]										
6	Propylene	8.25E-01	-	-	1.09E-02	3.00E+03	3.64E-06	2.13E-02	NA	NA
7	Acrolein	2.96E-01	1.90E-01	1.56E-01	3.92E-04	2.00E-02	1.96E-02	7.62E-04	NA	NA
8	Toluene	1.31E-01	3.70E+04	3.54E-06	1.73E-03	4.00E+02	4.33E-06	3.37E-03	NA	NA
9	Xylenes	9.12E-02	4.30E+03	2.12E-05	1.21E-03	7.00E+02	1.72E-06	2.35E-03	NA	NA
10	Anthracene	5.98E-04	-	-	7.92E-06	2.00E-02	3.96E.04	1.54E-05	NA	NA
11	Benzo(a)anthracene	5.37E-04	-	-	7.11E-06	2.00E-02	3.56E-04	1.38E-05	NA	NA
12	Chrysene	1.13E-04	-	-	1.49E-06	2.00E-02	7.47E-05	2.91E-06	NA	NA
13	Naphthalene	2.71E-02	7.90E+03	3.43E-06	3.59E-04	3.00E+00	1.20E-04	6.99E-04	NA	NA
14	Pyrene	1.53E-03	-	-	2.02E-05	2.00E-02	1.01E-03	3.94E-05	NA	NA
15	Phenanthrene	9.41E-03	-	-	1.24E-04	2.00E-02	6.22E-03	2.42E-04	NA	NA
16	Dibenz(a,h)anthracene	1.87E-04	-	-	2.47E-06	2.00E-02	1.23E-04	4.80E-05	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**1.69E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**1.95E-01**	**Total Estimated Combined Cancer Risk**		**1.53E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold[11]**		**1.0E+00**	**Cancer Risk Threshold[11]**		**1.0E-06**

Notes to Table A.4-4:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

NA = Not Applicable.

Revised Table A.4-5
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
West 59th Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	3,033	4,353	7,386	40,000	NA
	8-hour(6)	582	3,322	3,904	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	4	77	81	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	14	61	75	150	NA
	Annual	1	21	22	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	4	-	-	NA	5
	Annual Neighborhood Average	0.033(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	57	265	322	1,300	NA
	24-hour(6)	13	139	152	365	NA
	Annual	1	37	38	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP ~~on April 18, 2003.~~ memorandum dated February 18, 2005.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison ~~is quite~~ provides a conservative comparison with the standard.

NA = Not Applicable.

Table A.4-6
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
West 59th Street Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
		Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) [2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) [5] (μg/m³)	Chronic Non-Cancer Hazard Index [6]	Highest Estimated Long-Term (Annual) Pollutant Conc. [4] (μg/m³)	Unit Risk Factors [7] (μg/m³)	Maximum Cancer Risk [8,9]
Carcinogenic Pollutants										
1	Benzene	9.85E-01	1.30E+03	7.58E-04	4.06E-03	1.30E-01	3.12E-02	4.06E-03	8.30E-06	3.37E-08
2	Formaldehyde	1.25E+00	3.00E+01	4.15E-02	5.14E-03	6.00E-02	8.56E-02	5.14E-03	1.30E-05	6.68E-08
3	1,3 Butadiene	4.13E-02	-	-	1.70E-04	3.60E-03	4.73E-02	1.70E-04	2.80E-04	4.77E-08
4	Acetaldehyde	8.10E-01	4.50E+03	1.80E-05	3.34E-03	4.50E-01	7.42E-03	3.34E-03	2.20E-06	7.35E-09
5	Benzo(a)pyrene	1.98E-04	-	-	8.19E-07	2.00E-03	4.09E-04	8.19E-07	1.70E-03	1.39E-09
Non-Carcinogenic Pollutants [10]										
6	Propylene	2.72E+00	-	-	1.12E-02	3.00E+03	3.74E-06	1.12E-02	NA	NA
7	Acrolein	9.77E-02	1.90E-01	5.14E-01	4.03E-04	2.00E-02	2.01E-02	4.03E-04	NA	NA
8	Toluene	4.32E-01	3.70E+04	1.17E-05	1.78E-03	4.00E+02	4.45E-06	1.78E-03	NA	NA
9	Xylenes	3.01E-01	4.30E+03	7.00E-05	1.24E-03	7.00E+02	1.77E-06	1.24E-03	NA	NA
10	Anthracene	1.97E-03	-	-	8.14E-06	2.00E-02	4.07E-04	8.14E-06	NA	NA
11	Benzo(a)anthracene	1.77E-03	-	-	7.31E-06	2.00E-02	3.66E-04	7.31E-06	NA	NA
12	Chrysene	3.73E-04	-	-	1.54E-06	2.00E-02	7.68E-05	1.54E-06	NA	NA
13	Naphthalene	8.95E-02	7.90E+03	1.13E-05	3.69E-04	3.00E+00	1.23E-04	3.69E-04	NA	NA
14	Pyrene	5.05E-03	-	-	2.08E-05	2.00E-02	1.04E-03	2.08E-05	NA	NA
15	Phenanthrene	3.10E-02	-	-	1.28E-04	2.00E-02	6.40E-03	1.28E-04	NA	NA
16	Dibenz(a,h)anthracene	6.16E-04	-	-	2.54E-06	2.00E-02	1.27E-04	2.54E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**5.57E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.01E-01**	**Total Estimated Combined Cancer Risk**		**1.57E-07**
		Acute Non-Cancer Hazard Index Threshold [11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold [11]**		**1.0E+00**	**Cancer Risk Threshold [11]**		**1.0E-06**

Notes to Table A.4-6:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

NA = Not Applicable.

Revised Table A.4-7
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
South Bronx Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources [1]	Background Pollutant Concentrations [2]	Highest Estimated On-site Pollutant Concentrations	NAAQS[3]	STV[4]
Carbon Monoxide (CO), $\mu g/m^3$	1-hour[6]	947	3,781	4,728	40,000	NA
	8-hour[6]	182	2,635	2,817	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	3	60	63	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour[7]	18	91	109	150	NA
	Annual	5	21	26	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	1	-	-	NA	5
	Annual Neighborhood Average	0.027[5]	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour[6]	35	254	289	1,300	NA
	24-hour[6]	3	136	139	365	NA
	Annual	0.7	37	38	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP ~~on April 18, 2003.~~ memorandum dated February 18, 2005.

(3) NAAQS = National Ambient Air Quality Standards.

(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison ~~is quite~~ provides a conservative comparison with the standard.

NA = Not Applicable.

Table A.4-8
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
South Bronx Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
		Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) [2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) [5] (μg/m³)	Chronic Non-Cancer Hazard Index [6]	Highest Estimated Long-Term (Annual) Pollutant Conc. [4] (μg/m³)	Unit Risk Factors [7] (μg/m³)	Maximum Cancer Risk [8,9]
Carcinogenic Pollutants										
1	Benzene	3.08E-01	1.30E+03	2.37E-04	4.23E-03	1.30E-01	3.25E-02	4.23E-03	8.30E-06	3.51E-08
2	Formaldehyde	3.98E-01	3.00E+01	1.30E-02	5.35E-03	6.00E-02	8.91E-02	5.35E-03	1.30E-05	6.95E-08
3	1.3 Butadiene	1.29E-02	-	-	1.77E-04	3.60E-03	4.92E-02	1.77E-04	2.80E-04	4.96E-08
4	Acetaldehyde	2.53E-01	4.50E+03	5.62E-05	3.48E-03	4.50E-01	7.73E-03	3.48E-03	2.20E-06	7.65E-09
5	Benzo(a)pyrene	6.20E-05	-	-	8.52E-07	2.00E-03	4.26E-04	8.52E-07	1.70E-03	1.45E-09
Non-Carcinogenic Pollutants [10]										
6	Propylene	8.51E-01	-	-	1.17E-02	3.00E+03	3.90E-06	1.17E-02	NA	NA
7	Acrolein	3.05E-02	1.90E-01	1.61E-01	4.19E-04	2.00E-02	2.10E-02	4.19E-04	NA	NA
8	Toluene	1.35E-01	3.70E+04	3.65E-06	1.85E-03	4.00E+02	4.63E-06	1.85E-03	NA	NA
9	Xylenes	9.40E-02	4.30E+03	2.19E-05	1.29E-03	7.00E+02	1.85E-06	1.29E-03	NA	NA
10	Anthracene	6.17E-04	-	-	8.48E-06	2.00E-02	4.24E-04	8.48E-06	NA	NA
11	Benzo(a)anthracene	5.54E-04	-	-	7.61E-06	2.00E-02	3.81E-04	7.61E-06	NA	NA
12	Chrysene	1.16E-04	-	-	1.60E-06	2.00E-02	8.00E-05	1.60E-06	NA	NA
13	Naphthalene	2.80E-02	7.90E+03	3.54E-06	3.84E-04	3.00E+00	1.28E-04	3.84E-04	NA	NA
14	Pyrene	1.58E-03	-	-	2.17E-05	2.00E-02	1.08E-03	2.17E-05	NA	NA
15	Phenanthrene	9.70E-03	-	-	1.33E-04	2.00E-02	6.66E-03	1.33E-04	NA	NA
16	Dibenz(a,h)anthracene	1.92E-04	-	-	2.64E-06	2.00E-02	1.32E-04	2.64E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**1.74E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.09E-01**	**Total Estimated Combined Cancer Risk**		**1.63E-07**
		Acute Non-Cancer Hazard Index Threshold [11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold [11]**		**1.0E+00**	**Cancer Risk Threshold [11]**		**1.0E-06**

Notes to Table A.4-8:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

NA = Not Applicable.

Revised Table A.4-9
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
North Shore Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources [1]	Background Pollutant Concentrations [2]	Highest Estimated On-site Pollutant Concentrations	NAAQS[3]	STV[4]
Carbon Monoxide (CO), $\mu g/m^3$	1-hour[6]	859	3,781	4,460	40,000	NA
	8-hour[6]	144	2,635	2,779	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	7	56	63	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour[7]	26	90	116	150	NA
	Annual	6	20	26	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.035	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour[6]	36	186	222	1,300	NA
	24-hour[6]	3	107	110	365	NA
	Annual	0.3	18	18	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP ~~on April 18, 2003.~~ memorandum dated February 18, 2005.

(3) NAAQS = National Ambient Air Quality Standards.

(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison ~~is~~ provides a ~~quite~~ conservative comparison with the standard.

NA = Not Applicable.

Revised Table A.4-10
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
North Shore Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
		Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) [2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) [5] (μg/m³)	Chronic Non-Cancer Hazard Index [6]	Highest Estimated Long-Term (Annual) Pollutant Conc. [4] (μg/m³)	Unit Risk Factors [7] (μg/m³)	Maximum Cancer Risk [8,9]
Carcinogenic Pollutants										
1	Benzene	2.76E-01	1.30E+03	2.12E-04	2.63E-03	1.30E-01	2.03E-02	2.63E-03	8.30E-06	2.19E-08
2	Formaldehyde	3.49E-01	3.00E+01	1.16E-02	3.33E-03	6.00E-02	5.55E-02	3.33E-03	1.30E-05	4.33E-08
3	1,3 Butadiene	1.16E-02	-	-	1.10E-04	3.60E-03	3.07E-02	1.10E-04	2.80E-04	3.09E-08
4	Acetaldehyde	2.27E-01	4.50E+03	5.05E-05	2.16E-03	4.50E-01	4.81E-03	2.16E-03	2.20E-06	4.76E-09
5	Benzo(a)pyrene	5.57E-05	-	-	5.31E-07	2.00E-03	2.65E-04	5.31E-07	1.70E-03	9.02E-10
Non-Carcinogenic Pollutants [10]										
6	Propylene	7.64E-01	-	-	7.28E-03	3.00E+03	2.43E-06	7.28E-03	NA	NA
7	Acrolein	2.74E-02	1.90E-01	1.44E-01	2.61E-04	2.00E-02	1.31E-02	2.61E-04	NA	NA
8	Toluene	1.21E-01	3.70E+04	3.27E-06	1.15E-03	4.00E+02	2.89E-06	1.15E-03	NA	NA
9	Xylenes	8.44E-02	4.30E+03	1.96E-05	8.04E-04	7.00E+02	1.15E-06	8.04E-04	NA	NA
10	Anthracene	5.54E-04	-	-	5.28E-06	2.00E-02	2.64E-04	5.28E-06	NA	NA
11	Benzo(a)anthracene	4.97E-04	-	-	4.74E-06	2.00E-02	2.37E-04	4.74E-06	NA	NA
12	Chrysene	1.05E-04	-	-	9.96E-07	2.00E-02	4.98E-05	9.96E-07	NA	NA
13	Naphthalene	2.51E-02	7.90E+03	3.18E-06	2.39E-04	3.00E+00	7.98E-05	2.39E-04	NA	NA
14	Pyrene	1.42E-03	-	-	1.35E-05	2.00E-02	6.75E-04	1.35E-05	NA	NA
15	Phenanthrene	8.70E-03	-	-	8.30E-05	2.00E-02	4.15E-03	8.430E-05	NA	NA
16	Dibenz(a,h)anthracene	1.73E-04	-	-	1.65E-06	2.00E-02	8.23E-05	1.65E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**1.56E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**1.30E-01**	**Total Estimated Combined Cancer Risk**		**1.02E-07**
		Acute Non-Cancer Hazard Index Threshold [11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold [11]**		**1.0E+00**	**Cancer Risk Threshold [11]**		**1.0E-06**

Notes to Table A.4-10:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

NA - Not Applicable.

Revised Table A.4-11
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Greenpoint Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources [1]	Background Pollutant Concentrations [2]	Highest Estimated On-site Pollutant Concentrations	NAAQS[3]	STV[4]
Carbon Monoxide (CO), $\mu g/m^3$	1-hour[6]	1,335	3,321	4,656	40,000	NA
	8-hour[6]	445	2,635	3,080	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	2	56	58	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour[7]	25	90	115	150	NA
	Annual	4	20	24	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.024[5]	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour[6]	51	186	237	1,300	NA
	24-hour[6]	6	107	113	365	NA
	Annual	0.5	18	19	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP ~~on April 18, 2003.~~ memorandum dated February 18, 2005.

(3) NAAQS = National Ambient Air Quality Standards.

(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison ~~is quite~~ provides a conservative comparison with the standard.

NA = Not Applicable.

Table A.4-12
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Greenpoint Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) [2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) [5] (μg/m³)	Chronic Non-Cancer Hazard Index [6]	Highest Estimated Long-Term (Annual) Pollutant Conc. [4] (μg/m³)	Unit Risk Factors [7] (μg/m³)	Maximum Cancer Risk [8,9]
Carcinogenic Pollutants										
1	Benzene	4.31E-01	1.30E+03	3.31E-04	3.00E-03	1.30E-01	2.31E-02	3.00E-03	8.30E-06	2.49E-08
2	Formaldehyde	5.45E-01	3.00E+01	1.82E-02	3.80E-03	6.00E-02	6.33E-02	3.80E-03	1.30E-05	4.94E-08
3	1,3 Butadiene	1.81E-02	-	-	1.26E-04	3.60E-03	3.50E-02	1.26E-04	2.80E-04	3.53E-08
4	Acetaldehyde	3.54E-01	4.50E+03	7.87E-05	2.47E-03	4.50E-01	5.49E-03	2.47E-03	2.20E-06	5.43E-09
5	Benzo(a)pyrene	8.68E-05	-	-	6.05E-07	2.00E-03	3.03E-04	6.05E-07	1.70E-03	1.03E-09
Non-Carcinogenic Pollutants [10]										
6	Propylene	1.19E+00	-	-	8.31E-03	3.00E+03	2.77E-06	8.31E-03	NA	NA
7	Acrolein	4.27E-02	1.90E-01	2.25E-01	2.98E-04	2.00E-02	1.49E-02	2.98E-04	NA	NA
8	Toluene	1.89E-01	3.70E+04	5.10E-06	1.32E-03	4.00E+02	3.29E-06	1.32E-03	NA	NA
9	Xylenes	1.32E-01	4.30E+03	3.06E-05	9.18E-04	7.00E+02	1.31E-06	9.18E-04	NA	NA
10	Anthracene	8.63E-04	-	-	6.02E-06	2.00E-02	3.01E-04	6.02E-06	NA	NA
11	Benzo(a)anthracene	7.76E-04	-	-	5.41E-06	2.00E-02	2.70E-04	5.41E-06	NA	NA
12	Chrysene	1.63E-04	-	-	1.14E-06	2.00E-02	5.68E-05	1.14E-06	NA	NA
13	Naphthalene	3.92E-02	7.90E+03	2.54E-06	2.73E-04	~~3.00E+00~~	9.10E-05	2.73E-04	NA	NA
14	Pyrene	2.21E-03	-	-	1.54E-05	~~2.00E-02~~	7.70E-04	1.54E-05	NA	NA
15	Phenanthrene	1.36E-02	-	-	9.47E-05	~~2.00E-02~~	4.73E-03	9.47E-05	NA	NA
16	Dibenz(a,h)anthracene	2.69E-04	-	-	1.88E-06	~~2.00E-02~~	9.39E-05	1.88E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.43E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**1.48E-01**	**Total Estimated Combined Cancer Risk**		**1.16E-07**
		Acute Non-Cancer Hazard Index Threshold [11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold [11]**		**1.0E+00**	**Cancer Risk Threshold [11]**		**1.0E-06**

Notes to Table A.4-12:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Revised Table A.4-13
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Hamilton Avenue Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources [1]	Background Pollutant Concentrations [2]	Highest Estimated On-site Pollutant Concentrations	NAAQS[3]	STV[4]
Carbon Monoxide (CO), $\mu g/m^3$	1-hour[6]	744	3,321	4,065	40,000	NA
	8-hour[6]	321	2,635	2,956	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	20	56	76	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour[7]	38	90	128	150	NA
	Annual	8	20	28	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	4.0	-	-	NA	5
	Annual Neighborhood Average	0.040	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour[6]	44	186	230	1,300	NA
	24-hour[6]	3	107	110	365	NA
	Annual	0.5	18	19	80	NA

Notes:
(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM10 NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.
NA = Not Applicable.

Revised Table A.4-14
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Hamilton Avenue Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) [2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) [5] (μg/m³)	Chronic Non-Cancer Hazard Index [6]	Highest Estimated Long-Term (Annual) Pollutant Conc. [4] (μg/m³)	Unit Risk Factors [7] (μg/m³)	Maximum Cancer Risk [8,9]
Carcinogenic Pollutants										
1	Benzene	2.20E-01	1.30E+03	1.70E-04	6.32E-03	1.30E-01	4.86E-02	6.32E-03	8.30E-06	5.25E-08
2	Formaldehyde	2.79E-01	3.00E+01	9.29E-03	8.00E-03	6.00E-02	1.33E-01	8.00E-03	1.30E-05	1.04E-07
3	1,3 Butadiene	9.24E-03	-	-	2.65E-04	3.60E-03	7.36E-02	2.65E-04	2.80E-04	7.42E-08
4	Acetaldehyde	1.81E-01	4.50E+03	4.03E-05	5.20E-03	4.50E-01	1.16E-02	5.20E-03	2.20E-06	1.14E-08
5	Benzo(a)pyrene	4.44E-05	-	-	1.27E-06	2.00E-03	6.37E-04	1.27E-06	1.70E-03	2.17E-09
Non-Carcinogenic Pollutants [10]										
6	Propylene	6.10E-01	-	-	1.75E-02	3.00E+03	5.83E-06	1.75E-02	NA	NA
7	Acrolein	2.19E-02	1.90E-01	1.15E-01	6.27E-04	2.00E-02	3.14E-02	6.27E-04	NA	NA
8	Toluene	9.66E-02	3.70E+04	2.61E-06	2.77E-03	4.00E+02	6.93E-06	2.77E-03	NA	NA
9	Xylenes	6.73E-02	4.30E+03	1.57E-05	1.93E-03	7.00E+02	2.76E-06	1.93E-03	NA	NA
10	Anthracene	4.42E-04	-	-	1.27E-05	2.00E-02	6.34E-04	1.27E-05	NA	NA
11	Benzo(a)anthracene	3.97E-04	-	-	1.14E-05	2.00E-02	5.69E-04	1.14E-05	NA	NA
12	Chrysene	8.34E-05	-	-	2.39E-06	2.00E-02	1.20E-04	2.39E-06	NA	NA
13	Naphthalene	2.19E-02	7.90E+03	2.54E-06	5.75E-04	3.00E+00	1.92E-04	5.75E-04	NA	NA
14	Pyrene	9.66E-02	-		3.24E-05	2.00E-02	1.62E-03	3.24E-05	NA	NA
15	Phenanthrene	6.73E-02	-	-	1.99E-04	2.00E-02	9.96E-03	1.99E-04	NA	NA
16	Dibenz(a,h)anthracene	4.42E-04	-		3.95E-06	2.00E-02	1.98E-04	3.95E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		1.25E-01	**Total Estimated Chronic Non-Cancer Hazard Index-**		**3.12E-01**	**Total Estimated Combined Cancer Risk**		2.44E-07
		Acute Non-Cancer Hazard Index Threshold [11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold [11]-**		**1.0E+00**	**Cancer Risk Threshold [11]**		5.83E-06

Notes to Table A.4-14:

~~(1)~~(8) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

~~(2)~~(9) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

~~(3)~~(10) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

~~(4)~~(11) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

~~(5)~~(12) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

~~(6)~~(13) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

~~(7)~~(14) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

~~(8)~~(15) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

~~(9)~~(16) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

~~(10)~~(17) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

~~(11)~~(18) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Revised Table A.4-15
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Southwest Brooklyn Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	893	3,781	4,674	40,000	NA
	8-hour(6)	221	2,635	2,856	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	8	56	64	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	41	90	131	150	NA
	Annual	8	20	28	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2.9	-	-	NA	5
	Annual Neighborhood Average	0.033	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	35	186	221	1,300	NA
	24-hour(6)	2	107	109	365	NA
	Annual	0.4	18	18	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP ~~on April 18, 2003~~memorandum dated February 18,2005.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison ~~is quite~~ provides a conservative comparison with the standard.

NA = Not Applicable.

Revised Table A.4-16
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Southwest Brooklyn Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) [2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) [5] (μg/m³)	Chronic Non-Cancer Hazard Index [6]	Highest Estimated Long-Term (Annual) Pollutant Conc. [4] (μg/m³)	Unit Risk Factors [7] (μg/m³)	Maximum Cancer Risk [8,9]
Carcinogenic Pollutants										
1	Benzene	2.50E-01	1.30E+03	1.92E-04	2.95E-03	1.30E-01	2.27E-02	2.95E-03	8.30E-06	2.45E-08
2	Formaldehyde	3.16E-01	3.00E+01	1.05E-02	3.73E-03	6.00E-02	6.22E-02	3.73E-03	1.30E-05	4.85E-08
3	1,3 Butadiene	1.05E-02	-	-	1.24E-04	3.60E-03	3.43E-02	1.24E-04	2.80E-04	3.46E-08
4	Acetaldehyde	2.06E-01	4.50E+03	4.57E-05	2.43E-03	4.50E-01	5.39E-03	2.43E-03	2.20E-06	5.34E-09
5	Benzo(a)pyrene	5.04E-05	-	-	5.94E-07	2.00E-03	2.97E-04	5.94E-07	1.70E-03	1.01E-09
Non-Carcinogenic Pollutants [10]										
6	Propylene	6.92E-01	-	-	8.16E-03	3.00E+03	2.72E-06	8.16E-03	NA	NA
7	Acrolein	2.48E-02	1.90E-01	1.31E-01	2.93E-04	2.00E-02	1.46E-02	2.93E-04	NA	NA
8	Toluene	1.10E-01	3.70E+04	2.96E-06	1.29E-03	4.00E+02	3.23E-06	1.29E-03	NA	NA
9	Xylenes	7.64E-02	4.30E+03	1.78E-05	9.01E-04	7.00E+02	1.29E-06	9.01E-04	NA	NA
10	Anthracene	5.01E-04	-	-	5.91E-06	2.00E-02	2.96E-04	5.91E-06	NA	NA
11	Benzo(a)anthracene	4.50E-04	-	-	5.31E-06	2.00E-02	2.66E-04	5.31E-06	NA	NA
12	Chrysene	9.46E-05	-	-	1.12E-06	2.00E-02	5.58E-05	1.12E-06	NA	NA
13	Naphthalene	2.27E-02	7.90E+03	2.88E-06	2.68E-04	3.00E+00	9.94E-05	2.68E-04	NA	NA
14	Pyrene	1.28E-03	-	-	1.51E-05	2.00E-02	7.56E-04	1.51E-05	NA	NA
15	Phenanthrene	7.88E-03	-	-	9.30E-05	2.00E-02	4.65E-03	9.30E-05	NA	NA
16	Dibenz(a,h)anthracene	1.56E-04	-	-	1.84E-06	2.00E-02	9.22E-05	1.84E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**1.41E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**1.46E-01**	**Total Estimated Combined Cancer Risk**		**1.14E-07**
		Acute Non-Cancer Hazard Index Threshold [11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold [11]**		**1.0E+00**	**Cancer Risk Threshold [11]**		**1.0E-06**

Notes to Table A.4-16:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Revised Table A.4-17
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
West 135th Street Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.(1) ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.(1) $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.(1) $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources(2) $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources(3) $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources(2) $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources(4) $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
12th Ave. & 133rd St.									
Existing Conditions	NA (5)	92	34						
Future No-Build Conditions	NA (5)	92	34						
Future Build Conditions	NA (5)	92	34						
Future Build Incremental				0.4	0.2	0.6	0.02	0.05	0.07
Broadway & 133rd St.									
Existing Conditions	NA (5)	92	33						
Future No-Build Conditions	NA (5)	92	33						
Future Build Conditions	NA (5)	93	34						
Future Build Incremental				0.4	0.2	0.6	0.02	0.02	0.04

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The ~~$PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project induced [or future build] traffic only) estimated by taking the~~ maximum difference between ~~the maximum~~ $PM_{2.5}$ concentrations ~~for the~~ under ~~Future~~ future No-Build and ~~Future~~ future Build ~~scenarios~~ concentrations at ~~any receptor~~ sidewalk receptors 3 meters ~~from the edge of the roadways using~~ under AM, ~~midday~~ facility or PM peak traffic conditions .

(4) The ~~$PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project induced [or future build] traffic only) estimated by taking the~~ maximum difference between ~~the maximum~~ $PM_{2.5}$ concentrations ~~for the Future~~ future No-Build and ~~Future~~ future Build ~~scenarios~~ conditions at ~~any receptor~~ receptors 15 meters from the edge of the roadways ~~using~~ under AM, ~~midday~~ facility or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

NA = Not Applicable.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Revised Table A.4-18
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
East 91st Street Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
York Ave. & 86th St.									
Existing Conditions	NA [5]	87	31						
Future No-Build Conditions	NA [5]	88	30						
Future Build Conditions	NA [5]	87	30						
Future Build Incremental				0.43	0.5	0.93	0.027	0.059	0.086
York Ave. & 91st St.									
Existing Conditions	4	90	32						
Future No-Build Conditions	4	90	32						
Future Build Conditions	4	92	32						
Future Build Incremental				1.50	0.8	2.30	0.04	0.022[6]	0.062

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = ~~46~~ 61 $\mu g/m^3$, Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The ~~$PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the~~ maximum difference between ~~the maximum~~ $PM_{2.5}$ concentrations ~~for~~ under the ~~Future~~ future No-Build and ~~Future~~ future Build ~~scenarios~~ conditions at ~~any receptor~~ sidewalk receptors ~~3 meters from the edge of the roadways using~~ under AM, ~~midday~~ facility or PM peak traffic conditions .

(4) The ~~$PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the~~ maximum difference between ~~the maximum~~ $PM_{2.5}$ concentrations ~~for~~ under the ~~Future~~ future No-Build and ~~Future~~ future Build ~~scenarios~~ conditions at ~~any receptor~~ receptors 15 meters from the edge of the roadways ~~using~~ under AM, ~~midday~~ facility or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

(6) Result determined using a Tier II Analysis.

NA = Not Applicable.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Revised Table A.4-19
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
West 59th Street Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.(1) ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.(1) $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.(1) $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources(2) $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources(3) $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources(2) $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources(4) $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
59th St. and 12th Avenue									
Existing Conditions	NA (5)	84	30						
Future No-Build Conditions	NA (5)	89	32						
Future Build Conditions	NA (5)	90	33						
Future Build Incremental				1.57	0.4	1.97	0.03	0.043 (4)	0.07
Route 9A & 57th									
Existing Conditions	NA (5)	83 (7)	29						
Future No-Build Conditions	NA (5)	84 (7)	30						
Future Build Conditions	NA (5)	84 (7)	30						
Future Build Incremental				0.64	0.2	0.84	0.03	0.043 (6)	0.07

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = ~~46~~ 61 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The ~~$PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the~~ maximum difference between ~~the maximum~~ $PM_{2.5}$ concentrations ~~for the Future~~ under future No-Build and ~~Future~~ future Build ~~scenarios~~ conditions at ~~any receptor~~ sidewalk receptors 3 meters ~~from the edge of the roadways using~~ under AM, midday or PM peak traffic conditions .

(4) The ~~$PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the~~ maximum difference between the ~~maximum~~ average $PM_{2.5}$ concentrations ~~for the Future~~ under future No-Build and ~~Future~~ future Build ~~scenarios~~ conditions at ~~any receptor~~ receptors located 15 meters from the edge of the roadways ~~using~~ under either AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

(6) The maximum difference between $PM_{2.5}$ concentrations under future No-Build and future Build conditions at receptors 15 meters from the edge of the roadways under AM, midday or PM peak traffic conditions.

(7) Result determined using a Tier II analysis.

NA = Not Applicable.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Revised Table A.4-20
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
South Bronx Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
Bruckner & Leggett									
Existing Conditions	6	~~121~~ 137	~~42~~ 39						
Future No-Build Conditions	5	~~117~~ 133	~~41~~ 38						
Future Build Conditions	5	~~118~~ 134	~~41~~ 38						
Future Build Incremental				0.02	~~0.31~~ 0.3	0.32	0.0003	~~0.09~~ 0.090	0.09
Bruckner & Longwood									
Existing Conditions	NA [5]	~~132~~ 148	~~42~~ 39						
Future No-Build Conditions	NA [5]	~~129~~ 145	~~41~~ 38						
Future Build Conditions	NA [5]	~~129~~ 145	~~43~~ 39						
Future Build Incremental				0.02	~~0.36~~ 0.4	0.42	0.0004	~~0.08~~ 0.080	0.08
Tiffany & Randall[6]									
Existing Conditions	3	~~93~~ 109	~~32~~ 29						
Future No-Build Conditions	3	~~88~~ 113	~~34~~ 30						
Future Build Conditions	3	~~99~~ 115	~~34~~ 31						
Future Build Incremental				0.03	~~0.28~~ 0.3	0.33	0.0006	~~0.06~~ 0.060	0.06

Table A.4-20 (Continued)
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
South Bronx Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
Halleck & Ryawa[6]									
Existing Conditions	NA [5]	~~84~~ 100	~~28~~ 25						
Future No-Build Conditions	NA [5]	~~95~~ 111	~~32~~ 28						
Future Build Conditions	NA [5]	~~98~~ 114	~~33~~ 30						
Future Build Incremental				0.10	~~0.54~~ 0.5	~~0.65~~ 0.60	0.03	0.049[7]	~~0.09~~ 0.079
Halleck & East Bay/Hunts Point[6]									
Existing Conditions	4	~~111~~ 127	~~44~~ 41						
Future No-Build Conditions	4	~~110~~ 126	~~43~~ 40						
Future Build Conditions	4	~~113~~ 129	~~44~~ 41						
Future Build Incremental				0.07	~~0.34~~ 0.3	~~0.45~~ 0.37	0.002	~~0.05~~ 0.050	~~0.05~~ 0.052

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = ~~46~~ 91 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The ~~$PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the~~ maximum difference between ~~the maximum~~ $PM_{2.5}$ concentrations ~~for the Future~~ under future No-Build and ~~Future~~ future Build ~~scenarios~~ conditions at ~~any receptor~~ sidewalk receptors ~~3 meters from the edge of the roadways using~~ under AM, ~~midday~~ facility or PM peak traffic conditions.

(4) The ~~$PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the~~ maximum difference between ~~the maximum~~ $PM_{2.5}$ concentrations ~~for the Future~~ under future No-Build and ~~Future~~ future Build ~~scenarios~~ conditions at ~~any receptor~~ receptors 15 meters from the edge of the roadways ~~using~~ under AM, ~~midday~~ facility or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

(6) Results determined using a Tier II analysis.

(7) The average difference between $PM_{2.5}$ concentrations under Future No-Build and Future Build conditions at receptors 15 meters from the edge of the reading under AM, Facility, and PM Peak traffic conditions.

NA = Not Applicable

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Revised Table A.4-21
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
North Shore Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
College Point Blvd. & 31st Ave.									
Existing Conditions	4.1	95	39						
Future No-Build Conditions	4.2	94	38						
Future Build Conditions	4.4	96	39						
Future Build Incremental				0.17	0.040[5]	~~0.28~~ 0.21	0.01	0.040[5]	0.050
College Point Blvd. & Booth Memorial Ave.									
Existing Conditions	4.8	111	48						
Future No-Build Conditions	4.8	108	45						
Future Build Conditions	4.8	108	46						
Future Build Incremental				0.089	0.047	~~0.13~~ 0.14	0.007	0.047	~~0.048~~ 0.054
College Point Blvd., 32nd Ave. & WSE Service Rd.									
Existing Conditions	6.0	113	45						
Future No-Build Conditions	6.1	109	44						
Future Build Conditions	6.1	110	44						
Future Build Incremental				0.028	0.070	~~0.20~~ 0.10	0.002	0.070	0.072

Notes for Table A.4-21:

(1) CO and PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility, and PM peak traffic information plus background concentration (8-hr CO = 2.75 ppm; 24-hr PM_{10} = 57 $\mu g/m^3$; Annual PM_{10} = 23 $\mu g/m^3$).

(2) The maximum incremental concentrations of the on-site emissions at the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or Future Build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor three meters from the edge of the roadways using AM, Facility, or PM peak traffic conditions.

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or Future Build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, Facility, or PM peak traffic conditions.

(5) Results determined by performing a Tier II analysis and averaging concentrations over the entire receptor network.

ppm = parts per million

$\mu g/m^3$ = microgram per cubic meter

Table A.4-22
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Greenpoint Converted MTS

	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
Air Quality Receptor Site	**8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)**	**24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)**	**Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)**	**Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)**	**Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)**	**Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)**	**Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)**	**Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)**	**Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)**
Kingsland Avenue, Greenpoint Avenue & Norman Avenue									
Existing Conditions	5.2	137	40						
Future No-Build Conditions	4.8	138	40						
Future Build Conditions	4.9	138	40						
Future Build Incremental				0.22	0.70	0.92	0.029	0.05[6]	0.079
Greenpoint Avenue, Review Avenue & VanDam Street									
Existing Conditions	NA[5]	148	46						
Future No-Build Conditions	NA[5]	135	37						
Future Build Conditions	NA[5]	136	37						
Future Build Incremental				0.13	0.30	0.43	0.029	0.07	0.099

Table A.4-22 (Continued)
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Greenpoint Converted MTS

	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
Air Quality Receptor Site	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
Greenpoint Avenue, McGuiness Boulevard & Provost Street									
Existing Conditions	NA[5]	137	37						
Future No-Build Conditions	NA[5]	138	37						
Future Build Conditions	NA[5]	139	38						
Future Build Incremental				0.13	0.50	0.63	0.029	0.05	0.079

Notes for Table A.4-22:

(1) CO and PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility, and PM peak traffic information plus background concentration (8 hr CO = 2.3 ppm; 24-hr PM_{10} = ~~57~~ 90 μg/m^3; Annual PM_{10} = ~~23~~ 20 μg/m^3).

(2) The maximum incremental concentrations of the on-site emissions at the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or Future Build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor three meters from the edge of the roadways using AM, Facility, or PM peak traffic conditions.

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or Future Build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, Facility, or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

(6) The result of a Tier I analysis for this intersection (0.13μg/m^3) which assumed that peak period project traffic occur every hour of a 24-hour analysis period, was multiplied by a conservative ratio (0.40) of peak period project-induced traffic to average project-induced traffic to approximate the Tier II result (0.05μg/m^3).

ppm: parts per million

μg/m^3: microgram per cubic meter

NA = Not Applicable

Revised Table A.4-23
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Hamilton Avenue Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
20th St., 3rd Ave. & 4th Ave.									
Existing Conditions	NA[6]	145	42						
Future No-Build Conditions	NA[6]	143	41						
Future Build Conditions	NA[6]	144	42						
Future Build Incremental				0.10	0.30	0.40	0.007	0.02[5]	0.027
Hamilton Ave., Hamilton Pl. & 14th St.									
Existing Conditions	NA[6]	114[5]	47[5]						
Future No-Build Conditions	NA[6]	112[5]	46[5]						
Future Build Conditions	NA[6]	114[5]	47[5]						
Future Build Incremental				0.81	1.83	2.64	0.040	0.034	0.074

Notes:

(1) CO and PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility, and PM peak traffic information plus background concentration (8-hr CO = 2.8 ppm; 24-hr PM_{10} (2nd Highest Max) = 50 $\mu g/m^3$; Annual PM_{10} = 20 $\mu g/m^3$).

(2) NA = Not Applicable The maximum incremental concentrations of the on-site emissions at the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or Future Build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor three meters from the edge of the roadways using AM, Facility, or PM peak traffic conditions.

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or Future Build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways averaged over the mobile source analysis grid using AM, Facility, or PM peak traffic conditions.

(5) Results determined by performing a TIER II analysis.

(6) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million

$\mu g/m^3$ = microgram per cubic meter

Revised Table A.4-24
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Southwest Brooklyn Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
26th Ave., Cropsey Ave & Shore Parkway									
Existing Conditions	NA	143	43						
Future No-Build Conditions	NA	135	40						
Future Build Conditions	NA	136	40						
Future Build Incremental				0.31	0.4	0.71	0.033	0.025	0.058
Bay Parkway, Cropsey Ave. & Shore Parkway									
Existing Conditions	NA	147[5]	42 [3]						
Future No-Build Conditions	NA	143[5]	41 [3]						
Future Build Conditions	NA	144[5]	41 [3]						
Future Build Incremental				0.16	0.3	0.46	0.007	0.030	0.037

Notes for Table A.4-24:

(1) CO and PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility, and PM peak traffic information plus background concentration (8-hr CO = 2.8 ppm; 24-hr PM_{10} = 90 $\mu g/m^3$; Annual PM_{10} = 20 $\mu g/m^3$).

(2) The maximum incremental concentrations of on-site emissions at the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or Future Build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor three meters from the edge of the roadways using AM, Facility, or PM peak traffic conditions.

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or Future Build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways averaged over the mobile source analysis grid using AM, Facility, or PM peak traffic conditions.

(5) Results determined by performing a Tier II analysis.

(6) ~~Concentration resulting from rounding of 49.9 $\mu g/m^3$.~~

ppm = parts per million

$\mu g/m^3$ = microgram per cubic meter

NA = Not Applicable

Revised Table 1
Highest Predicted Odor Concentration(s) from On-Site Sources
Hamilton Avenue Converted MTS (WITH COMMERCIAL WASTE)

Parameter	Resulting Odor Unit[1]
Estimated Detectable Concentration	5.0
Highest Result	~~2.59~~ 2.6
Type of Receptor	Fence Line Receptor
Location of Receptor	Site Boundary
Closest Sensitive Receptor Result[2]	~~1.42~~ 1.4
Type of Receptor	Apartment Buildings
Distance to Receptor	372 Feet

Notes:
(1) Odor Unit is defined as concentration that an average person in a laboratory setting could just barely detect
(2) Measured from the site boundary.

Revised Table 2
Highest Predicted Odor Concentration(s) from On-Site Sources
Southwest Brooklyn Converted MTS (WITH COMMERCIAL WASTE)

Parameter	Resulting Odor Unit[1]
Estimated Detectable Concentration	5.0
Highest Result	2.5
Type of Receptor	Discrete Receptor
Location of Receptor	Over Water
Closest Sensitive Receptors [2]	
Rehabilitation Center	1.3
Residential House	1.2
Baseball Field	1.0
School	0.8

Notes:
(1) Odor Unit is defined as concentration that an average person in a laboratory setting could just barely detect
(2) Measured from the site boundary.

Revised Table 3
Highest Predicted Odor Concentration(s) from On-Site Sources
East 91st Street Converted MTS (WITH COMMERCIAL WASTE)

Parameter	Resulting Odor Unit[1]
Estimated Detectable Concentration	5.0
Highest Result	~~3.58~~ 3.6
Type of Receptor	Fence Line Receptor
Location of Receptor	Site Boundary
Closest Sensitive Receptor Results [2]	
Bobby Wagner Walk	3.4
Apartment Building on York Avenue	2.0
Apartment Building on E. 90th Street	2.0
Asphalt Green Center Recreational field	2.9
Asphalt Green	2.8
Asphalt Green Playground	2.4

Notes:
(1) Odor Unit is defined as concentration that an average person in a laboratory setting could just barely detect
(2) Measured from the site boundary.

Revised Table 4
Highest Predicted Odor Concentration(s) from On-Site Sources
North Shore Converted MTS (WITH COMMERCIAL WASTE)

Parameter	Resulting Odor Unit[1]
Estimated Detectable Concentration	5.0
Highest Result	1.4
Type of Receptor	Discrete Receptor
Location of Receptor	Over Water
Closest Sensitive Receptor Result[2]	0.9
Type of Receptor	Residential House
Distance to Receptor[3]	280 Feet

Notes:
(1) Odor Unit is defined as concentration that an average person in a laboratory setting could just barely detect
(2) Measured from the site boundary.

Revised Table 5
Highest Predicted Odor Concentration(s) from On-Site Sources
South Bronx Converted MTS (WITH COMMERCIAL WASTE)

Parameter	Resulting Odor Unit[1]
Estimated Detectable Concentration	5.0
Highest Result	~~2.31~~ 2.3
Type of Receptor	Over-Water Receptor
Receptor [2]	36 feet from the facility
Closest Sensitive Receptor Result	~~0.48~~ 0.5
Type of Receptor	Prison Barge
Distance to Receptor [3]	340 Feet

Notes:

~~(2)~~(1) Odor Unit is defined as concentration that an average person in a laboratory setting could just barely detect

(2) Measured from the site boundary

(3) Measured from the site property line.

Table 6
Highest Predicted Odor Concentration(s) from On-Site Sources
Greenpoint Converted MTS (WITH COMMERCIAL WASTE)

Parameter	Resulting Odor Unit[1]
Estimated Detectable Concentration	5.0
Highest Result	~~2.11~~ 2.1
Type of Receptor	Fence Line Receptor
Location of Receptor[2]	Site Boundary
Closest Sensitive Receptor Result	~~0.18~~ 0.2
Type of Receptor	Apartment Building
Distance to Receptor[3]	1,188 Feet

Notes:

(1) Odor Unit is defined as concentration that an average person in a laboratory setting could just barely detect.

(2) Measured from the site boundary.

(3) Measured from the site property line.

Table 7
Highest Predicted Odor Concentration(s) from On-Site Sources
West 135th Street Converted MTS (WITH COMMERCIAL WASTE)

Parameter	Resulting D/T Ratio [1]
Estimated Detectable Concentration	5.0
Highest Result	~~2.17~~ 2.2
Type of Receptor	Discrete Receptor
Location of Receptor [2]	On-Land
Closest Sensitive Receptor Result	~~0.14~~ 0.1
Type of Receptor	Riverbank State Park
Distance to Receptor [3]	60 Feet

Notes:
(1) Odor Unit is defined as concentration that an average person in a laboratory setting could just barely detect.
(2) Measured from the site boundary.
(3) Measured from the site property line

Revised Table 8
Highest Predicted Odor Concentration(s) from On-Site Sources
West 59th Street Converted MTS (WITH COMMERCIAL WASTE)

Parameter	Resulting D/T Ratio [1]
Estimated Detectable Concentration	5.0
Highest Result	~~3.05~~ 3.1
Type of Receptor	Discrete Receptor
Location of Receptor	Over Water
Closest Sensitive Receptor[2]	
Apartment Building	~~0.34~~ 0.3
Bike Path	~~3.05~~ 3.1

Notes:
(1) Odor Unit is defined as concentration that an average person in a laboratory setting could just barely detect.
(2) Measured from the site boundary.

Revised - North Shore Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	To MTS: 20th Avenue WB to College Point Blvd SB to 31st Ave WB From MTS: (reverse)	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	1	1
		11 pm - 12 am	0	0
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	1	1
		3 - 4 am	0	0
		4 - 5 am	1	1
		5 - 6 am	0	0
		6 - 7 am	0	0
		7 - 8 am	0	0
1-S	To MTS: Van Wick Expwy NB to Whitestone Expwy NB to Linden Place NB to Whitestone Expwy Service Rd WB to College Point Blvd NB to 31st Ave WB From MTS: 31st Ave EB to College Point Blvd SB to Whitestone Expwy Service Rd WB to Whitestone Expwy SB to Van Wick Expwy SB	8 - 9 pm	28	28
		9 - 10 pm	25	25
		10 - 11 pm	24	24
		11 pm - 12 am	10	10
		12 - 1 am	3	3
		1 - 2 am	9	9
		2 - 3 am	9	9
		3 - 4 am	1	1
		4 - 5 am	12	12
		5 - 6 am	7	7
		6 - 7 am	4	4
		7 - 8 am	0	0
2-S & 2-E & 2-W	2-S To MTS: Van Wick Expwy NB to College Point Blvd NB to 31st Ave WB From MTS: (reverse) 2-E To MTS: LIE WB to College Point Blvd NB to 31st Ave WB From MTS: (reverse) 2-W To MTS: LIE EB to College Point Blvd NB to 31st Ave WB From MTS: (reverse)	8 - 9 pm	11	11
		9 - 10 pm	8	8
		10 - 11 pm	14	8
		11 pm - 12 am	6	6
		12 - 1 am	3	0
		1 - 2 am	8	0
		2 - 3 am	8	0
		3 - 4 am	1	0
		4 - 5 am	11	0
		5 - 6 am	6	0
		6 - 7 am	3	1
		7 - 8 am	0	0
1-E	To MTS: Northern Blvd WB to Linden Place NB to Whitestone Expwy Service Rd WB to College Point Blvd NB to 31st Ave WB From MTS: (reverse)	8 - 9 pm	4	4
		9 - 10 pm	3	3
		10 - 11 pm	5	5
		11 pm - 12 am	2	2
		12 - 1 am	1	1
		1 - 2 am	3	0
		2 - 3 am	3	0
		3 - 4 am	0	0
		4 - 5 am	4	0
		5 - 6 am	2	2
		6 - 7 am	1	1
		7 - 8 am	0	0

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p m - 2 a.m., 5 a.m - 7 a m [2]	1-6	9-20
From the south			
Route 1S To MTS: Van Wick Expressway to Whitestone Expressway to Linden Place to Whitestone Expressway Service Road (Westbound) to College Point Blvd to 31st Ave From MTS: 31st Ave to College Point Blvd to Whitestone Expressway Service Road (Eastbound) to Linden Place to Whitestone Expressway Service Road (Westbound) to Whitestone Expressway to Van Wick Expressway	8 p m - 8 a.m	0 -28	0 -28
Route 2S To MTS: Van Wick Expressway to College Point Blvd to 31st Ave From MTS: Reverse	8 p m – 12 a.m., 6 a.m – 8 a.m [2]	0 – 11	0-14
From the east			
Route 1E To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave From MTS: Reverse	8 p m – 1 a.m., 3 a.m – 4 a m, 5 a.m – 8 a.m [2]	0 – 5	0 - 5
Route 2E To MTS: Long Island Expressway to College Point Blvd to 31st Ave From MTS: Reverse	8 p m – 12 a.m., 6 a m – 8 a m [2]	0 – 11	0 - 14
From the west			
Route 1W To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave From MTS: Reverse	8 p m – 1 a m, 3 a.m – 4 a.m, 5 a m – 8 a m [2]	0 – 2	0 - 2
Route 2W To MTS: Long Island Expressway to College Point Blvd to 31st Ave From MTS: Reverse	8 p m – 12 a.m., 6 a.m – 8 a m [2]	0 – 11	0 - 14
Route 3W To MTS: Roosevelt Ave to College Point Blvd to 31st Ave From MTS: Reverse	8 p m – 1 a.m., 3 a.m – 4 a.m., 6 a.m. – 8 a.m. [2]	0 – 2	0 - 2
Greenpoint Avenue Converted MTS			
From the north			
Route 1N To MTS: McGuiness Blvd to Greenpoint Ave to Kingsland Ave From MTS: Reverse	8 p m - 2 a.m., 3 a.m - 8 a.m [2]	0 – 8	0 – 8
Route 2N To MTS: Queens Blvd to Greenpoint Ave to Starr Ave to Van Dam St to Greenpoint Ave to Kingsland Ave From MTS: Kingsland Ave to Greenpoint Ave to Queens Blvd	8 p m - 8 a m	1 –6	0 – 7

COMMERCIAL WASTE MANAGEMENT STUDY

VOLUME III

CONVERTED MARINE TRANSFER STATIONS -

Commercial Waste Processing and Analysis of Potential Impacts

March 2004

Prepared for:

New York City Department of Sanitation
for submission to the New York City Council

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List of Acronyms/Definitions

Acronyms	
CD	community district
CEQR	City Environmental Quality Review
CO	carbon monoxide
DEIS	Draft Environmental Impact Statement
DSNY	New York City Department of Sanitation
FHWA	Federal Highway Administration
LL74	Local Law 74, effective December 19, 2000, enacted by the City Council, requiring a comprehensive assessment of commercial solid waste management in New York City
MTS	marine transfer station
NAAQS	National Ambient Air Quality Standards
NYCDOT	New York City Department of Transportation
NYSDOT	New York State Department of Transportation
PCE	passenger car equivalent
ppm	parts per million
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
STV	screening threshold value
SWMP	Solid Waste Management Plan
TNM	Traffic Noise Model
tpd	tons per day

Acronyms	
$\mu g/m^3$	micrograms per cubic meter

Definitions	
City	New York City
Commercial Waste Capacity Scenario	Scenario which identifies the available capacity on an hourly basis at each Converted MTS, and provides the basis on which potential air quality and noise impacts associated with the delivery of commercial waste in nighttime hours can be evaluated
Converted MTS	One of DSNY's eight marine transfer stations, modified to containerize waste for out-of-City export by barge or rail
DSNY-managed Waste	Solid waste that DSNY collects from all residential households in the City and the institutional waste of City, state and federal agencies that DSNY collects and/or for which DSNY arranges disposal
DSNY-managed Waste Reserved Capacity Scenario	Scenario which determines the Converted MTS capacity that would be required for DSNY-managed Waste to provide for an adequate margin to meet its peak demand requirements under all conditions except declared waste disposal emergencies
Final Study Scope or Final Scope of Work	Commercial Waste Management Study Final Scope of Work issued on July 31, 2003
MTS Conversion Program	The City's initiative to develop, at the sites of the existing marine transfer stations (MTSs), new converted MTSs that will containerize solid waste for long-term export by barge with the potential for additional intermodal transfers to enable delivery of containerized waste to disposal facilities outside of the City

Definitions	
New SWMP	The new comprehensive Solid Waste Management Plan to be developed in 2004 for both DSNY-managed Waste and commercial waste for the planning period 2004 through 2024
New SWMP Planning Period	The 20-year period from 2004 to 2024 addressed by the City's New Solid Waste Management Plan
Study	Commercial Waste Management Study
Transfer Station(s)	Privately owned and operated transfer station in New York City that accepts, transfers and transports some portion of municipal solid waste or construction and demolition (C&D) debris or fill material generated in the private sector for out-of-City disposal
Waste Hauling Vehicles	Collection vehicles/transfer trailers that are used to transport municipal solid waste, C&D debris or fill material to or from the Transfer Stations

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1.0 POTENTIAL PROCESSING OF COMMERCIAL WASTE AT THE CONVERTED MARINE TRANSFER STATIONS AND RELATED POTENTIAL IMPACTS

1.1 Introduction

This report evaluates the capacity that would potentially be available at the Converted Marine Transfer Stations (MTSs) to containerize commercial waste delivered by private carters. When Local Law 74 (LL74) was adopted, the concept of developing an MTS Conversion Program for containerizing waste for long-term export was not established as a policy objective of New York City (City). Given this policy objective, addressing the issue of processing commercial waste at the Converted MTSs first required, as a foundation, an environmental review of the potential impacts associated with processing City Department of Sanitation (DSNY)-managed Waste. That environmental review, using City Environmental Quality Review (CEQR) methodologies, is reported in Volume III, Appendix A, MTS Environmental Evaluation. It addressed: Land Use, Zoning and Public Policy; Socioeconomic Conditions; Neighborhood Character; Community Facilities and Services; Open Space and Parklands; Cultural Resources; Traffic and Transportation; Air Quality; Odor; Noise; Infrastructure and Energy and Solid Waste; Natural Resources (including Endangered Species and Habitats); Water Quality; Waterfront Revitalization Program; Hazardous Materials; and Urban Design and Visual Quality. It demonstrates the Converted MTSs will enable export of DSNY-managed Waste in an efficient and environmentally sound manner and provides the basis on which the incremental environmental effects of containerizing and exporting commercial waste from the Converted MTSs are evaluated.

The Converted MTSs, if included in the new Solid Waste Management Plan (New SWMP), would be developed at up to eight of the existing MTS sites with the tons per day (tpd) design capacities indicated below:

- West 135th Street (Manhattan) – 4,290 tpd
- East 91st Street (Manhattan) – 4,290 tpd
- West 59th Street (Manhattan) – 2,145 tpd

- South Bronx (Hunts Point) – 4,290 tpd
- North Shore (Queens) – 4,290 tpd
- Greenpoint (Brooklyn) – 4,290 tpd
- Hamilton Avenue (Brooklyn) – 4,290 tpd
- Southwest Brooklyn– 4,290 tpd

Based on these design capacities and the operating assumption, described in more detail in Appendix A, MTS Environmental Evaluation, there were no unmitigatible significant adverse environmental impacts associated with processing the average peak day deliveries of DSNY-managed Waste. For the eight MTSs, the following measures were identified to mitigate estimated adverse impacts for traffic and on-site noise:

- Traffic signal timing adjustments would mitigate estimated traffic impacts identified at five intersections near the South Bronx Converted MTS; three intersections near the Southwest Brooklyn Converted MTS; three intersections near the Greenpoint Converted MTS; two intersections near the Hamilton Avenue Converted MTS; one intersection near the West 135th Street Converted MTS; two intersections near the East 91st Street Converted MTS; and two intersections near the North Shore Converted MTS. No traffic impacts were estimated at traffic study intersections identified near the West 59th Street Converted MTS.
- Construction of a 20-foot-tall (from the ramp surface) noise barrier located on the southern side of the ramp at the South Bronx Converted MTS would mitigate the potential noise impact on a nearby prison barge. A 20-foot-tall (from the ramp surface) noise barrier located on the southeast property line of the Southwest Brooklyn Converted MTS and a restriction on the number of nighttime arrivals of collection vehicles queuing on trucks and ramps would mitigate the potential noise impact on a nearby residential complex.
- Subsurface site investigations at the Southwest Brooklyn, Greenpoint, and Hamilton Avenue Converted MTS sites are underway. Results will be provided at a later date.

These analyses and findings are detailed in the MTS Environmental Evaluation, the appendix to this volume.

This report evaluates the use of available Converted MTS capacity, after processing all DSNY-managed Waste on a priority basis, to potentially containerize commercial waste without causing potentially significant unmitigatible adverse impacts.

It is important to emphasize that this assessment focuses solely on environmental considerations. It should not be interpreted as a general conclusion that export of commercial waste through the Converted MTSs is feasible. Some of the additional factors that bear on the issue of feasibility that are not addressed in this report are:

- The economics of export through the MTSs, which will be determined in part by proposals from private vendors for transport and disposal of containerized waste from the Converted MTSs. The City has just received and begun evaluating these proposals, thus the economics of commercial waste export through the Converted MTSs are not yet known.
- The types of business arrangements that the City would enter into with carters for exporting commercial waste through the MTSs, which are not yet defined.
- Whether further development of the designs for the Converted MTSs will substantiate the operational assumptions or necessitate that the assumed operational capacity be reduced.
- The comparative cost of exporting through the existing private Transfer Stations, which could be more attractive.
- The potential permit limitations that NYSDEC may place on the operation of the Converted MTSs.
- The location of some MTSs in relation to the sources of commercial waste generation, which may not provide the same efficiencies and consequently be as attractive to private carters as delivering to private Transfer Stations.

1.2 Summary of On-Site Impact Analyses in the MTS Environmental Evaluation

On-site air quality, odor and noise impacts in the MTS Environmental Evaluation were evaluated assuming that the Converted MTSs operated at their design capacities. Appropriate CEQR-based methodologies were applied to evaluate the potential for any significant unmitigatible adverse environmental impacts. As noted in Table 1.2-1, the design capacities are significantly higher than the anticipated quantities of DSNY-managed Waste. The MTS design capacities were based on, among other things, the following considerations:

- Ensuring a facility design with the capacity to containerize DSNY-managed Waste at the peak hourly arrival rates of DSNY collection vehicles;

- Providing redundancy in the system to deal with upset conditions affecting operations at a facility or with weather-related emergencies; and
- Allowing for future growth.

Table 1.2-1
MTS Environmental Analysis Information

Converted MTS Facility	Total Number of Loading Slots	DSNY-managed Waste Average Peak Day Deliveries, (tons)(1)	Number of DSNY-managed Vehicles, Average Peak Day	Average Day Design Capacity(2) (tpd)	Peak-Hour Number of DSNY Collection Vehicles
West 135th Street	4	1,416	222	4,290	30
East 91st Street	4	1,093	130	4,290	28
West 59th Street(3)	3	1,068	124	2,145	21
South Bronx	4	2,804	363	4,290	64
North Shore	4	2,672	329	4,290	39
Greenpoint	4	3,387	423	4,290	61
Hamilton Avenue	4	2,248	267	4,290	32
Southwest Brooklyn	4	1,388	166	4,290	27
Totals		**16,076**	**2,024**	**32,175**	

Notes:

(1) All MTSs based on scale data from Fiscal Year 1998 received from the DSNY Bureau of Cleaning and Collection with a 20% contingency allowance, except for the South Bronx MTS. South Bronx MTS data is based on Fiscal Year 1997 with a 20% contingency allowance.

(2) Based on operating the MTS under normal operating conditions. Spare operating line is not used to process waste.

(3) West 59th Street is a lift and load operation - not an open top-loading slot system.

Although these peak hourly arrival rates are not sustained over a 24-hour period, the MTS Environmental Evaluation of on-site impacts conservatively modeled these peak hour conditions to predict the potential for on-site noise and odor impacts, and air quality impacts for short-term (1-hour, 3-hour, 8-hour and 24-hour) averaging periods. Because the analyses of short-term averaging periods were based on facility operations at the design capacity, no additional evaluation of on-site noise and odor impacts related to the processing of commercial waste was required.

An evaluation of potential on-site air quality impacts for pollutants compared to annual average standards was modeled assuming commercial waste was processed at the Converted MTSs. Based on these analyses, the potential processing of some quantities of the City's commercial putrescible waste would not cause any incremental significantly adverse impacts attributable to on-site operations (see Attachment 4).

Table 1.2-1 also presents the average peak day[1] assumptions for delivery of DSNY-managed Waste used in the environmental analyses performed at each Converted MTS. For the on-site analysis, a 20% contingency factor (i.e., expected peak volumes were increased by 20%) was applied to the average peak day number of DSNY collection vehicles.

[1] The average peak day is the average of historic DSNY-managed Waste delivered to the existing MTSs on the peak day each week for 52 weeks (i.e., the average of 52 Tuesdays).

2.0 DSNY CAPACITY REQUIREMENTS AND POTENTIALLY AVAILABLE COMMERCIAL WASTE CAPACITY

2.1 DSNY-managed Waste Reserved Capacity Scenario

In evaluating the potential quantity of commercial waste that could be processed at the Converted MTSs, DSNY first determined the facility capacity that would be required for DSNY-managed Waste to provide for an adequate margin to meet its peak demand requirements under all conditions except declared waste disposal emergencies. This is referred to as the DSNY-managed Waste Reserved Capacity Scenario. This scenario differs in certain respects from the assumptions made in the MTS Environmental Evaluation. It is based on historical waste delivery patterns for the average peak days, not including a 20% contingency factor, and reserves all capacity between 8:00 a.m. and 8:00 p.m. for DSNY-managed Waste deliveries. Under conditions of high peak generation, the waste processing throughput of the Converted MTSs can be increased over a short period of time with the addition of personnel and extended shift operating time.

DSNY has defined the allocation of the total number of loads and tons of DSNY-managed Waste that would be delivered to each Converted MTS based on each MTS's historical wasteshed. They used a historical annual average of peak day deliveries to the existing MTSs as a basis for reserving sufficient capacity for processing DSNY-managed Waste at each Converted MTS. An hourly distribution of the loads and tons delivered to each MTS was developed based on historical delivery data to the existing MTSs provided by DSNY. For each Converted MTS, a model was set up using this delivery data to simulate the operation of each MTS for processing its allotted DSNY-managed Waste on an hourly basis under normal operating conditions. The following assumptions were made about the normal operations of the Converted MTSs:

- The Converted MTS would process ten containers per hour with three loading slots in operation, except for the West 59th Street MTS;
- The West 59th Street MTS would process five containers per hour using a lift-and-load-type operation and two of the three loading slots;
- The loader level would be kept as clear of waste as possible during processing hours by loading all waste received into containers as soon as possible and keeping stockpiles at a minimum;

- Each container would be loaded with approximately 20 to 22 tons of waste;
- Each barge would be loaded with 48 containers of waste;
- Barge switches would not interrupt waste processing operations; and
- Employees would effectively work six and one-half hours out of an eight-hour shift due to shift changes and break time during the shift.

Based on these assumptions, the Converted MTSs, except for the West 59th Street facility, would containerize a maximum of 220 tons of waste per hour and 4,290 tons of waste per day under normal operating conditions. The West 59th Street Converted MTS would containerize a maximum of 110 tons of waste per hour and 2,145 tons of waste per day.

Waste delivery profiles were established for each Converted MTS and tons and loads were allotted to each Converted MTS on an hourly basis. Facility performance was modeled on an hour-to-hour basis for 24 hours beginning with the first (8:00 a.m. to 4:00 p.m.) of three shifts. The model calculated the difference between the incoming tonnage and the maximum available processing capacity during the same hour. If the incoming tonnage exceeded the processing capacity of the Converted MTS for that hour, the excess tonnage is stockpiled. Stockpiled waste is processed during a subsequent hour, when additional capacity became available. If the total incoming waste plus any waste in the stockpile is less than the processing capacity of the Converted MTS, the model computed the capacity available during that hour to process additional waste.

In addition to calculating the available waste capacity at the Converted MTSs, the model calculated the cumulative tons received, cumulative tons containerized and cumulative number of DSNY collection vehicles that delivered waste to the MTS on an hourly basis. The capacity model also calculated the fluctuation in the stockpile and tonnage in the stockpile by hour and the approximate hour in which barge switches would occur. Table 2.1-1 presents a summary of the reserved capacity for DSNY-managed Waste and available excess capacity at each of the Converted MTSs. The column showing DSNY-managed Waste reserved capacity reflects the historical average peak day generation in the respective MTS wastesheds.

Table 2.1-1
DSNY-managed Waste Reserved Capacity Scenario

Converted MTS Facility	Converted MTS Design Capacity[1] (tpd)	DSNY-managed Waste Reserved Capacity (tpd)	Excess Capacity, 8:00 a.m. to 8:00 p.m. (tons)	Excess Capacity, 8:00 p.m. to 8:00 a.m. (tons)
West 135th Street	4,290	1,180	1,211	1,853
East 91st Street	4,290	880	1,227	2,183
West 59th Street[2]	2,145	880	279	956
South Bronx	4,290	2,190	333	1,732
North Shore	4,290	2,370	622	1,000
Greenpoint	4,290	2,360	575	1,145
Hamilton Avenue	4,290	2,170	630	1,337
Southwest Brooklyn	4,290	1,090	1,418	1,725
Totals	**32,175**	**13,120**	**6,295**	**11,931**

Notes:
(1) Based on operating MTSs under normal operating conditions. Spare operating lines are not used to process waste.
(2) West 59th Street is a lift and load operation, not an open top-loading slot system.
tpd = tons per day

2.2 Commercial Waste Capacity Scenario

Given the DSNY-managed Waste Reserved Capacity Scenario, a Commercial Waste Capacity Scenario was defined to determine the potential available capacity that could be used by private carters delivering waste from commercial sources. This scenario identified the potential available capacity on an hourly basis at each Converted MTS, and provided the basis for evaluating the potential off-site air quality and off-site noise impacts associated with the delivery of commercial waste in nighttime hours. The Commercial Waste Capacity Scenario involved the following steps:

- Quantifying the tons of waste and number of DSNY-managed Waste collection vehicles delivering waste to each Converted MTS on an hourly basis;
- Identifying hours in which additional waste could be delivered to the Converted MTSs;
- Calculating the additional tons of waste that could be delivered to each Converted MTS on an hourly basis;

- Estimating the additional number of collection vehicles it would take to deliver the additional waste;
- Identifying the potential commercial waste vehicle routes by approach direction (north, south, east, or west);
- Identifying the potential commercial wastesheds for each MTS;
- Estimating the number of commercial vehicles along each route based on the location of the waste source; and
- Determining if additional environmental analyses are required at each Converted MTS based on the additional number of collection vehicles that would deliver commercial waste and their assumed routes.

The following assumptions were made about commercial waste deliveries to the Converted MTSs:

- Commercial waste deliveries would occur only during the 8:00 p.m. to 8:00 a.m. period;
- Commercial collection vehicles would deliver an average of 11 tons per vehicle; and
- Commercial waste deliveries would not exceed the hourly waste processing capacity of each Converted MTS, thus commercial waste would not be stockpiled at the Converted MTSs.

It was assumed that all DSNY-managed Waste would be processed before any commercial waste was accepted at the MTS. Thus, the stockpile was reduced to zero tons, and all incoming DSNY-managed Waste containerized during an hour before excess capacity was allotted for commercial waste. Based on the available commercial waste tonnage, the model calculated the additional number of commercial collection vehicles required to deliver the commercial waste totaling the excess capacity. Additionally, the model calculated the total number of DSNY-managed Waste and potential commercial waste collection vehicles that could deliver waste in each hour.

Excess capacity was calculated for every hour of the day. Excess capacity on the first shift and first half of the second shift (8:00 a.m. to 8:00 p.m.) was considered additional contingency for DSNY-managed Waste. Because the hourly distribution is subject to fluctuation and cannot exactly replicate the delivery patterns of DSNY-managed Waste to the Converted MTSs, the total available capacity was summarized as a total tonnage between the hours of 8:00 a.m. to

8:00 p.m. Table 2.2-1 shows the capacity potentially available to commercial carters, based on the capacity assumptions for processing DSNY-managed Waste. The hourly results of the modeling, provided in tables in Attachment 1 to this report, show the hour-by-hour capacity analysis for each Converted MTS.

Table 2.2-1 also presents information on the potential additional number of commercial waste collection vehicles. It assumes that delivery of commercial waste by private carters uses all the remaining available capacity during the 8:00 p.m. to 8:00 a.m. period not required for processing of DSNY-managed Waste, not taking into account any environmental constraints that might limit deliveries of commercial waste. As shown in the "Potential Available Capacity, 8:00 p.m. to 8:00 a.m." column, the total capacity potentially available for processing commercial waste during this period totals 11,931 tons, allocated among the eight MTSs, not taking into account the environmental constraints.

Table 2.2-1
Available Potential Excess Capacity at Converted MTSs
Based on the Capacity Reserved for DSNY-managed Waste

Converted MTS Facility	Average Day Design Capacity (1) (tpd)	Potential Available Capacity, Average Peak Day (tpd)	Average Peak Day: Potential Available Capacity, 8:00 a.m. to 8:00 p.m. (tons)	Average Peak Day: Potential Available Capacity, 8:00 p.m. to 8:00 a.m. (tons)	Average Peak Day: Potential Additional Number of Commercial Vehicles, 8:00 p.m. to 8:00 a.m. (2) (per day)	Maximum Number of DSNY Collection Vehicles, 8:00 a.m. to 8:00 p.m. (peak hour)	Potential Range of Maximum Number of Collection Vehicles (3) 8:00 p.m. to 8:00 a.m. (peak hour)
West 135th Street	4,290	3,110	1,211	1,853	175	30	20-22
East 91st Street	4,290	3,410	1,227	2,183	199	28	19-21
West 59th Street (4)	2,145	1,265	279	956	91	21	10-12
South Bronx	4,290	2,100	333	1,732	163	64	21-23
North Shore	4,290	1,920	622	1,000	95	39	24-26
Greenpoint	4,290	1,930	575	1,145	109	61	22-24
Hamilton Avenue	4,290	2,120	630	1,337	129	32	23-25
Southwest Brooklyn	4,290	3,200	1,418	1,725	162	27	21-23
Totals	**32,175**	**19,055**	**6,295**	**11,931**	**1,123**		

Notes:

(1) Based on operating the MTSs under normal operating conditions. Spare operating line is not used to process waste.

(2) Assuming commercial collection vehicles deliver an average of 11 tons per truck. (Field data indicates commercial collection vehicles average between 11 and 13 tons per truck.)

(3) DSNY collection vehicles and commercial Waste Hauling Vehicles.

(4) West 59th Street is a lift and load operation - not an open top-loading slot system.

3.0 SUMMARY OF OFF-SITE IMPACT ANALYSES

A definitive determination of the quantity of potential commercial waste that can be processed at the Converted MTSs requires an assessment of whether commercial waste deliveries would cause any traffic, off-site air quality or off-site noise impacts. The MTS Environmental Evaluation evaluated the potential for traffic, off-site air quality and off-site noise impacts based on waste delivery profiles for DSNY-managed Waste with a 20% contingency to allow for potential variations in waste deliveries. This section identifies where those analyses were also sufficient for purposes of assessing the impacts associated with the delivery of commercial waste, and where additional analyses were required to determine whether commercial waste deliveries would potentially cause unmitigatible significant adverse environmental impacts.

To perform refined traffic, off-site air quality and noise analyses, it was necessary to identify likely locations where commercial waste might originate and be delivered to each Converted MTS and to develop potential routes for commercial waste vehicles to each Converted MTS. General commercial Waste Hauling Vehicle routes were developed by approach direction (north, south, east, or west). In some cases, more than one route per direction was identified as providing access to a Converted MTS. Waste Hauling Vehicle routes were identified to and from major highways and roadways in the vicinity of each Converted MTS, along local truck routes in the vicinity of each Converted MTS, and following the most direct route along local roads to a Converted MTS from the nearest truck route. As in the MTS Environmental Evaluation, it was assumed that commercial Waste Hauling Vehicles originating in different locations and delivering to the same Converted MTS will converge along routes in close proximity to the Converted MTS where access roads become limited.

To establish the approximate numbers of commercial Waste Hauling Vehicles along routes to each Converted MTS, an assessment was performed of commercial waste-generating establishments by zip code. The information developed in Volume II on commercial waste generation was used to develop commercial waste tonnages for an average peak day by zip code. Zip code boundaries for the City were plotted on a map, and commercial waste from establishments within those zip codes was assigned to each Converted MTS based on the community district (CD) assignment used in the Converted MTS Environmental Evaluation.

Those zip codes that fell within multiple CDs assigned to multiple Converted MTSs were assigned to the Converted MTS in which a greater proportion of the zip code boundary was contained. Once zip codes were assigned to a Converted MTS, the corresponding tonnage associated with that zip code was also assigned to the same Converted MTS. It was assumed that excess commercial tonnage that could not be processed at a Converted MTS would be processed at a private facility.

To analyze the full commercial capacity at each Converted MTS, additional zip codes were added to the wasteshed of a Converted MTS, until enough commercial waste would be delivered to the Converted MTS to fill the excess capacity. The additional zip codes were assigned based on geographic proximity to a Converted MTS and the commercial waste generated within a zip code. It was assumed that zip codes that generate greater volumes of commercial waste would be more likely to make up the difference between the excess capacity and allotted commercial tonnage.

Once sufficient commercial tonnage had been allotted to each Converted MTS, the trucks delivering tonnage from each zip code assigned to the Converted MTS were assigned along an approach to the Converted MTS. After all zip codes and their corresponding tonnages had been assigned, percentages by approach direction were calculated for each Converted MTS. These percentages were used to distribute the commercial waste vehicles along the assumed truck routes for the time period between 8:00 p.m. and 8:00 a.m. Commercial waste vehicles were assigned hourly in this manner as no hourly breakdown of commercial waste deliveries was available. The distribution of commercial waste vehicles by direction was then used for traffic, off-site air and off-site noise analyses.

3.1 Traffic

In the MTS Environmental Evaluation, traffic impacts were analyzed during background peak and facility-generated peak traffic hours using the appropriate CEQR-based methodologies. In evaluating the effect of additional commercial waste deliveries on traffic conditions, the analysis assumed that all remaining available capacity (i.e., the capacity not required to process DSNY-managed Waste) during the 8:00 p.m. to 8:00 a.m. period was used to process commercial waste.

The results of the analysis show that peak hour assumptions for processing of DSNY-managed Waste had higher background traffic volumes, lower (poorer) levels of service and a higher number of collection vehicles than would apply to commercial waste deliveries during the 8:00 p.m. to 8:00 a.m. period. (See Section 9 of the individual MTS chapters in the MTS Environmental Evaluation for these analyses.) Peak hour truck arrival rates during the 8:00 p.m. to 8:00 a.m. period (commercial waste plus DSNY collection vehicles) are lower than the peak hour number of DSNY collection vehicles analyzed during the peak hours at all eight Converted MTSs.

Table 2.2-1 illustrates the number of peak hour DSNY collection vehicles evaluated for the MTS Environmental Evaluation and the potential range of peak hour vehicles during commercial waste delivery hours. The peak hour number of vehicles during commercial delivery hours represents both DSNY collection vehicles and commercial Waste Hauling Vehicles. Since the traffic analysis in the MTS Environmental Evaluation found no significant adverse unmitigatible traffic impacts, there would also be no significant adverse unmitigatible environmental traffic impacts related to processing commercial waste during a peak period between 8:00 p.m. and 8:00 a.m., when there are lower background traffic volumes, higher (better) levels of service and a lower number of collection vehicles.

As noted in Section 1.1, for the eight MTSs, traffic signal timing adjustments would mitigate estimated traffic impacts identified at certain intersections related to delivery of DSNY-managed Waste.

3.2 Air Quality

The off-site air quality analyses during the peak hours for processing DSNY-managed Waste at each Converted MTS were based upon higher background traffic volumes, lower (poorer) levels of service and a higher number of collection vehicles than would be the case for deliveries of commercial waste during the 8:00 p.m. to 8:00 a.m. period. (See Section 10 of the individual chapters in the MTS Environmental Evaluation for these analyses.)

The peak hour conditions over 24 hours per day were conservatively assumed to occur under a Tier I[2] air quality analysis. Under these assumptions, there were no significant adverse unmitigatible environmental impacts. Therefore, there would also be no significant adverse unmitigatible air quality impacts related to processing commercial waste during an 8:00 p.m. to 8:00 a.m. peak period, when there are lower background traffic volumes, higher (better) levels of service and a lower number of collection vehicles.

The off-site air quality analysis of processing DSNY-managed Waste at some of the Converted MTS sites showed that using the conservative assumption that peak hour conditions occur 24 hours per day under a Tier I analysis resulted in unmitigatible environmental impacts for particulate matter less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$). (See Section 10 of the individual chapters in the MTS Environmental Evaluation for these analyses.) Therefore, a Tier II air quality analysis was performed at intersections near these Converted MTS sites that utilized actual hourly traffic volumes, including the higher number of collection vehicles used for deliveries of commercial waste to each Converted MTS during the 8:00 p.m. to 8:00 a.m. period, and there were no significant adverse unmitigatible environmental impacts. Tables in Attachment 4 provide more detailed information on the results of the off-site air quality analyses.

3.3 Noise

In the MTS Environmental Evaluation, off-site noise impacts were screened over a 24-hour period at intersections where sensitive receptors exist near convergence points along truck routes to and from the Converted MTSs. If required, based on screening, noise analyses were conducted for the worst hour (the hour when the greatest difference in noise levels was expected) during daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) hours. (See Section 3.14 in the MTS Environmental Evaluation for a detailed description of the off-site screening and analyses.)

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[2] The Tier I air quality analysis conservatively assumed that the peak hour traffic conditions occur 24 hours per day.

The screening analyses identified the potential for DSNY-managed Waste collection vehicles to double passenger car equivalents (PCEs) at two locations for the 91st Street Converted MTS, two locations for the North Shore Converted MTS, one location for the Hamilton Avenue Converted MTS and one location for the Southwest Brooklyn Converted MTS, at various hours during the nighttime. Off-site noise analyses were conducted during the worst daytime and nighttime hours identified through the screening process at these six locations with the potential to double PCEs. The off-site noise analyses results indicate an impact at one access road to the 91st Street Converted MTS, two locations on one access road to the North Shore Converted MTS and one access road to the Hamilton Avenue Converted MTS. Adjustments in the distribution of trucks and truck routes were made at these four locations. The screening, and, if required, the off-site noise analyses, were performed based on the adjusted lower levels of DSNY-managed Waste collection vehicles at these four locations. The results show that processing DSNY-managed Waste at any of the Converted MTSs would not cause any unmitigatible significant adverse off-site noise impacts. Results of the screening analyses and off-site noise analyses are provided in Sections 4.12 through 11.12 of the MTS Environmental Evaluation.

The off-site noise analysis of DSNY-managed Waste deliveries is not sufficient for purposes of assessing any impacts that would be associated with delivery of commercial waste. To determine if an adverse impact would be caused by the delivery of commercial waste, a screening level analysis was performed for each hour where additional truck volumes are estimated to determine if an off-site noise analysis would be required of commercial Waste Hauling Vehicle quantities and routes to and from the Converted MTSs.

3.3.1 Noise Impact Analysis of Commercial Waste Deliveries

A sequence of analyses were performed to determine if an adverse noise impact would be caused by the delivery of commercial waste to the MTSs, utilizing the noise methodology for the off-site screening, monitoring and detailed analysis provided in Section 3.14 of the MTS Environmental Evaluation. Results of the second-level noise screening analyses limit the number of commercial Waste Hauling Vehicles that could be routed to the MTSs during various hours within the 8:00 p.m. to 8:00 a.m. period without causing potentially significant adverse impacts at sensitive

receptors. Although a Converted MTS may have available capacity to process commercial waste during the hours of 8:00 a.m. to 8:00 p.m., the potential for off-site noise impacts, based on second-level screening, limits the use of that available processing capacity.

Noise-sensitive receptors were identified along the proposed commercial collection vehicle routes and existing traffic data were gathered for those locations. A first-level screening analysis (based on total traffic volumes and axle factors from the New York State Department of Transportation [NYSDOT]) and a second-level screening analysis (based on actual vehicle classification counts) were performed. The Future Build PCEs -- including DSNY-managed Waste collection vehicles, employee vehicles and commercial collection vehicles -- were compared to the Future No-Build PCEs for each hour during the 8:00 p.m. to 8:00 a.m. period, to determine if the proposed action would double PCEs and therefore cause a possible impact. Table 3.3.1-1 summarizes the results of that analysis.

Since these results are based on a second-level screening for noise impacts, a detailed off-site noise analysis, utilizing the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) Version 2.1, is being performed to determine if noise impacts would actually occur at these sensitive-receptor locations and/or if additional potential commercial Waste Hauling Vehicles could be routed to the MTS during the 8:00 p.m. to 8:00 a.m. hour, without causing unmitigatible significant adverse off-site noise impacts, to fully utilize the potentially available capacity of the MTSs. The results of this off-site detailed noise analyses will be provided in the Solid Waste Management Plan (SWMP) Draft Environmental Impact Statement (DEIS).

Tables in Attachment 5 provide more detailed information on the results of the second-level screening analysis, identifying the estimated range of commercial collection vehicles that can be routed through each of the roadways without causing an unmitigatible significant adverse off-site noise impact. (See Section 3.14.5.2 of the MTS Environmental Evaluation for a detailed description of the second-level screening analysis.)

Table 3.3.1-1
Converted MTS
Potential Commercial Waste Capacities Summary Table

Location	Converted MTS Design Capacity		DSNY-managed Waste Delivered 8:00 p.m. to 8:00 a.m. (tons)	Potential Converted MTS Capacity with Off-Site Noise Constraints	
	Total Potential Commercial Vehicles (per day)	Potential Commercial Waste Tonnage 8:00 p.m. to 8:00 a.m. (tons)		Total Potential Commercial Vehicles (per day)	Potential Commercial Waste Tonnage 8:00 p.m. to 8:00 a.m. (tons)
West 135th Street	175	1,853	301	95	1,029
East 91st Street(1)	199	2,183	17	71	781
West 59th Street(2)	91	956	114	91	956
South Bronx(1)	163	1,732	433	150	1,611
North Shore(3)	95	1,000	901	95	1,000
Greenpoint(1)	109	1,145	793	109	1,145
Hamilton Avenue(1)	129	1,337	710	124	1,306
Southwest Brooklyn(4)	162	1,725	418	76	828
Total	**1,123**	**11,931**	**3,687**	**811**	**8,656**

Notes:

(1) Need to use different routes for potential commercial Waste Hauling Vehicles to deliver the full amount of potential excess capacity for commercial waste.

(2) Can take all potential commercial Waste Hauling Vehicles without any noise constraints.

(3) There is a route to the North Shore Converted MTS that does not pass sensitive receptors that must be used from 12:00 a.m. to 6:00 a.m. to deliver the full amount available for commercial capacity. The route should not be used at other times upon request from the City Department of Transportation (NYCDOT) due to congestion that occurs at certain intersections along the route during daytime traffic hours.

(4) Outbound trucks passing 26th Street between Cropsey Avenue and Shore Road limit the number of inbound commercial Waste Hauling Vehicles that can be accommodated at the Southwest Brooklyn Converted MTS.

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ATTACHMENT 1

FULL CAPACITY ANALYSIS FOR EACH CONVERTED MTS HOURLY RESULTS OF MODELING

West 135th St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 6 am - 6 pm (tons)	Excess Capacity, 6 pm - 6 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	162.0	15	110.0	52.0	52.0	162.0	110.0		0.0	0.0	0	15
2	9:00	10:00	185.4	17	220.0	-34.6	17.3	347.3	330.0		0.0	0.0	0	17
3	10:00	11:00	156.0	14	173.4	-17.3	0.0	503.4	503.4		46.6	0.0	0	14
4	11:00	12:00	116.4	11	110.0	6.4	6.4	619.8	613.4		0.0	0.0	0	11
5	12:00	13:00	84.6	8	91.0	-6.4	0.0	704.4	704.4		129.0	0.0	0	8
6	13:00	14:00	38.5	4	38.5	0.0	0.0	742.9	742.9		181.5	0.0	0	4
7	14:00	15:00	17.4	2	17.4	0.0	0.0	760.3	760.3		202.6	0.0	0	2
8	15:00	16:00	4.5	1	4.5	0.0	0.0	764.8	764.8		105.5	0.0	0	1
9	16:00	17:00	11.1	1	11.1	0.0	0.0	775.9	775.9		98.9	0.0	0	1
10	17:00	18:00	34.1	3	34.1	0.0	0.0	810.0	810.0		185.9	0.0	0	3
11	18:00	19:00	29.4	3	29.4	0.0	0.0	839.4	839.4		190.6	0.0	0	3
12	19:00	20:00	39.7	4	39.7	0.0	0.0	879.1	879.1		70.3	0.0	0	4
13	20:00	21:00	26.4	2	26.4	0.0	0.0	905.5	905.5		0.0	193.6	18	20
14	21:00	22:00	46.1	4	46.1	0.0	0.0	951.6	951.6		0.0	173.9	16	20
15	22:00	23:00	7.1	1	7.1	0.0	0.0	958.7	958.7		0.0	212.9	20	21
16	23:00	0:00	9.0	1	9.0	0.0	0.0	967.7	967.7		0.0	101.0	10	11
17	0:00	1:00	30.5	3	30.5	0.0	0.0	998.2	998.2		0.0	79.5	8	11
18	1:00	2:00	50.4	5	50.4	0.0	0.0	1048.6	1048.6		0.0	169.6	16	21
19	2:00	3:00	26.3	2	26.3	0.0	0.0	1074.9	1074.9	Barge Switch	0.0	193.7	18	20
20	3:00	4:00	18.4	2	18.4	0.0	0.0	1093.3	1093.3		0.0	91.6	9	11
21	4:00	5:00	6.6	1	0.0	6.6	6.6	1099.9	1093.3		0.0	213.4	20	21
22	5:00	6:00	6.2	1	0.0	6.2	12.8	1106.1	1093.3		0.0	207.2	19	20
23	6:00	7:00	14.1	1	0.0	14.1	26.9	1120.3	1093.3		0.0	193.1	18	19
24	7:00	8:00	59.7	6	0.0	59.7	86.7	1180.0	1093.3		0.0	23.3	3	9
Totals			1,180.0	112	1093.3						1210.9	1852.7	175	287
										Max	202.6	213.4	20	21
										Min	0.0	23.3	0	1
										Average	100.9	154.4	7	12

East 91st St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 6 am (tons))	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	113.4	10	110.0	3.4	3.4	113.4	110.0		0.0	0.0	0	10
2	9:00	10:00	192.9	17	196.3	-3.4	0.0	306.3	306.3		23.7	0.0	0	17
3	10:00	11:00	262.7	23	220.0	42.7	42.7	569.1	526.3		0.0	0.0	0	23
4	11:00	12:00	202.9	18	110.0	92.9	135.6	772.0	636.3		0.0	0.0	0	18
5	12:00	13:00	69.3	6	205.0	-135.6	0.0	841.3	841.3		15.0	0.0	0	6
6	13:00	14:00	19.7	2	19.7	0.0	0.0	861.0	861.0		200.3	0.0	0	2
7	14:00	15:00	1.6	1	1.6	0.0	0.0	862.6	862.6		218.4	0.0	0	1
8	15:00	16:00	0.0	0	0.0	0.0	0.0	862.6	862.6		110.0	0.0	0	0
9	16:00	17:00	0.0	0	0.0	0.0	0.0	862.6	862.6		110.0	0.0	0	0
10	17:00	18:00	0.0	0	0.0	0.0	0.0	862.6	862.6		220.0	0.0	0	0
11	18:00	19:00	0.0	0	0.0	0.0	0.0	862.6	862.6		220.0	0.0	0	0
12	19:00	20:00	0.0	0	0.0	0.0	0.0	862.6	862.6		110.0	0.0	0	0
13	20:00	21:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
14	21:00	22:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
15	22:00	23:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
16	23:00	0:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	110.0	10	10
17	0:00	1:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	110.0	10	10
18	1:00	2:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
19	2:00	3:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
20	3:00	4:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	110.0	10	10
21	4:00	5:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
22	5:00	6:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
23	6:00	7:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
24	7:00	8:00	17.4	2	0.0	17.4	17.4	880.0	862.6		0.0	92.6	9	11
Totals			880.0	79	862.6						1227.4	2182.6	199	278
										Max	220.0	220.0	20	23
										Min	0.0	92.6	0	0
										Average	102.3	181.9	8	12

West 59th St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	94.8	9	55.0	39.8	39.8	94.8	55.0		0.0	0.0	0	9
2	9:00	10:00	186.6	18	110.0	76.6	116.4	281.4	165.0		0.0	0.0	0	18
3	10:00	11:00	205.9	20	110.0	95.9	212.3	487.3	275.0		0.0	0.0	0	20
4	11:00	12:00	156.4	15	55.0	101.4	313.7	643.7	330.0		0.0	0.0	0	15
5	12:00	13:00	69.4	7	110.0	-40.6	273.1	713.1	440.0		0.0	0.0	0	7
6	13:00	14:00	25.8	2	110.0	-84.2	188.8	738.8	550.0		0.0	0.0	0	2
7	14:00	15:00	17.2	2	110.0	-92.8	96.0	756.0	660.0		0.0	0.0	0	2
8	15:00	16:00	1.0	1	55.0	-54.0	42.1	757.1	715.0		0.0	0.0	0	1
9	16:00	17:00	0.2	1	42.3	-42.1	0.0	757.3	757.3		12.7	0.0	0	1
10	17:00	18:00	2.9	1	2.9	0.0	0.0	760.2	760.2		107.1	0.0	0	1
11	18:00	19:00	2.7	1	2.7	0.0	0.0	762.9	762.9		107.3	0.0	0	1
12	19:00	20:00	3.3	1	3.3	0.0	0.0	766.2	766.2		51.7	0.0	0	1
13	20:00	21:00	2.7	1	2.7	0.0	0.0	769.0	769.0		0.0	107.3	10	11
14	21:00	22:00	1.5	1	1.5	0.0	0.0	770.5	770.5		0.0	108.5	10	11
15	22:00	23:00	0.5	1	0.5	0.0	0.0	771.0	771.0		0.0	109.5	10	11
16	23:00	0:00	0.0	0	0.0	0.0	0.0	771.0	771.0		0.0	55.0	5	5
17	0:00	1:00	20.0	2	20.0	0.0	0.0	791.1	791.1		0.0	35.0	4	6
18	1:00	2:00	22.1	2	22.1	0.0	0.0	813.1	813.1		0.0	87.9	8	10
19	2:00	3:00	23.4	2	23.4	0.0	0.0	836.5	836.5		0.0	86.6	8	10
20	3:00	4:00	19.1	2	19.1	0.0	0.0	855.5	855.5		0.0	35.9	4	6
21	4:00	5:00	7.1	1	0.0	7.1	7.1	862.6	855.5		0.0	102.9	10	11
22	5:00	6:00	2.9	1	0.0	2.9	10.0	865.5	855.5		0.0	100.0	10	11
23	6:00	7:00	3.0	1	0.0	3.0	13.0	868.6	855.5		0.0	97.0	9	10
24	7:00	8:00	11.4	1	0.0	11.4	24.5	880.0	855.5		0.0	30.5	3	4
Totals			880.0	93	855.5						278.8	956.1	91	184
										Max	107.3	109.5	10	20
										Min	0.0	30.5	0	1
										Average	23.2	79.7	4	8

South Bronx Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (Tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	242.4	27	110.0	132.42	132.42	242.4	110.0		0.0	0.0	0	27
2	9:00	10:00	288.2	32	220.0	68.20	200.63	530.6	330.0		0.0	0.0	0	32
3	10:00	11:00	303.6	34	220.0	83.58	284.20	834.2	550.0		0.0	0.0	0	34
4	11:00	12:00	246.2	27	110.0	136.19	420.39	1,080.4	660.0		0.0	0.0	0	27
5	12:00	13:00	205.9	23	220.0	-14.07	406.32	1,286.3	880.0		0.0	0.0	0	23
6	13:00	14:00	133.3	15	220.0	-86.70	319.62	1,419.6	1,100.0	Barge Switch	0.0	0.0	0	15
7	14:00	15:00	49.5	5	220.0	-170.49	149.13	1,469.1	1,320.0		0.0	0.0	0	5
8	15:00	16:00	15.3	2	110.0	-94.70	54.43	1,484.4	1,430.0		0.0	0.0	0	2
9	16:00	17:00	42.3	5	96.7	-54.43	0.00	1,526.7	1,526.7		13.3	0.0	0	5
10	17:00	18:00	67.9	8	67.9	0.00	0.00	1,594.6	1,594.6		152.1	0.0	0	8
11	18:00	19:00	84.6	9	84.6	0.00	0.00	1,679.2	1,679.2		135.4	0.0	0	9
12	19:00	20:00	77.5	9	77.5	0.00	0.00	1,756.7	1,756.7		32.5	0.0	0	9
13	20:00	21:00	60.2	7	60.2	0.00	0.00	1,816.9	1,816.9		0.0	159.8	15	22
14	21:00	22:00	68.7	8	68.7	0.00	0.00	1,885.6	1,885.6		0.0	151.3	14	22
15	22:00	23:00	29.1	3	29.1	0.00	0.00	1,914.7	1,914.7		0.0	190.9	18	21
16	23:00	0:00	0.8	1	0.8	0.00	0.00	1,915.5	1,915.5		0.0	109.2	10	11
17	0:00	1:00	9.8	1	9.8	0.00	0.00	1,925.3	1,925.3		0.0	100.2	10	11
18	1:00	2:00	22.2	2	22.2	0.00	0.00	1,947.4	1,947.4		0.0	197.8	18	20
19	2:00	3:00	31.9	4	31.9	0.00	0.00	1,979.4	1,979.4		0.0	188.1	18	22
20	3:00	4:00	36.0	4	36.0	0.00	0.00	2,015.3	2,015.3		0.0	74.0	7	11
21	4:00	5:00	17.8	2	0.0	17.80	17.80	2,033.1	2,015.3		0.0	202.2	19	21
22	5:00	6:00	22.0	2	0.0	21.99	39.78	2,055.1	2,015.3		0.0	180.2	17	19
23	6:00	7:00	1.9	1	0.0	1.95	41.73	2,057.1	2,015.3		0.0	178.3	17	18
24	7:00	8:00	132.9	15	0.0	132.93	174.66	2,190.0	2,015.3		0.0	0.0	0	15
Totals			2,190.0	246	2,015.3						333.3	1732.1	163	409
										Max	152.1	202.2	19	34
										Min	0.0	0.0	0	2
										Average	27.8	144.3	7	17

North Shore Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	142.4	17	110.0	32.4	32.4	142.4	110.0		0.0	0.0	0	17
2	9:00	10:00	184.2	22	216.6	-32.4	0.0	326.6	326.6		3.4	0.0	0	22
3	10:00	11:00	176.0	21	176.0	0.0	0.0	502.5	502.5		44.0	0.0	0	21
4	11:00	12:00	181.9	22	110.0	71.9	71.9	684.4	612.5		0.0	0.0	0	22
5	12:00	13:00	150.7	18	220.0	-69.3	2.5	835.1	832.5		0.0	0.0	0	18
6	13:00	14:00	104.1	13	106.7	-2.5	0.0	939.2	939.2		113.3	0.0	0	13
7	14:00	15:00	65.8	8	65.8	0.0	0.0	1005.0	1005.0		154.2	0.0	0	8
8	15:00	16:00	16.7	2	16.7	0.0	0.0	1021.7	1021.7		93.3	0.0	0	2
9	16:00	17:00	97.7	12	97.7	0.0	0.0	1119.4	1119.4	Barge Switch	12.3	0.0	0	12
10	17:00	18:00	116.2	14	116.2	0.0	0.0	1235.6	1235.6		103.8	0.0	0	14
11	18:00	19:00	122.7	15	122.7	0.0	0.0	1358.3	1358.3		97.3	0.0	0	15
12	19:00	20:00	110.7	14	110.0	0.7	0.7	1469.0	1468.3		0.0	0.0	0	14
13	20:00	21:00	80.4	10	81.1	-0.7	0.0	1549.3	1549.3		0.0	138.9	13	23
14	21:00	22:00	114.0	14	114.0	0.0	0.0	1663.4	1663.4		0.0	106.0	10	24
15	22:00	23:00	36.9	5	36.9	0.0	0.0	1700.3	1700.3		0.0	183.1	17	22
16	23:00	0:00	34.7	4	34.7	0.0	0.0	1735.0	1735.0		0.0	75.3	7	11
17	0:00	1:00	82.3	10	82.3	0.0	0.0	1817.2	1817.2		0.0	27.7	3	13
18	1:00	2:00	112.1	14	112.1	0.0	0.0	1929.4	1929.4		0.0	107.9	10	24
19	2:00	3:00	113.3	14	113.3	0.0	0.0	2042.6	2042.6		0.0	106.7	10	24
20	3:00	4:00	105.2	13	105.2	0.0	0.0	2147.9	2147.9	Barge Switch	0.0	4.8	1	14
21	4:00	5:00	80.6	10	0.0	80.6	80.6	2228.5	2147.9		0.0	139.4	13	23
22	5:00	6:00	68.7	8	0.0	68.7	149.4	2297.2	2147.9		0.0	70.6	7	15
23	6:00	7:00	31.2	4	0.0	31.2	180.5	2328.4	2147.9		0.0	39.5	4	8
24	7:00	8:00	41.6	5	0.0	41.6	222.1	2370.0	2147.9		0.0	0.0	0	5
Totals			2,370.0	289	2147.9						621.7	999.9	95	384
										Max	154.2	183.1	17	24
										Min	0.0	0.0	0	2
										Average	51.8	83.3	4	16

Greenpoint Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	99.2	10	99.2	0.0	0.0	99.2	99.2		10.8	0.0	0	10
2	9:00	10:00	180.1	18	180.1	0.0	0.0	279.3	279.3		39.9	0.0	0	18
3	10:00	11:00	197.6	20	197.6	0.0	0.0	476.9	476.9		22.4	0.0	0	20
4	11:00	12:00	184.5	19	110.0	74.5	74.5	661.4	586.9		0.0	0.0	0	19
5	12:00	13:00	178.9	18	220.0	-41.1	33.4	840.3	806.9		0.0	0.0	0	18
6	13:00	14:00	106.9	11	140.3	-33.4	0.0	947.2	947.2		79.7	0.0	0	11
7	14:00	15:00	64.9	7	64.9	0.0	0.0	1012.1	1012.1		155.1	0.0	0	7
8	15:00	16:00	28.5	3	28.5	0.0	0.0	1040.6	1040.6		81.5	0.0	0	3
9	16:00	17:00	86.6	9	86.6	0.0	0.0	1127.2	1127.2	Barge Switch	23.4	0.0	0	9
10	17:00	18:00	135.0	14	135.0	0.0	0.0	1262.2	1262.2		85.0	0.0	0	14
11	18:00	19:00	142.6	15	142.6	0.0	0.0	1404.8	1404.8		77.4	0.0	0	15
12	19:00	20:00	161.7	17	110.0	51.7	51.7	1566.5	1514.8		0.0	0.0	0	17
13	20:00	21:00	95.3	10	147.0	-51.7	0.0	1661.8	1661.8		0.0	73.0	7	17
14	21:00	22:00	101.6	10	101.6	0.0	0.0	1763.5	1763.5		0.0	118.4	11	21
15	22:00	23:00	46.8	5	46.8	0.0	0.0	1810.3	1810.3		0.0	173.2	16	21
16	23:00	0:00	5.1	1	5.1	0.0	0.0	1815.4	1815.4		0.0	104.9	10	11
17	0:00	1:00	54.4	6	54.4	0.0	0.0	1869.8	1869.8		0.0	55.6	6	12
18	1:00	2:00	112.7	12	112.7	0.0	0.0	1982.5	1982.5		0.0	107.3	10	22
19	2:00	3:00	131.8	13	131.8	0.0	0.0	2114.3	2114.3	Barge Switch	0.0	88.2	9	22
20	3:00	4:00	111.4	11	110.0	1.4	1.4	2225.7	2224.3		0.0	0.0	0	11
21	4:00	5:00	46.6	5	0.0	46.6	48.0	2272.3	2224.3		0.0	172.0	16	21
22	5:00	6:00	41.9	4	0.0	41.9	89.8	2314.1	2224.3		0.0	130.2	12	16
23	6:00	7:00	7.5	1	0.0	7.5	97.3	2321.6	2224.3		0.0	122.7	12	13
24	7:00	8:00	38.4	4	0.0	38.4	135.7	2360.0	2224.3		0.0	0.0	0	4
Totals			2,360.0	243	2224.3						575.2	1145.4	109	352
										Max	155.1	173.2	16	22
										Min	0.0	0.0	0	3
										Average	47.9	95.4	5	15

Hamilton Avenue Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	134.2	14	110.0	24.2	24.2	134.2	110.0		0.0	0.0	0	14
2	9:00	10:00	204.8	22	220.0	-15.2	9.0	339.0	330.0		0.0	0.0	0	22
3	10:00	11:00	202.7	22	211.7	-9.0	0.0	541.7	541.7		8.3	0.0	0	22
4	11:00	12:00	187.9	20	110.0	77.9	77.9	729.6	651.7		0.0	0.0	0	20
5	12:00	13:00	156.6	17	220.0	-63.4	14.5	886.3	871.7		0.0	0.0	0	17
6	13:00	14:00	94.9	10	109.5	-14.5	0.0	981.2	981.2		110.5	0.0	0	10
7	14:00	15:00	28.6	3	28.6	0.0	0.0	1009.8	1009.8		191.4	0.0	0	3
8	15:00	16:00	78.0	8	78.0	0.0	0.0	1087.8	1087.8	Barge Switch	32.0	0.0	0	8
9	16:00	17:00	118.5	13	110.0	8.5	8.5	1206.3	1197.8		0.0	0.0	0	13
10	17:00	18:00	81.8	9	90.3	-8.5	0.0	1288.1	1288.1		129.7	0.0	0	9
11	18:00	19:00	86.9	9	86.9	0.0	0.0	1375.0	1375.0		133.1	0.0	0	9
12	19:00	20:00	85.0	9	85.0	0.0	0.0	1460.0	1460.0		25.0	0.0	0	9
13	20:00	21:00	46.9	5	46.9	0.0	0.0	1506.9	1506.9		0.0	173.1	16	21
14	21:00	22:00	84.3	9	84.3	0.0	0.0	1591.1	1591.1		0.0	135.7	13	22
15	22:00	23:00	8.3	1	8.3	0.0	0.0	1599.5	1599.5		0.0	211.7	20	21
16	23:00	0:00	29.2	3	29.2	0.0	0.0	1628.6	1628.6		0.0	80.8	8	11
17	0:00	1:00	100.3	11	100.3	0.0	0.0	1728.9	1728.9		0.0	9.7	1	12
18	1:00	2:00	127.8	14	127.8	0.0	0.0	1856.7	1856.7		0.0	92.2	9	23
19	2:00	3:00	129.9	14	129.9	0.0	0.0	1986.6	1986.6		0.0	90.1	9	23
20	3:00	4:00	98.9	11	98.9	0.0	0.0	2085.5	2085.5		0.0	11.1	2	13
21	4:00	5:00	37.7	4	0.0	37.7	37.7	2123.2	2085.5		0.0	182.3	17	21
22	5:00	6:00	17.1	2	0.0	17.1	54.7	2140.2	2085.5		0.0	165.3	16	18
23	6:00	7:00	6.2	1	0.0	6.2	60.9	2146.5	2085.5		0.0	159.1	15	16
24	7:00	8:00	23.5	3	0.0	23.5	84.5	2170.0	2085.5		0.0	25.5	3	6
Totals			2,170.0	234	2085.5						630.0	1336.7	129	363
										Max	191.4	211.7	20	23
										Min	0.0	9.7	0	3
										Average	52.5	111.4	5	15

Southwest Brooklyn Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	97.2	10	97.2	0.0	0.0	97.2	97.2		12.8	0.0	0	10
2	9:00	10:00	165.8	17	165.8	0.0	0.0	263.0	263.0		54.2	0.0	0	17
3	10:00	11:00	121.6	13	121.6	0.0	0.0	384.5	384.5		98.4	0.0	0	13
4	11:00	12:00	82.1	9	82.1	0.0	0.0	466.6	466.6		27.9	0.0	0	9
5	12:00	13:00	32.0	3	32.0	0.0	0.0	498.6	498.6		188.0	0.0	0	3
6	13:00	14:00	9.5	1	9.5	0.0	0.0	508.1	508.1		210.5	0.0	0	1
7	14:00	15:00	8.9	1	8.9	0.0	0.0	517.0	517.0		211.1	0.0	0	1
8	15:00	16:00	11.1	1	11.1	0.0	0.0	528.1	528.1		98.9	0.0	0	1
9	16:00	17:00	36.2	4	36.2	0.0	0.0	564.2	564.2		73.8	0.0	0	4
10	17:00	18:00	36.4	4	36.4	0.0	0.0	600.6	600.6		183.6	0.0	0	4
11	18:00	19:00	37.3	4	37.3	0.0	0.0	637.9	637.9		182.7	0.0	0	4
12	19:00	20:00	33.9	4	33.9	0.0	0.0	671.9	671.9		76.1	0.0	0	4
13	20:00	21:00	32.2	3	32.2	0.0	0.0	704.1	704.1		0.0	187.8	18	21
14	21:00	22:00	29.5	3	29.5	0.0	0.0	733.6	733.6		0.0	190.5	18	21
15	22:00	23:00	2.2	1	2.2	0.0	0.0	735.8	735.8		0.0	217.8	20	21
16	23:00	0:00	0.0	0	0.0	0.0	0.0	735.8	735.8		0.0	110.0	10	10
17	0:00	1:00	101.4	11	101.4	0.0	0.0	837.2	837.2		0.0	8.6	1	12
18	1:00	2:00	92.9	10	92.9	0.0	0.0	930.2	930.2		0.0	127.1	12	22
19	2:00	3:00	69.1	7	69.1	0.0	0.0	999.3	999.3		0.0	150.9	14	21
20	3:00	4:00	32.4	3	32.4	0.0	0.0	1031.7	1031.7		0.0	77.6	8	11
21	4:00	5:00	14.1	1	0.0	14.1	14.1	1045.8	1031.7		0.0	205.9	19	20
22	5:00	6:00	4.9	1	0.0	4.9	19.0	1050.7	1031.7		0.0	201.0	19	20
23	6:00	7:00	4.9	1	0.0	4.9	23.9	1055.6	1031.7		0.0	196.1	18	19
24	7:00	8:00	34.4	4	0.0	34.4	58.3	1090.0	1031.7		0.0	51.7	5	9
Totals			1,090.0	116	1031.7						1418.1	1724.8	162	278
										Max	211.1	217.8	20	22
										Min	12.8	8.6	0	1
										Average	118.2	143.7	7	12

ATTACHMENT 2

ASSUMED COMMERCIAL WASTE VEHICLE TRUCK ROUTES

Assumed Commercial Waste Vehicle Truck Routes to MTSs

West 135th

From the north
Route 1N
To MTS: Broadway to (West 133rd St OR West 132nd St) to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse
Route 2N
To MTS: Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse

From the south
Route 1S
To MTS: Broadway to (West 133rd St OR West 132nd St) to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse
Route 2S
To MTS: Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse

From the east
Route 1E
To MTS: 3rd Ave to East 125th St (turns into West 125th St) to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse

Assumed Commercial Waste Vehicle Truck Routes to MTSs

East 91st

From the north
Route 1N
To MTS: 2nd Ave to (East 90th St OR East 88th St OR East 86th St) to York Ave to East 91st St
From MTS: East 91st St to York Ave to (East 91st St OR East 89th St OR East 87th St OR East 86th St) to (1st Ave OR 3rd Ave)

From the south
Route 1S
To MTS: 1st Ave to (East 90th St OR East 88th St) to York Ave to East 91st St
From MTS: East 91st St to York Ave to East 86th St to 2nd Ave
Route 2S
To MTS: 3rd Ave to East 86th St to York Ave to East 91st St
From MTS: East 91st St to York Ave to East 86th St to 2nd Ave

Assumed Commercial Waste Vehicle Truck Routes to MTSs

West 59th

From the north
Route 1N
To MTS: Columbus Ave to West 59th St
From MTS: West 59th St to Amsterdam Ave

From the south
Route 1S
To MTS: 12th Ave (Joe DiMaggio Hwy) to 12th Ave Service Road (starts at 57th St) to West 59th St
From MTS: Reverse
Route 2S
To MTS: 10th Ave to 57th Ave to 12th Ave Service Road to 59th St
From MTS: West 59th St to 11th Ave

From the east
Route 1E
To MTS: (2nd Ave or 3rd Ave) to East 57th St (turns into West 57th St) to 12th Ave Service Road to 59th St.
From MTS: Reverse

Assumed Commercial Waste Vehicle Truck Routes to MTSs

South Bronx

Route 1
To MTS: Bruckner Blvd to Leggett Ave to Randall Ave to Halleck St to Ryawa Ave
From MTS: Reverse
Route 2
To MTS: Bruckner Blvd to Leggett Ave to (Barry St OR Dupont St OR Truxton St) to Oak Point Ave to Hunt's Point Ave to Halleck St to Ryawa Ave
From MTS: Reverse
Route 3
To MTS: Bruckner Blvd to Longwood Ave to Tiffany St to East Bay Ave to Halleck St to Ryawa Ave
From MTS: Reverse
Route 4
To MTS: Bruckner Blvd to Longwood Ave to Tiffany St to Veile Ave to Halleck St to Ryawa Ave
From MTS: Reverse

Assumed Commercial Waste Vehicle Truck Routes to MTSs

North Shore

From the north
Route 1N
To MTS: 20th Ave to College Point Blvd to 31st Ave
From MTS: Reverse

From the south
Route 1S
To MTS: Van Wick Expressway to Whitestone Expressway to Linden Place to Whitestone Expressway Service Road (Westbound) to College Point Blvd to 31st Ave
From MTS: 31st Ave to College Point Blvd to Whitestone Expressway Service Road (Eastbound) to Linden Place to Whitestone Expressway Service Road (Westbound) to Whitestone Expressway to Van Wick Expressway
Route 2S
To MTS: Van Wick Expressway to College Point Blvd to 31st Ave
From MTS: Reverse

From the east
Route 1E
To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave
From MTS: Reverse
Route 2E
To MTS: Long Island Expressway to College Point Blvd to 31st Ave
From MTS: Reverse

From the west
Route 1W
To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave
From MTS: Reverse
Route 2W
To MTS: Long Island Expressway to College Point Blvd to 31st Ave
From MTS: Reverse
Route 3W
To MTS: Roosevelt Ave to College Point Blvd to 31st Ave
From MTS: Reverse

Assumed Commercial Waste Vehicle Truck Routes to MTSs

Greenpoint

From the north
Route 1N
To MTS: McGuiness Blvd to Greenpoint Ave to Kingsland Ave
From MTS: Reverse
Route 2N
To MTS: Queens Blvd to Greenpoint Ave to Starr Ave to Van Dam St to Greenpoint Ave to Kingsland Ave
From MTS: Kingsland Ave to Greenpoint Ave to Queens Blvd
Route 3N
To MTS: Van Dam St to Greenpoint Ave to Kingsland Ave
From MTS: Reverse

From the south
Route 1S
To MTS: McGuiness Blvd to Greenpoint Ave to Kingsland Ave
From MTS: Reverse
Route 2S
To MTS: Brooklyn-Queens Expressway to Meeker St (eastbound) to Varick St to Bridgewater St to Norman Ave to Kingsland Ave
From MTS: Kingsland Ave to Greenpoint Ave to Henry St to Norman Ave to Bridgewater St to Varick St to Meeker Ave to BQE

From the east
Route 1E
To MTS: Brooklyn-Queens Expressway to Meeker St (eastbound) to Varick St to Bridgewater St to Norman Ave to Kingsland Ave
From MTS: Kingsland Ave to Greenpoint Ave to McGuiness Blvd to Meeker St to BQE
Route 2E
To MTS: Long Island Expressway to Van Dam St to Greenpoint Ave to Kingsland Ave
From MTS: From MTS: Kingsland Ave to Greenpoint Ave to LIE

Assumed Commercial Waste Vehicle Truck Routes to MTSs

Hamilton Ave

From the north
Route 1N
To MTS: BQE to Hamilton Ave (southbound) (Exit 26)
From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to BQE
Route 2N
To MTS: (3rd Ave OR 4thAve) to 9th Street to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to 9th Street to 3rd Ave
Route 3N
To MTS: (3rd Ave to 9th Street to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave (to 9th St to 4th Ave)

From the south
Route 1S
To MTS: Gowanus Expressway to 4th Ave to Prospect to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 65th Street
Route 2S
To MTS: 65th St to 3rd Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 65th Street

From the east
Route 1E
To MTS: 39th St to 4th Ave to Prospect Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 39th St
Route 2E
To MTS: Prospect Expressway to Prospect Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound) to 20th St to 10th Ave to Prospect Expressway

Assumed Commercial Waste Vehicle Truck Routes to MTSs

Southwest Brooklyn

From the north
Route 1N
To MTS: 86th St to 18th Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave
From MTS: 25th Av to Shore Road (southbound) to 26th Ave to Cropsey Ave to 18th Ave to 86th St

From the south
Route 1S
To MTS: Neptune Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave
From MTS: 25th Av to Shore Road (southbound) to 26th Ave to Cropsey Ave to Neptune Ave

From the east
Route 1E
To MTS: Kings Highway to Bay Parkway to Shore Road (southbound) to 25th Ave
From MTS: 25th Ave to Shore Road (southbound) to 26th Ave to Cropsey Ave to Bay Parkway to Kings Highway
Route 2E
To MTS: 86th St to 25th Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave
From MTS: 25th Ave to Shore Road (southbound) to 26th Ave to Cropsey Ave to 25th Ave to 86th St

ATTACHMENT 3

COMMERCIAL WASTE VEHICLE ALLOCATION BY APPROACH DIRECTION

Commercial Waste Vehicle Allocation by Approach Direction

West 135th St

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	1	16	1	0	18
9:00 PM	1	14	1	0	16
10:00 PM	1	18	1	0	20
11:00 PM	1	9	1	0	10
12:00 AM	1	7	0	0	8
1:00 AM	1	14	1	0	16
2:00 AM	1	16	1	0	18
3:00 AM	1	8	0	0	9
4:00 AM	1	18	1	0	20
5:00 AM	1	17	1	0	19
6:00 AM	1	16	1	0	18
7:00 AM	0	3	0	0	3

East 91st Street

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	2	18	0	0	20
9:00 PM	2	18	0	0	20
10:00 PM	2	18	0	0	20
11:00 PM	1	9	0	0	10
12:00 AM	1	9	0	0	10
1:00 AM	2	18	0	0	20
2:00 AM	2	18	0	0	20
3:00 AM	1	9	0	0	10
4:00 AM	2	18	0	0	20
5:00 AM	2	18	0	0	20
6:00 AM	2	18	0	0	20
7:00 AM	1	8	0	0	9

West 59th St

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	0	9	1	0	10
9:00 PM	0	9	1	0	10
10:00 PM	0	9	1	0	10
11:00 PM	0	4	1	0	5
12:00 AM	0	3	0	0	4
1:00 AM	0	7	1	0	8
2:00 AM	0	7	1	0	8
3:00 AM	0	3	0	0	4
4:00 AM	0	9	1	0	10
5:00 AM	0	9	1	0	10
6:00 AM	0	8	1	0	9
7:00 AM	0	3	0	0	3

Commercial Waste Vehicle Allocation by Approach Direction

South Bronx

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	6	9	0	0	15
9:00 PM	5	9	0	0	14
10:00 PM	7	11	0	0	18
11:00 PM	4	6	0	0	10
12:00 AM	4	6	0	0	10
1:00 AM	7	11	0	0	18
2:00 AM	7	11	0	0	18
3:00 AM	3	4	0	0	7
4:00 AM	7	12	0	0	19
5:00 AM	7	10	0	0	17
6:00 AM	7	10	0	0	17
7:00 AM	0	0	0	0	0

North Shore

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	1	8	3	1	13
9:00 PM	1	6	2	1	10
10:00 PM	1	10	4	2	17
11:00 PM	0	4	2	1	7
12:00 AM	0	2	1	0	3
1:00 AM	1	6	2	1	10
2:00 AM	1	6	2	1	10
3:00 AM	0	1	0	0	1
4:00 AM	1	8	3	1	13
5:00 AM	0	4	2	1	7
6:00 AM	0	2	1	0	4
7:00 AM	0	0	0	0	0

Greenpoint

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	3	3	0	0	7
9:00 PM	5	5	1	0	11
10:00 PM	7	7	1	0	16
11:00 PM	5	5	1	0	10
12:00 AM	3	3	0	0	6
1:00 AM	5	5	1	0	10
2:00 AM	4	4	1	0	9
3:00 AM	0	0	0	0	0
4:00 AM	7	7	1	0	16
5:00 AM	6	6	1	0	12
6:00 AM	6	6	1	0	12
7:00 AM	0	0	0	0	0

Commercial Waste Vehicle Allocation by Approach Direction

Hamilton Ave

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	9	3	4	0	16
9:00 PM	8	2	3	0	13
10:00 PM	12	3	5	0	20
11:00 PM	5	1	2	0	8
12:00 AM	1	0	0	0	1
1:00 AM	5	1	2	0	9
2:00 AM	5	1	2	0	9
3:00 AM	1	0	1	0	2
4:00 AM	10	3	4	0	17
5:00 AM	9	3	4	0	16
6:00 AM	9	2	4	0	15
7:00 AM	2	0	1	0	3

Southwest Brooklyn

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	15	1	2	0	18
9:00 PM	15	1	2	0	18
10:00 PM	16	1	2	0	20
11:00 PM	8	1	1	0	10
12:00 AM	1	0	0	0	1
1:00 AM	10	1	1	0	12
2:00 AM	11	1	2	0	14
3:00 AM	7	1	1	0	8
4:00 AM	15	1	2	0	19
5:00 AM	15	1	2	0	19
6:00 AM	15	1	2	0	18
7:00 AM	4	0	1	0	5

ATTACHMENT 4

ON- AND OFF-SITE AIR QUALITY ANALYSIS RESULTS
DSNY-MANAGED WASTE PLUS COMMERCIAL WASTE COLLECTION VEHICLES

Table A.4-1
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
West 135th Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	2,091	3,781	5,872	40,000	NA
	8-hour(6)	1,019	2,635	3,654	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	5	77	82	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	26	88	114	150	NA
	Annual	5	34	39	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.036(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	264	265	529	1,300	NA
	24-hour(6)	7	139	146	365	NA
	Annual	1	34	35	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.

(3) NAAQS = National Ambient Air Quality Standards.

(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-2
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
135th Street Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
		Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] ($\mu g/m^3$)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] ($\mu g/m^3$)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Long-Term (Annual) Guideline Conc. (AGCs)[5] ($\mu g/m^3$)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Unit Risk Factors[7] ($\mu g/m^3$)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	9.56E-01	1.30E+03	7.36E-04	5.49E-03	1.30E-01	4.23E-02	5.49E-03	8.30E-06	4.56E-08
2	Formaldehyde	1.21E+00	3.00E+01	4.03E-02	6.95E-03	6.00E-02	1.16E-01	6.95E-03	1.30E-05	9.03E-08
3	1,3 Butadiene	4.01E-02	-	-	2.30E-04	3.60E-03	6.40E-02	2.30E-04	2.80E-04	6.45E-08
4	Acetaldehyde	7.86E-01	4.50E+03	1.75E-04	4.52E-03	4.50E-01	1.00E-02	4.52E-03	2.20E-06	9.94E-09
5	Benzo(a)pyrene	1.93E-04	-	-	1.11E-06	2.00E-03	5.54E-04	1.11E-06	1.70E-03	1.88E-09
6	Propylene	2.64E+00	-	-	1.52E-02	3.00E+03	5.06E-06	1.52E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	9.48E-02	1.90E-01	4.99E-01	5.54E-04	2.00E-02	2.72E-02	5.54E-04	NA	NA
8	Toluene	4.19E-01	3.70E+04	1.13E-05	2.41E-03	4.00E+02	6.02E-06	2.41E-03	NA	NA
9	Xylenes	2.92E-01	4.30E+03	6.79E-05	1.68E-03	7.00E+02	2.40E-06	1.68E-03	NA	NA
10	Anthracene	1.92E-03	-	-	1.10E-05	2.00E-02	5.51E-04	1.10E-05	NA	NA
11	Benzo(a)anthracene	1.72E-03	-	-	9.89E-06	2.00E-02	4.95E-04	9.89E-06	NA	NA
12	Chrysene	3.62E-04	-	-	2.08E-06	2.00E-02	1.04E-04	2.08E-06	NA	NA
13	Naphthalene	8.69E-02	7.90E+03	1.10E-05	4.99E-04	3.00E+00	1.66E-04	4.99E-04	NA	NA
14	Pyrene	4.90E-03	-	-	2.81E-05	2.00E-02	1.41E-03	2.81E-05	NA	NA
15	Phenanthrene	3.01E-02	-	-	1.73E-04	2.00E-02	8.66E-03	1.73E-04	NA	NA
16	Dibenz(a,h)anthracene	5.98E-04	-	-	3.43E-06	2.00E-02	1.72E-04	3.43E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.43E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.71E-01**	**Total Estimated Combined Cancer Risk**		**2.12E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold[11]**		**1.0E+00**	**Cancer Risk Threshold[11]**		**1.0E-06**

Notes to Table A.4-2:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-3
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
East 91st Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	1,158	3,781	4,939	40,000	NA
	8-hour(6)	3,38	2,635	3,023	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	6	77	83	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	19	88	107	150	NA
	Annual	4	34	38	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.036(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	56	265	321	1,300	NA
	24-hour(6)	9	139	148	365	NA
	Annual	1	34	35	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-4
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
East 91st Street Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
		Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (µg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] (µg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (µg/m³)	Long-Term (Annual) Guideline Conc. (AGCs)[5] (µg/m³)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (µg/m³)	Unit Risk Factors[7] (µg/m³)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	3.86E-01	1.30E+03	2.97E-04	7.69E-03	1.30E-01	5.91E-02	7.69E-03	8.30E-06	6.38E-08
2	Formaldehyde	4.88E-01	3.00E+01	1.63E-02	9.72E-03	6.00E-02	1.62E-01	9.72E-03	1.30E-05	1.26E-07
3	1,3 Butadiene	1.62E-02	-	-	3.22E-04	3.60E-03	8.95E-02	3.22E-04	2.80E-04	9.02E-08
4	Acetaldehyde	3.17E-01	4.50E+03	7.04E-05	6.32E-03	4.50E-01	1.40E-02	6.32E-03	2.20E-06	1.39E-08
5	Benzo(a)pyrene	7.77E-05	-	-	1.55E-07	2.00E-03	7.74E-04	1.55E-06	1.70E-03	2.63E-09
6	Propylene	1.07E+00	-	-	2.13E-03	3.00E+03	7.09E-06	2.13E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	3.82E-02	1.90E-01	2.01E-01	7.62E-04	2.00E-02	3.81E-02	7.62E-04	NA	NA
8	Toluene	1.69E-01	3.70E+04	4.57E-06	3.37E-03	4.00E+02	8.42E-06	3.37E-03	NA	NA
9	Xylenes	1.18E-01	4.30E+03	2.74E-05	2.35E-04	7.00E+02	3.35E-06	2.35E-03	NA	NA
10	Anthracene	7.73E-04	-	-	1.54E-06	2.00E-02	7.70E-04	1.54E-05	NA	NA
11	Benzo(a)anthracene	6.94E-04	-	-	1.38E-06	2.00E-02	6.92E-04	1.38E-05	NA	NA
12	Chrysene	1.46E-04	-	-	2.91E-07	2.00E-02	1.45E-04	2.91E-06	NA	NA
13	Naphthalene	3.50E-02	7.90E+03	4.44E-06	6.99E-04	3.00E+00	2.33E-04	6.99E-04	NA	NA
14	Pyrene	1.98E-03	-	-	3.94E-05	2.00E-02	1.97E-03	3.94E-05	NA	NA
15	Phenanthrene	1.21E-02	-	-	2.42E-05	2.00E-02	1.21E-02	2.42E-04	NA	NA
16	Dibenz(a,h)anthracene	2.41E-04	-	-	4.80E-06	2.00E-02	2.40E-04	4.80E-05	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.18E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**3.80E-01**	**Total Estimated Combined Cancer Risk**		**2.97E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold[11]**		**1.0E+00**	**Cancer Risk Threshold[11]**		**1.0E-06**

Notes to Table A.4-4:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-5
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
West 59th Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources [1]	Background Pollutant Concentrations [2]	Highest Estimated On-site Pollutant Concentrations	NAAQS[3]	STV[4]
Carbon Monoxide (CO), $\mu g/m^3$	1-hour[6]	3,033	4,353	7,386	40,000	NA
	8-hour[6]	582	3,322	3,904	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	4	77	81	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour[7]	14	88	102	150	NA
	Annual	1	34	35	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	4	-	-	NA	5
	Annual Neighborhood Average	0.033[5]	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour[6]	57	265	322	1,300	NA
	24-hour[6]	13	139	152	365	NA
	Annual	1	34	35	80	NA

Notes:
(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.
NA = Not Applicable.

Table A.4-6
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
West 59th Street Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (µg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] (µg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (µg/m³)	Long-Term (Annual) Guideline Conc. (AGCs)[5] (µg/m³)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (µg/m³)	Unit Risk Factors[7] (µg/m³)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	9.85E-01	1.30E+03	7.58E-04	4.06E-03	1.30E-01	3.12E-02	4.06E-03	8.30E-06	3.37E-08
2	Formaldehyde	1.25E+00	3.00E+01	4.15E-02	5.14E-03	6.00E-02	8.56E-02	5.14E-03	1.30E-05	6.68E-08
3	1,3 Butadiene	4.13E-02	-	-	1.70E-04	3.60E-03	4.73E-02	1.70E-04	2.80E-04	4.77E-08
4	Acetaldehyde	8.10E-01	4.50E+03	1.80E-05	3.34E-03	4.50E-01	7.42E-03	3.34E-03	2.20E-06	7.35E-09
5	Benzo(a)pyrene	1.98E-04	-	-	8.19E-07	2.00E-03	4.09E-04	8.19E-07	1.70E-03	1.39E-09
6	Propylene	2.72E+00	-	-	1.12E-02	3.00E+03	3.74E-06	1.12E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	9.77E-02	1.90E-01	5.14E-01	4.03E-04	2.00E-02	2.01E-02	4.03E-04	NA	NA
8	Toluene	4.32E-01	3.70E+04	1.17E-05	1.78E-03	4.00E+02	4.45E-06	1.78E-03	NA	NA
9	Xylenes	3.01E-01	4.30E+03	7.00E-05	1.24E-03	7.00E+02	1.77E-06	1.24E-03	NA	NA
10	Anthracene	1.97E-03	-	-	8.14E-06	2.00E-02	4.07E-04	8.14E-06	NA	NA
11	Benzo(a)anthracene	1.77E-03	-	-	7.31E-06	2.00E-02	3.66E-04	7.31E-06	NA	NA
12	Chrysene	3.73E-04	-	-	1.54E-06	2.00E-02	7.68E-05	1.54E-06	NA	NA
13	Naphthalene	8.95E-02	7.90E+03	1.13E-05	3.69E-04	3.00E+00	1.23E-04	3.69E-04	NA	NA
14	Pyrene	5.05E-03	-	-	2.08E-05	2.00E-02	1.04E-03	2.08E-05	NA	NA
15	Phenanthrene	3.10E-02	-	-	1.28E-04	2.00E-02	6.40E-03	1.28E-04	NA	NA
16	Dibenz(a,h)anthracene	6.16E-04	-	-	2.54E-06	2.00E-02	1.27E-04	2.54E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**5.57E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.01E-01**	**Total Estimated Combined Cancer Risk**		**1.57E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold**[11]		**1.0E+00**	**Cancer Risk Threshold**[11]		**1.0E-06**

Notes to Table A.4-6:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-7
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
South Bronx Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources [1]	Background Pollutant Concentrations [2]	Highest Estimated On-site Pollutant Concentrations	NAAQS[3]	STV[4]
Carbon Monoxide (CO), $\mu g/m^3$	1-hour[6]	947	3,781	4,728	40,000	NA
	8-hour[6]	182	2,635	2,817	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	3	68	71	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour[7]	18	73	91	150	NA
	Annual	5	25	30	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	1	-	-	NA	5
	Annual Neighborhood Average	0.027[5]	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour[6]	35	325	360	1,300	NA
	24-hour[6]	3	144	147	365	NA
	Annual	0.7	31	32	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.

(3) NAAQS = National Ambient Air Quality Standards.

(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-8
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
South Bronx Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
		Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] ($\mu g/m^3$)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] ($\mu g/m^3$)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Long-Term (Annual) Guideline Conc. (AGCs)[5] ($\mu g/m^3$)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Unit Risk Factors[7] ($\mu g/m^3$)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	3.08E-01	1.30E+03	2.37E-04	4.23E-03	1.30E-01	3.25E-02	4.23E-03	8.30E-06	3.51E-08
2	Formaldehyde	3.98E-01	3.00E+01	1.30E-02	5.35E-03	6.00E-02	8.91E-02	5.35E-03	1.30E-05	6.95E-08
3	1,3 Butadiene	1.29E-02	-	-	1.77E-04	3.60E-03	4.92E-02	1.77E-04	2.80E-04	4.96E-08
4	Acetaldehyde	2.53E-01	4.50E+03	5.62E-05	3.48E-03	4.50E-01	7.73E-03	3.48E-03	2.20E-06	7.65E-09
5	Benzo(a)pyrene	6.20E-05	-	-	8.52E-07	2.00E-03	4.26E-04	8.52E-07	1.70E-03	1.45E-09
6	Propylene	8.51E-01	-	-	1.17E-02	3.00E+03	3.90E-06	1.17E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	3.05E-02	1.90E-01	1.61E-01	4.19E-04	2.00E-02	2.10E-02	4.19E-04	NA	NA
8	Toluene	1.35E-01	3.70E+04	3.65E-06	1.85E-03	4.00E+02	4.63E-06	1.85E-03	NA	NA
9	Xylenes	9.40E-02	4.30E+03	2.19E-05	1.29E-03	7.00E+02	1.85E-06	1.29E-03	NA	NA
10	Anthracene	6.17E-04	-	-	8.48E-06	2.00E-02	4.24E-04	8.48E-06	NA	NA
11	Benzo(a)anthracene	5.54E-04	-	-	7.61E-06	2.00E-02	3.81E-04	7.61E-06	NA	NA
12	Chrysene	1.16E-04	-	-	1.60E-06	2.00E-02	8.00E-05	1.60E-06	NA	NA
13	Naphthalene	2.80E-02	7.90E+03	3.54E-06	3.84E-04	3.00E+00	1.28E-04	3.84E-04	NA	NA
14	Pyrene	1.58E-03	-	-	2.17E-05	2.00E-02	1.08E-03	2.17E-05	NA	NA
15	Phenanthrene	9.70E-03	-	-	1.33E-04	2.00E-02	6.66E-03	1.33E-04	NA	NA
16	Dibenz(a,h)anthracene	1.92E-04	-	-	2.64E-06	2.00E-02	1.32E-04	2.64E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**1.74E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.09E-01**	**Total Estimated Combined Cancer Risk**		**1.63E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold[11]**		**1.0E+00**	**Cancer Risk Threshold[11]**		**1.0E-06**

Notes to Table A.4-8:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-9
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
North Shore Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources [1]	Background Pollutant Concentrations [2]	Highest Estimated On-site Pollutant Concentrations	NAAQS[3]	STV[4]
Carbon Monoxide (CO), $\mu g/m^3$	1-hour[6]	1,261	3,781	5,042	40,000	NA
	8-hour[6]	194	2,635	3,767	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	4	56	60	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour[7]	17	57	74	150	NA
	Annual	4	23	27	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	1	-	-	NA	5
	Annual Neighborhood Average	0.036[5]	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour[6]	49	186	235	1,300	NA
	24-hour[6]	5	107	112	365	NA
	Annual	1	18.3	19	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-10
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
North Shore Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs)[5] (μg/m³)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Unit Risk Factors[7] (μg/m³)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	4.06E-01	1.30E+03	3.12E-04	4.63E-03	1.30E-01	3.56E-02	4.63E-03	8.30E-06	3.84E-08
2	Formaldehyde	5.13E-01	3.00E+01	1.71E-02	5.85E-03	6.00E-02	9.75E-02	5.85E-03	1.30E-05	7.60E-08
3	1,3 Butadiene	1.70E-02	-	-	1.94E-04	3.60E-03	5.38E-02	1.94E-04	2.80E-04	5.43E-08
4	Acetaldehyde	3.33E-01	4.50E+03	7.41E-05	3.80E-03	4.50E-01	8.45E-03	3.80E-03	2.20E-06	8.36E-09
5	Benzo(a)pyrene	8.17E-05	-	-	9.32E-07	2.00E-03	4.66E-04	9.32E-07	1.70E-03	1.58E-10
6	Propylene	1.12E+00	-	-	1.28E-02	3.00E+03	4.26E-06	1.28E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	4.02E-02	1.90E-01	2.12E-01	4.59E-04	2.00E-02	2.29E-02	4.59E-04	NA	NA
8	Toluene	1.78E-01	3.70E+04	4.81E-06	2.03E-03	4.00E+02	5.07E-06	2.03E-03	NA	NA
9	Xylenes	1.24E-01	4.30E+03	2.88E-05	1.41E-03	7.00E+02	2.02E-06	1.41E-03	NA	NA
10	Anthracene	8.13E-04	-	-	9.27E-06	2.00E-02	4.63E-04	9.27E-06	NA	NA
11	Benzo(a)anthracene	7.30E-04	-	-	8.33E-06	2.00E-02	4.16E-04	8.33E-06	NA	NA
12	Chrysene	1.53E-04	-	-	1.75E-06	2.00E-02	8.75E-05	1.75E-06	NA	NA
13	Naphthalene	3.69E-02	7.90E+03	4.67E-06	4.20E-04	3.00E+00	1.40E-04	4.20E-04	NA	NA
14	Pyrene	2.08E-03	-	-	2.37E-05	2.00E-02	1.18E-03	2.37E-05	NA	NA
15	Phenanthrene	1.28E-02	-	-	1.46E-04	2.00E-02	7.29E-03	1.46E-04	NA	NA
16	Dibenz(a,h)anthracene	2.54E-04	-	-	2.89E-06	2.00E-02	1.45E-04	2.89E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.29E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.28E-01**	**Total Estimated Combined Cancer Risk**		**1.79E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold[11]**		**1.0E+00**	**Cancer Risk Threshold[11]**		**1.0E-06**

Notes to Table A.4-10:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-11
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Greenpoint Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	1,335	3,321	4,656	40,000	NA
	8-hour(6)	445	2,635	3,080	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	2	56	58	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	25	57	82	150	NA
	Annual	4	23	27	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.024(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	51	189	240	1,300	NA
	24-hour(6)	6	87	93	365	NA
	Annual	0.5	21	22	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-12
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Greenpoint Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
		Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs)[5] (μg/m³)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Unit Risk Factors[7] (μg/m³)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	4.31E-01	1.30E+03	3.31E-04	3.00E-03	1.30E-01	2.31E-02	3.00E-03	8.30E-06	2.49E-08
2	Formaldehyde	5.45E-01	3.00E+01	1.82E-02	3.80E-03	6.00E-02	6.33E-02	3.80E-03	1.30E-05	4.94E-08
3	1,3 Butadiene	1.81E-02	-	-	1.26E-04	3.60E-03	3.50E-02	1.26E-04	2.80E-04	3.53E-08
4	Acetaldehyde	3.54E-01	4.50E+03	7.87E-05	2.47E-03	4.50E-01	5.49E-03	2.47E-03	2.20E-06	5.43E-09
5	Benzo(a)pyrene	8.68E-05	-	-	6.05E-07	2.00E-03	3.03E-04	6.05E-07	1.70E-03	1.03E-09
6	Propylene	1.19E+00	-	-	8.31E-03	3.00E+03	2.77E-06	8.31E-03	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	4.27E-02	1.90E-01	2.25E-01	2.98E-04	2.00E-02	1.49E-02	2.98E-04	NA	NA
8	Toluene	1.89E-01	3.70E+04	5.10E-06	1.32E-03	4.00E+02	3.29E-06	1.32E-03	NA	NA
9	Xylenes	1.32E-01	4.30E+03	3.06E-05	9.18E-04	7.00E+02	1.31E-06	9.18E-04	NA	NA
10	Anthracene	8.63E-04	-	-	6.02E-06	2.00E-02	3.01E-04	6.02E-06	NA	NA
11	Benzo(a)anthracene	7.76E-04	-	-	5.41E-06	2.00E-02	2.70E-04	5.41E-06	NA	NA
12	Chrysene	1.63E-04	-	-	1.14E-06	2.00E-02	5.68E-05	1.14E-06	NA	NA
13	Naphthalene	3.92E-02	7.90E+03	4.96E-06	2.73E-04	3.00E+00	9.10E-05	2.73E-04	NA	NA
14	Pyrene	2.21E-03	-	-	1.54E-05	2.00E-02	7.70E-04	1.54E-05	NA	NA
15	Phenanthrene	1.36E-02	-	-	9.47E-05	2.00E-02	4.73E-03	9.47E-05	NA	NA
16	Dibenz(a,h)anthracene	2.69E-04	-	-	1.88E-06	2.00E-02	9.39E-05	1.88E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.43E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**1.48E-01**	**Total Estimated Combined Cancer Risk**		**1.16E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold[11]**		**1.0E+00**	**Cancer Risk Threshold[11]**		**1.0E-06**

Notes to Table A.4-12:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-13
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Hamilton Avenue Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	1,334	3,321	4,655	40,000	NA
	8-hour(6)	393	2,636	3,029	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	4	56	60	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	21	82	103	150	NA
	Annual	5	22	27	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.029(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	45	152	197	1,300	NA
	24-hour(6)	9	94	103	365	NA
	Annual	1	24	25	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-14
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Hamilton Avenue Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
		Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs)[5] (μg/m³)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Unit Risk Factors[7] (μg/m³)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	4.75E-01	1.30E+03	3.65E-04	6.22E-03	1.30E-01	4.79E-02	6.22E-03	8.30E-06	5.17E-08
2	Formaldehyde	6.01E-01	3.00E+01	2.00E-02	7.87E-03	6.00E-02	1.31E-02	7.87E-03	1.30E-05	1.02E-07
3	1,3 Butadiene	1.99E-02	-	-	2.61E-04	3.60E-03	7.24E-02	2.61E-04	2.80E-04	7.30E-08
4	Acetaldehyde	3.90E-01	4.50E+03	8.67E-05	5.12E-03	4.50E-01	1.14E-03	5.12E-03	2.20E-06	1.13E-08
5	Benzo(a)pyrene	9.57E-05	-	-	1.25E-06	2.00E-03	6.27E-04	1.25E-06	1.70E-03	2.13E-09
6	Propylene	1.31E+00	-	-	1.72E-02	3.00E+03	5.74E-06	1.72E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	4.71E-02	1.90E-01	2.48E-01	6.17E-04	2.00E-02	3.09E-02	6.17E-04	NA	NA
8	Toluene	2.08E-01	3.70E+04	5.63E-06	2.73E-03	4.00E+02	6.82E-06	2.73E-03	NA	NA
9	Xylenes	1.45E-01	4.30E+03	3.37E-05	1.90E-03	7.00E+02	2.72E-06	1.90E-03	NA	NA
10	Anthracene	9.52E-04	-	-	1.25E-05	2.00E-02	6.24E-04	1.25E-05	NA	NA
11	Benzo(a)anthracene	8.55E-04	-	-	1.12E-05	2.00E-02	5.60E-04	1.12E-05	NA	NA
12	Chrysene	1.80E-04	-	-	2.35E-06	2.00E-02	1.18E-05	2.35E-06	NA	NA
13	Naphthalene	4.32E-02	7.90E+03	5.46E-06	5.66E-04	3.00E+00	1.89E-05	5.66E-04	NA	NA
14	Pyrene	2.43E-03	-	-	3.19E-05	2.00E-02	1.59E-04	3.19E-05	NA	NA
15	Phenanthrene	1.50E-02	-	-	1.96E-04	2.00E-02	9.81E-03	1.96E-04	NA	NA
16	Dibenz(a,h)anthracene	2.97E-04	-	-	1.49E-06	2.00E-02	3.89E-05	1.49E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.68E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**3.07E-01**	**Total Estimated Combined Cancer Risk**		**2.40E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold[11]**		**1.0E+00**	**Cancer Risk Threshold[11]**		**1.0E-06**

Notes to Table A.4-14:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-15
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Southwest Brooklyn Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources [1]	Background Pollutant Concentrations [2]	Highest Estimated On-site Pollutant Concentrations	NAAQS[3]	STV[4]
Carbon Monoxide (CO), $\mu g/m^3$	1-hour[6]	1,391	3,781	5,172	40,000	NA
	8-hour[6]	419	2,635	3,054	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	4	56	60	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour[7]	22	91	113	150	NA
	Annual	4	27	31	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.028[5]	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour[6]	47	152	199	1,300	NA
	24-hour[6]	8	94	102	365	NA
	Annual	0.7	24	25	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-16
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Southwest Brooklyn Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] ($\mu g/m^3$)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] ($\mu g/m^3$)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Long-Term (Annual) Guideline Conc. (AGCs)[5] ($\mu g/m^3$)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Unit Risk Factors[7] ($\mu g/m^3$)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	7.42E-01	1.30E+03	5.71E-04	4.28E-03	1.30E-01	3.29E-02	4.28E-03	8.30E-06	3.56E-08
2	Formaldehyde	9.39E-01	3.00E+01	3.13E-02	5.42E-03	6.00E-02	9.03E-02	5.42E-03	1.30E-05	7.04E-08
3	1,3 Butadiene	3.11E-02	-	-	1.80E-04	3.60E-03	4.99E-02	1.80E-04	2.80E-04	5.03E-08
4	Acetaldehyde	6.10E-01	4.50E+03	1.36E-04	3.52E-03	4.50E-01	7.83E-03	3.52E-03	2.20E-06	7.75E-09
5	Benzo(a)pyrene	1.50E-04	-	-	8.63E-07	2.00E-03	4.32E-04	8.63E-07	1.70E-03	1.47E-09
6	Propylene	2.05E+00	-	-	1.18E-02	3.00E+03	3.95E-06	1.18E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	7.36E-02	1.90E-01	3.87E-01	4.25E-04	2.00E-02	2.12E-02	4.25E-04	NA	NA
8	Toluene	3.25E-01	3.70E+04	8.80E-06	1.88E-03	4.00E+02	4.69E-06	1.88E-03	NA	NA
9	Xylenes	2.27E-01	4.30E+03	5.27E-05	1.31E-03	7.00E+02	1.87E-06	1.31E-03	NA	NA
10	Anthracene	1.49E-03	-	-	8.59E-06	2.00E-02	4.29E-04	8.59E-06	NA	NA
11	Benzo(a)anthracene	1.34E-03	-	-	7.71E-06	2.00E-02	3.86E-04	7.71E-06	NA	NA
12	Chrysene	2.81E-04	-	-	1.62E-06	2.00E-02	8.10E-05	1.62E-06	NA	NA
13	Naphthalene	6.75E-02	7.90E+03	8.54E-06	3.89E-04	3.00E+00	1.30E-04	3.89E-04	NA	NA
14	Pyrene	3.80E-03	-	-	2.19E-05	2.00E-02	1.10E-03	2.19E-05	NA	NA
15	Phenanthrene	2.34E-02	-	-	1.35E-04	2.00E-02	6.75E-03	1.35E-04	NA	NA
16	Dibenz(a,h)anthracene	4.64E-04	-	-	2.68E-06	2.00E-02	1.34E-04	2.68E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**4.20E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.12E-01**	**Total Estimated Combined Cancer Risk**		**1.65E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold**[11]		**1.0E+00**	**Cancer Risk Threshold**[11]		**1.0E-06**

Notes to Table A.4-16:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-17
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
West 135th Street Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
12th Ave. & 133rd St.									
Existing Conditions	NA [5]	77 [6]	34 [6]						
Future No-Build Conditions	NA [5]	77 [6]	34 [6]						
Future Build Conditions	NA [5]	77 [6]	34 [6]						
Future Build Incremental				0.4	0.27 [6]	0.67	0.02	0.06 [6]	0.08
Broadway & 133rd St.									
Existing Conditions	NA [5]	77 [6]	33 [6]						
Future No-Build Conditions	NA [5]	77 [6]	33 [6]						
Future Build Conditions	NA [5]	78 [6]	34 [6]						
Future Build Incremental				0.4	0.21 [6]	0.61	0.02	0.06 [6]	0.04

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21$\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-18
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
East 91st Street Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
York Ave. & 86th St.									
Existing Conditions	NA [5]	76	32 [6]						
Future No-Build Conditions	NA [5]	77	32 [6]						
Future Build Conditions	NA [5]	77	32 [6]						
Future Build Incremental				0.31	0.3 [6]	0.68	0.04	0.09 [6]	0.1
York Ave. & 91st St.									
Existing Conditions	4	86	35 [6]						
Future No-Build Conditions	4	87	35 [6]						
Future Build Conditions	4	89	36 [6]						
Future Build Incremental				0.88	1.36 [6]	2.17	0.04	0.1 [6]	0.1

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-19
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
West 59th Street Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
59th St. and 12th Avenue									
Existing Conditions	NA [5]	86	36						
Future No-Build Conditions	NA [5]	92	40						
Future Build Conditions	NA [5]	93	41						
Future Build Incremental				1.57	0.77 [6]	2.36	0.03	0.04 [6]	0.06
Route 9A & 57th									
Existing Conditions	NA [5]	105	44						
Future No-Build Conditions	NA [5]	109	44						
Future Build Conditions	NA [5]	109	44						
Future Build Incremental				0.64	0.2 [6]	0.87	0.03	0.03 [6]	0.05

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-20
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
South Bronx Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
Bruckner & Leggett									
Existing Conditions	6	121	42						
Future No-Build Conditions	5	117	41						
Future Build Conditions	5	118	41						
Future Build Incremental				0.02	0.31	0.33	0.0003	0.09	0.09
Bruckner & Longwood									
Existing Conditions	NA [5]	132	42						
Future No-Build Conditions	NA [5]	129	41						
Future Build Conditions	NA [5]	129	43						
Future Build Incremental				0.02	0.36	0.39	0.0004	0.08	0.08
Tiffany & Randall									
Existing Conditions	3	93	32						
Future No-Build Conditions	3	88	34						
Future Build Conditions	3	99	34						
Future Build Incremental				0.03	0.28	0.31	0.0006	0.06	0.06

Table A.4-20 (Continued)
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
South Bronx Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
Halleck & Ryawa									
Existing Conditions	NA [5]	84	28						
Future No-Build Conditions	NA [5]	95	32						
Future Build Conditions	NA [5]	98	33						
Future Build Incremental				0.10	0.54	0.65	0.03	0.07	0.09
Halleck & East Bay/Hunts Point									
Existing Conditions	4	111	44						
Future No-Build Conditions	4	110	43						
Future Build Conditions	4	113	44						
Future Build Incremental				0.07	0.34	0.45	0.002	0.05	0.05

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21$\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-21
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
North Shore Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
College Point Blvd. & 31st Ave.									
Existing Conditions	4.4	87	35						
Future No-Build Conditions	4.8	88	35						
Future Build Conditions	4.3	91	36						
Future Build Incremental				0.12	0.41 [5]	0.71	0.01	0.1 [5]	0.1
College Point Blvd. & Booth Memorial Ave.									
Existing Conditions	5.1	100	41						
Future No-Build Conditions	4.5	102	42						
Future Build Conditions	4.9	102	42						
Future Build Incremental				0.02	0.30	0.35	0.002	0.1	0.1
College Point Blvd., 32nd Ave. & WSE Service Rd.									
Existing Conditions	5.0	96	39						
Future No-Build Conditions	4.9	97	39						
Future Build Conditions	4.9	98	40						
Future Build Incremental				0.06	0.38	0.56	0.01	0.1	0.1

Notes for Table A.4-21:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-22
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Greenpoint Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
Kingsland Ave., Greenpoint Ave. & Norman Ave.									
Existing Conditions	5.2	104	43						
Future No-Build Conditions	4.8	105	43						
Future Build Conditions	4.9	105	43						
Future Build Incremental				0.061	0.7	0.76	0.02	0.1	0.1
Greenpoint Ave., Review Ave. & VanDam St.									
Existing Conditions	NA [5]	118	49						
Future No-Build Conditions	NA [5]	102	40						
Future Build Conditions	NA [5]	103	40						
Future Build Incremental				0.037	0.3	0.34	0.01	0.1	0.1
Greenpoint Ave., McGuiness Blvd. & Provost									
Existing Conditions	NA [5]	104	40						
Future No-Build Conditions	NA [5]	105	40						
Future Build Conditions	NA [5]	106	41						
Future Build Incremental				0.037	0.5	0.54	0.006	0.1	0.1

Notes for Table A.4-22:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21$\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-23
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Hamilton Avenue Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
20th St., 3rd Ave. & 4th Ave.									
Existing Conditions	NA [5]	128 [6]	37 [6]						
Future No-Build Conditions	NA [5]	127 [6]	38 [6]						
Future Build Conditions	NA [5]	131 [6]	38 [6]						
Future Build Incremental				0.075	0.5	0.58	0.006	0.10	0.1
Hamilton Ave., Hamilton Pl. & 14th St.									
Existing Conditions	NA [5]	137 [6]	43 [6]						
Future No-Build Conditions	NA [5]	141 [6]	45 [6]						
Future Build Conditions	NA [5]	142 [6]	45 [6]						
Future Build Incremental				0.46	0.3	0.76	0.03	0.05	0.08

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21$\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-24
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Southwest Brooklyn Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
26th Ave., Cropsey Ave & Shore Parkway									
Existing Conditions	NA [5]	137	47						
Future No-Build Conditions	NA [5]	136	46						
Future Build Conditions	NA [5]	136	46						
Future Build Incremental				0.25	0.4	0.65	0.03	0.06	0.09
Bay Parkway, Cropsey Ave. & Shore Parkway									
Existing Conditions	NA [5]	147 [3]	54 [3]						
Future No-Build Conditions	NA [5]	149 [3]	55 [3]						
Future Build Conditions	NA [5]	150 [3]	55 [3]						
Future Build Incremental				0.10	0.3	0.40	0.006	0.1	0.1

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21$\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

ATTACHMENT 5.

COMMERCIAL WASTE TRUCKS ALLOWED BASED ON SECOND-LEVEL NOISE SCREENING

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
135th Street Converted MTS			
From the north			
Route 1N A To MTS: Broadway to West 133rd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. - 12 a.m., 6 a.m. - 8 a.m. [2]	2-7	3 - 18
Route 1N B To MTS: Broadway to West 132nd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. - 12 a.m., 6 a.m. - 8 a.m. [2]	1-5	3 - 18
Route 2N To MTS: Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. – 1 a.m., 4 a.m. – 8 a.m. [2]	2-16	3 - 20
From the south			
Route 1S A To MTS: Broadway to West 133rd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. - 12 a.m., 6 a.m. - 8 a.m. [2]	3-7	3 - 18
Route 1S B To MTS: Broadway to West 132nd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. - 12 a.m., 6 a.m. - 8 a.m. [2]	1-5	3 - 18
Route 2S To MTS: Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. – 1 a.m., 4 a.m. – 8 a.m. [2]	2-16	3 - 20
From the east			
Route 1E To MTS: 3rd Ave to East 125th St (turns into West 125th St) to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. – 1 a.m., 4 a.m. – 8 a.m. [2]	2-16	3 - 20
91st Street Converted MTS			
From the north			
Route 1N A To MTS: 2nd Ave to East 90th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 91st St to (1st Ave OR 3rd Ave)	8 p.m. - 2 a.m., 5 a.m. - 8 a.m. [2]	1-2	1-2
Route 1N B To MTS: 2nd Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 89th to (1st Ave OR 3rd Ave)	8 p.m. - 2 a.m., 6 a.m. - 7 a.m. [2]	1-2	1-2
Route 1N C To MTS: 2nd Ave East 86th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 87th St to (1st Ave OR 3rd Ave)	8 p.m. – 11 p.m., 6 a.m. - 7 a.m. [2]	1-2	1-2
From the south			
Route 1S A To MTS: 1st Ave to East 90th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 4 a.m. - 7 a.m. [2]	3-4	9-20

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
Route 2S To MTS: 3rd Ave to East 86th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1 - 12	9-20
59th Street Converted MTS[2]			
From the north			
Route 1N To MTS: Columbus Ave to West 59th St From MTS: West 59th St to Amsterdam Ave	8 p.m. - 3 a.m., 4 a.m. - 8 a.m. [2]	0-1	0-1
From the south			
Route 1S To MTS: 12th Ave (Joe DiMaggio Hwy) to 12th Ave Service Road (starts at 57th St) to West 59th St From MTS: Reverse	8 p.m. – 8 a.m.	3-9	3-9
Route 2S To MTS: 10th Ave to 57th Ave to 12th Ave Service Road to 59th St From MTS: West 59th St to 11th Ave	8 p.m. – 8 a.m.	3-9	3-9
From the east			
Route 1E To MTS: (2nd Ave or 3rd Ave) to East 57th St (turns into West 57th St) to 12th Ave Service Road to 59th St. From MTS: Reverse	8 p.m. – 8 a.m.	3-10	3-10
South Bronx Converted MTS			
Route 1 To MTS: Bruckner Blvd to Leggett Ave to Randall Ave to Halleck St to Ryawa Ave From MTS: Reverse	8 p.m. - 8 a.m.	0-7	0-7
Route 2 To MTS: Bruckner Blvd to Leggett Ave to (Barry St OR Dupont St OR Truxton St) to Oak Point Ave to Hunt's Point Ave to Halleck St to Ryawa Ave From MTS: Reverse	8 p.m. - 8 a.m.	0-7	0-7
Route 3 To MTS: Bruckner Blvd to Longwood Ave to Tiffany St to East Bay Ave to Halleck St to Ryawa Ave From MTS: Reverse	8 p.m. - 1 a.m., 2 a.m. – 8 a.m. [2]	0-7	0-7
Route 4 To MTS: Bruckner Blvd to Longwood Ave to Tiffany St to Viele Ave to Halleck St to Ryawa Ave From MTS: Reverse	8 p.m. - 1 a.m., 2 a.m. – 8 a.m. [2]	0-7	0-7
North Shore Converted MTS			
From the north			
Route 1N To MTS: 20th Ave to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. - 8 a.m.	0-1	0-1

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
From the south			
Route 1S To MTS: Van Wick Expressway to Whitestone Expressway to Linden Place to Whitestone Expressway Service Road (Westbound) to College Point Blvd to 31st Ave From MTS: 31st Ave to College Point Blvd to Whitestone Expressway Service Road (Eastbound) to Linden Place to Whitestone Expressway Service Road (Westbound) to Whitestone Expressway to Van Wick Expressway	8 p.m. - 8 a.m.	0 -16	0 -16
Route 2S To MTS: Van Wick Expressway to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 12 a.m., 6 a.m. – 8 a.m. [2]	0 – 11	0-14
From the east			
Route 1E To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 1 a.m., 3 a.m. – 4 a.m., 5 a.m. – 8 a.m. [2]	0 – 5	0 - 5
Route 2E To MTS: Long Island Expressway to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 12 a.m., 6 a.m. – 8 a.m. [2]	0 – 11	0 - 14
From the west			
Route 1W To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 1 a.m., 3 a.m. – 4 a.m., 5 a.m. – 8 a.m. [2]	0 – 2	0 - 2
Route 2W To MTS: Long Island Expressway to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 12 a.m., 6 a.m. – 8 a.m. [2]	0 – 11	0 - 14
Route 3W To MTS: Roosevelt Ave to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 1 a.m., 3 a.m. – 4 a.m., 6 a.m. – 8 a.m. [2]	0 – 2	0 - 2
Greenpoint Avenue Converted MTS			
From the north			
Route 1N To MTS: McGuiness Blvd to Greenpoint Ave to Kingsland Ave From MTS: Reverse	8 p.m. - 2 a.m., 3 a.m. - 8 a.m. [2]	0 – 8	0 – 8
Route 2N To MTS: Queens Blvd to Greenpoint Ave to Starr Ave to Van Dam St to Greenpoint Ave to Kingsland Ave From MTS: Kingsland Ave to Greenpoint Ave to Queens Blvd	8 p.m. - 8 a.m.	1 –6	0 – 7

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
Route 3N To MTS: Van Dam St to Greenpoint Ave to Kingsland Ave From MTS: Reverse	8 p.m. - 8 a.m.	0 – 7	0 – 7
From the south			
Route 1S To MTS: McGuiness Blvd to Greenpoint Ave to Kingsland Ave From MTS: Reverse	8 p.m. - 2 a.m., 3 a.m. - 8 a.m. [2]	0 – 8	0 - 8
Route 2S To MTS: Brooklyn-Queens Expressway to Meeker St (eastbound) to Varick St to Bridgewater St to Norman Ave to Kingsland Ave From MTS: Kingsland Ave to Greenpoint Ave to Henry St to Norman Ave to Bridgewater St to Varick St to Meeker Ave to BQE	8 p.m. - 8 a.m.	0 – 6	0 - 9
From the east			
Route 1E To MTS: Brooklyn-Queens Expressway to Meeker St (eastbound) to Varick St to Bridgewater St to Norman Ave to Kingsland Ave From MTS: Kingsland Ave to Greenpoint Ave to McGuiness Blvd to Meeker St to BQE	8 p.m. - 2 a.m., 3 a.m. - 8 a.m. [2]	0 – 8	0 – 8
Route 2E To MTS: Long Island Expressway to Van Dam St to Greenpoint Ave to Kingsland Ave From MTS: From MTS: Kingsland Ave to Greenpoint Ave to LIE	8 p.m. - 8 a.m.	0 – 7	0 – 7
Hamilton Avenue Converted MTS			
From the north			
Route 1N To MTS: BQE to Hamilton Ave (southbound) (Exit 26) From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to BQE	8 p.m. - 8 a.m.	1 – 12	1 - 12
Route 2NA To MTS: 3rd Ave to 9th Street to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to 9th Street to 3rd Ave	8 p.m. - 8 a.m.	1 – 9	1 - 12
Route 2NB To MTS: 4th Ave to 9th Street to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to 9th Street to 3rd Ave	8 p.m. - 8 a.m.	1 – 9	1 - 12
Route 3N To MTS: 3rd Ave to 9th Street to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave (to 9th St to 4th Ave)	8 p.m. - 8 a.m.	1 – 9	1 - 12
From the south			

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
Route 1S To MTS: Gowanus Expressway to 4th Ave to Prospect to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 65th Street	8 p.m. -2 a.m., 3 a.m. – 8 a.m. [2]	0 – 3	0 – 3
Route 2S To MTS: 65th St to 3rd Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 65th Street	8 p.m. - 8 a.m.	0 – 3	0 – 3
From the east			
Route 1E To MTS: 39th St WB to 4th Ave NB to Prospect Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 39th St	8 p.m. - 2 a.m., 4 a.m. – 8 a.m. [2]	0-5	0-5
Route 2E To MTS: Prospect Expressway to Prospect Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound) to 20th St to 10th Ave to Prospect Expressway	8 p.m. -2 a.m., 4 a.m. – 8 a.m. [2]	0-4	0-5
Southwest Brooklyn Converted MTS			
From the north			
Route 1N To MTS: 86th St to 18th Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave From MTS: 25th Av to Shore Road (southbound) to 26th Ave to Cropsey Ave to 18th Ave to 86th St	8 p.m. - 2 a.m., 4 a.m. - 8 a.m. [2]	1 - 12	1 - 16
From the south			
Route 1S To MTS: Neptune Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave From MTS: 25th Av to Shore Road (southbound) to 26th Ave to Cropsey Ave to Neptune Ave	8 p.m. - 2 a.m., 4 a.m. - 8 a.m. [2]	0-1	0-1
From the east			
Route 1E To MTS: Kings Highway to Bay Parkway to Shore Road (southbound) to 25th Ave From MTS: 25th Ave to Shore Road (southbound) to 26th Ave to Cropsey Ave to Bay Parkway to Kings Highway	8 p.m. - 2 a.m., 4 a.m. - 8 a.m. [2]	0 – 2	0 – 2

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
Route 2E To MTS: 86th St to 25th Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave From MTS: 25th Ave to Shore Road (southbound) to 26th Ave to Cropsey Ave to 25th Ave to 86th St	8 p.m. - 2 a.m., 5 a.m. - 8 a.m. [2]	0 – 2	0 – 2

Notes:

(1) It is assumed that one route will be chosen for multiple routes originating from the same direction.

(2) Hours not listed cannot accept any commercial waste trucks based on second-level noise screening analysis.

West 135th Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N (A)[1]	To MTS: Broadway to West 133rd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 - 9 pm	16	7
		9 - 10 pm	14	6
		10 - 11 pm	18	5
		11 pm - 12 am	9	4
		12 - 1 am	7	0
		1 - 2 am	14	0
		2 - 3 am	16	0
		3 - 4 am	8	0
		4 - 5 am	18	0
		5 - 6 am	17	0
		6 - 7 am	16	6
		7 - 8 am	3	2
1-N (B)	To MTS: Broadway to West 132nd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 - 9 pm	16	5
		9 - 10 pm	14	3
		10 - 11 pm	18	3
		11 pm - 12 am	9	2
		12 - 1 am	7	0
		1 - 2 am	14	0
		2 - 3 am	16	0
		3 - 4 am	8	0
		4 - 5 am	18	0
		5 - 6 am	17	0
		6 - 7 am	16	1
		7 - 8 am	3	3

Notes:

[1] This route is predominantly for trucks leaving the MTS. One truck per hour for the hours of 8 p.m. to 6 a.m. is assigned to deliver waste to the MTS using this route. The proposed and allowed Commercial Waste Truck numbers shown above for this route are trucks leaving the MTS.

1-S (A)[1]	To MTS: Broadway to West 133rd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 - 9 pm	16	7
		9 - 10 pm	14	6
		10 - 11 pm	18	5
		11 pm - 12 am	9	4
		12 - 1 am	7	0
		1 - 2 am	14	0
		2 - 3 am	16	0
		3 - 4 am	8	0
		4 - 5 am	18	0
		5 - 6 am	17	0
		6 - 7 am	16	6
		7 - 8 am	3	3

Notes:

[1] This route is predominantly for trucks leaving the MTS. One truck per hour for the hours of 8 p.m. to 6 a.m. is assigned to deliver waste to the MTS using this route. The proposed and allowed Commercial Waste Truck numbers shown above for this route are trucks leaving the MTS.

West 135th Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-S (B)	**To MTS:** Broadway to West 132nd St) to Riverside Drive (12th Ave) to West 135th St **From MTS:** Reverse	8 - 9 pm	16	5
		9 - 10 pm	14	3
		10 - 11 pm	18	3
		11 pm - 12 am	9	2
		12 - 1 am	7	0
		1 - 2 am	14	0
		2 - 3 am	16	0
		3 - 4 am	8	0
		4 - 5 am	18	0
		5 - 6 am	17	0
		6 - 7 am	16	1
		7 - 8 am	3	3
2-N & 2-S	**To MTS:** Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St **From MTS:** Reverse	8 - 9 pm	18	15
		9 - 10 pm	16	15
		10 - 11 pm	20	12
		11 pm - 12 am	10	10
		12 - 1 am	8	8
		1 - 2 am	16	0
		2 - 3 am	18	0
		3 - 4 am	9	0
		4 - 5 am	20	2
		5 - 6 am	19	10
		6 - 7 am	18	16
		7 - 8 am	3	3
1-E	**To MTS:** 3rd Ave to East 125th St (turns into West 125th St) to Riverside Drive (12th Ave) to West 135th St **From MTS:** Reverse	8 - 9 pm	18	15
		9 - 10 pm	16	15
		10 - 11 pm	20	12
		11 pm - 12 am	10	10
		12 - 1 am	8	8
		1 - 2 am	16	0
		2 - 3 am	18	0
		3 - 4 am	9	0
		4 - 5 am	20	2
		5 - 6 am	19	10
		6 - 7 am	18	16
		7 - 8 am	3	3

East 91st Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 a.m. to 8:00 p.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N (A)	**To MTS:** 2nd Ave to East 90th St to York Ave to East 91st St **From MTS:** East 91st St to York Ave to East 91st St to 1st Ave or 3rd ave	8 - 9 pm	2	2
		9 - 10 pm	2	2
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	1	1
		1 - 2 am	2	2
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	0
		5 - 6 am	2	1
		6 - 7 am	2	2
		7 - 8 am	1	0
1-N (B)	**To MTS:** 2nd Ave to East 88th St to York Ave to East 91st St **From MTS:** East 91st St to York Ave to East 89th St to 1st Ave OR 3rd Ave	8 - 9 pm	2	2
		9 - 10 pm	2	2
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	1	1
		1 - 2 am	2	1
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	0
		5 - 6 am	2	0
		6 - 7 am	2	2
		7 - 8 am	1	0
1-N (C)	**To MTS:** 2nd Ave to East 86th St to York Ave to East 91st St **From MTS:** East 91st St to York Ave to East 87th St to 1st Ave OR 3rd Ave	8 - 9 pm	2	1
		9 - 10 pm	2	2
		10 - 11 pm	2	1
		11 pm - 12 am	1	0
		12 - 1 am	1	0
		1 - 2 am	2	0
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	0
		5 - 6 am	2	0
		6 - 7 am	2	2
		7 - 8 am	1	0
1-SA	**To MTS:** 1st Ave to East 90th St to York Ave to East 91st St **From MTS:** East 91st St to York Ave to East 86th St to 2nd Ave	8 - 9 pm	20	4
		9 - 10 pm	20	4
		10 - 11 pm	20	4
		11 pm - 12 am	10	4
		12 - 1 am	10	4
		1 - 2 am	20	4
		2 - 3 am	20	0
		3 - 4 am	10	0
		4 - 5 am	20	4
		5 - 6 am	20	4
		6 - 7 am	20	3
		7 - 8 am	9	0

East 91st Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 a.m. to 8:00 p.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-SB	To MTS: 1st Ave to East 88 th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 - 9 pm	20	4
		9 - 10 pm	20	3
		10 - 11 pm	20	2
		11 pm - 12 am	10	4
		12 - 1 am	10	2
		1 - 2 am	20	1
		2 - 3 am	20	0
		3 - 4 am	10	0
		4 - 5 am	20	0
		5 - 6 am	20	1
		6 - 7 am	20	6
		7 - 8 am	9	0
2-S	To MTS: 3rd Ave to East 86th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 - 9 pm	20	9
		9 - 10 pm	20	8
		10 - 11 pm	20	6
		11 pm - 12 am	10	5
		12 - 1 am	10	3
		1 - 2 am	20	2
		2 - 3 am	20	0
		3 - 4 am	10	0
		4 - 5 am	20	1
		5 - 6 am	20	5
		6 - 7 am	20	12
		7 - 8 am	9	0

West 59th Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 a.m. to 8:00 p.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	**To MTS:** Columbus Ave to West 59th St **From MTS:** West 59th St to Amsterdam Ave	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	1	1
		11 pm - 12 am	1	1
		12 - 1 am	1	1
		1 - 2 am	1	1
		2 - 3 am	1	1
		3 - 4 am	1	0
		4 - 5 am	1	1
		5 - 6 am	1	1
		6 - 7 am	1	1
		7 - 8 am	0	0
1-S	**To MTS:** 12th Ave (Joe DiMaggio Hwy) to 12th Ave Service Road (starts at 57th St) to West 59th St **From MTS:** Reverse	8 - 9 pm	9	9
		9 - 10 pm	9	9
		10 - 11 pm	9	9
		11 pm - 12 am	4	4
		12 - 1 am	3	3
		1 - 2 am	7	7
		2 - 3 am	7	7
		3 - 4 am	3	3
		4 - 5 am	9	9
		5 - 6 am	9	9
		6 - 7 am	8	8
		7 - 8 am	3	3
2-S	**To MTS:** 10th Ave to 57th Ave to 12th Ave Service Road to 59th St **From MTS:** West 59th St to 11th Ave	8 - 9 pm	9	9
		9 - 10 pm	9	9
		10 - 11 pm	9	9
		11 pm - 12 am	4	4
		12 - 1 am	3	3
		1 - 2 am	7	7
		2 - 3 am	7	7
		3 - 4 am	3	3
		4 - 5 am	9	9
		5 - 6 am	9	9
		6 - 7 am	8	8
		7 - 8 am	3	3
1-E	**To MTS:** (2nd Ave or 3rd Ave) to East 57th St (turns into West 57th St) to 12th Ave Service Road to 59th St. **From MTS:** Reverse	8 - 9 pm	10	10
		9 - 10 pm	10	10
		10 - 11 pm	10	10
		11 pm - 12 am	5	5
		12 - 1 am	4	4
		1 - 2 am	8	8
		2 - 3 am	8	8
		3 - 4 am	4	4
		4 - 5 am	10	10
		5 - 6 am	10	10
		6 - 7 am	9	9
		7 - 8 am	3	3

South Bronx Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1	**To MTS:** Bruckner Blvd to Leggett Ave to Randall Ave to Halleck St to Ryawa Ave **From MTS:** Reverse	8 - 9 pm	6	6
		9 - 10 pm	5	5
		10 - 11 pm	7	7
		11 pm - 12 am	4	4
		12 - 1 am	4	4
		1 - 2 am	7	7
		2 - 3 am	7	7
		3 - 4 am	3	3
		4 - 5 am	7	7
		5 - 6 am	7	7
		6 - 7 am	7	7
		7 - 8 am	0	0
2	**To MTS:** Bruckner Blvd to Leggett Ave to (Barry St OR Dupont St OR Truxton St) to Oak Point Ave to Hunt's Point Ave to Halleck St to Ryawa Ave **From MTS:** Reverse	8 - 9 pm	6	6
		9 - 10 pm	5	5
		10 - 11 pm	7	7
		11 pm - 12 am	4	4
		12 - 1 am	4	4
		1 - 2 am	7	7
		2 - 3 am	7	7
		3 - 4 am	3	3
		4 - 5 am	7	7
		5 - 6 am	7	7
		6 - 7 am	7	7
		7 - 8 am	0	0
3 & 4	**Truck Route 3** **To MTS:** Bruckner Blvd to Longwood Ave to Tiffany St to East Bay Ave to Halleck St to Ryawa Ave **From MTS:** Reverse **Truck Route 4** **To MTS:** Bruckner Blvd to Longwood Ave to Tiffany St to Viele Ave to Halleck St to Ryawa Ave **From MTS:** Reverse	8 - 9 pm	6	4
		9 - 10 pm	5	5
		10 - 11 pm	7	6
		11 pm - 12 am	4	4
		12 - 1 am	4	4
		1 - 2 am	7	0
		2 - 3 am	7	4
		3 - 4 am	3	3
		4 - 5 am	7	7
		5 - 6 am	7	7
		6 - 7 am	7	7
		7 - 8 am	0	0

North Shore Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	**To MTS:** 20th Avenue WB to College Point Blvd SB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	1	1
		11 pm - 12 am	0	0
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	1	1
		3 - 4 am	0	0
		4 - 5 am	1	1
		5 - 6 am	0	0
		6 - 7 am	0	0
		7 - 8 am	0	0
1-S	**To MTS:** Van Wick Expwy NB to Whitestone Expwy NB to Linden Place NB to Whitestone Expwy Service Rd WB to College Point Blvd NB to 31st Ave WB **From MTS:** 31st Ave EB to College Point Blvd SB to Whitestone Expwy Service Rd WB to Whitestone Expwy SB to Van Wick Expwy SB	8 - 9 pm	12	12
		9 - 10 pm	9	9
		10 - 11 pm	16	16
		11 pm - 12 am	7	7
		12 - 1 am	3	3
		1 - 2 am	9	9
		2 - 3 am	9	9
		3 - 4 am	1	1
		4 - 5 am	12	12
		5 - 6 am	7	7
		6 - 7 am	4	4
		7 - 8 am	0	0
2-S & 2-E & 2-W	**2-S** **To MTS:** Van Wick Expwy NB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse) **2-E** **To MTS:** LIE WB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse) **2-W** **To MTS:** LIE EB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	11	11
		9 - 10 pm	8	8
		10 - 11 pm	14	8
		11 pm - 12 am	6	6
		12 - 1 am	3	0
		1 - 2 am	8	0
		2 - 3 am	8	0
		3 - 4 am	1	0
		4 - 5 am	11	0
		5 - 6 am	6	0
		6 - 7 am	3	1
		7 - 8 am	0	0
1-E	**To MTS:** Northern Blvd WB to Linden Place NB to Whitestone Expwy Service Rd WB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	4	4
		9 - 10 pm	3	3
		10 - 11 pm	5	5
		11 pm - 12 am	2	2
		12 - 1 am	1	1
		1 - 2 am	3	0
		2 - 3 am	3	0
		3 - 4 am	0	0
		4 - 5 am	4	0
		5 - 6 am	2	2
		6 - 7 am	1	1
		7 - 8 am	0	0

North Shore Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-W	**To MTS:** Northern Blvd EB to Linden Place NB to Whitestone Expressway Service Road WB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	0
		2 - 3 am	1	0
		3 - 4 am	0	0
		4 - 5 am	1	0
		5 - 6 am	1	1
		6 - 7 am	0	0
		7 - 8 am	0	0
3-W	**To MTS:** Roosevelt Ave EB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	0
		2 - 3 am	1	0
		3 - 4 am	0	0
		4 - 5 am	1	0
		5 - 6 am	1	0
		6 - 7 am	1	1
		7 - 8 am	0	0

Greenpoint Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	**To MTS:** McGuinness Blvd SB to Greenpoint Ave EB to Kingsland Ave NB **From MTS:** (reverse)	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	8	8
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	4
		2 - 3 am	4	0
		3 - 4 am	0	0
		4 - 5 am	8	8
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
2-N	**To MTS:** Queens Blvd WB to Greepoint Ave WB to Starr Ave NB to Van Dam WB to Greenpoint WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave EB to Queens Blvd EB	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	7	6
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	2
		2 - 3 am	4	2
		3 - 4 am	0	0
		4 - 5 am	7	2
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
3-N	**To MTS:** LIE WB to Van Dam St WB to Greenpoint Ave WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave EB to LI	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	7	6
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	5
		2 - 3 am	4	3
		3 - 4 am	0	0
		4 - 5 am	7	7
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
1-S	**To MTS:** McGuinness Blvd NB to Greenpoint Ave EB to Kingsland Ave NB **From MTS:** (reverse)	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	8	8
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	4
		2 - 3 am	4	0
		3 - 4 am	0	0
		4 - 5 am	8	8
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0

Greenpoint Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
2-S	**To MTS:** BQE EB to Meeker St EB to Varick St NB to Bridgewater St WB to Norman Ave WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave WB to Henry St SB to Norman Ave EB to Bri	8 - 9 pm	4	3
		9 - 10 pm	6	6
		10 - 11 pm	9	6
		11 pm - 12 am	5	3
		12 - 1 am	3	3
		1 - 2 am	5	4
		2 - 3 am	5	2
		3 - 4 am	0	0
		4 - 5 am	9	8
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
1-E	**To MTS:** BQE WB to Meeker St EB to Varick St NB to Bridgewater St WB to Norman Ave WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave WB to McGuinness Blvd SB to Meeker St EB	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	8	6
		11 pm - 12 am	5	3
		12 - 1 am	3	3
		1 - 2 am	5	4
		2 - 3 am	4	0
		3 - 4 am	0	0
		4 - 5 am	8	8
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
2-E	**To MTS:** LIE WB to Van Dam St WB to Greenpoint Ave WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave EB to LI	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	7	6
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	5
		2 - 3 am	4	3
		3 - 4 am	0	0
		4 - 5 am	7	7
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0

Hamilton Avenue Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second-Level Screening and the DSNY-managed Waste Reserve Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	**To MTS:** BQE WB to Hamilton Ave SB/Exit 26 **From MTS:** Hamilton Ave SB To 20th St EB to Hamilton Ave NB to BQE EB	8 - 9 pm	9	9
		9 - 10 pm	8	8
		10 - 11 pm	12	12
		11 pm - 12 am	5	5
		12 - 1 am	1	1
		1 - 2 am	5	5
		2 - 3 am	5	5
		3 - 4 am	1	1
		4 - 5 am	10	10
		5 - 6 am	9	9
		6 - 7 am	9	9
		7 - 8 am	2	2
2-N (A)	**To MTS:** 3rd SB to 9th St WB to Hamilton Ave SB **From MTS:** Hamilton Ave SB to 20th St EB to 3rd Ave NB	8 - 9 pm	9	9
		9 - 10 pm	8	8
		10 - 11 pm	12	7
		11 pm - 12 am	5	5
		12 - 1 am	1	1
		1 - 2 am	5	1
		2 - 3 am	5	2
		3 - 4 am	1	1
		4 - 5 am	10	4
		5 - 6 am	9	9
		6 - 7 am	9	9
		7 - 8 am	2	2
2-N (B)	**To MTS:** 4th Ave SB to 9th St WB to Hamilton Ave SB **From MTS:** Hamilton Ave SB to 20th St EB to 3rd Ave NB	8 - 9 pm	9	9
		9 - 10 pm	8	8
		10 - 11 pm	12	7
		11 pm - 12 am	5	5
		12 - 1 am	1	1
		1 - 2 am	5	1
		2 - 3 am	5	2
		3 - 4 am	1	1
		4 - 5 am	10	4
		5 - 6 am	9	9
		6 - 7 am	9	9
		7 - 8 am	2	2
3-N	**To MTS:** 3rd Ave SB to 9th St WB to Hamilton Ave SB **From MTS:** Hamilton Ave SB to 20th St EB to 3rd Ave NB to 9th St to 4th Ave	8 - 9 pm	9	9
		9 - 10 pm	8	8
		10 - 11 pm	12	7
		11 pm - 12 am	5	5
		12 - 1 am	1	1
		1 - 2 am	5	1
		2 - 3 am	5	2
		3 - 4 am	1	1
		4 - 5 am	10	4
		5 - 6 am	9	9
		6 - 7 am	9	9
		7 - 8 am	2	2

Hamilton Avenue Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second-Level Screening and the DSNY-managed Waste Reserve Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-S	**To MTS**: Gowanus Expwy NB to 4th Avenue NB to Prospect Avenue WB to Hamilton Ave NB to Hamilton Place WB to Hamilton Ave SB **From MTS**: Hamilton Ave (southbound, turns into 3rd Ave) to 65th St	8 - 9 pm	3	3
		9 - 10 pm	2	2
		10 - 11 pm	3	3
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	1	0
		3 - 4 am	0	0
		4 - 5 am	3	1
		5 - 6 am	3	3
		6 - 7 am	2	2
		7 - 8 am	0	0
2-S	**To MTS**: 65th St WB to Hamilton Ave NB to Hamilton Place WB to Hamilton Ave SB **From MTS**: Hamilton Ave SB to 65th St EB	8 - 9 pm	3	3
		9 - 10 pm	2	2
		10 - 11 pm	3	3
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	1	1
		3 - 4 am	0	0
		4 - 5 am	3	3
		5 - 6 am	3	3
		6 - 7 am	2	2
		7 - 8 am	0	0
1-E	**To MTS**: 39th St WB to 4th Ave NB to Prospect Ave WB to Hamilton Ave NB to Hamilton Pl WB to Hamilton Ave SB **From MTS**: Hamilton Ave SB to 39th St EB	8 - 9 pm	4	4
		9 - 10 pm	3	3
		10 - 11 pm	5	5
		11 pm - 12 am	2	2
		12 - 1 am	0	0
		1 - 2 am	2	2
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	4	2
		5 - 6 am	4	4
		6 - 7 am	4	4
		7 - 8 am	1	1
2-E	**To MTS**: Prospect Expwy WB to Prospect Ave WB to Hamilton Ave NB to Hamilton Pl WB to Hamilton Ave SB **From MTS**: Hamilton Av SB to 20th St EB to 10th Ave NB to Prospect Expwy EB	8 - 9 pm	4	4
		9 - 10 pm	3	3
		10 - 11 pm	5	2
		11 pm - 12 am	2	2
		12 - 1 am	0	0
		1 - 2 am	2	2
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	4	2
		5 - 6 am	4	2
		6 - 7 am	4	4
		7 - 8 am	1	1

Southwest Brooklyn Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	To MTS: 86th St SB to 18th Ave WB to Cropsey Ave SB to Bay Pkwy WB to Shore Road SB to 25th Ave WB From MTS: 25th Ave EB to Shore Road SB to 26th Ave EB to Cropsey Ave NB to 18th Ave EB to 86th St NB	8 - 9 pm	15	11
		9 - 10 pm	15	9
		10 - 11 pm	16	5
		11 pm - 12 am	8	4
		12 - 1 am	1	1
		1 - 2 am	10	2
		2 - 3 am	11	0
		3 - 4 am	7	0
		4 - 5 am	15	2
		5 - 6 am	15	3
		6 - 7 am	15	12
		7 - 8 am	4	4
1-S	To MTS: Neptune Ave WB to Cropsey Ave NB to Bay Pkwy WB to Shore Road SB to 25th Ave WB From MTS: 25th Ave EB to Shore Road SB to 26th Ave EB to Cropsey Ave SB to Neptune EB	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	1	1
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	1	0
		3 - 4 am	1	0
		4 - 5 am	1	1
		5 - 6 am	1	1
		6 - 7 am	1	1
		7 - 8 am	0	0
1-E	To MTS: Kings Hwy WB to Bay Pkwy WB to Shore Road SB to 25th Ave WB From MTS: 25th Ave EB to Shore Road SB to 26th Ave EB to Cropsey Ave NB to Bay Pkwy EB to Kings Hwy EB	8 - 9 pm	2	2
		9 - 10 pm	2	2
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	2
		5 - 6 am	2	2
		6 - 7 am	2	2
		7 - 8 am	1	1
2-E	To MTS: 86th St NB to 25th Ave WB to Cropsey Ave NB to Bay Pkwy WB to Shore Road SB to 25th Ave WB From MTS: 25th Ave EB to Shore Road SB to 26th Ave EB to Cropsey Ave NB to 25th Ave EB to 86th St SB	8 - 9 pm	2	2
		9 - 10 pm	2	2
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	0
		5 - 6 am	2	2
		6 - 7 am	2	2
		7 - 8 am	1	1

APPENDIX E

OFF-SITE NOISE ANALYSIS TNM RESULTS

Table E-1
Off-site Noise Analysis TNM Results
91st Street Converted MTS

Location	Hour	Existing Background Noise Level[1] (Measured)	TNM Predicted Noise Level for Existing Traffic	TNM Future No-Build Noise Level	Collection Vehicles	Employee Vehicles	TNM Future Build Noise Level	Impact (Noise Level Difference)
York Avenue between East 90th & East 91st Streets	3:00 a.m.	60.3	65.6	58.9	19	0	58.9	Yes (6.7)
East 90th Street between 1st Avenue & York Avenue	3:00 a.m.	57.1	62.3	57.5	7	0	57.5	Yes (4.8)
East 90th Street between 1st Avenue & York Avenue	9:00 a.m.	64.4	67.7	65.4	14	0	65.4	No (2.3)
East 91st Street between 1st Avenue & York Avenue	2:00 a.m.	60.9	63.8	61.1	4	0	61.1	No (2.7)

Note:
(1) Existing noise level and traffic count used for input into TNM was recorded on May 14, 2003 and May 15, 2003.

Table E-2
East 91st Street Converted MTS
Off-site Noise Analysis Truck Simulation Results

Location	Hour	Existing Background Noise Level [1] (Measured)	Collection Vehicles	Truck Simulation Noise Level for Existing Traffic plus Collection Vehicles	Simulation Impact (Noise Level Difference)	TNM Predicted Noise Level for Existing Traffic	TNM Predicted Noise Level for Existing Traffic plus Collection Vehicles	TNM Impact (Noise Level Difference)	Noise Level Difference between TNM and Truck Simulation[2]
York Avenue between East 90th & East 91st Street	3:00 a.m.	62.9	19	66.5	Yes (3.6)	59.3	66.2	Yes (6.9)	3.3

Notes:
[1] Existing noise level and traffic count used for input into TNM was recorded on August 12, 2003.
[2] The difference between simulation Impact and TNM Impact demonstrates that TNM over-predicts results.

TableE-3
Off-site Noise Analysis TNM Results
West 135th Street Converted MTS

Location	Hour	Existing Background Noise Level[1] (Measured)	TNM Predicted Noise Level for Existing Traffic	TNM Future No-Build Noise Level	Collection Vehicles	Employee Vehicles	TNM Future Build Noise Level	Impact (Noise Level Difference)
132nd Street between 12th Avenue and Broadway	2:00 a.m.	61.6	49.8	49.8	6	0	60.2	10.4
132nd Street between 12th Avenue and Broadway	8:00 a.m.	74.2	60.6	60.7	13	0	65.1	4.4
133rd Street between 12th Avenue and Broadway	2:00 a.m.	63.2	53.9	54.0	5	0	60.2	6.2
133rd Street between 12th Avenue and Broadway	10:00 a.m.	70.7	62.5	62.6	15	0	66.2	3.6

Note:

(1) Existing noise level and traffic count used for input into TNM was recorded on May 9, 2003.

Table E-4
Off-site Noise Screening Results
West 135th Street Converted MTS

Location	Hour	Existing Background Noise Level (Measured)	Collection Vehicles	Truck Simulation(1) Noise Level for Existing Traffic plus Collection Vehicles	Simulation Impact (Noise Level Difference)	TNM Predicted Existing Noise Level	TNM Predicted Noise Level for Build Condition	TNM Impact (Noise Level Difference)	Noise Level Difference between TNM and Truck Simulation[1]
132nd Street between 12th Avenue and Broadway	2:00 a.m.	61.6	6	65.0	Yes (3.4)	49.8	60.2	Yes (10.4)	7.0

Note:
(1) Simulation noise levels are based on the Truck Simulations performed on July 31, 2003 at 133rd Street between Broadway and 12th Street.

Table E-5
Off-site Noise Analysis TNM Results
North Shore Converted MTS

Location	Hour	Existing Background Noise Level[1] (Measured)	TNM Predicted Noise Level for Existing Traffic	TNM Future No-Build Noise Level	Collection Vehicles	Employee Vehicles	TNM Future Build Noise Level	Impact (Noise Level Difference)
College Point Boulevard North of Roosevelt Avenue	3:00 a.m.	60.5	65.2	60.6	26	0	66.4	Yes (5.8)
College Point Boulevard South of Sanford Avenue	3:00 a.m.	68.0	71.1	68.2	26	0	71.7	Yes (3.5)

Note:
Existing noise level and traffic count used for input into TNM was recorded on May 14, 2003 and May 15, 2003.

Table E-6
Off-site Noise Analysis – Comparison of Truck Simulation and TNM Results
North Shore Converted MTS

Location	Hour	Existing Background Noise Level[1] (Measured)	Collection Vehicles	Truck Simulation Noise Level for Existing Traffic plus Collection Vehicles	Simulation Impact (Noise Level Difference)	TNM Predicted Noise Level for Existing Traffic	TNM Predicted Noise Level for Build Condition	TNM Impact (Noise Level Difference)	Noise Level Difference between TNM and Truck Simulation[2]
College Point Boulevard North of Roosevelt Avenue	1:00 a.m.	65.7	31	69.3	Yes (3.6)	64.0	71.4	Yes (7.4)	3.8
College Point Boulevard North of Roosevelt Avenue	2:00 a.m.	64.9	22	68.0	Yes (3.1)	64.6	70.4	Yes (5.8)	2.7
College Point Boulevard South of Sanford Avenue	3:00 a.m.	66.0	26	69.9	Yes (3.9)	70.5	74.5	Yes (4.0)	0.1
College Point Boulevard South of Sanford Avenue	4:00 a.m.	67.3	24	70.5	Yes (3.2)	70.8	74.4	Yes (3.6)	0.4

Notes:

(1) Existing noise level and traffic count used for input into TNM was recorded on August 12, 2003 and August 13, 2003.

(2) The difference between Simulation Impact and TNM Impact demonstrates that TNM overpredicts results.

Table E-7
Off-site Noise Analysis TNM Results
Hamilton Avenue Converted MTS

Location	Hour	Existing Background Noise Level[1] (Measured)	TNM Predicted Noise Level for Existing Traffic	TNM Future No-Build Noise Level	Collection Vehicles	Employee Vehicles	TNM Future Build Noise Level	Impact (Noise Level Difference)
20th Street West of 4th Avenue	2:00 a.m. to 3:00 a.m.	65.0	60.8	60.8	6	0	65.8	Yes (5)

Note:
(1) Existing noise level and traffic count used for input into TNM was recorded on May 15, 2003.

Table E-8
Hamilton Avenue Converted MTS
Off-site Noise Analysis – Comparison of Truck Simulation and TNM Results

Location	Hour	Existing Background Noise Level[1] (Measured)	Collection Vehicles	Truck Simulation Noise Level for Existing Traffic plus Collection Vehicles	Simulation Impact (Noise Level Difference)	TNM Predicted Existing Noise Level	TNM Predicted Noise Level for Build Condition	TNM Impact (Noise Level Difference)	Noise Level Difference between TNM and Truck Simulation[2]
20th Street West of 4th Avenue	2:00 a.m.	65.0	6	67.0	Yes (3.6)	60.8	65.8	Yes (5)	3.1

Notes:
(1) Existing noise level and traffic count used for input into TNM was recorded on August 19, 2003 and August 20, 2003.
(2) The difference between Simulation Impact and Calibrated TNM Impact demonstrates that TNM over-predicts results.

EEA Inc.

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Garden City, New York 11530

Environmental Consultants To
Industry And Government Since 1979

Telephone (516) 746-4400
(212) 227-3200

January 24, 2005

Ms. Noemi Castillo
HDR Engineering, Inc.
711 Westchester Avenue
White Plains, New York 10604-3504

Re: Response to Questions on Greenpoint, Hamilton Avenue and Southwest Brooklyn MTS Phase II Reports

Dear Ms. Castillo:

The responses to the following outstanding items from your January 5, 2005 memo are as follows:

1. The final work plan called for collection of split spoon samples at 2-foot intervals. Split spoon samples were collected at 2-foot intervals where a hollow stem auger drill rig was used to install monitoring wells. In other locations, where soil samples only or soil samples and groundwater samples were to be collected, a track mounted Geoprobe 5400 LT soil sampling drill rig was used to collect the soil and groundwater samples. The Geoprobe allowed for more accurate location of samples without the overhead clearance, high voltage line, and slope angle concerns, associated with the Mobile hollow stem auger drill rig. Additionally, the Geoprobe drove a 4-foot long macro core with an internal plastic sleeve liner to collect a continuous 4-foot soil sample. At the completion of each 4-foot sampling, the drive tube was removed from the ground and the hard plastic sleeve was removed from the tube. The sample was visually inspected, logged, then the tube was cut open, screened and the appropriate samples were collected for analysis. A new plastic liner was installed in the sampling tube, and a second sample as advanced from where the

first one stopped. The Geoprobe method of sampling has been shown to give more accurate and reproducible sample results, because a longer, continuous sample could be collected from one sampling effort. Additionally Geoprobe tools included a screened tip which could be driven into the water table to facilitate the collection of the groundwater samples where permanent well installations were not specified.

2. The underground storage tank (UST) at Hamilton Avenue Incinerator was inaccessible due to the DOS salt storage piles. The samples were collected at the toe of the salt pile slope within an estimated 30'-50' radius of the tentatively identified tank location.

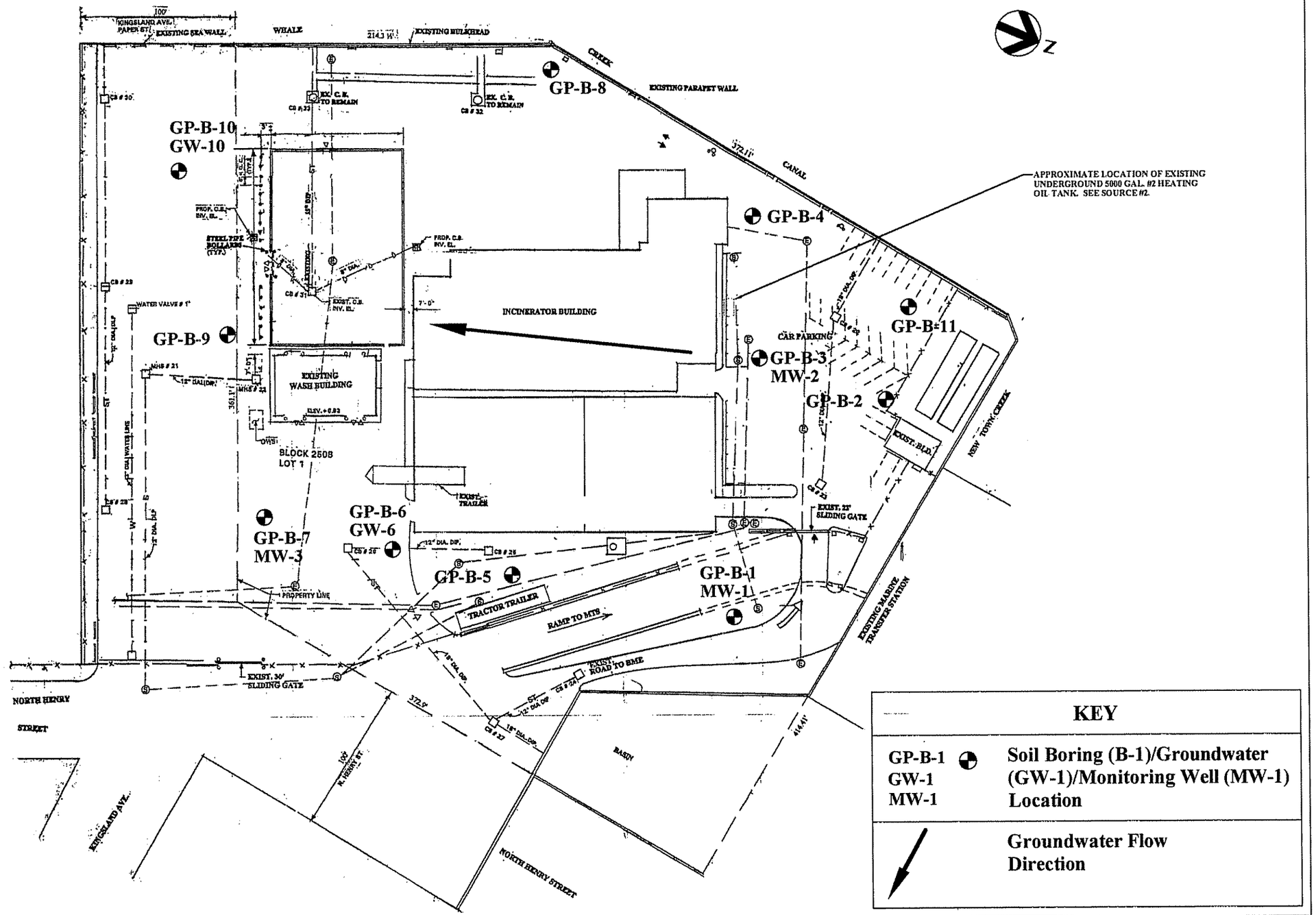
3. Figures indicating soil boring, monitoring well and groundwater sampling locations with groundwater flow directions were included as Figure 1 in all reports. Additional copies of the 11" x 17" drawings for Greenpoint and Southwest Brooklyn MTS are included with this letter.

If you have any additional questions, please do not hesitate to call me.

Sincerely,

Jeffrey B. Shelkey
Senior Scientist

JBS:kmh
03718



KEY

GP-B-1 GW-1 MW-1	Soil Boring (B-1)/Groundwater (GW-1)/Monitoring Well (MW-1) Location
	Groundwater Flow Direction

No Scale

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Garden City, New York
(516) 746-4400

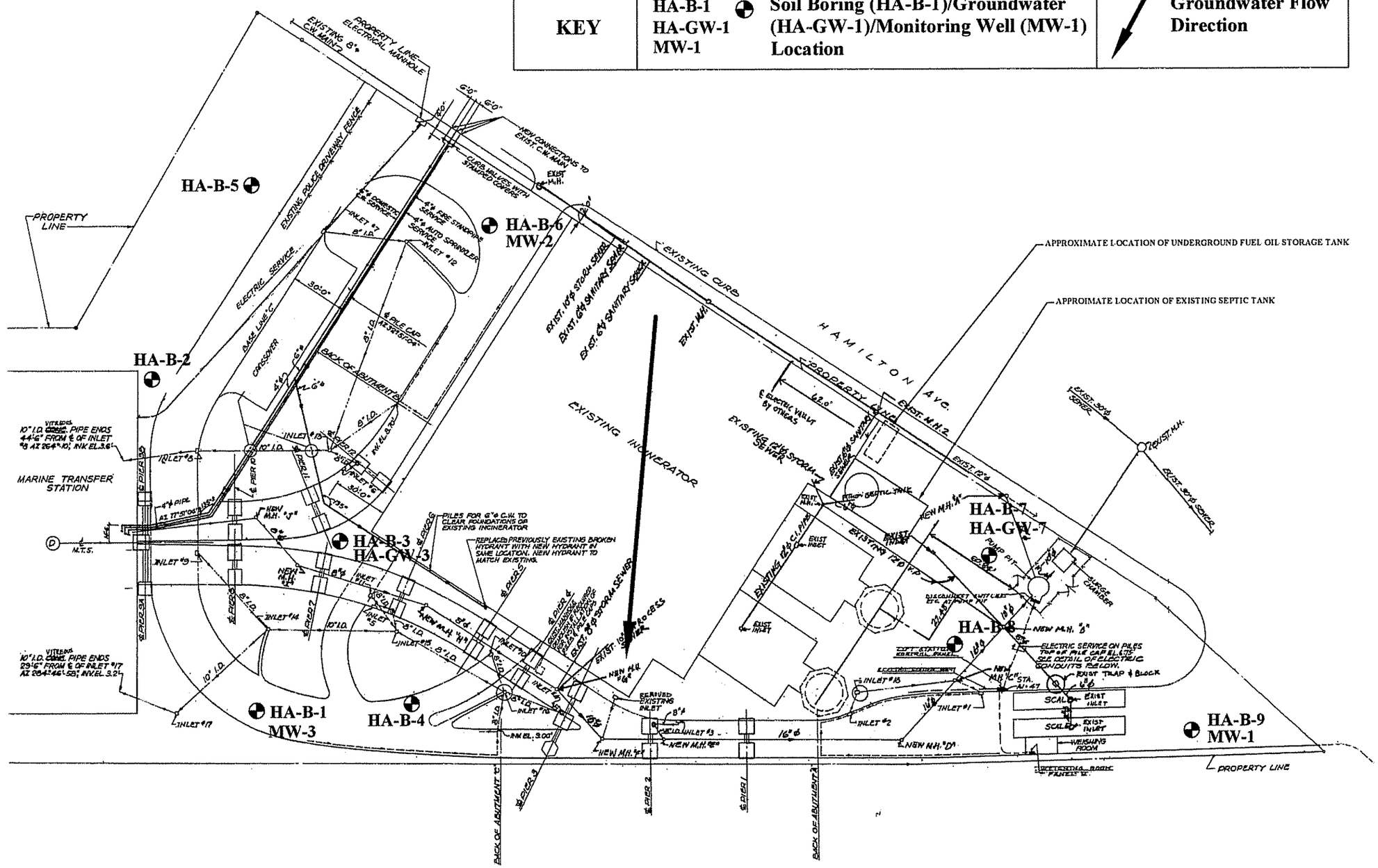
Figure 1: Soil Boring, Groundwater Sampling and Monitoring Well Location Plan

Greenpoint Incinerator
Brooklyn, New York

Job No.: 03718

Date	Revisions	By
1/28/04	Edit boring locations	FI
7/8/04	Include GW Flow Direction	FI
12/6/04	Add prefix GP to all borings	FI

KEY	HA-B-1 / HA-GW-1 / MW-1 — Soil Boring (HA-B-1)/Groundwater (HA-GW-1)/Monitoring Well (MW-1) Location	Groundwater Flow Direction



No Scale

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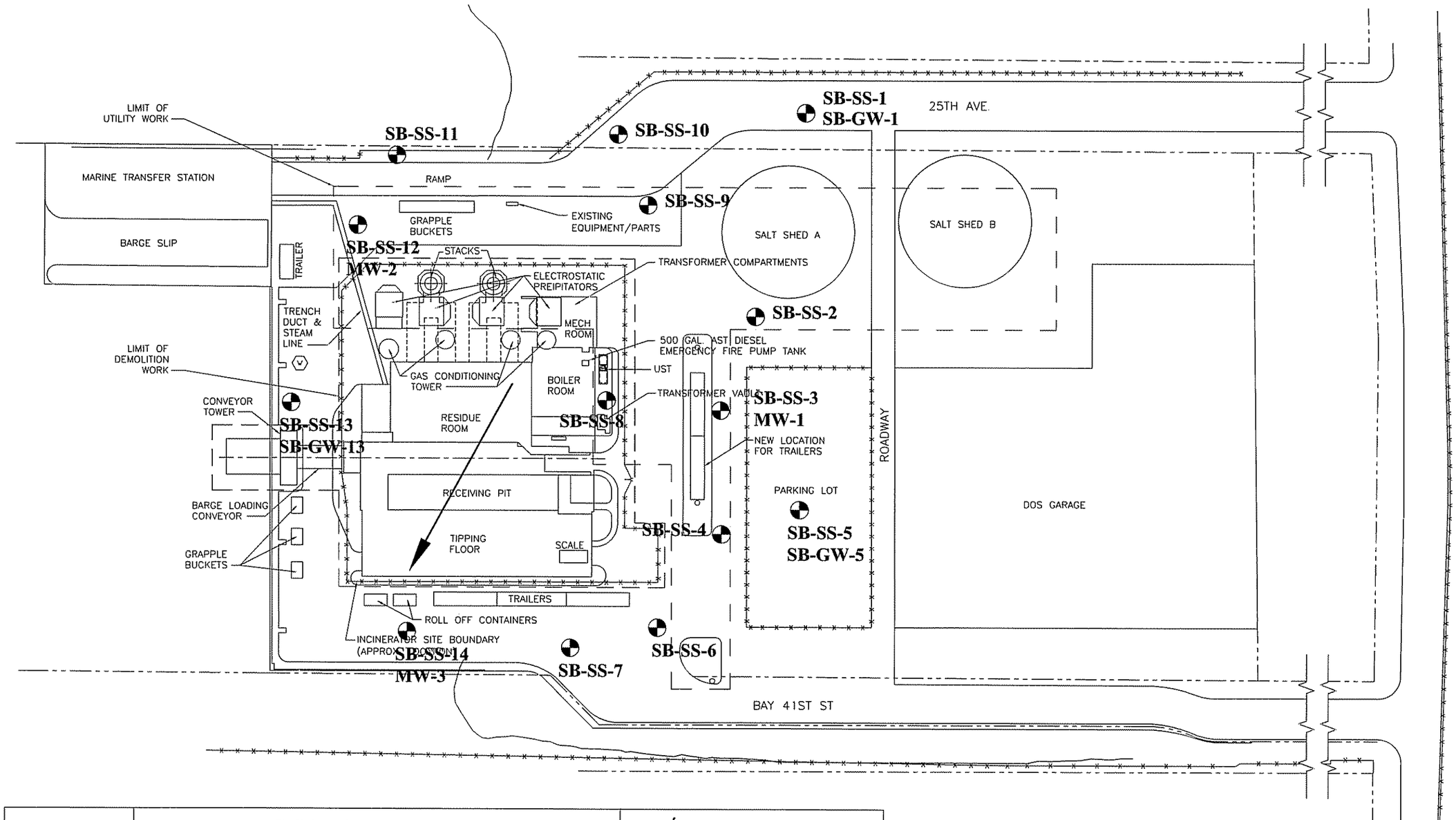
Garden City, New York
(516) 746-4400

Figure 1: Soil Boring, Groundwater Sampling and Monitoring Well Location Plan

Hamilton Avenue Incinerator
Brooklyn, New York

Job No.: 03718

Date	Revisions	By
1/28/04	First Draft	FI
7/8/04	Include GW Flow Direction	FI
12/23/04	Add prefix HA	FI



KEY	SB-SS-1 SB-GW-1 MW-1	Soil Boring (SB-SS-1)/Groundwater (SB-GW-1)/Monitoring Well (MW-1) Location	Groundwater Flow Direction

No Scale

EEA, Inc.

55 Hilton Avenue
Garden City, New York
(516) 746-4400

Figure 1: Soil Boring, Groundwater Sampling and Monitoring Well Location Plan

Southwest Brooklyn Incinerator

Brooklyn, New York

Job No.: 03718

Date	Revisions	By
1/28/04	Edit boring locations	FI
7/8/04	Include GW Flow Direction	FI
12/21/04	Add prefix SB & SS	FI

PHASE II SITE INVESTIGATION
HAMILTON AVENUE MARINE
TRANSFER STATION
NEW YORK CITY
DEPARTMENT OF SANITATION
BROOKLYN, NEW YORK

Prepared for:

NEW YORK CITY
DEPARTMENT OF SANITATION
44 BEAVER STREET
NEW YORK, NEW YORK

Prepared by:

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DECEMBER 2004

Project: 03718

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1.0 INTRODUCTION

1.1 Purpose

Henningson, Durham & Richardson Architecture & Engineering, P.C., in association with HDR Engineering, Inc. and EEA, Inc. (HDR/EEA) was contracted by the New York City Department of Sanitation (NYCDOS) to provide engineering services for the demolition of the Hamilton Avenue Marine Transfer Station. As part of the contract requirements, a Phase II Site Investigation (SIR) was undertaken by EEA, subcontractor to HDR. The purpose of this limited site investigation was to characterize on-site soil and groundwater contamination by: 1) Performing a Ground Penetrating Radar (GPR) and Magnetometer Survey to locate the presence of underground storage tanks (USTs) and other underground structures; and 2) Collecting soil and groundwater samples for laboratory analysis. Investigation of the environmental concerns within or beneath the incinerator building was not included in this site investigation. The results of this site investigation will be used to support the environmental review and permitting for the new MTS facility and will be presented in the FEIS for the MTS Containerization Program.

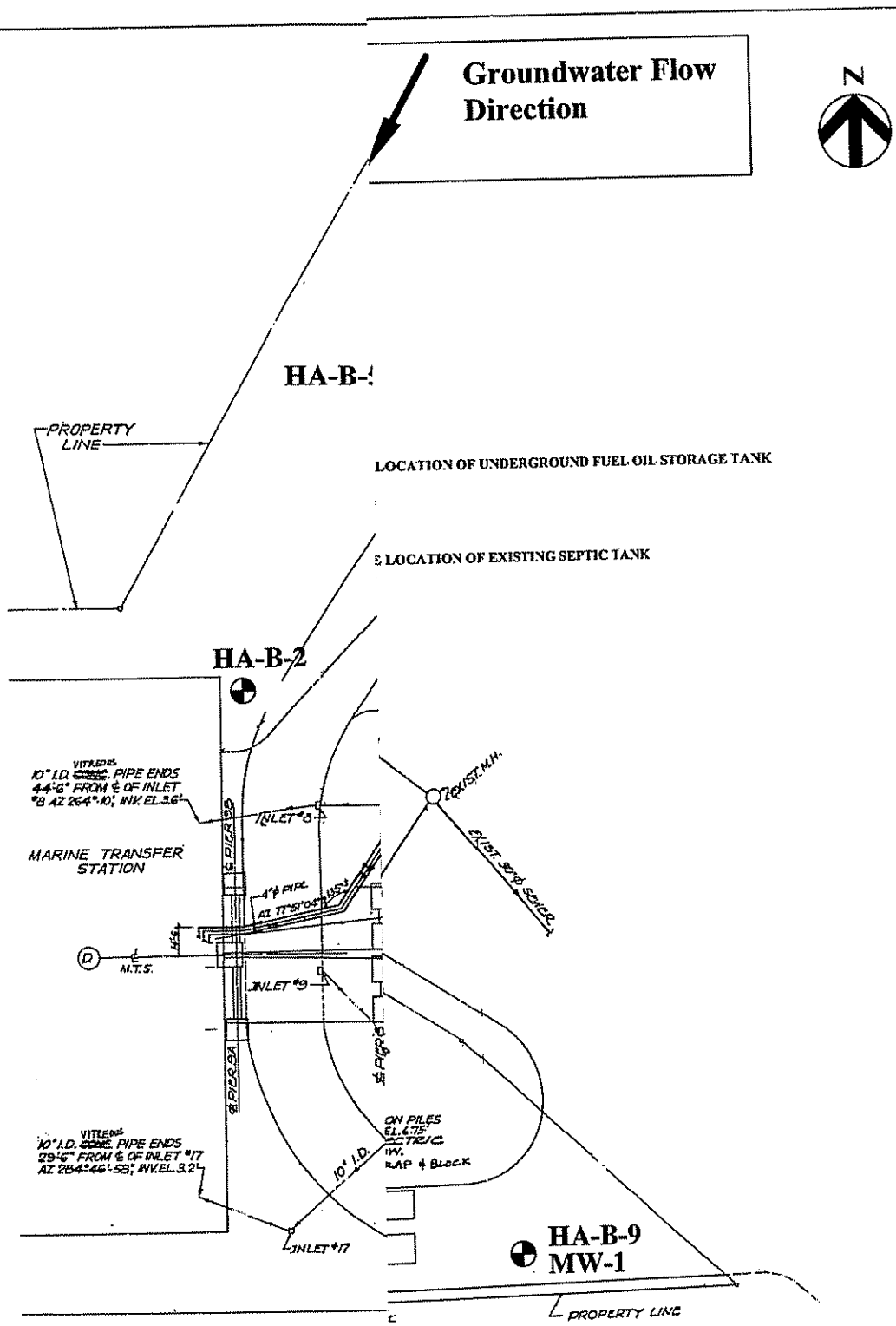
1.2 Site Location

The facility is located at 488 Hamilton Avenue, between 15th Street and 16th Street in the Gowanus section of Brooklyn.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

Shown in Figure 1, the Hamilton Avenue MTS is at the mouth of the Gowanus Canal as it enters Gowanus Bay in the Gowanus section of Brooklyn in Brooklyn Community Board District 7. The site is bounded by a New York City Department of Transportation (DOT) Asphalt Plant to the north, Hamilton Avenue and the elevated Gowanus Expressway to the east, a Home Depot retail outlet to the south, and the Gowanus Canal to the west. The existing MTS building occupies approximately 90 percent of the site's acreage. The overall site is approximately 6.3 acres, comprised of an upland parcel of approximately 3.5 upland acres and 2.8 acres over water. The MTS building extends onto piers to the Gowanus Canal. In addition to the MTS building, the site includes the permanently closed Hamilton Avenue incinerator building to the west of the MTS building, and a barge mooring rack extending from the southern edge of the site along a portion of the Home Depot site that fronts the canal. The Department's District 2



No Scale

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F Plan

Job No.: 03718

Date	Revisions	By
1/28/04	First Draft	FI
7/8/04	Include GW Flow Direction	FI
12/23/04	Add prefix HA	FI

Garage is on the western side of Hamilton Avenue. Based on City tax maps, the site is comprised of all or a portion of Lot 2 in Block 625.

The site and the immediately surrounding area are zoned M3-1 for heavy industry. The nearest residentially zoned district (R6) on the east side of 3rd Avenue and the north side of the Prospect Expressway, is approximately 620 feet west of the site. There are no schools or parks within a ¼-mile radius of the site. There are no on-site structures listed or eligible for listing in the State or National Registers of Historic Places.

A UST is most likely present near the southeast corner of the incinerator building, outside of the boiler room. This has been determined through EEA's visual observation of vent pipes during the incinerator building's environmental investigation.

2.2 Site History

The Hamilton Avenue site was previously used as an MTS and an incinerator facility. Historically, the existing MTS transferred waste from Brooklyn Collection Districts 2, 6, 7, 8, 9, 10, 14, 16, and 18 to the Fresh Kills Landfill. Currently, no waste is handled by this facility as a result of the Interim Export Program.

Prior to the construction of the existing incinerator, a smaller incinerator was located west of the existing incinerator, approximately in the footprint of the marine transfer station.

3.0 SITE INVESTIGATION

3.1 Scope of Work

The following is the Scope of Work that was completed in October and November 2003. The object of the site investigation was to complete an assessment of the subsurface environmental conditions associated with the former incinerators and/or marine transfer station on-site. The work performed followed the detailed Phase II Site Investigation Work Plan of October 2003 as approved by the NYCDOS and the NYCDEP. The field work included:

- Performing a GPR and Magnetometer survey;
- Collecting one (1) subsurface soil sample from nine (9) boring locations;
- Collecting one (1) groundwater sample from two (2) boring locations;
- Collecting one (1) groundwater sample from three (3) permanent monitoring wells;
- Collecting one (1) surface soil sample from six (6) of the boring locations;
- Laboratory analysis of all soil and groundwater samples for VOCs, SVOCs, Pesticides/PCBs, RCRA Metals, Asbestos; and
- Resampling for total and TCLP Lead in areas where the total Lead in soil concentrations exceeded TAGM Guidelines.

All field sample collection procedures are detailed in the approved Work Plan.

4.0 DETAILED SITE INVESTIGATION

4.1 GPR and Magnetometer Survey

An EEA subcontractor completed a geophysical survey of the entire site utilizing a Ground Penetrating Radar (GPR) and Magnetometer. The GPR and Magnetometer Survey was conducted throughout the open areas of the site. Prior to initiating the survey, track lines were painted on open and accessible areas of the site and given an individual track number at the time of the survey. The GPR and Magnetometer survey consisted of transmitting and receiving electromagnetic pulses through the ground, to a maximum depth of 10 feet. The pulses were recorded and used to determine the existence and shape of buried objects. Surface improvements, such as reinforced concrete, did affect the performance of a GPR and Magnetometer survey. The subcontractor interpreted the anomalies detected from the GPR and Magnetometer survey to determine if the detected anomalies were consistent with the configuration of an underground storage tank. This survey also helped in locating underground pipes. Sewer grates and manholes were visible across a large portion of the site. The location of these underground structures did impact on the location of the sampling locations and some of the proposed locations were offset to avoid utilities. The GPR and magnetometer survey report was issued in September 2003, and a copy with Site Location Plan, track lines and images is included as a complete report in Appendix A.

4.2 Continuous Soil Sampling

Nine (9) soil borings identified as HA-B-1 through HA-B-9 were drilled using hollow stem auger and split spoon or Geoprobe sampling techniques. A surface sample was collected from six (6) of the boring locations (HA-B-1 through HA-B-4, HA-B-8 and HA-B-9), using a stainless steel spoon; subsurface soil samples were collected from nine (9) locations at the site using split spoon sampling methodologies. The sample locations are shown in Figure 1. A subsurface soil sample was collected from the boring located near the area believed to contain a UST (HA-B-7). These sampling locations were selected to obtain representative coverage of the site; however, the exact locations of the boring sampling points were based on the GPR and Magnetometer survey and field conditions.

Split spoon soil sampling was used to collect the soil samples at 2-foot intervals, from the surface to the depth of the groundwater surface, or to a depth of 18 feet, whichever is less. Geoprobe soil sampling with a 4-foot long macro core with clear plastic liner was used to collect soil samples in locations where monitoring wells were not installed. The drill rig was used to advance the borehole to the top of the 2-foot sample interval. The augers were advanced and the length of the split spoon driven past the bottom of the auger, into the underlying material, and then withdrawn. Using a PID, each of the soil samples collected was screened for the presence of organic vapors. When

the Geoprobe was used, a 4-foot continuous sample was collected; the plastic liner was cut open and soils were then screened with a PID.

A subsurface soil sample from the depth exhibiting the highest PID reading was submitted to the laboratory for analysis. When no organic vapors, odors, or signs of staining were detected in any samples from a given sampling location, the sample collected nearest to the soil-water interface was submitted for analysis.

All of the soil samples collected were analyzed for VOCs, SVOCs, Pesticides/PCBs, Asbestos and RCRA metals. In addition, when ash residue was found within the sample, soil samples were tested for TCLP metals and SVOCs.

Upon receipt and review of the soil samples collected from the November 2003 sampling, additional sampling was completed and soil samples were analyzed for Total and TCLP Lead in Borings HA-B-1 (5-7 feet), HA-B-3S (0-2 inches), HA-B-3 (4-8 feet), HA-B-5 (4-8 feet), HA-B-6 (1-3 feet), and HA-B-7 (4-8 feet) to determine if the material would be considered hazardous.

4.3 Groundwater Sampling

Once the soil samples were obtained from the boring locations, groundwater samples were collected from a total of two locations. Three (3) permanent monitoring wells (MW-1 through MW-3) were scheduled to be installed at three of the boring locations (HA-B-4, HA-B-6 and HA-B-9). Monitoring wells MW-2 and MW-3 were installed in the specified locations. MW-3 was not installed due to refusal with four attempts. An adjacent monitoring well installed by others was used to collect groundwater and monitor well data. Two (2) groundwater samples (HA-GW-3 and HA-GW-7) were collected from open boreholes (HA-B-3 and HA-B-7). Two (2) samples were collected in the inferred upgradient direction (MW-1 and MW-2) from the existing incinerator building and two (2) in the inferred downgradient direction (SB-GW-3 and MW-3). The two groundwater samples that were collected downgradient of the incinerator building were located slightly inland to reduce the tidal influence on the samples. As with the soil samples, the exact locations of the groundwater samples were based on the results of the GPR and Magnetometer survey and field conditions. The upgradient wells were used to characterize potential impacts from off-site, while the downgradient wells characterized potential impacts from the incinerator. One groundwater sample was collected from one of the borings located near the area believed to contain a UST (HA-GW-7). The three permanent monitoring wells were surveyed and used to calculate groundwater flow direction. Soil and groundwater sampling locations are presented in Figure 1. The groundwater samples were collected and analyzed for VOCs, SVOCs, Pesticides/PCBs and RCRA Metals. Because turbidity was potentially a problem when sampling from boreholes and/or temporary well points, metal samples were sampled through a slotted screen, which aided in lowering the turbidity of the samples. The elevations of the monitoring wells were surveyed to a local benchmark, and the depth to the top of the groundwater was measured and used to calculate the direction of groundwater flow.

4.4 Equipment Decontamination

An equipment decontamination area was established on-site, prior to the commencement of the soil and/or groundwater activities. All equipment and measuring devices used in obtaining samples were decontaminated in a manner consistent with the procedures that follow prior to use, between sampling points and intervals, and prior to leaving the site. The decontamination procedures followed methods as specified in the Final Work Plan.

4.5 Sample Handling

Samples were labeled as shown in the chain-of-custody. Samples were labeled immediately before or after collection and shipped in coolers with ice. Specific requirements for sample handling were followed as specified in the FSP/QAPP.

4.6 Sample Analyses

The analytical parameters for the soil and groundwater samples included VOCs, SVOCs, Pesticides/PCBs and RCRA Metals. In addition, Quality Control (QC) samples were collected and analyzed. The QC samples included: a duplicate soil and groundwater sample; a Matrix Spike and Matrix Spike Duplicate (MS/MSD) for a soil and groundwater sample; a trip blank for each group of samples sent to the laboratory; and a rinsate blank for every 20 samples obtained. Additionally, all soil samples were analyzed for asbestos. All analyses were performed in accordance with the NYSDEC ASP, 2000.

Severn Trent Laboratories, Inc. an ELAP and CLP certified in the State of New York, performed the analyses and provided the sample results and Category B deliverables for the analyses.

5.0 RESULTS OF THE INVESTIGATION

5.1 Results of the Ground Penetrating Radar Survey

A Ground Penetrating Radar Survey was performed on all open and accessible areas of the site along previously painted track lines. When an anomaly was located near a proposed soil boring or monitoring well, the location was slightly offset and resurveyed with the GPR to verify the area was clear. The detailed survey report is included in Appendix A, and includes an indication and interpretation of anomalies encountered on the track line. The magnetometer survey was attempted along the same track lines; however, rebar, wire mesh and ferrous metal debris embedded in the pavement throughout the site prevented any meaningful data from being collected.

5.2 Results of Soil Sampling

Soil samples were obtained at 9 soil boring locations: HA-B-1, HA- B-2, HA-B-3, HA-B-4, HA-B-5, HA-B-6, HA-B-7, HA-B-8, and HA-B-9 using a Geoprobe LT 54 drill rig or a Mobil B-57 drill rig.

- Volatile Organic Compounds (VOCs)

VOCs were not detected above the New York State Department of Environmental Conservation's (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) criteria in any of the soil samples from any of the borings (see Table 1). However, there were low-level concentrations of VOCs present in some of the soil samples as well as background levels of the VOC, Methylene Chloride in all of the soil samples. Methylene Chloride is a common laboratory contaminant.

- Semi-Volatile Organic Compounds (SVOCs)

SVOCs were detected above the NYSDEC TAGM criteria in all of the soil samples from all of the borings (see Table 2). Many of the soil borings had concentrations of SVOCs (PAHs) at significantly elevated levels indicative of the historical usage of the property or possible fill that was deposited at the site.

- RCRA Metals

Various RCRA metals (Mercury, Arsenic, Barium, Cadmium and Chromium) were detected above the NYSDEC TAGM criteria in soil samples from all of the soil borings (see Table 3). Lead was also detected at elevated levels in several borings. Resampling and analysis for Total and TCLP Lead was completed in all borings where the Lead concentrations were found above TAGM Guidelines, (see Table 3a). The TCLP analysis of the soils from borings HA-B-1, HA-B-3, and HA-B-7 exceeded the TCLP hazardous waste characteristic of 5 mg/L.

- Pesticides/PCBs

No pesticides or PCBs were detected above the NYSDEC TAGM criteria in the soil samples from any of the soil borings (see Table 4). However, various pesticides and PCBs were detected in some of the soil borings at low level concentrations.

- Asbestos Analysis

A trace of Chrysotile asbestos was detected in boring HA-B-3 surface and a trace of Amosite fibers were detected in boring HA-B-7.

5.3. Results of Groundwater Sampling

A water sample was obtained from each of the three permanent monitoring wells and analyzed for all parameters. Groundwater samples from HA-GW-3 and HA-GW-7 were obtained and analyzed for volatile organic compounds only, due to lack of water infiltration in the open bore hole.

- Volatile Organic Compounds (VOCs)

At HA-GW-3, Benzene was the only parameter detected slightly above the groundwater standard. All other laboratory parameters were not detected, with the exception of Acetone, which is a common laboratory contaminant (see Tables 5a and 5b).

- Semi-Volatile Organic Compounds (SVOCs)

Naphthalene, 2, Methylnaphthalene, Acenaphthylene and Chrysene exceeded the groundwater standard at MW-3 (See Table 6).

- RCRA Metals

At MW-1, Mercury, Arsenic, Lead, Barium, and Chromium exceeded the groundwater standards. At MW-2, Lead was detected above the groundwater standard. At MW-3, both Lead and Mercury exceeded the groundwater standards (see Table 7).

- Pesticides/PCBs

Pesticides/PCBs were not detected in any of the three groundwater monitoring wells (see Table 8).

- Groundwater Gradient

The elevation of the groundwater table was determined by surveying the top of well casing for MW-1, MW-2 and MW-3, and measuring the depth to the groundwater to the closest 0.01 foot. The surface elevation was then established. The direction of groundwater flow was determined to be due south, and is shown in Figure 1.

6.0 DISCUSSION OF LABORATORY RESULTS

Laboratory analyses of the soil samples obtained from the soil borings exhibited high values of semi-volatile organic compounds (PAHs) and RCRA metals, well above the TAGM Guideline Values. The source of this contamination may be due to fill material deposited at the site in the past, or residual ash that may have resulted from historical incinerator operations.

Similarly, the groundwater exhibited levels of Lead, Mercury and semi-volatile compounds (PAHs) above the groundwater standards.

It is concluded that the subsurface soils and groundwater at the site have been impacted from past usage and the disposal of fill materials, such as coal and ash residual.

Resampling of the soils where Lead exceeded the TAGM Guidelines was completed. The soil samples were collected in close proximity to the former boring locations, and samples were analyzed for Total and TCLP Lead. The TCLP analysis of the soils from borings HA-B-1 (5-7 feet), HA-B-3 (4-8 feet) and HA-B-7 (4-8 feet) exceeded the TCLP hazardous waste characteristic of 5 mg/L.

TABLE 3
RCRA METALS
SOIL ANALYTICAL RESULTS
HAMILTON AVENUE INCINERATOR
BROOKLYN, NEW YORK

RCRA METALS (mg/kg) METHOD 6010B / 7471A	HA-B-1S (0-2")	HA-B-1 (5-7)	HA-B-2S (0-2")	HA-B-2 (4-8)	HA-B-3S (0-2")	HA-B-3 (4-8)	HA-B-4S (0-2")	HA-B-4 (5-7)	HA-B-5 (4-8)	HA-B-6 (1-3)	HA-B-7 (4-8)	HA-B-8S (0-2")	HA-B-8 (4-8)	HA-B-9S (0-2")	HA-B-10 (4-8) Duplicate HA-B-7 (4-8)	NYSDEC TAGM (mg/Kg)
Mercury	B 0.064	B 1.4	B 0.41	B 0.43	B 0.45	B 0.56	B 0.29	B 0.58	B 2.1	B 0.87	B 0.61	B 0.39	B 0.74	B 0.19	B 0.87	0.1
Arsenic	B 2.8	B 10.7	B 3.8	B 3.9	B 6.5	B 6.5	B 3.9	3.6	24.5	17.5	13.9	23.2	B 6.2	B 4.3	32	7.5
Barium	27.1	269	116	66	166	243	88.3	86.1	127	218	253	93.7	100	72.5	455	300
Cadmium	U < 1.3	5.8	B 1.4	U < 1.4	B 2.3	8.9	U < 1.3	U < 1.4	U < 1.5	U < 1.4	U < 1.7	U < 1.3	U < 1.5	U < 1.2	B 3.1	1
Chromium	15.8	24.8	13.8	11.4	57.6	25.2	14.1	15	14.9	23.6	16.8	37.2	12.8	16.9	60	10
Lead	27	1,120	210	146	454	1,190	111	160	497	619	879	224	212	141	1,680	SB
Selenium	U < 2.1	U < 2.3	U < 2.1	U < 2.3	U < 2.1	U < 2.2	U < 2.1	U < 2.2	U < 2.4	U < 2.3	U < 2.7	U < 2.1	U < 2.4	U < 1.9	U < 2.2	2
Silver	U < 0.39	B 0.83	U < 0.39	U < 0.43	B 0.41	B 1.4	U < 0.39	U < 0.42	U < 0.45	U < 0.43	U < 0.5	U < 0.4	U < 0.44	U < 0.36	B 0.43	SB

Notes:
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory OA/QC purposes.
B = Result is less then the CRDL/RL, but greater than or equal to the IDL/MDL.
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
N/A = Not Analyzed
SB = Site Background levels (SB for Lead = 500 mg/Kg)
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 3a
TOTAL AND TCLP LEAD CONCENTRATIONS IN SOIL AT THE HAMILTON AVENUE INCINERATOR

	HA-B-1 (5-7)	HA-B-3S (0-2")	HA-B-3 (4-8)	HA-B-5 (4-8)	HA-B-6 (1-3)	HA-B-7 (4-8)
Total Lead (mg/Kg)	2,550.0	503.0	895.0	B 5.15	602.0	1,780.0
TCLP Lead (mg/L)	7.08	0.744	6.80	ND	1.28	13.70

BOLD Results indicate concentration above regulatory levels for Hazardous Waste Classification
ND = Not Detected TCLP = Toxicity Characteristic Leachate Procedure
B = Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.

TABLE 1
VOLATILE ORGANIC COMPOUNDS
SOIL ANALYTICAL RESULTS
HAMILTON AVENUE INCINERATOR
BROOKLYN, NEW YORK

VOLATILE ORGANIC COMPOUNDS (ug/kg) METHOD 8260B	HA-B-1S (0-2")	HA-B-1 (5-7)	HA-B-2S (0-2")	HA-B-2 (4-8)	HA-B-3S (0-2")	HA-B-3 (4-8)	HA-B-4S (0-2")	HA-B-4 (5-7)	HA-B-5 (4-8)	HA-B-6 (1-3)	HA-B-7 (4-8)	HA-B-8S (0-2")	HA-B-8 (4-8)	HA-B-9S (0-2")	HA-B-10 (4-8) Duplicate HA-B-7 (4-8)	NYSDEC TAGM (ug/Kg)
Chloromethane	U < 0.9	U < 0.9	U < 0.9	U < 1	U < 0.9	U < 1	U < 0.9	U < 0.9	U < 1	U < 0.9	U < 1	U < 0.9	U < 1	U < 0.9	U < 1	
Vinyl chloride	U < 0.4	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	200
Bromomethane	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	
Chloroethane	U < 0.8	U < 0.8	U < 0.8	U < 0.8	U < 0.8	U < 0.8	U < 0.8	U < 0.8	U < 0.9	U < 0.8	U < 1	U < 0.8	U < 0.9	U < 0.8	U < 0.9	1,900
1 1-Dichloroethene	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	400
Carbon disulfide	U < 0.2	J 2	J 2	J 1	U < 0.2	J 5	U<0.6	U < 0.2	J 4	J 0.9	U < 0.3	U < 0.2	J 2	U < 0.2	U < 0.2	2,700
Acetone	U < 6	18	23	21	U < 6	160	10	16	48	J 8	20	U < 6	18	U < 6	38	200
Methylene chloride	J, B 4	J,B 5	J,B 4	J,B 5	J,B 4	J,B 5	B 7	B 7	J,B 6	J,B 4	J,B 4	B 7	J,B 5	J,B	J,B 4	100
trans-1 2-Dichloroethene	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	300
1 1-Dichloroethane	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	200
Vinyl acetate	U < 3	U < 3	U < 3	U < 4	U < 4	U < 4	U < 3	U < 3	U < 4	U < 3	U < 4	U < 3	U < 4	U < 3	U < 4	
cis-1 2-Dichloroethene	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
2-Butanone (MEK)	U < 3	25	U < 3	U < 3	U < 3	40	U < 3	U < 3	11	U < 3	U < 4	U < 3	U < 4	U < 3	J 7	300
Chloroform	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.8	U < 0.7	U < 0.8	U < 0.7	U < 0.7	300
1 1 1-Trichloroethane	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	800
Carbon tetrachloride	U < 0.4	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	600
Benzene	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	J 2	U < 0.6	60
1 2-Dichloroethane	U < 0.4	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	100
Trichloroethene	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	700
1 2-Dichloropropane	U < 0.4	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	
Bromodichloromethane	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
cis-1 3-Dichloropropene	U < 0.4	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	300
4-Methyl-2-pentanone (MIBK)	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 4	U < 3	U < 4	U < 3	U < 3	1,000
Toluene	U < 0.4	J 2	J 1	J 0.8	U < 0.5	J 2	J 0.6	U < 0.5	J 1	U < 0.5	U < 0.5	U < 0.5	J 0.8	J 1	U < 0.5	1,500
trans-1 3-Dichloropropene	U < 0.4	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	
1 1 2-Trichloroethane	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
Tetrachloroethene	U < 0.4	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	1,400
2-Hexanone	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 5	U < 4	U < 5	U < 4	U < 4	
Dibromochloromethane	U < 0.4	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	
Chlorobenzene	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	1,700
Ethylbenzene	U < 0.4	J 2	J 0.8	U < 0.5	U < 0.5	J 2	U < 0.4	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.4	U < 0.5	5,500
Styrene	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
Bromoform	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.8	U < 0.7	U < 0.8	U < 0.7	U < 0.7	
1 1 2 2-Tetrachloroethane	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	600
Xylenes (total)	U < 1	17	J 4	J 2	U < 1	J 4	U < 1	U < 1	J 3	U < 1	U < 2	U < 1	J 3	U < 1	U < 1	1,200

Notes:

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Blank indicates Standard Not Established

Bold indicates analytes detected above the Standards

TABLE 2
SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL ANALYTICAL RESULTS
HAMILTON AVENUE INCINERATOR
BROOKLYN, NEW YORK

SEMI-VOLATILE ORGANIC COMPOUNDS (ug/kg) METHOD 8270C	HA-B-1S (0-2")	HA-B-1 (5-7)	HA-B-2S (0-2")	HA-B-2 (4-8)	HA-B-3S (0-2")	HA-B-3 (4-8)	HA-B-4S (0-2")	HA-B-4 (5-7)	HA-B-5 (4-8)	HA-B-6 (1-3)	HA-B-7 (4-8)	HA-B-8S (0-2")	HA-B-8 (4-8)	HA-B-9S (0-2")	HA-B-10 (4-8) Duplicate HA-B-7 (4-8)	NYSDEC TAGM (ug/Kg)
Naphthalene	U < 34	J 790	J 450	J 290	J 880	J 530	U < 840	J 190	J 46	J 320	J 770	J 160	J 3000	J 100	J 850	13,000
2-Methylnaphthalene	U < 30	J 330	J 210	J 140	J 620	J 160	U < 740	J 210	U < 35	J 230	J 380	J 130	J 2600	J 64	J 560	36,400
Acenaphthylene	J 51	J 280	J 130	J 140	J 460	J 100	J 4600	J 47	J 49	J 92	J 620	J 110	J 1900	J 42	J 520	41,000
Acenaphthene	J 17	J 510	J 530	J 260	J 1400	J 490	J 730	J 120	J 38	J 230	J 490	J 100	J 7400	J 87	J 1200	50,000
Fluorene	U < 21	J 540	J 580	J 270	J 1100	J 540	J 4800	J 540	J 35	J 220	J 650	J 120	J 8000	J 89	J 750	50,000
Phenanthrene	J 240	4,500	3,600	2,000	9,500	3,700	35,000	4,600	430	1,800	8,100	1,700	**70,000**	770	11,000	50,000
Anthracene	J 77	J 1200	860	J 590	2,200	810	J 7100	J 200	J 120	J 470	J 1800	J 400	J 11000	J 190	J 1500	50,000
Fluoranthene	580	6,100	3,600	4,000	10,000	4,000	32,000	1,200	700	2,200	12,000	2,100	**72,000**	1,000	9,100	50,000
Pyrene	750	7,600	3,700	3,700	12,000	3,600	35,000	3,100	820	3,000	15,000	3,100	92,000	950	13,000	50,000
Benzo(a)anthracene	**J 320**	**3,000**	**1,600**	**1,700**	**4,500**	**1,600**	**12,000**	**1,900**	**J 400**	**J 1200**	**6,100**	**J 1100**	**28,000**	**480**	**4,900**	224
Chrysene	380	**3,000**	**1,800**	**2,000**	**5,300**	**1,800**	**11,000**	**590**	**480**	**1,500**	**6,900**	**J 1200**	**29,000**	**550**	**6,700**	400
Benzo(b)fluoranthene	J 290	**2,100**	**2,400**	**1,800**	**3,700**	**1,500**	**J 7200**	**1,400**	460	**J 1100**	**4,900**	J 910	**22,000**	450	**6,100**	1,100
Benzo(k)fluoranthene	J 220	**2,800**	U < 83	**1,200**	**2,700**	**1,400**	**9,800**	**1,400**	450	J 750	**5,600**	J 920	**J 20000**	530	**4,600**	1,100
Benzo(a)pyrene	**J 320**	**2,700**	**1,500**	**1,600**	**3,800**	**1,600**	**J 8700**	**620**	**440**	**J 1200**	**5,700**	**J 980**	**24,000**	**510**	**5,200**	61
Indeno(1 2 3-cd)pyrene	J 110	J 1200	J 430	J 460	J 1200	J 430	**J 4700**	920	J 130	J 530	2,900	J 520	**J 13000**	J 88	J 2600	3,200
Dibenzo(a h)anthracene	**J 55**	**J 490**	**J 220**	**J 240**	**J 670**	**J 200**	**J 1700**	**J 330**	**J 50**	**J 240**	**J 1100**	**J 200**	**J 5000**	**J 43**	**J 1400**	14
Benzo(ghi)perylene	J 110	J 1100	J 410	J 460	J 1200	J 410	J 5000	470	J 130	J 570	2,800	J 550	J 14000	J 75	J 2800	50,000

Notes:

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TABLE 4
PESTICIDES / PCBs
SOIL ANALYTICAL RESULTS
HAMILTON AVENUE INCINERATOR
BROOKLYN, NEW YORK

PESTICIDES / PCBs (ug/kg) METHOD 8081A; 8082	HA-B-1S (0-2")	HA-B-1 (5-7)	HA-B-2S (0-2")	HA-B-2 (4-8)	HA-B-3S (0-2")	HA-B-3 (4-8)	HA-B-4S (0-2")	HA-B-4 (5-7)	HA-B-5 (4-8)	HA-B-6 (1-3)	HA-B-7 (4-8)	HA-B-8S (0-2")	HA-B-8 (4-8)	HA-B-9S (0-2")	HA-B-10 (4-8) Duplicate HA-B-7 (4-8)	NYSDEC TAGM (ug/Kg)
alpha-BHC	U < 0.3	U < 0.31	U < 0.3	U < 0.33	U < 0.32	U < 0.33	U < 0.29	U < 0.31	U < 0.34	U < 0.31	U < 0.37	U < 0.31	U < 0.36	U < 0.31	U < 1.6	110
beta-BHC	U < 0.29	U < 0.3	U < 0.3	U < 0.32	U < 0.31	14	U < 0.29	U < 0.3	U < 0.33	U < 0.31	U < 0.36	U < 0.31	U < 0.35	U < 0.3	U < 1.6	200
delta-BHC	U < 0.11	U < 0.12	U < 0.11	U < 0.12	U < 0.12	U < 0.12	U < 0.11	U < 0.12	U < 0.13	U < 0.12	U < 0.14	U < 0.12	U < 0.13	U < 0.11	U < 0.61	300
gamma-BHC (Lindane)	0.62	U < 0.17	U < 0.17	U < 0.18	U < 0.18	U < 0.18	U < 0.16	U < 0.17	U < 0.19	U < 0.17	U < 0.2	U < 0.17	U < 0.2	U < 0.17	U < 0.9	60
Heptachlor	U < 0.16	U < 0.17	U < 0.17	U < 0.18	U < 0.17	U < 0.18	U < 0.16	U < 0.17	U < 0.18	U < 0.17	U < 0.2	U < 0.17	U < 0.19	U < 0.17	U < 0.89	100
Aldrin	U < 0.38	U < 0.4	U < 0.39	U < 0.43	U < 0.41	U < 0.42	U < 0.38	U < 0.4	U < 0.44	U < 0.4	U < 0.48	U < 0.41	U < 0.46	U < 0.4	U < 2.1	41
Heptachlor epoxide	U < 0.12	7.7	2.3	3.6	21	6	8.8	2.6	2.3	8.6	15	3.3	8.5	U < 0.13	**21**	20
Endosulfan I	U < 0.16	U < 0.17	U < 0.16	U < 0.18	U < 0.17	U < 0.18	U < 0.16	U < 0.17	U < 0.18	U < 0.17	U < 0.2	U < 0.17	U < 0.19	U < 0.16	U < 0.87	900
Dieldrin	U < 0.35	J 3	U < 0.36	U < 0.39	U < 0.37	J 2.7	U < 0.34	U < 0.36	U < 0.39	U < 0.36	U < 0.43	U < 0.37	U < 0.41	U < 0.36	U < 1.9	44
4 4'-DDE	4.7	23	J 2.6	12	75	33	23	8	10	21	41	18	20	11	140	2,100
Endrin	U < 0.96	U < 1	U < 0.99	U < 1.1	9.3	U < 1.1	U < 0.95	U < 1	U < 1.1	U < 1	U < 1.2	U < 1	U < 1.1	U < 0.99	U < 5.3	100
Endosulfan II	U < 0.18	U < 0.19	U < 0.19	U < 0.2	U < 0.2	U < 0.2	U < 0.18	U < 0.19	U < 0.21	U < 0.19	U < 0.23	U < 0.19	U < 0.22	U < 0.19	U < 1	900
4 4'-DDD	8.1	24	19	7	4.7	25	J 0.91	J 1.3	J 0.7	7.1	U < 0.51	J 2.1	U < 0.49	U < 0.42	U < 2.3	2,900
Endosulfan sulfate	U < 0.19	4.6	U < 0.19	U < 0.21	8.3	J 3.3	4.4	J 1.6	J 1.9	5.6	8.8	J 3.2	U < 0.22	U < 0.19	48	1,000
4 4'-DDT	4.6	6	J 3.6	U < 0.37	U < 0.36	U < 0.37	U < 0.33	U < 0.35	U < 0.38	U < 0.35	U < 0.41	4.5	U < 0.4	U < 0.34	U < 1.8	2,100
Methoxychlor	J 7	130	45	51	62	130	U < 2.3	36	U < 2.6	J 15	U < 2.8	U < 2.4	150	28	U < 13	
alpha-Chlordane	U < 0.12	11	J 0.2	U < 0.13	15	15	5.5	U < 0.12	J 1.2	7.4	U < 0.15	4.1	U < 0.14	U < 0.12	U < 0.65	
gamma-Chlordane	J 0.52	4.4	3.2	J 1.2	2.1	5.5	2.9	U < 0.1	J 0.22	3	U < 0.12	2	U < 0.12	J 0.84	U < 0.54	540
Toxaphene	U < 5.2	U < 5.5	U < 5.4	U < 5.8	U < 5.6	U < 5.8	U < 5.2	U < 5.5	U < 5.9	U < 5.5	U < 6.5	U < 5.5	U < 6.2	U < 5.4	U < 29	
Endrin aldehyde	U < 0.35	U < 0.37	U < 0.36	U < 0.39	U < 0.37	U < 0.39	U < 0.35	U < 0.36	U < 0.4	J 2.4	J 2.6	U < 0.37	U < 0.42	U < 0.36	U < 1.9	
Endrin ketone	U < 0.16	6.1	U < 0.16	U < 0.17	18	7	10	U < 0.16	U < 0.18	8.9	13	11	U < 0.19	U < 0.16	50	
Aroclor 1016	U < 3	U < 3.2	U < 3.1	U < 3.4	U < 3.3	U < 3.4	U < 3	U < 3.2	U < 3.4	U < 3.2	U < 3.8	U < 3.2	U < 3.6	U < 3.1	U < 3.3	1,000/10,000*
Aroclor 1221	U < 1.7	U < 1.7	U < 1.7	U < 1.8	U < 1.8	U < 1.8	U < 1.6	U < 1.7	U < 1.9	U < 1.7	U < 2	U < 1.7	U < 2	U < 1.7	U < 1.8	1,000/10,000*
Aroclor 1232	U < 2	U < 2.1	U < 2.1	U < 2.2	U < 2.2	U < 2.2	U < 2	U < 2.1	U < 2.3	U < 2.1	U < 2.5	U < 2.1	U < 2.4	U < 2.1	U < 2.2	1,000/10,000*
Aroclor 1242	U < 3.2	U < 3.4	33	51	88	220	U < 3.2	U < 3.4	15	30	U < 4	J 14	29	U < 3.3	U < 3.6	1,000/10,000*
Aroclor 1248	U < 2.9	44	U < 3	U < 3.2	U < 3.1	U < 3.2	U < 2.9	U < 3	U < 3.3	U < 3.1	U < 3.6	U < 3.1	U < 3.5	U < 3	U < 3.2	1,000/10,000*
Aroclor 1254	31	84	78	69	100	160	31	J 13	22	40	U < 1.6	49	33	U < 1.3	U < 1.4	1,000/10,000*
Aroclor 1260	79	87	110	35	41	57	21	J 8.2	J 7.8	J 17	U < 5.3	23	22	25	U < 4.7	1,000/10,000*

Notes:

U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory QA/QC purposes.

J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).

NYSDEC = New York State Department of Environmental Conservation

TAGM = Technical and Administrative Guidance Memorandum

* = 1,000 ug/Kg surface/10,000 ug/Kg subsurface

Blank indicates Standard Not Established

Bold indicates analytes detected above the Standards

TABLE 5a
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER ANALYTICAL RESULTS
HAMILTON AVENUE INCINERATOR
BROOKLYN, NEW YORK

VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8260B	HA-GW-3	HA-GW-7	NYSDEC TAGM Groundwater Standards (ug/L)
Chloromethane	U < 1	U < 1	
Vinyl chloride	U < 1	U < 1	2
Bromomethane	U < 3	U < 3	
Chloroethane	U < 0.8	U < 0.8	50
1 1-Dichloroethene	U < 0.8	U < 0.8	5
Carbon disulfide	U < 0.6	U < 0.6	50
Acetone	20	12	50
Methylene chloride	B,U < 0.4	B,U < 0.4	5
trans-1 2-Dichloroethene	U < 0.6	U < 0.6	5
1 1-Dichloroethane	U < 0.6	U < 0.6	5
Vinyl acetate	U < 2	U < 2	2
cis-1 2-Dichloroethene	U < 0.6	U < 0.6	
2-Butanone (MEK)	U < 1	U < 1	50
Chloroform	U < 0.4	U < 0.4	7
1 1 1-Trichloroethane	U < 0.4	U < 0.4	5
Carbon tetrachloride	U < 0.3	U < 0.3	5
Benzene	J **1**	U < 0.4	0.7
1 2-Dichloroethane	U < 0.3	U < 0.3	5
Trichloroethene	U < 0.7	U < 0.7	5
1 2-Dichloropropane	U < 0.6	U < 0.6	
Bromodichloromethane	U < 0.6	U < 0.6	
cis-1 3-Dichloropropene	U < 0.6	U < 0.6	
4-Methyl-2-pentanone (MIBK)	U < 0.5	U < 0.5	50
Toluene	J 0.5	U < 0.3	5
trans-1 3-Dichloropropene	U < 0.4	U < 0.4	
1 1 2-Trichloroethane	U < 0.8	U < 0.8	
Tetrachloroethene	U < 0.4	U < 0.4	5
2-Hexanone	U < 1	U < 1	
Dibromochloromethane	U < 0.2	U < 0.2	50
Chlorobenzene	2	U < 0.2	5
Ethylbenzene	U < 0.3	U < 0.3	5
Styrene	U < 0.4	U < 0.4	
Bromoform	U < 0.4	U < 0.4	
1 1 2 2-Tetrachloroethane	U < 0.7	U < 0.7	5
Xylenes (total)	U < 1	U < 1	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
Groundwater Standards based on the NYSDEC TAGM Criteria
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
B = Compound was found in the blank and sample.
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 5b
VOLATILE ORGANIC COMPOUNDS
MONITORING WELL ANALYTICAL RESULTS
HAMILTON AVENUE INCINERATOR
BROOKLYN, NEW YORK

VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8260B	MW-1	MW-2	MW-3	MW-4 Duplicate MW-3	NYSDEC TAGM Groundwater Standards (ug/L)
Chloromethane	U < 1	U < 1	U < 1	U < 1	
Vinyl chloride	U < 1	U < 1	U < 1	U < 1	2
Bromomethane	U < 3	U < 3	U < 3	U < 3	
Chloroethane	U < 0.8	U < 0.8	U < 0.8	U < 0.8	50
1 1-Dichloroethene	U < 0.8	U < 0.8	U < 0.8	U < 0.8	5
Carbon disulfide	U < 0.6	U < 0.6	U < 0.6	U < 0.6	50
Acetone	U < 2	J 5	J 4	U < 2	50
Methylene chloride	B,U < 0.4	B,U < 0.4	B,U < 0.4	B,U < 0.4	5
trans-1 2-Dichloroethene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	5
1 1-Dichloroethane	U < 0.6	U < 0.6	U < 0.6	U < 0.6	5
Vinyl acetate	U < 2	U < 2	U < 2	U < 2	2
cis-1 2-Dichloroethene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
2-Butanone (MEK)	U < 1	U < 1	U < 1	U < 1	50
Chloroform	U < 0.4	U < 0.4	U < 0.4	U < 0.4	7
1 1 1-Trichloroethane	U < 0.4	U < 0.4	U < 0.4	U < 0.4	5
Carbon tetrachloride	U < 0.3	U < 0.3	U < 0.3	U < 0.3	5
Benzene	U < 0.4	U < 0.4	**J 1**	**J 2**	0.7
1 2-Dichloroethane	U < 0.3	U < 0.3	U < 0.3	U < 0.3	5
Trichloroethene	U < 0.7	U < 0.7	U < 0.7	U < 0.7	5
1 2-Dichloropropane	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
Bromodichloromethane	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
cis-1 3-Dichloropropene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
4-Methyl-2-pentanone (MIBK)	U < 0.5	U < 0.5	U < 0.5	U < 0.5	50
Toluene	U < 0.3	U < 0.3	U < 0.3	U < 0.3	5
trans-1 3-Dichloropropene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	
1 1 2-Trichloroethane	U < 0.8	U < 0.8	U < 0.8	U < 0.8	
Tetrachloroethene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	5
2-Hexanone	U < 1	U < 1	U < 1	U < 1	
Dibromochloromethane	U < 0.2	U < 0.2	U < 0.2	U < 0.2	50
Chlorobenzene	U < 0.2	U < 0.2	U < 0.2	U < 0.2	5
Ethylbenzene	U < 0.3	U < 0.3	J 0.9	J 1	5
Styrene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	
Bromoform	U < 0.4	U < 0.4	U < 0.4	U < 0.4	
1 1 2 2-Tetrachloroethane	U < 0.7	U < 0.7	U < 0.7	U < 0.7	5
Xylenes (total)	U < 1	U < 1	J 2	J 2	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
Groundwater Standards based on the NYSDEC TAGM Criteria
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
B = Compound was found in the blank and the sample.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 6
SEMI-VOLATILE ORGANIC COMPOUNDS
MONITORING WELL ANALYTICAL RESULTS
HAMILTON AVENUE INCINERATOR
BROOKLYN, NEW YORK

SEMI VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8270C	MW-1	MW-2	MW-3	MW-4 Duplicate MW-3	NYSDEC TAGM Groundwater Standards (ug/L)
Naphthalene	U < 0.4	U < 0.4	**14**	**14**	10
2-Methylnaphthalene	U < 0.3	U < 0.3	**52**	**64**	50
Acenaphthylene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	20
Acenaphthene	U < 0.3	U < 0.3	**43**	**53**	20
Fluorene	U < 0.4	U < 0.4	13	17	50
Phenanthrene	U < 0.4	U < 0.4	J 8	J 10	50
Anthracene	U < 0.5	U < 0.5	J 1	J 0.9	50
Fluoranthene	U < 0.4	U < 0.4	J 1	J 1	50
Pyrene	U < 0.4	U < 0.4	J 1	J 0.7	50
Benzo(a)anthracene	U < 0.5	U < 0.5	U < 0.5	U < 0.5	0.002
Chrysene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	0.002
Benzo(b)fluoranthene	U < 1	U < 1	U < 1	U < 1	0.002
Benzo(k)fluoranthene	U < 0.3	U < 0.3	U < 0.3	U < 0.3	0.002
Benzo(a)pyrene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	0.002
Indeno(1 2 3-cd)pyrene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	0.002
Dibenzo(a h)anthracene	U < 0.5	U < 0.5	U < 0.5	U < 0.5	50
Benzo(ghi)perylene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
Groundwater Standards based on the NYSDEC TAGM Criteria
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
There may also be additional flags other than U used for internal Laboratory OA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 7
RCRA METALS
MONITORING WELL ANALYTICAL RESULTS
HAMILTON AVENUE INCINERATOR
BROOKLYN, NEW YORK

RCRA METALS (ug/L) METHOD 6010B; 7470A	**MW-1**	**MW-2**	**MW-3**	**MW-4** Duplicate MW-3	**NYSDEC Groundwater Standards (ug/L)**
Mercury	**4.4**	0.22	**0.86**	**0.22**	0.7
Arsenic	B **129**	U < 17.5	U < 17.5	U < 17.5	25
Barium	**1,220**	262	251	123	1,000
Cadmium	B **13.5**	U < 4.7	U < 4.7	U < 4.7	5
Chromium	B 38.9	B 10.9	B 48.5	B 14.6	50
Lead	**684**	**94.3**	**333**	**87**	25
Selenium	U < 25	U < 25	U < 25	U < 25	10
Silver	U < 4.6	U < 4.6	U < 4.6	U < 4.6	50

Notes:
NYSDEC = New York State Department of Environmental Conservation
Groundwater Standards based on the NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
B = Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 8
PESTICIDES / PCBs
MONITORING WELL ANALYTICAL RESULTS
HAMILTON AVENUE INCINERATOR
BROOKLYN, NEW YORK

PESTICIDES / PCBs (ug/L) METHOD 8081A; 8082	**MW-1**	**MW-2**	**MW-3**	**MW-4** Duplicate MW-3	**NYSDEC TAGM Groundwater Standards (ug/L)**
alpha-BHC	U < 0.0068	U < 0.0068	U < 0.0068	U < 0.0068	< 0.05
beta-BHC	U < 0.0072	U < 0.0072	U < 0.0072	U < 0.0072	< 0.05
delta-BHC	U < 0.0046	J 0.016	U < 0.0046	U < 0.0046	< 0.05
gamma-BHC (Lindane)	U < 0.0033	U < 0.0033	J 0.0066	U < 0.0033	< 0.05
Heptachlor	U < 0.0054	U < 0.0054	U < 0.0054	U < 0.0054	< 0.01
Aldrin	U < 0.0041	U < 0.0041	J 0.017	J 0.03	< 0.01
Heptachlor epoxide	U < 0.0056	U < 0.0056	J 0.025	J 0.048	< 0.01
Endosulfan I	U < 0.0041	U < 0.0041	U < 0.0041	U < 0.0041	0.1
Dieldrin	U < 0.0079	U < 0.0079	U < 0.0079	U < 0.0079	< 0.01
4 4'-DDE	U < 0.012	U < 0.012	U < 0.012	U < 0.012	< 0.01
Endrin	U < 0.0085	U < 0.0085	U < 0.0085	J 0.01	< 0.01
Endosulfan II	U < 0.011	U < 0.011	U < 0.011	U < 0.011	0.1
4 4'-DDD	U < 0.026	U < 0.026	U < 0.026	U < 0.026	< 0.01
Endosulfan sulfate	U < 0.012	U < 0.012	U < 0.012	U < 0.012	0.1
4 4'-DDT	U < 0.013	U < 0.013	U < 0.013	U < 0.013	< 0.01
Methoxychlor	U < 0.062	U < 0.062	U < 0.062	U < 0.062	35.0
alpha-Chlordane	U < 0.0057	U < 0.0057	U < 0.0057	U < 0.0057	0.1
gamma-Chlordane	U < 0.006	U < 0.006	U < 0.006	U < 0.006	0.1
Toxaphene	U < 0.11	U < 0.11	U < 0.11	U < 0.11	
Endrin aldehyde	U < 0.011	U < 0.011	U < 0.011	U < 0.011	
Endrin ketone	U < 0.012	U < 0.012	U < 0.012	U < 0.012	
Aroclor 1016	U < 0.057	U < 0.057	U < 0.057	U < 0.057	0.1
Aroclor 1221	U < 0.11	U < 0.11	U < 0.11	U < 0.11	0.1
Aroclor 1232	U < 0.081	U < 0.081	U < 0.081	U < 0.081	0.1
Aroclor 1242	U < 0.072	U < 0.072	U < 0.072	U < 0.072	0.1
Aroclor 1248	U < 0.06	U < 0.06	U < 0.06	U < 0.06	0.1
Aroclor 1254	U < 0.094	U < 0.094	U < 0.094	U < 0.094	0.1
Aroclor 1260	U < 0.082	U < 0.082	U < 0.082	U < 0.082	0.1

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
Groundwater Standards based on the NYSDEC TAGM Criteria
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

Appendix A

GPR Survey Report with Track Lines and Images

HAMILTON AVENUE INCINERATOR GROUND PENETRATING RADAR FIELD SURVEY REPORT

Prepared for:

HDR INC.
711 WESTCHESTER AVENUE
WHITE PLAINS, NEW YORK

Prepared by:

EEA, *Inc.*
55 Hilton Avenue
Garden City, New York 11530
(516) 746-4400
(212) 227-3200

SEPTEMBER 2003

Project: 03718

EXECUTIVE SUMMARY

On September 22th and 25th, 2003 a Ground Penetrating Radar (GPR) Survey was performed at the Hamilton Avenue Incinerator. The purpose of the investigation was to determine the presence and locations of any underground storage tanks, piping, utilities or anomalies beneath the surface. Prior to initiation of the GPR survey, track lines spaced approximately 20 feet apart were painted on the pavement and sidewalks to maintain a linear survey track line. All GPR survey track lines are shown on Figure 1. Each track line was given an individual file number and was recorded on the site plan. A CD was created to archive all files and is included as an Appendix to this report. Anomalies along the track lines were noted in the field notes immediately after the completion and review of each track line scan. Permanent orange spray painting was used to mark the locations of pipes and lines on the pavement.

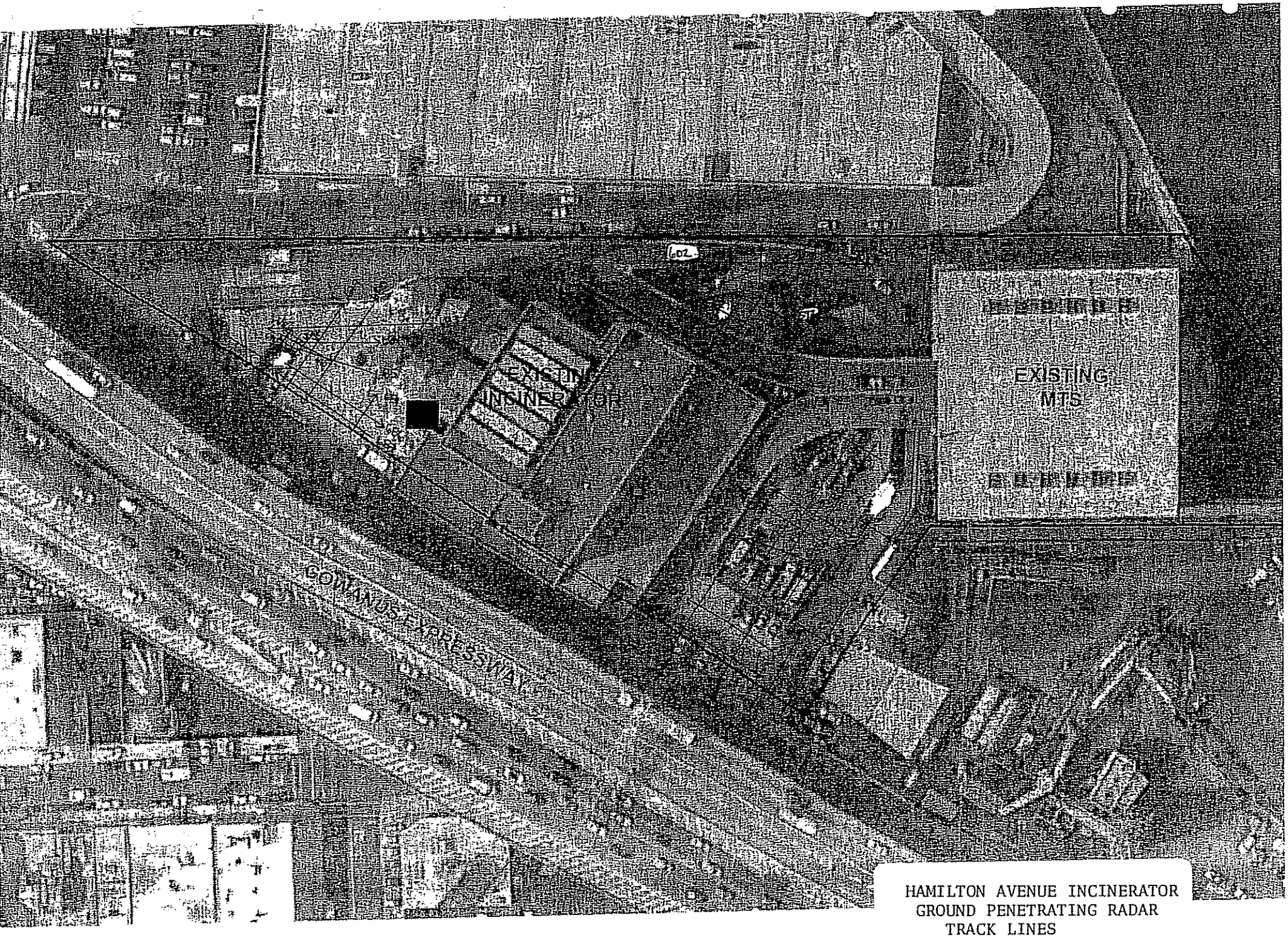
INTRODUCTION

EEA, Inc. has completed a Ground Penetrating Radar (GPR) Survey of the Hamilton Avenue Incinerator Facility as a precursor to the Phase II Subsurface Investigation to be completed at this site. This report with appendices presents the findings of the investigation. EEA, Inc. subcontracted Advanced Cleanup Technologies of Farmingdale, New York to operate the GPR survey equipment. Their report is included as an Appendix to this document.

METHODS

Prior to initiation of the GPR Survey, the pavement and sidewalks within the facility boundaries were marked off in 20-foot intervals and survey lines were painted to give the operator a track line to follow. The GPR survey was initiated by establishing a new file number, then pulling a 500-megahertz transducer over the ground surface for approximately 70 feet (the length of the transducer cable). The recording was stopped and the survey track was immediately reviewed. If anomalous returns were observed, the interpretation was recorded with the file number in the field notes, also included in this report.

The GPR Survey was started with track lines No. 563 in the northwest parking area, next to the perimeter fence. The final track line was No. 694 in the small parking lot on the east side of the incinerator building (where the salt is currently stored).



HAMILTON AVENUE INCINERATOR
GROUND PENETRATING RADAR
TRACK LINES
FIGURE 1

OBSERVATIONS AND CONCULUSIONS

In the parking lot on the northeast side of the incinerator building a drain pipe was noted running perpendicular to Hamilton Avenue.

Numerous pipes were detected running down the street adjacent to this parking lot, extending from Hamilton Avenue to the overhead ramp to the MTS Station.

In the truck parking lot on the northern side of the incinerator building a possible trench was detected on the western side of the lot.

Pipes were also noted in the roadways on the western side of the site.

Piles for pile caps, expansion joints and sewer pipes were detected on the western side of the incinerator building, near and under the overhead ramp.

On the southern side of the incinerator building rebar and thick cement were common. A pipe was detected near the exhaust vents, which may be associated.

Also on the southern side, an unidentified metal object is located directly below the surface (run No. 690 – 694).

Images of anomalies observed and interpreted are included in the ACT Report attached as an Appendix.

RECOMMENDATIONS

Prior to the start of the Phase II drilling program, site utilities should be cleared by outside contractors specializing in utility locating services.

FIELD NOTES

Line No.	Comment
563	storm drain to Hamilton Avenue; sewer line to street
564	drain line closed to ramp
565	cross section
568	numerous pipes
569	cross section of 568 – supply drain (?) at sprinkler connection
571	cross line – pipe in trench at blue wall
572	cross line – pipe in trench near curb
573	cross line
574	drain at gate of entrance
575	rebar in slab
577	large pipe after first expansion joint
578	large pipe below slab
579	two pipes to line in street
580	possible trench below concrete
585	pipe or cable in roadway below curb
586	steal plate at embankment
587	pipe in roadway at curb; under ramp
589	curb
590	pipe
592	disturbed area about 8' below grade
594	piles for pile caps at piers

595	expansion joint at slab
596	cross line
597	cross line
598	cross line
599	drain line from ramp drain
600	monitoring well
602	elevated slab with rebar; expansion joint
679	rebar and fill
680	thick concrete with rebar; possible subsurface salt seepage
683	possible thick cement or slat disturbance
686	pipe
687	thick concrete; pipe at end of run
689	unknown small object at 8 – 12 feet
690	large pipe or metal cover close to surface
691	short run parallel to No. 690
692	pipe
693	small pipe, possibly to overflow basin
694	short run perpendicular to No. 690

Additional notes:
There were no track lines with No. 603 - 678

Advanced Cleanup Technologies, Inc.
ENVIRONMENTAL CONSULTANTS

October 8, 2003

Mr.Jeff Shelkey
EEA, Inc.
55 Hilton Avenue
Garden City, NY 11530

Re: Ground-Penetrating Radar Survey
Hamilton Avenue: Marine Transfer Station

Dear Jeff:

This report is intended to provide you with the results of a Ground-Penetrating Radar (GPR) survey performed by Advanced Cleanup Technologies, Inc. (ACT) at the above-referenced property on September 22nd and 25th , 2003. The purpose for the survey was to determine the presence and precise locations of any underground storage tanks, piping, and other anomalies beneath the subject property.

GPR EQUIPMENT

The survey was performed utilizing an SIR-2000 GPR Unit and a 500 megahertz transducer. The transducer was pulled along pre-determined transects, emitting radar into the subsurface. The radar signal reflects off stratigraphical materials and foreign objects in the subsurface and back to the transducer based upon differences in the conductivity and dielectric constant of subsurface features. The radar signal is then converted into an electrical signal which is visually displayed on a video monitor.

GPR PROTOCOL

The GPR survey covered the areas outside of the buildings on site. The survey encompassed those portions of the site containing marked transect lines. These lines were spray painted by EEA at 20 foot spacings prior to commencement of the survey.

115 Rome Street • Farmingdale, New York 11735 • Tel: 631/293-4992 • Fax: 631/293-4986
1000 7th North Street, Suite B-30 • Liverpool, New York 13088 • Tel: 315/451-9720 • Fax: 315/451-9727
E-mail: advancedcleanuptech.com

At EEA's request, the radar antenna was pulled along the 20 foot transects in only one direction over most of the area surveyed. At several locations, transects were added at 20 foot spacings perpendicular to the spray-painted transects to create a 20 foot by 20 foot rectangular grid.

The survey was performed at a range to allow for the identification of anomalies to a depth of approximately 10 feet below ground surface. The results of the GPR survey are described below. A site diagram containing the transects was maintained by EEA's field personnel.

GPR RESULTS

A number of anomalies were identified during the GPR survey. The locations of these anomalies were identified during the survey and marked on the pavement with spray paint. They were also recorded by EEA's field manager.

Possible structures producing the identified anomalies include pipes, voids, settled ground surface and other buried debris. Due to the large number of anomalies identified beneath this site, all anomalies could not be described in this report. Some examples of anomalies identified during the survey which produced reflections characteristic of buried structures are identified on the enclosed images. Copies of the computer files containing all of the survey results are also enclosed.

LIMITATIONS

GPR is primarily used as a preliminary survey of a property for the development of subsurface information prior to a formal site assessment. Surface cover, subsurface soil types or buried debris can mask or conceal the presence and precise locations of underground structures or even suggest their presence when none exist. The presence, absence or precise locations of underground structures indicated during a GPR survey should be confirmed by excavation or other invasive procedures.

Advanced Cleanup Technologies, Inc. is not responsible for areas not surveyed or information not collected. This report is given without a warranty or guarantee of any kind, expressed or implied. Advanced Cleanup Technologies, Inc. assumes no responsibility for losses associated with the use of this report.

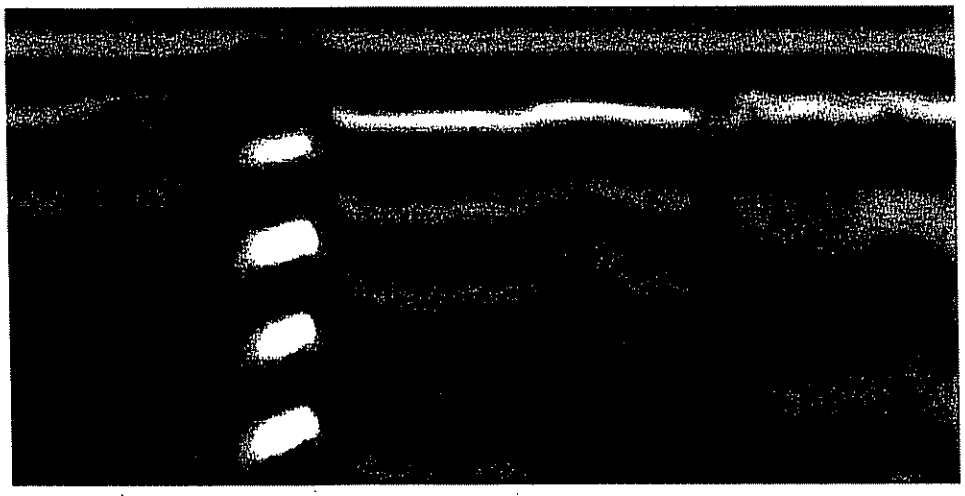
Please contact the undersigned if you have any questions concerning the above. Thank you for this opportunity to be of assistance.

Very truly yours,

Steven Walls

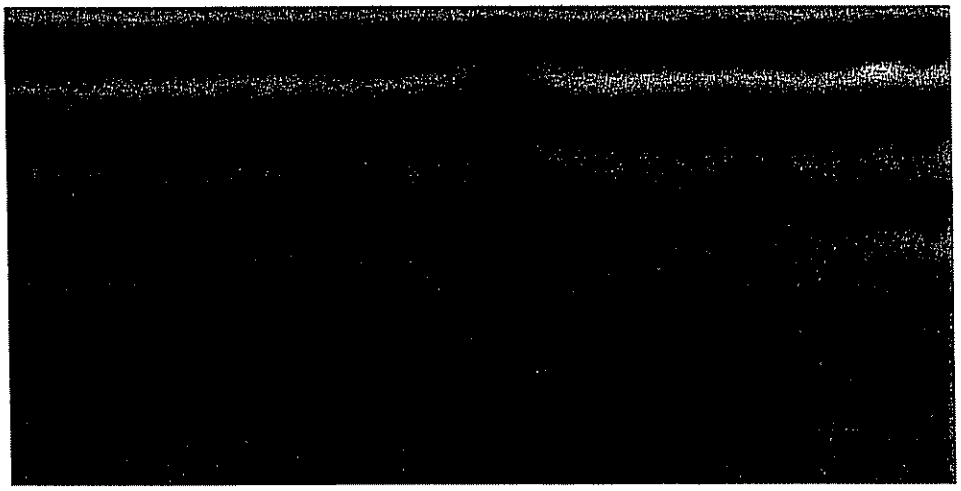
Steven Walls
Project Scientist

SW/sv
enc.

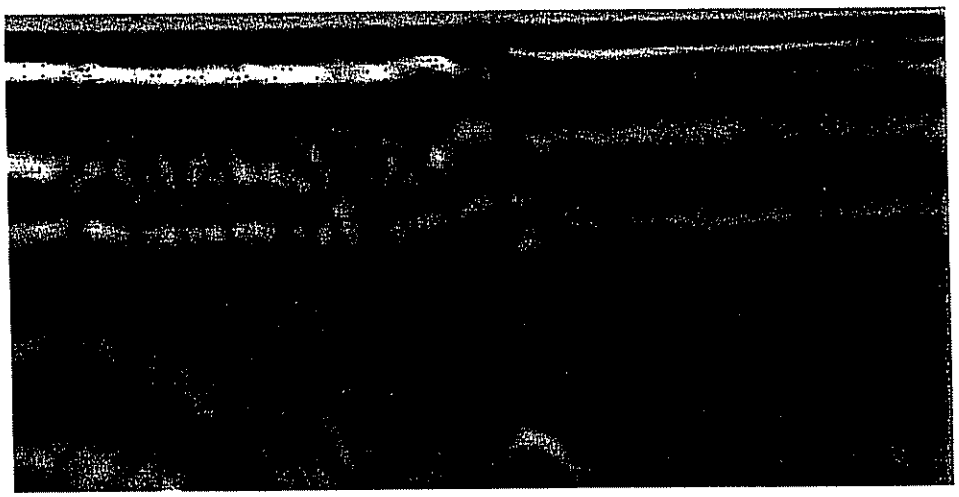


Run #574 - Buried Drain Cover

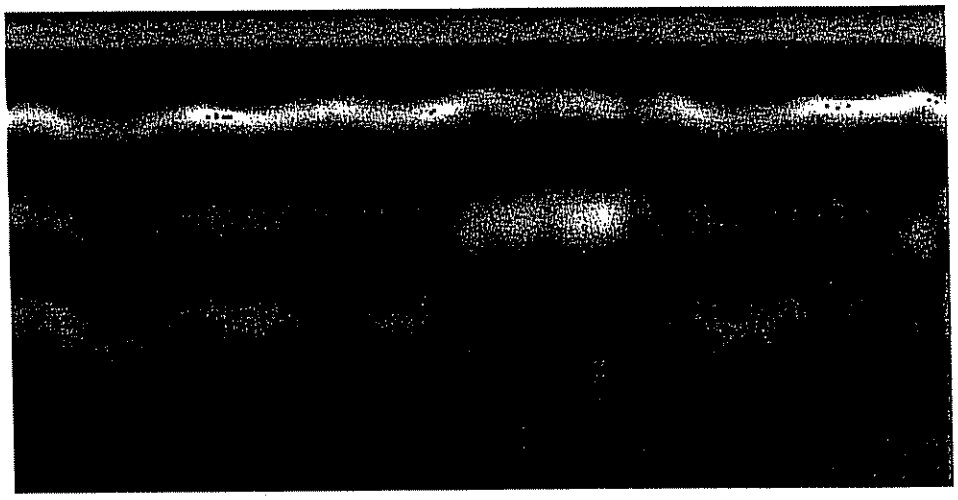
Run #594 - Possible Support Beams



Run #595 - Expansion Joint in concrete



Run #602 - Elevated Concrete Ramp with re-bar



Run #681 - Concrete with re-bar

Run #690 - Possible Pipe

Appendix B

Soil Boring Logs and Monitor Well Logs

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

HA B - 1

DATE: 11/17/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Hamilton Avenue DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** asphalt (ended)
MONITORING WELL SPECS	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~7 fbg
SCREEN: n/a / **RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 2'	8"	B - 1S (0-2")	0		1, 2	6" of asphalt material Then medium to fine SAND and GRAVEL Moist, brown No odor
					3	
3 - 5'	6"		0.4		4, 5	Auger to 3' Then brown-gray medium to fine SAND with CLAY; trace bricks Low level petroleum odor Moist
*5 - 7'	8"	B - 1 (5-7)	3.4	▼	6, 7	Brown-gray medium to fine SAND with CLAY Low level TPH odor Trace bricks Saturated at tip; Moist
7 - 9'	4"		NA		8, 9	Brown-gray medium to fine SAND with CLAY Wet with TPH odors Some GRAVEL
					10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 9 fbg *HA B-1S (0-2") taken at 1200 *HA B-1 (5-7') taken at 1200 * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

HA B - 2

DATE: 11/18/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Hamilton Avenue DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~6 fbg
SCREEN: n/a / **RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	48"	B-2S (0-2")	3		1, 2, 3, 4	6" of asphalt Then black soil - asphalt fill Typical odor and staining (12") Then medium to fine SAND with bricks and concrete and some gravel (fill) Brown-grey Typical odor and staining (12") Moist
*4 - 8'	48"	B-2 (4-8)	0.4	▼	5, 6, 7, 8	Saturated at 6 fbg Gray medium to course SAND and GRAVEL mixed with asphalt, trace yellow brick Typical odor and staining (24") Then native CLAY and SILT that grades in black organic CLAY Typical sulfur odor Wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg *HA B-2S (0-2") taken at 900 *HA B-2 (4-8') taken at 900 * soil sample collected for laboratory analysis

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Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

HA B - 3

SHEET _1_OF _1_

DATE: 11/18/03	**LOGGED BY:** F. Islam	**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation	
CLIENT: HDR	**PROJECT NO.:** 03718	**SOIL SAMPLER**	**SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Hamilton Avenue DOS Incinerator		**DRILL RIG:** Geoprobe LT 54	**CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling		**HAMMER WEIGHT / FALL:** n/a	
DRILLERS: P. Recchia, P. DeBonis		**SURFACE MATERIAL:** crushed gravel	
MONITORING WELL SPECS	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~6 fbg
SCREEN: n/a / **RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	48"	B-3S (0-2")	1.7		1, 2, 3, 4	12" of crushed gravel and asphalt mix Then tan medium to course SAND that grades into gray mud Medium to fine SAND and SILT that grades into black CLAY (6") bottom Organic odor and staining Moist
*4 - 8'	44"	B-3 (4-8)	0.8	▼	5, 6, 7, 8	Gray-brown medium to fine SAND and SILT, some GRAVEL (24") Then wet black CLAY and SILT with GRAVEL that grades to black CLAY and trace GRAVEL Organic sulfur odor Moist to wet
						EOB @ 8 fbg
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	*HA B-3S (0-2") taken at 930 *HA B-3 (4-8') taken at 930 *Groundwater HA B-3 GW

* soil sample collected for laboratory analysis

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SOIL BORING REPORT LOG

SHEET _1_OF _1_

HA B - 4 / MW - 3

DATE: 11/17/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 2 1/2 in. OD **TYPE:** 2" split spoon
PROJECT LOCATION: Hamilton Avenue DOS Incinerator			**DRILL RIG:** Mobil B-57 **CASING TYPE:** Hollow Stem Auger 4 1/2 in. OD
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved roadway
MONITORING WELL SPECS	**MW - 3**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~8 fbg
SCREEN: 19 - 9' / **RISER:** 9 - 0.5'	**SAND:** 2 bags	**BENTONITE:** 1/2 bag	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 2'	6"	B - 4S (0-2")	0		1 2	8" of asphalt Fill - medium to fine SAND and soil mixed with concrete and bricks No odor or staining Dry
*2 - 4'	8"	MSD B-4	0.1		3 4	Medium to fine SAND and little CLAY Brown with slight odor Trace wood Moist
					5	
*5 - 7'	8"	B - 4 (5-7)	1.4		6 7	1 ft of wood then fine to medium SAND and CLAY Dense, reddish with woodsy odor Moist
7 - 9'	12"		2.7	▼	8 9	EOB @ 7 fbg 4" same as above (medium to fine SAND with little CLAY) Then 4" of rock or concrete Then black CLAY
					10 11 12 13 14 15 16 17 18 19 20 21 22	Sulfurous odor (saturated @ 8 ft) Native marine material Moist to wet *HA B-4S (0-2") taken at 1045 *HA B-4 (5-7') taken at 1045 *HA MSD B-4 (2-4') taken at 1100 * soil sample collected for laboratory analysis

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SOIL BORING REPORT LOG

SHEET _1_OF _1_

HA B - 5

DATE: 11/18/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Hamilton Avenue DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~6 fbg
SCREEN: n/a / **RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	24"		0.1		1, 2, 3, 4	6" of asphalt then 6" of black asphalt-type mateial Then gray fine to course SAND with GRAVEL Typical odor and staining Moist
*4 - 8'	24"	B-5 (4-8)		▼	6, 6, 7, 8	Gray fine to course SAND with GRAVEL grades to fine to course gray SAND and SILT with CLAY, trace GRAVEL Asphalt-type odor Saturated at 6' Moist to Wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg *HA B-5 (4-8') taken at 1130 * soil sample collected for laboratory analysis

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SOIL BORING REPORT LOG

SHEET _1_OF _1_

HA B - 6 / MW - 2

DATE: 11/17/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 2 1/2 in. OD **TYPE:** 2" split spoon
PROJECT LOCATION: Hamilton Avenue DOS Incinerator			**DRILL RIG:** Mobil B-57 **CASING TYPE:** Hollow Stem Auger 4 1/2 in OD
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW - 2**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~5 fbg
SCREEN: 14 - 4' / **RISER:** 4 - 0.5'	**SAND:** 2 bags	**BENTONITE:** 1/2 bag	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*1 - 3	6"	B - 6 (1-3) MS B-6	3.4		1, 2, 3	8" of concrete auger Fill material; fine to medium SAND and soil with bricks Black staining and low-level petroleum-type odors Dry
3 - 5'	12"		0	▼	4, 5	6" of concrete Then brown to black medium to fine SAND and soil Slight odor Moist
5 - 7'	20"		0		6, 7	Fine to medium SAND, some CLAY Brown to reddish brown Wet; Saturated at 5 fbg Slight odor, possibly typical
					8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 7fbg Set well MW-2 *HA B-6 (1-3') taken at 945 *HA MS taken at 1000 * soil sample collected for laboratory analysis

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SOIL BORING REPORT LOG

SHEET _1_OF _1_

HA B - 7

DATE: 11/18/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Hamilton Avenue DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** concrete slab (salt storage area)
MONITORING WELL SPECS	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~6 fbg
SCREEN: n/a / **RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	48"		0.1		1, 2, 3, 4	Drill through concrete slab 4" of concrete Then gray fine to course SAND with GRAVEL, some bricks (fill) that grades to black-brown medium to course SAND with GRAVEL (angular) in the last 6" Slight odor Moist
*4 - 8'	48"	B-7 (4-8) B-10 (4-8)	0	▼	5, 6, 7, 8	Medium to course SAND with GRAVEL Brown that grades to medium to course SAND with GRAVEL and SILT that grades to black CLAY with GRAVEL Typical sulfur odor Moist to wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg *HA B-7 (4-8') taken at 1115 *HA B-10 (4-8') taken at 1100 (duplicate) *Groundwater HA B-7 GW * soil sample collected for laboratory analysis

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SOIL BORING REPORT LOG

SHEET _1_OF _1_

HA B - 8

DATE: 11/18/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Hamilton Avenue DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** concrete slab
MONITORING WELL SPECS	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~6.5 fbg
SCREEN: n/a / **RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	48"	B-8S (0-2")	2.7		1, 2, 3, 4	6" concrete Same as B-7 - fill material Petroleum odor Top 24" gray-brown, fine to course SAND with GRAVEL, some SILT Grades to black fine to course SAND with GRAVEL, some SILT Gasoline odor Dry to moist
*4 - 8'	24"	B-8 (4-8)	2.1	▼	5, 6, 7, 8	Wet at ~6.5' Black fine to course SAND with GRAVEL, some SILT Grades to black organic CLAY with SILT and some medium to fine SAND Last 6" black organic CLAY Organic odor but also slight hydrocarbon odor
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg *HA B-8S (0-2") taken at 1145 *HA B-8 (4-8') taken at 1145

* soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

HA B - 9 / MW -1

DATE: 11/17/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 2 1/2 in. OD **TYPE:** 2" split spoon
PROJECT LOCATION: Hamilton Avenue DOS Incinerator			**DRILL RIG:** Mobil B-57 **CASING TYPE:** Hollow Stem Auger 4 1/2 in. OD
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved aspalt
MONITORING WELL SPECS	**MW - 1**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~12 fbg
SCREEN: n/a / **RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a	

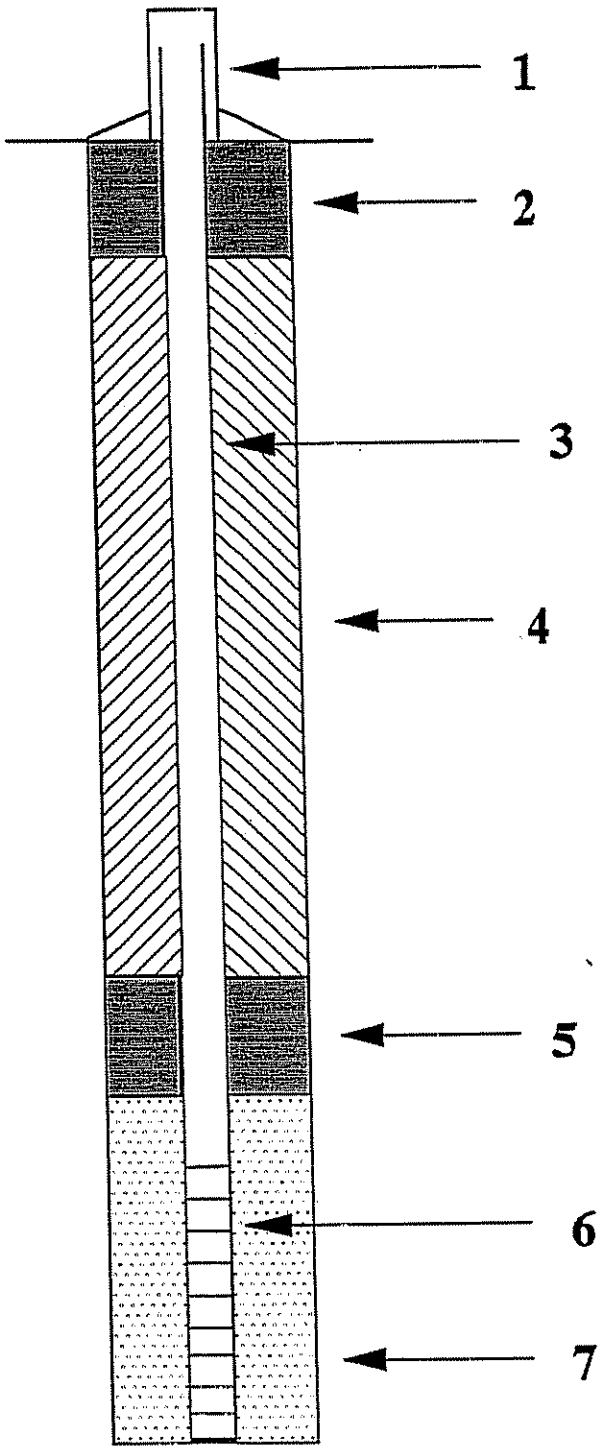
SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 2'	6"	B - 9S (0-2")	0.4		1	Auger through 6" asphalt Red brown medium to fine SAND and SILT Low level odor Moist
					2	
					3	Refusal - move boring 1 ft up Refusal - move boring 4 ft up : something metal at 4fbg Refusal - metal; deformed spoon
					4	No further sample
					5	
					6	Sample preexisting well for water sample
					7	*HA B-9S (0-2") taken at 1330
					8	
					9	
					10	
					11	
					12	
					13	
					14	
					15	
					16	
					17	
					18	
					19	
					20	
					21	
					22	

* soil sample collected for laboratory analysis

MONITOR WELL CONSTRUCTION SPECIFICATION
ENERGY AND ENVIROMENTAL ANALYSTS, INC.

JOB NUMBER : 03718

WELL IDENTIFICATION : HA MW-3



DATE: 11/17/03

HYDROGEOLOGIST : F. Islam

DRILLING CONTRACTOR : Tri-State Drilling Technologies

1.PROTECTIVE CASING YES NO

2. CONCRETE SEAL YES NO

3. RISER PIPE TYPE : PVC

LENGTH : 8.5 FT

DIAMETER : 2 inches

4. TYPE OF BACKFILL : # 2 Monie Grand

HOW INSTALLED : Backfilled

5. TYPE OF LOWER SEAL : Bentonite Chips

6. SCREEN TYPE : PVC

SLOTTED LENGTH : 10 FT

SLOT SIZE ; 10 slot

7. TYPE OF BACKFILL : # 2 Monie Grand

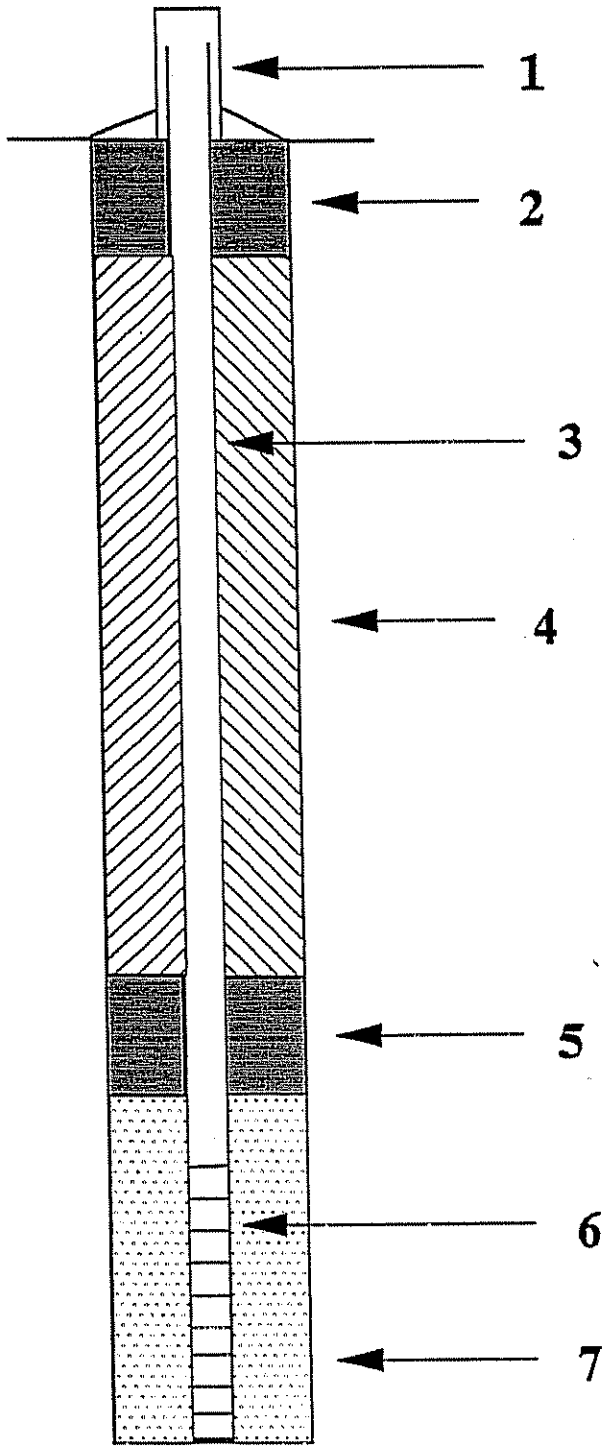
COMMENTS ;

WATER LEVEL CHECKS :

DATE	DEPTH	REMARKS

MONITOR WELL CONSTRUCTION SPECIFICATION
ENERGY AND ENVIROMENTAL ANALYSTS, INC.

JOB NUMBER : 03718 WELL IDENTIFICATION : HA MW-2



DATE: 11/17/03
HYDROGEOLOGIST : F. Islam
DRILLING CONTRACTOR : Tri-State Drilling Technologies
1.PROTECTIVE CASING YES NO
2. CONCRETE SEAL YES NO
3. RISER PIPE TYPE : PVC
LENGTH : 3.5 FT
DIAMETER : 2 inches
4. TYPE OF BACKFILL : #2 Morie Gravel
HOW INSTALLED : Backfilled
5. TYPE OF LOWER SEAL : Bentonite Chips
6. SCREEN TYPE : PVC
SLOTTED LENGTH : 10FT
SLOT SIZE ; 10 Slot
7. TYPE OF BACKFILL : #2 Morie Gravel

COMMENTS ;

WATER LEVEL CHECKS :

DATE	DEPTH	REMARKS

Appendix C

Laboratory Analytical Results with Chain-of-Custody

ANALYTICAL REPORT

JOB NUMBER: 205347

Prepared For:

Energy and Environmental Analysts, Inc.
55 Hilton Ave.
Garden City, NY 11530

Project: NYCDOS SWB INCINERAT

Attention: Jeff Shelkey

Date: 12/17/2003

Signature

Date 12/17/03

Name: Jill M. Pfister

Title: Project Manager

E-Mail: jpfister@stl-inc.com

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (113) Pages

SEVERN TRENT STL

STL Report : 205347
EEA, INC. – NYCDOS SWB INCENERATOR PLANT

Case Narrative

Sample Receipt – Samples received on 11/18/03 were in good condition and at the proper temperatures of 1.0°C, 6.0°C, 2.0°C, 0.0°C and 4.0°C.

The following analyses were subcontracted out to the indicated laboratories:

Asbestos sent to ProScience Analytical Services, Inc.

Volatile Organics – Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 5030B/8260B.

The spike compound percent recoveries were within the laboratory generated guidelines in the independent source quality control samples (LCS). QC was analyzed on two different samples in this SDG. Sample "HA-B-6(1-3)" MS and MSD have the following compounds out of criteria: cis-1,2-dichloroethene, carbon tetrachloride, trichlorethene, bromodichloromethane, dibromochloromethane, toluene, chlorobenzene, ethylbenzene, xylenes(total), styrene, and bromoform. Because no compounds are out of criteria in the MSB, we believe these recoveries are due to matrix interference from the sample. Sample "HA-B-4(5-7)" MS and MSD have the following compounds out of criteria: trichloroethene and 1,1,2,2-tetrachloroethane. The %RPD was also out of criteria for 1,1,2,2-tetrachloroethane. All compounds are in criteria in the MSB.

Sample "HA-B-4S(0-2)" was analyzed twice due to surrogate recoveries outside criteria. Matrix interference was confirmed and both runs are reported.

Sample Calculation:

Sample ID-HA-B-6(1-3)
Compound-Acetone

$$\frac{(54858)(125)(1)}{(1071476)(.177)(5)(.875)} = 8.26 = 8 \text{ UG/L.}$$

Metals – ICAP metals were determined using a JA61E trace ICAP; mercury was determined by cold vapor technique using a Perkin Elmer mercury analyzer; following guidance provided in SW846 according to methods: ICAP – 3050B/6010B; mercury-7471A.

Two "*" flags resulted from duplicate analysis of soil QC sample 205347-1 for arsenic and lead. One "*" flag resulted from duplicate analysis of sample 205347-2 for lead.

0000001

Barium and cadmium failed the controls for spike recovery analysis of soil QC sample 205347-1 resulting in two "N" flags. Arsenic failed the controls for spike recovery analysis of soil QC sample 205347-2 resulting in one "N" flag.

No problems occurred during analysis. All appropriate protocols were employed. All data appears to be consistent.

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

All samples required sulfur cleanup prior to analysis.

Surrogate recoveries for Decachlorobiphenyl were above QC limits in samples HA-B-6(1-3), HA-B-6(1-3)MS, HA-B-6(1-3)MSD, HA-B-4(5-7)MS, HA-B-4(5-7)MSD, HA-B-4S(0-2), HA-B-1S(0-2), HA-B-9S(0-2) and HA-B-8S(0-2) on the RTX-35 column due to sample matrix.

The surrogate recovery for Tetrachloro-m-xylene was below QC limits and Decachlorobiphenyl was lost in sample matrix on the RTX-35 column for sample HA-B-1(5-7). The surrogate, Decachlorobiphenyl, was lost in sample matrix on the DB-1701 column in sample HA-B-1(5-7). The client was contacted regarding this issue.

The surrogate recovery for Tetrachloro-m-xylene was below QC limits and Decachlorobiphenyl was lost in sample matrix on the RTX-35 column for sample HA-B-3(4-8). All results for this sample were reported from the DB-1701 column.

Surrogate recovery for Tetrachloro-m-xylene was below QC limits in sample HA-B-2S(0-2) on the RTX-35 column.

The surrogate, Decachlorobiphenyl, was lost in sample matrix in samples HA-B-2(4-8), HA-B-3S(0-2), HA-B-7(4-8), and HA-B-8(4-8) on the RTX-35 column.

Surrogate recoveries for Decachlorobiphenyl were above QC limits in samples HA-B-6(1-3), HA-B-4(5-7)MSD, HA-B-4S(0-2), HA-B-1S(0-2), HA-B-9S(0-2), HA-B-2(4-8), HA-B-3S(0-2), HA-B-10(4-8) and HA-B-8(4-8) on the DB-1701 column due to sample matrix.

The surrogate, Decachlorobiphenyl, was lost in sample matrix in sample HA-B-6(1-3)MSD on the DB-1701 column.

Spike recoveries for gamma-BHC, Aldrin and Endrin were outside of QC limits in HA-B-6(1-3)MSD.

The % RPD's for Heptachlor, Aldrin, Dieldrin and Endrin were outside of QC limits in HA-B-6(1-3)MS/MSD.

The spike recovery for 4,4'-DDT was outside of QC limits in HA-B-4(5-7)MS/MSD.

The spike recovery for Endrin was above QC limits in 24509-2LCS.

The result for Heptachlor epoxide was reported from the DB-1701 column in sample HA-B-10(4-8). There was less matrix interference with this compound on this column..

Results for alpha-Chlordane and Endosulfan I were reported from the DB-1701 column in sample 25409-2LCS due to coelution on the RTX-35 column.

The result for Endrin aldehyde was reported from the RTX-35 column in samples HA-B-6(1-3) and HA-B-7(4-8). There was less matrix interference with this compound on this column.

The result for alpha-Chlordane was reported from the RTX-35 column in sample HA-B-2S(0-2). There was less matrix interference with this compound on this column.

The result for Endrin was reported from the RTX-35 column in sample HA-B-3S(0-2). There was less matrix interference with this compound on this column.

The result for Methoxychlor was reported from the RTX-35 column in samples HA-B-6(1-3) and HA-B-3S(0-2). There was less matrix interference with this compound on this column.

The result for 4,4'-DDE was reported from the RTX-35 column in sample HA-B-2S(0-2). There was less matrix interference with this compound on this column.

The % breakdown for 4,4'-DDT and the continuing calibration standards following all samples on both columns did not meet QC criteria. Sample matrix was the cause.

The %RSD for alpha-BHC was above QC limits in the initial calibration curve on the RTX-35 column analyzed on 12/1/03-12/2/03. This compound was not present in any samples associated with this curve.

The surrogate, Tetrachloro-m-xylene, was outside of retention time windows in the INDB5 standard analyzed at 23:36 on 12/1/03 on the RTX-35 column.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID – HA-B-9S(0-2)
Compound – 4,4'-DDE

$$\frac{(75687486\text{area})(10000\text{ul})}{(2588838564\text{area/ng})(30.1\text{g})(0.894)(1\text{ul})} = 11\text{ug/Kg}$$

Polychlorinated Biphenyls (PCB's) - PCB samples were analyzed by GC/ECD using guidance provided in Method 8082. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

All samples required sulfur cleanup.

The recovery of the surrogate, Decachlorobiphenyl, was over QC limits in HA-B-3S(0-2) and HA-B-7(4-8) on the RTX-CLPesticidesII column.

The recovery of the surrogate, Decachlorobiphenyl, was over QC limits in HA-B-7(4-8) on the RTX-CLPesticides column.

The recovery of the surrogate, Tetrachlormetaxylene, was over QC limits in HA-B(4-8) on the RTX-CLPesticides column.

The recovery of both surrogates was over QC limits in HA-B-3S(0-2) on the RTX-CLPesticides column. All results were reported from the RTX-CLPesticidesII column.

The recovery of the spike was over QC limits in HA-B-4(5-7)MSD.

The continuing calibration checks analyzed on the RTX-CLPesticides and RTX-CLPesticidesII at 03:20 on 11/26/03 did not meet QC limits for Decachlorobiphenyl. These were the end-bracketing standards for all of the client's samples. Sample matrix was the cause.

The Aroclor 1254 detected in samples HA-B-6(1-3), HA-B-1(5-7), HA-B-2S(0-2), and HA-B-3(4-8) was reported from the RTX-CLPesticides column. There was less interference on this column, with this compound.

The Aroclor 1254 detected in samples HA-B-4(5-7) and HA-B-8S(0-2) was reported from the RTX-CLPesticidesII column. There was less interference on this column, with this compound.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID –HA-B-6(1-3)MS
Compound – Aroclor1260 peak at retention time 9.78

$$\frac{(5484268\text{area})(10000\text{ul})}{(26081541\text{area/ng})(30.2\text{g})(.875)(1\text{ul})} = 79.6\text{ug/Kg}$$

Semi-Volatile Organics - Semi-volatile organic samples were analyzed by capillary GC/MS according to NYSDEC Protocols using guidance provided in Method 8270C. The instrumentation used was a Hewlett-Packard Gas Chromatograph interfaced with a Mass Selective Detector.

A 2ul injection was used for all samples and standards. The instrument was calibrated at 10ng/ul (20 ng), 25 ng/ul(50 ng), 40ng/ul(80ng), 60ng/ul(120ng) and 80ng/ul(160ng). Internal standards were added to all samples and standards were at 20ng/ul(40ng).

Samples HA-B-0S(0-2) and HA-B-4(5-7)MS had one surrogate out of recovery criteria, but within laboratory sample acceptance criteria.

The laboratory was unable to determine the inflection point between benzo(b)fluoranthene and benzo(k)fluoranthene in sample HA-B-2S (0-2), therefore the compounds have been reported as a total concentration of benzo(b)fluoranthene.

Sample HA-B-4 (5-7) and its corresponding QC were analyzed straight. The results appeared to reflect sample inhomogeneity between the sample and the QC results. The sample was reextracted and reanalyzed. Due to high levels of target compounds, the sample and corresponding QC were analyzed at a 1:2 dilution. Both sets of results have been reported with the reextracted results designated with the suffix "RE". The inhomogeneity of the sample appears to be present in the reextracted samples.

The following samples were analyzed at dilutions due to the presence of high levels of target compounds:

HA-B-6 (1-3)/MS/MSD	1:2		HA-B-4 (5-7)/MS/MSD-RE	1:2
HA-B-4S (0-2)	1:25		HA-B-1 (5-7)	1:4
HA-B-2S (0-2)	1:2		HA-B-2 (4-8)	1:2
HA-B-3S (0-2)	1:5		HA-B-3 (4-8)	1:2
HA-B-7 (4-8)	1:5		HA-B-10 (4-8)	1:8
HA-B-8S (0-2)	1:4		HA-B-8 (4-8)	1:50

SEVERN TRENT STL

Sample Calculation:

Sample ID – HA-B-6 (1-3)
Compound - Naphthalene

$$\frac{(21132)(40)(1000)(2.0)}{(204983)(.947)(2.0)(15.6)(.875)} = 319 = 320 \text{ ug/kg}$$

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

SAMPLE INFORMATION
Date: 12/17/2003

Job Number.: 205347
Customer...: Energy and Environmental Analysts, Inc.
Attn.....: Jeff Shelkey

Project Number.....: 20000963
Customer Project ID....: NYCDOS SWB INCINERAT
Project Description....: NYCDOS SWB Incinerator Plant

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
205347-1	HA-B-6(1-3)	Soil	11/17/2003	09:45	11/18/2003	15:00
205347-2	HA-B-4(5-7)	Soil	11/17/2003	10:45	11/18/2003	15:00
205347-3	HA-B-4S(0-2)	Soil	11/17/2003	10:45	11/18/2003	15:00
205347-4	HA-B-1S(0-2)	Soil	11/17/2003	12:00	11/18/2003	15:00
205347-5	HA-B-1(5-7)	Soil	11/17/2003	12:00	11/18/2003	15:00
205347-6	HA-B-9S(0-2)	Soil	11/17/2003	13:30	11/18/2003	15:00
205347-7	HA-B-2S(0-2)	Soil	11/18/2003	09:00	11/18/2003	15:00
205347-8	HA-B-2(4-8)	Soil	11/18/2003	09:00	11/18/2003	15:00
205347-9	HA-B-3S(0-2)	Soil	11/18/2003	09:30	11/18/2003	15:00
205347-10	HA-B-3(4-8)	Soil	11/18/2003	09:30	11/18/2003	15:00
205347-11	HA-B-5(4-8)	Soil	11/18/2003	11:30	11/18/2003	15:00
205347-12	HA-B-7(4-8)	Soil	11/18/2003	11:15	11/18/2003	15:00
205347-13	HA-B-10(4-8)	Soil	11/18/2003	11:00	11/18/2003	15:00
205347-14	HA-B-8S(0-2)	Soil	11/18/2003	11:45	11/18/2003	15:00
205347-15	HA-B-8(4-8)	Soil	11/18/2003	11:45	11/18/2003	15:00

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-6(1-3)
Date Sampled.....: 11/17/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Carbon disulfide, Solid*	0.9	J		0.2	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Acetone, Solid*	8	J		6	11	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Methylene chloride, Solid*	4	J	B	1	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Toluene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-6(1-3)
Date Sampled.....: 11/17/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Ethylbenzene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk
	Xylenes (total), Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 1554	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	86.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Acetone, Solid*	16			6	12	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Methylene chloride, Solid*	7		B	1	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	2-Butanone (MEK), Solid*	ND	U		3	12	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	12	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Toluene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	2-Hexanone, Solid*	ND	U		4	12	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Ethylbenzene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk
	Xylenes (total), Solid*	ND	U		1	6	1.00000	ug/Kg	25627		11/25/03 1036	kjk

0000011

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	7.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Acetone, Solid*	10	J		6	11	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Methylene chloride, Solid*	4	J	B	1	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Chloroform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Toluene, Solid*	0.7	J		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk

* In Description = Dry Wgt.

0000012

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Bromoform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	25648		11/24/03 1656	kjk

0000013

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Carbon disulfide, Solid*	0.6	J		0.2	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Acetone, Solid*	12			6	11	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Methylene chloride, Solid*	7		B	1	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Chloroform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Toluene, Solid*	0.6	J		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk

* In Description = Dry Wgt.

000014

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Bromoform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	25627	RA	11/25/03 1107	kjk

0000015

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Methylene chloride, Solid*	4	J	B	1	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Chloroform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk

* In Description = Dry Wgt.

000016

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Bromoform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	25648		11/24/03 1727	kjk

0000017

* In Description = Dry Wgt.

Job Number: 205347

LABORATORY TEST RESULTS

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-5
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Carbon disulfide, Solid*	2	J		0.2	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Acetone, Solid*	18			6	11	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Methylene chloride, Solid*	5	J	B	1	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	2-Butanone (MEK), Solid*	25			3	11	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Toluene, Solid*	2	J		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk

* In Description = Dry Wgt.

000018

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-5
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Ethylbenzene, Solid*	2	J		0.5	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk
	Xylenes (total), Solid*	17			1	6	1.00000	ug/Kg	25648		11/24/03 1759	kjk

000001 9

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-9S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-6
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Vinyl chloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Methylene chloride, Solid*	4	J	B	1	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Benzene, Solid*	2	J		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Toluene, Solid*	1	J		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk

* In Description = Dry Wgt.

000020

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-9S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-6
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Ethylbenzene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk
	Xylenes (total), Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 1830	kjk

00000021

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Vinyl chloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Carbon disulfide, Solid*	2	J		0.2	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Acetone, Solid*	23			6	11	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Methylene chloride, Solid*	4	J	B	1	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Toluene, Solid*	1	J		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk

* In Description = Dry Wgt.

000022

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Ethylbenzene, Solid*	0.8	J		0.4	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk
	Xylenes (total), Solid*	4	J		1	6	1.00000	ug/Kg	25648		11/24/03 1901	kjk

000023

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Date:12/03/2003

Job Number: 205347

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-8
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	83.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	17.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Carbon disulfide, Solid*	1	J		0.2	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Acetone, Solid*	21			6	12	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Methylene chloride, Solid*	5	J	B	1	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Vinyl acetate, Solid*	ND	U		4	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	2-Butanone (MEK), Solid*	ND	U		3	12	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	12	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Toluene, Solid*	0.8	J		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk

* In Description = Dry Wgt.

000024

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-8
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	2-Hexanone, Solid*	ND	U		4	12	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Ethylbenzene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk
	Xylenes (total), Solid*	2	J		1	6	1.00000	ug/Kg	25648		11/24/03 1932	kjk

000025

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-9
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	85.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	14.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Bromomethane, Solid*	ND	U	H	3	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Acetone, Solid*	ND	U		6	12	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Methylene chloride, Solid*	4	J	B	1	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Vinyl acetate, Solid*	ND	U		4	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	2-Butanone (MEK), Solid*	ND	U		3	12	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	12	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Toluene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-9
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	2-Hexanone, Solid*	ND	U		4	12	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Ethylbenzene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk
	Xylenes (total), Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2003	kjk

000027

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-10
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	83.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	16.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Carbon disulfide, Solid*	5	J		0.2	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Acetone, Solid*	160			6	12	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Methylene chloride, Solid*	5	J	B	1	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Vinyl acetate, Solid*	ND	U		4	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	2-Butanone (MEK), Solid*	40			3	12	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	12	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Toluene, Solid*	2	J		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-10
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	2-Hexanone, Solid*	ND	U		4	12	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Ethylbenzene, Solid*	2	J		0.5	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk
	Xylenes (total), Solid*	4	J		1	6	1.00000	ug/Kg	25648		11/24/03 2034	kjk

00000029

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-5(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-11
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	80.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	19.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Chloroethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Carbon disulfide, Solid*	4	J		0.2	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Acetone, Solid*	48			6	12	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Methylene chloride, Solid*	6	J	B	1	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Vinyl acetate, Solid*	ND	U		4	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	2-Butanone (MEK), Solid*	11	J		4	12	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	12	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Toluene, Solid*	1	J		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-5(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-11
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	2-Hexanone, Solid*	ND	U		4	12	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Ethylbenzene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk
	Xylenes (total), Solid*	3	J		1	6	1.00000	ug/Kg	25648		11/24/03 2106	kjk

000031

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-7(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-12
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	26.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Vinyl chloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Bromomethane, Solid*	ND	U		3	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Chloroethane, Solid*	ND	U		1	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Carbon disulfide, Solid*	ND	U		0.3	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Acetone, Solid*	20			7	14	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Methylene chloride, Solid*	4	J	B	2	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Vinyl acetate, Solid*	ND	U		4	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	2-Butanone (MEK), Solid*	ND	U		4	14	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Chloroform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Benzene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Trichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Bromodichloromethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		4	14	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Toluene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-7(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-12
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	2-Hexanone, Solid*	ND	U		5	14	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Chlorobenzene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Ethylbenzene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Styrene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Bromoform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk
	Xylenes (total), Solid*	ND	U		2	7	1.00000	ug/Kg	25648		11/24/03 2137	kjk

000033

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-10(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-13
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	81.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	18.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Chloroethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Acetone, Solid*	38			6	12	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Methylene chloride, Solid*	4	J	B	1	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Vinyl acetate, Solid*	ND	U		4	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	2-Butanone (MEK), Solid*	7	J		4	12	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	12	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Toluene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk

* In Description = Dry Wgt.

000034

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-10(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-13
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	2-Hexanone, Solid*	ND	U		4	12	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Ethylbenzene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk
	Xylenes (total), Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2208	kjk

0000035

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-14
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	86.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Acetone, Solid*	ND	U		6	12	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Methylene chloride, Solid*	7		B	1	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	2-Butanone (MEK), Solid*	ND	U		3	12	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	12	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Toluene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-14
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	2-Hexanone, Solid*	ND	U		4	12	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Ethylbenzene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk
	Xylenes (total), Solid*	ND	U		1	6	1.00000	ug/Kg	25627		11/25/03 1138	kjk

000037

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-15
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	77.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	22.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Chloroethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Carbon disulfide, Solid*	2	J		0.3	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Acetone, Solid*	18			7	13	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Methylene chloride, Solid*	5	J	B	2	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Vinyl acetate, Solid*	ND	U		4	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	2-Butanone (MEK), Solid*	ND	U		4	13	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Chloroform, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		4	13	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Toluene, Solid*	0.8	J		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk

* In Description = Dry Wgt.

000038

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-15
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	2-Hexanone, Solid*	ND	U		5	13	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Ethylbenzene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Bromoform, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk
	Xylenes (total), Solid*	3	J		1	6	1.00000	ug/Kg	25648		11/24/03 2310	kjk

00000039

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-6(1-3)
Date Sampled.....: 11/17/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	87.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	320	J		140	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	2-Methylnaphthalene, Solid*	230	J		120	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Acenaphthylene, Solid*	92	J	M	48	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Acenaphthene, Solid*	230	J		66	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Fluorene, Solid*	220	J		88	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Phenanthrene, Solid*	1800			110	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Anthracene, Solid*	470	J	M	53	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Fluoranthene, Solid*	2200			97	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Pyrene, Solid*	3000			84	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Benzo(a)anthracene, Solid*	1200	J		66	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Chrysene, Solid*	1500		M	75	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Benzo(b)fluoranthene, Solid*	1100	J	M	170	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Benzo(k)fluoranthene, Solid*	750	J	M	170	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Benzo(a)pyrene, Solid*	1200	J		70	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	530	J		79	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Dibenzo(a,h)anthracene, Solid*	240	J		79	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw
	Benzo(ghi)perylene, Solid*	570	J		75	1500	2.00000	ug/Kg	26316		12/04/03 0926	jdw

* In Description = Dry Wgt.

000040

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	86.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	190	J		36	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	2-Methylnaphthalene, Solid*	45	J		32	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Acenaphthylene, Solid*	34	J		13	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Acenaphthene, Solid*	120	J		17	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Fluorene, Solid*	100	J		23	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Phenanthrene, Solid*	810			27	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Anthracene, Solid*	200	J		14	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Fluoranthene, Solid*	1200			25	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Pyrene, Solid*	1200			22	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Benzo(a)anthracene, Solid*	520			17	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Chrysene, Solid*	590			19	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Benzo(b)fluoranthene, Solid*	560		M	43	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Benzo(k)fluoranthene, Solid*	410		M	44	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Benzo(a)pyrene, Solid*	620			18	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	380			20	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Dibenzo(a,h)anthracene, Solid*	160	J		20	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw
	Benzo(ghi)perylene, Solid*	470			19	380	1.00000	ug/Kg	26316		12/03/03 2213	jdw

* In Description = Dry Wgt.

000041

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene, Solid*	540	J		72	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	2-Methylnaphthalene, Solid*	210	J		63	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Acenaphthylene, Solid*	47	J		25	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Acenaphthene, Solid*	580	J		34	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Fluorene, Solid*	540	J		45	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Phenanthrene, Solid*	4600			54	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Anthracene, Solid*	1100			27	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Fluoranthene, Solid*	4300			50	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Pyrene, Solid*	3100			43	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Benzo(a)anthracene, Solid*	1900			34	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Chrysene, Solid*	1900			38	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Benzo(b)fluoranthene, Solid*	1400			86	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Benzo(k)fluoranthene, Solid*	1400			88	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Benzo(a)pyrene, Solid*	1600			36	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	920			41	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Dibenzo(a,h)anthracene, Solid*	330	J		41	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw
	Benzo(ghi)perylene, Solid*	990			38	750	2.00000	ug/Kg	26318	RE	12/11/03 1443	jdw

0000042

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	7.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		840	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	2-Methylnaphthalene, Solid*	ND	U		740	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Acenaphthylene, Solid*	4600	J		290	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Acenaphthene, Solid*	730	J		400	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Fluorene, Solid*	4800	J		530	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Phenanthrene, Solid*	35000			630	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Anthracene, Solid*	7100	J		320	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Fluoranthene, Solid*	32000			580	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Pyrene, Solid*	35000			500	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Benzo(a)anthracene, Solid*	12000			400	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Chrysene, Solid*	11000			450	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Benzo(b)fluoranthene, Solid*	7200	J		1000	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Benzo(k)fluoranthene, Solid*	9800			1000	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Benzo(a)pyrene, Solid*	8700	J		420	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	4700	J		470	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Dibenzo(a,h)anthracene, Solid*	1700	J	H	470	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw
	Benzo(ghi)perylene, Solid*	5000	J		450	8700	25.00000	ug/Kg	26316		12/05/03 1321	jdw

* In Description = Dry Wgt.

000043

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	91.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		34	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	2-Methylnaphthalene, Solid*	ND	U		30	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Acenaphthylene, Solid*	51	J		12	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Acenaphthene, Solid*	17	J		16	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Fluorene, Solid*	ND	U		21	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Phenanthrene, Solid*	240	J		25	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Anthracene, Solid*	77	J		13	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Fluoranthene, Solid*	580			23	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Pyrene, Solid*	750			20	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Benzo(a)anthracene, Solid*	320	J		16	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Chrysene, Solid*	380			18	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Benzo(b)fluoranthene, Solid*	290	J	M	40	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Benzo(k)fluoranthene, Solid*	220	J	M	41	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Benzo(a)pyrene, Solid*	320	J		17	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	110	J		19	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Dibenzo(a,h)anthracene, Solid*	55	J		19	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw
	Benzo(ghi)perylene, Solid*	110	J		18	350	1.00000	ug/Kg	26316		12/04/03 0002	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-5
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	87.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	790	J		140	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	2-Methylnaphthalene, Solid*	330	J		130	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Acenaphthylene, Solid*	280	J		49	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Acenaphthene, Solid*	510	J		67	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Fluorene, Solid*	540	J		89	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Phenanthrene, Solid*	4500			110	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Anthracene, Solid*	1200	J		54	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Fluoranthene, Solid*	6100			98	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Pyrene, Solid*	7600			85	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Benzo(a)anthracene, Solid*	3000			67	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Chrysene, Solid*	3000			76	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Benzo(b)fluoranthene, Solid*	2100			170	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Benzo(k)fluoranthene, Solid*	2800			170	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Benzo(a)pyrene, Solid*	2700			72	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	1200	J		81	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Dibenzo(a,h)anthracene, Solid*	490	J		81	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw
	Benzo(ghi)perylene, Solid*	1100	J		76	1500	4.00000	ug/Kg	26316		12/05/03 1347	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-9S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-6
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	100	J		35	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	2-Methylnaphthalene, Solid*	64	J		31	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Acenaphthylene, Solid*	42	J		12	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Acenaphthene, Solid*	87	J		17	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Fluorene, Solid*	89	J		22	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Phenanthrene, Solid*	770			26	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Anthracene, Solid*	190	J		13	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Fluoranthene, Solid*	1000			24	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Pyrene, Solid*	950			21	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Benzo(a)anthracene, Solid*	480			17	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Chrysene, Solid*	550			19	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Benzo(b)fluoranthene, Solid*	450		M	42	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Benzo(k)fluoranthene, Solid*	530		M	43	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Benzo(a)pyrene, Solid*	510			18	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	88	J		20	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Dibenzo(a,h)anthracene, Solid*	43	J		20	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw
	Benzo(ghi)perylene, Solid*	75	J		19	360	1.00000	ug/Kg	26316		12/04/03 0056	jdw

0000046

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	89.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	450	J		68	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	2-Methylnaphthalene, Solid*	210	J		60	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Acenaphthylene, Solid*	130	J		23	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Acenaphthene, Solid*	530	J		32	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Fluorene, Solid*	580	J		43	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Phenanthrene, Solid*	3600			51	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Anthracene, Solid*	860			26	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Fluoranthene, Solid*	3600			47	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Pyrene, Solid*	3700			40	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Benzo(a)anthracene, Solid*	1600			32	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Chrysene, Solid*	1800			36	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Benzo(b)fluoranthene, Solid*	2400		H	81	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Benzo(k)fluoranthene, Solid*	ND	U		83	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Benzo(a)pyrene, Solid*	1500			34	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	430	J		38	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Dibenzo(a,h)anthracene, Solid*	220	J		38	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw
	Benzo(ghi)perylene, Solid*	410	J		36	700	2.00000	ug/Kg	26316		12/04/03 1148	jdw

* In Description = Dry Wgt.

000047

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-8
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	83.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	17.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	290	J		73	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	2-Methylnaphthalene, Solid*	140	J		64	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Acenaphthylene, Solid*	140	J		25	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Acenaphthene, Solid*	260	J		34	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Fluorene, Solid*	270	J		45	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Phenanthrene, Solid*	2000			55	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Anthracene, Solid*	590	J		27	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Fluoranthene, Solid*	4000			50	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Pyrene, Solid*	3700			43	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Benzo(a)anthracene, Solid*	1700			34	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Chrysene, Solid*	2000		M	39	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Benzo(b)fluoranthene, Solid*	1800		M	86	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Benzo(k)fluoranthene, Solid*	1200		M	89	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Benzo(a)pyrene, Solid*	1600		H	36	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	460	J		41	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Dibenzo(a,h)anthracene, Solid*	240	J		41	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw
	Benzo(ghi)perylene, Solid*	460	J		39	750	2.00000	ug/Kg	26316		12/04/03 1212	jdw

000048

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-9
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	85.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	14.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	880	J		190	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	2-Methylnaphthalene, Solid*	620	J		160	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Acenaphthylene, Solid*	460	J		64	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Acenaphthene, Solid*	1400	J		87	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Fluorene, Solid*	1100	J		120	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Phenanthrene, Solid*	9500			140	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Anthracene, Solid*	2200			70	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Fluoranthene, Solid*	10000			130	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Pyrene, Solid*	12000			110	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Benzo(a)anthracene, Solid*	4500			87	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Chrysene, Solid*	5300			98	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Benzo(b)fluoranthene, Solid*	3700		M	220	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Benzo(k)fluoranthene, Solid*	2700		M	230	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Benzo(a)pyrene, Solid*	3800			93	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	1200	J		100	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Dibenzo(a,h)anthracene, Solid*	670	J		100	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw
	Benzo(ghi)perylene, Solid*	1200	J		98	1900	5.00000	ug/Kg	26316		12/04/03 1235	jdw

000049

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-10
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	83.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	16.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	530	J		76	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	2-Methylnaphthalene, Solid*	160	J		66	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Acenaphthylene, Solid*	100	J		26	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Acenaphthene, Solid*	490	J		36	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Fluorene, Solid*	540	J		47	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Phenanthrene, Solid*	3700			57	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Anthracene, Solid*	810			28	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Fluoranthene, Solid*	4000			52	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Pyrene, Solid*	3600			45	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Benzo(a)anthracene, Solid*	1600			36	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Chrysene, Solid*	1800			40	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Benzo(b)fluoranthene, Solid*	1500		M	90	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Benzo(k)fluoranthene, Solid*	1400		M	93	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Benzo(a)pyrene, Solid*	1600		H	38	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	430	J		43	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Dibenzo(a,h)anthracene, Solid*	200	J		43	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw
	Benzo(ghi)perylene, Solid*	410	J		40	780	2.00000	ug/Kg	26316		12/04/03 1259	jdw

* In Description = Dry Wgt.

000050

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-5(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-11
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	80.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	19.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	46	J		40	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	2-Methylnaphthalene, Solid*	ND	U		35	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Acenaphthylene, Solid*	49	J		14	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Acenaphthene, Solid*	38	J		19	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Fluorene, Solid*	35	J		25	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Phenanthrene, Solid*	430			30	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Anthracene, Solid*	120	J		15	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Fluoranthene, Solid*	700			27	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Pyrene, Solid*	820			23	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Benzo(a)anthracene, Solid*	400	J		19	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Chrysene, Solid*	480			21	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Benzo(b)fluoranthene, Solid*	460		M	47	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Benzo(k)fluoranthene, Solid*	450		M	48	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Benzo(a)pyrene, Solid*	440			20	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	130	J		22	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Dibenzo(a,h)anthracene, Solid*	50	J		22	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw
	Benzo(ghi)perylene, Solid*	130	J		21	410	1.00000	ug/Kg	26316		12/04/03 0312	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-7(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-12
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	26.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	770	J		220	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	2-Methylnaphthalene, Solid*	380	J		190	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Acenaphthylene, Solid*	620	J		75	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Acenaphthene, Solid*	490	J		100	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Fluorene, Solid*	650	J		140	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Phenanthrene, Solid*	8100			160	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Anthracene, Solid*	1800	J		82	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Fluoranthene, Solid*	12000			150	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Pyrene, Solid*	15000			130	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Benzo(a)anthracene, Solid*	6100			100	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Chrysene, Solid*	6900			120	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Benzo(b)fluoranthene, Solid*	4900			260	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Benzo(k)fluoranthene, Solid*	5600			270	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Benzo(a)pyrene, Solid*	5700			110	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	2900			120	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Dibenzo(a,h)anthracene, Solid*	1100	J	M	120	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw
	Benzo(ghi)perylene, Solid*	2800			120	2300	5.00000	ug/Kg	26316		12/05/03 1413	jdw

* In Description = Dry Wgt.

000052

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-10(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-13
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	81.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	18.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	850	J		310	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	2-Methylnaphthalene, Solid*	560	J		270	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Acenaphthylene, Solid*	520	J		110	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Acenaphthene, Solid*	1200	J		140	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Fluorene, Solid*	750	J		190	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Phenanthrene, Solid*	11000			230	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Anthracene, Solid*	1500	J		120	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Fluoranthene, Solid*	9100			210	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Pyrene, Solid*	13000			180	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Benzo(a)anthracene, Solid*	4900			140	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Chrysene, Solid*	6700			160	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Benzo(b)fluoranthene, Solid*	6100		M	370	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Benzo(k)fluoranthene, Solid*	4600		M	380	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Benzo(a)pyrene, Solid*	5200			150	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	2600	J		170	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Dibenzo(a,h)anthracene, Solid*	1400	J		170	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw
	Benzo(ghi)perylene, Solid*	2800	J		160	3200	8.00000	ug/Kg	26316		12/04/03 1346	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-14
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	86.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	160	J		140	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	2-Methylnaphthalene, Solid*	130	J		130	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Acenaphthylene, Solid*	110	J		49	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Acenaphthene, Solid*	100	J		67	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Fluorene, Solid*	120	J		90	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Phenanthrene, Solid*	1700			110	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Anthracene, Solid*	400	J		54	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Fluoranthene, Solid*	2100			99	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Pyrene, Solid*	3100			85	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Benzo(a)anthracene, Solid*	1100	J		67	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Chrysene, Solid*	1200	J	M	76	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Benzo(b)fluoranthene, Solid*	910	J		170	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Benzo(k)fluoranthene, Solid*	920	J		170	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Benzo(a)pyrene, Solid*	980	J		72	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	520	J		81	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Dibenzo(a,h)anthracene, Solid*	200	J		81	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw
	Benzo(ghi)perylene, Solid*	550	J		76	1500	4.00000	ug/Kg	26316		12/05/03 1439	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/16/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-15
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	77.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	22.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8270c	Semivolatile Organics											
	Naphthalene, Solid*	3000	J		2000	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	2-Methylnaphthalene, Solid*	2600	J		1700	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Acenaphthylene, Solid*	1900	J		680	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Acenaphthene, Solid*	7400	J		930	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Fluorene, Solid*	8000	J		1200	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Phenanthrene, Solid*	70000			1500	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Anthracene, Solid*	11000	J		750	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Fluoranthene, Solid*	72000			1400	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Pyrene, Solid*	92000			1200	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Benzo(a)anthracene, Solid*	28000			930	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Chrysene, Solid*	29000			1100	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Benzo(b)fluoranthene, Solid*	22000			2400	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Benzo(k)fluoranthene, Solid*	20000	J		2400	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Benzo(a)pyrene, Solid*	24000			990	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	13000	J		1100	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Dibenzo(a,h)anthracene, Solid*	5000	J	H	1100	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw
	Benzo(ghi)perylene, Solid*	14000	J		1100	21000	50.00000	ug/Kg	26316		12/05/03 1505	jdw

* In Description = Dry Wgt.

Job Number: 205347

LABORATORY TEST RESULTS

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-6(1-3)
Date Sampled.....: 11/17/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.31	1.9	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	beta-BHC, Solid*	ND	U		0.31	1.9	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	delta-BHC, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	Heptachlor, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	Aldrin, Solid*	ND	U		0.40	2.3	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	Heptachlor epoxide, Solid*	8.6			0.13	1.9	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	Endosulfan I, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	Dieldrin, Solid*	ND	U		0.36	3.7	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	4,4'-DDE, Solid*	21		M	0.49	3.7	1.00000	ug/Kg	25876		11/26/03 1512	dmm
	Endrin, Solid*	ND	U		1.0	5.7	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.7	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	4,4'-DDD, Solid*	7.1			0.43	3.7	1.00000	ug/Kg	25876		11/26/03 1512	dmm
	Endosulfan sulfate, Solid*	5.6			0.20	3.7	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	4,4'-DDT, Solid*	ND	U		0.35	3.7	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	Methoxychlor, Solid*	15	J	M	2.4	19	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	alpha-Chlordane, Solid*	7.4			0.12	1.9	1.00000	ug/Kg	25876		11/26/03 1512	dmm
	gamma-Chlordane, Solid*	3.0			0.10	1.9	1.00000	ug/Kg	25876		11/26/03 1512	dmm
	Toxaphene, Solid*	ND	U		5.5	94	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	Endrin aldehyde, Solid*	2.4	J		0.37	3.7	1.00000	ug/Kg	25871		11/26/03 1235	dmm
	Endrin ketone, Solid*	8.9		M	0.16	3.7	1.00000	ug/Kg	25876		11/26/03 1512	dmm

* in Description = Dry Wgt.

000056

LABORATORY TEST RESULTS

Date:12/03/2003

Job Number: 205347

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	86.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.31	1.9	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	beta-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	delta-BHC, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Heptachlor, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Aldrin, Solid*	ND	U		0.40	2.3	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Heptachlor epoxide, Solid*	2.6			0.13	1.9	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Endosulfan I, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Dieldrin, Solid*	ND	U		0.36	3.7	1.00000	ug/Kg	25876		11/26/03 1544	dmm
	4,4'-DDE, Solid*	8.0		M	0.49	3.7	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Endrin, Solid*	ND	U		1.0	5.6	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.7	1.00000	ug/Kg	25876		11/26/03 1544	dmm
	4,4'-DDD, Solid*	1.3	J		0.43	3.7	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Endosulfan sulfate, Solid*	1.6	J		0.20	3.7	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	4,4'-DDT, Solid*	ND	U		0.35	3.7	1.00000	ug/Kg	25876		11/26/03 1544	dmm
	Methoxychlor, Solid*	36			2.4	19	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	gamma-Chlordane, Solid*	ND	U		0.10	1.9	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Toxaphene, Solid*	ND	U		5.5	94	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Endrin aldehyde, Solid*	ND	U		0.36	3.7	1.00000	ug/Kg	25871		11/26/03 1315	dmm
	Endrin ketone, Solid*	ND	U		0.16	3.7	1.00000	ug/Kg	25871		11/26/03 1315	dmm

* In Description = Dry Wgt.

000037

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	7.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	beta-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	Aldrin, Solid*	ND	U		0.38	2.1	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	Heptachlor epoxide, Solid*	8.8			0.12	1.8	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	Dieldrin, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	4,4'-DDE, Solid*	23			0.46	3.5	1.00000	ug/Kg	25876		11/26/03 1616	dmm
	Endrin, Solid*	ND	U		0.95	5.3	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	4,4'-DDD, Solid*	0.91	J		0.41	3.5	1.00000	ug/Kg	25876		11/26/03 1616	dmm
	Endosulfan sulfate, Solid*	4.4			0.18	3.5	1.00000	ug/Kg	25876		11/26/03 1616	dmm
	4,4'-DDT, Solid*	ND	U		0.33	3.5	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	Methoxychlor, Solid*	ND	U		2.3	18	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	alpha-Chlordane, Solid*	5.5		M	0.12	1.8	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	gamma-Chlordane, Solid*	2.9			0.097	1.8	1.00000	ug/Kg	25876		11/26/03 1616	dmm
	Toxaphene, Solid*	ND	U		5.2	89	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	Endrin aldehyde, Solid*	ND	U		0.35	3.5	1.00000	ug/Kg	25871		11/26/03 1351	dmm
	Endrin ketone, Solid*	10		M	0.15	3.5	1.00000	ug/Kg	25876		11/26/03 1616	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	91.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.30	1.8	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	beta-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	gamma-BHC (Lindane), Solid*	0.62	J		0.16	1.8	1.00000	ug/Kg	25876		11/26/03 1647	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	Aldrin, Solid*	ND	U		0.38	2.2	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	Dieldrin, Solid*	ND	U		0.35	3.6	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	4,4'-DDE, Solid*	4.7			0.47	3.6	1.00000	ug/Kg	25876		11/26/03 1647	dmm
	Endrin, Solid*	ND	U		0.96	5.4	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.6	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	4,4'-DDD, Solid*	8.1		M	0.41	3.6	1.00000	ug/Kg	25876		11/26/03 1647	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.6	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	4,4'-DDT, Solid*	4.6			0.33	3.6	1.00000	ug/Kg	25876		11/26/03 1647	dmm
	Methoxychlor, Solid*	7.0	J		2.3	18	1.00000	ug/Kg	25876		11/26/03 1647	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	gamma-Chlordane, Solid*	0.52	J		0.098	1.8	1.00000	ug/Kg	25876		11/26/03 1647	dmm
	Toxaphene, Solid*	ND	U		5.2	90	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	Endrin aldehyde, Solid*	ND	U		0.35	3.6	1.00000	ug/Kg	25871		11/26/03 1428	dmm
	Endrin ketone, Solid*	ND	U		0.16	3.6	1.00000	ug/Kg	25871		11/26/03 1428	dmm

* In Description = Dry Wgt.

000059

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-5
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.31	1.9	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	beta-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	delta-BHC, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	Heptachlor, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	Aldrin, Solid*	ND	U		0.40	2.3	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	Heptachlor epoxide, Solid*	7.7			0.13	1.9	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	Endosulfan I, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	Dieldrin, Solid*	3.0	J		0.36	3.7	1.00000	ug/Kg	25876		11/26/03 1719	dmm
	4,4'-DDE, Solid*	23		M	0.49	3.7	1.00000	ug/Kg	25876		11/26/03 1719	dmm
	Endrin, Solid*	ND	U		1.0	5.7	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.7	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	4,4'-DDD, Solid*	24			0.43	3.7	1.00000	ug/Kg	25876		11/26/03 1719	dmm
	Endosulfan sulfate, Solid*	4.6			0.20	3.7	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	4,4'-DDT, Solid*	6.0			0.35	3.7	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	Methoxychlor, Solid*	130		M	2.4	19	1.00000	ug/Kg	25876		11/26/03 1719	dmm
	alpha-Chlordane, Solid*	11			0.12	1.9	1.00000	ug/Kg	25876		11/26/03 1719	dmm
	gamma-Chlordane, Solid*	4.4			0.10	1.9	1.00000	ug/Kg	25876		11/26/03 1719	dmm
	Toxaphene, Solid*	ND	U		5.5	94	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	Endrin aldehyde, Solid*	ND	U		0.37	3.7	1.00000	ug/Kg	25871		11/26/03 1505	dmm
	Endrin ketone, Solid*	6.1			0.16	3.7	1.00000	ug/Kg	25871		11/26/03 1505	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-9S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-6
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.31	1.9	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	beta-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	delta-BHC, Solid*	ND	U		0.11	1.9	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Heptachlor, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Aldrin, Solid*	ND	U		0.40	2.2	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Heptachlor epoxide, Solid*	ND	U		0.13	1.9	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.9	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Dieldrin, Solid*	ND	U		0.36	3.7	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	4,4'-DDE, Solid*	11			0.48	3.7	1.00000	ug/Kg	25876		11/26/03 1751	dmm
	Endrin, Solid*	ND	U		0.99	5.6	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.7	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	4,4'-DDD, Solid*	ND	U		0.42	3.7	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.7	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	4,4'-DDT, Solid*	ND	U		0.34	3.7	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Methoxychlor, Solid*	28			2.4	19	1.00000	ug/Kg	25876		11/26/03 1751	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	gamma-Chlordane, Solid*	0.84	J		0.10	1.9	1.00000	ug/Kg	25876		11/26/03 1751	dmm
	Toxaphene, Solid*	ND	U		5.4	93	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Endrin aldehyde, Solid*	ND	U		0.36	3.7	1.00000	ug/Kg	25871		11/26/03 1550	dmm
	Endrin ketone, Solid*	ND	U		0.16	3.7	1.00000	ug/Kg	25871		11/26/03 1550	dmm

* In Description = Dry Wgt.

000061

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/05/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	89.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	beta-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	delta-BHC, Solid*	ND	U		0.11	1.9	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Heptachlor, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Aldrin, Solid*	ND	U		0.39	2.2	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Heptachlor epoxide, Solid*	2.3			0.13	1.9	1.00000	ug/Kg	25876		11/26/03 1823	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.9	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Dieldrin, Solid*	ND	U		0.36	3.7	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	4,4'-DDE, Solid*	2.6	J		0.48	3.7	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Endrin, Solid*	ND	U		0.99	5.5	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.7	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	4,4'-DDD, Solid*	19			0.42	3.7	1.00000	ug/Kg	25876		11/26/03 1823	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.7	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	4,4'-DDT, Solid*	3.6	J	M	0.34	3.7	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Methoxychlor, Solid*	45			2.3	19	1.00000	ug/Kg	25876		11/26/03 1823	dmm
	alpha-Chlordane, Solid*	0.20	J		0.12	1.9	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	gamma-Chlordane, Solid*	3.2			0.10	1.9	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Toxaphene, Solid*	ND	U		5.4	92	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Endrin aldehyde, Solid*	ND	U		0.36	3.7	1.00000	ug/Kg	25871		11/26/03 1627	dmm
	Endrin ketone, Solid*	ND	U		0.16	3.7	1.00000	ug/Kg	25871		11/26/03 1627	dmm

0000062

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-8
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	83.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	17.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.33	2.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	beta-BHC, Solid*	ND	U		0.32	2.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	delta-BHC, Solid*	ND	U		0.12	2.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	Heptachlor, Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	Aldrin, Solid*	ND	U		0.43	2.4	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	Heptachlor epoxide, Solid*	3.6			0.14	2.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	Endosulfan I, Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	Dieldrin, Solid*	ND	U		0.39	4.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	4,4'-DDE, Solid*	12		M	0.52	4.0	1.00000	ug/Kg	25876		11/26/03 1855	dmm
	Endrin, Solid*	ND	U		1.1	6.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	Endosulfan II, Solid*	ND	U		0.20	4.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	4,4'-DDD, Solid*	7.0			0.46	4.0	1.00000	ug/Kg	25876		11/26/03 1855	dmm
	Endosulfan sulfate, Solid*	ND	U		0.21	4.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	4,4'-DDT, Solid*	ND	U		0.37	4.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	Methoxychlor, Solid*	51			2.5	20	1.00000	ug/Kg	25876		11/26/03 1855	dmm
	alpha-Chlordane, Solid*	ND	U		0.13	2.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	gamma-Chlordane, Solid*	1.2	J		0.11	2.0	1.00000	ug/Kg	25876		11/26/03 1855	dmm
	Toxaphene, Solid*	ND	U		5.8	100	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	Endrin aldehyde, Solid*	ND	U		0.39	4.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm
	Endrin ketone, Solid*	ND	U		0.17	4.0	1.00000	ug/Kg	25871		11/26/03 1703	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-9
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	85.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	14.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.32	2.0	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	beta-BHC, Solid*	ND	U		0.31	2.0	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	delta-BHC, Solid*	ND	U		0.12	2.0	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Heptachlor, Solid*	ND	U		0.17	2.0	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Aldrin, Solid*	ND	U		0.41	2.3	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Heptachlor epoxide, Solid*	21			0.13	2.0	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Endosulfan I, Solid*	ND	U		0.17	2.0	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Dieldrin, Solid*	ND	U		0.37	3.8	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	4,4'-DDE, Solid*	75			0.50	3.8	1.00000	ug/Kg	25876		12/01/03 1618	dmm
	Endrin, Solid*	9.3		M	1.0	5.8	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Endosulfan II, Solid*	ND	U		0.20	3.8	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	4,4'-DDD, Solid*	4.7			0.44	3.8	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Endosulfan sulfate, Solid*	8.3		M	0.20	3.8	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	4,4'-DDT, Solid*	ND	U		0.36	3.8	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Methoxychlor, Solid*	62			2.4	20	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	alpha-Chlordane, Solid*	15		M	0.13	2.0	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	gamma-Chlordane, Solid*	2.1			0.11	2.0	1.00000	ug/Kg	25876		12/01/03 1618	dmm
	Toxaphene, Solid*	ND	U		5.6	96	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Endrin aldehyde, Solid*	ND	U		0.37	3.8	1.00000	ug/Kg	25871		11/26/03 1740	dmm
	Endrin ketone, Solid*	18		M	0.17	3.8	1.00000	ug/Kg	25876		12/01/03 1618	dmm

C000064

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-10
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	83.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	16.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.33	2.0	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	beta-BHC, Solid*	14			0.32	2.0	1.00000	ug/Kg	25876		12/01/03 1722	dmm
	delta-BHC, Solid*	ND	U		0.12	2.0	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	Heptachlor, Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	Aldrin, Solid*	ND	U		0.42	2.4	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	Heptachlor epoxide, Solid*	6.0			0.14	2.0	1.00000	ug/Kg	25876		12/01/03 1722	dmm
	Endosulfan I, Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	Dieldrin, Solid*	2.7	J		0.38	3.9	1.00000	ug/Kg	25876		12/01/03 1722	dmm
	4,4'-DDE, Solid*	33		M	0.52	3.9	1.00000	ug/Kg	25876		12/01/03 1722	dmm
	Endrin, Solid*	ND	U		1.1	6.0	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	Endosulfan II, Solid*	ND	U		0.20	3.9	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	4,4'-DDD, Solid*	25			0.45	3.9	1.00000	ug/Kg	25876		12/01/03 1722	dmm
	Endosulfan sulfate, Solid*	3.3	J		0.21	3.9	1.00000	ug/Kg	25876		12/01/03 1722	dmm
	4,4'-DDT, Solid*	ND	U		0.37	3.9	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	Methoxychlor, Solid*	130			2.5	20	1.00000	ug/Kg	25876		12/01/03 1722	dmm
	alpha-Chlordane, Solid*	15			0.13	2.0	1.00000	ug/Kg	25876		12/01/03 1722	dmm
	gamma-Chlordane, Solid*	5.5			0.11	2.0	1.00000	ug/Kg	25876		12/01/03 1722	dmm
	Toxaphene, Solid*	ND	U		5.8	99	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	Endrin aldehyde, Solid*	ND	U		0.39	3.9	1.00000	ug/Kg	25871		11/26/03 1817	dmm
	Endrin ketone, Solid*	7.0		M	0.17	3.9	1.00000	ug/Kg	25876		12/01/03 1722	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-5(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-11
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	80.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	19.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.34	2.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	beta-BHC, Solid*	ND	U		0.33	2.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	delta-BHC, Solid*	ND	U		0.13	2.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.19	2.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	Heptachlor, Solid*	ND	U		0.18	2.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	Aldrin, Solid*	ND	U		0.44	2.5	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	Heptachlor epoxide, Solid*	2.3			0.14	2.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	Endosulfan I, Solid*	ND	U		0.18	2.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	Dieldrin, Solid*	ND	U		0.39	4.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	4,4'-DDE, Solid*	10			0.53	4.1	1.00000	ug/Kg	25876		12/01/03 1825	dmm
	Endrin, Solid*	ND	U		1.1	6.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	Endosulfan II, Solid*	ND	U		0.21	4.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	4,4'-DDD, Solid*	0.70	J		0.47	4.1	1.00000	ug/Kg	25876		12/01/03 1825	dmm
	Endosulfan sulfate, Solid*	1.9	J	M	0.21	4.1	1.00000	ug/Kg	25876		12/01/03 1825	dmm
	4,4'-DDT, Solid*	ND	U		0.38	4.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	Methoxychlor, Solid*	ND	U		2.6	21	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	alpha-Chlordane, Solid*	1.2	J		0.14	2.1	1.00000	ug/Kg	25876		12/01/03 1825	dmm
	gamma-Chlordane, Solid*	0.22	J		0.11	2.1	1.00000	ug/Kg	25876		12/01/03 1825	dmm
	Toxaphene, Solid*	ND	U		5.9	100	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	Endrin aldehyde, Solid*	ND	U		0.40	4.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm
	Endrin ketone, Solid*	ND	U		0.18	4.1	1.00000	ug/Kg	25871		11/26/03 1930	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-7(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-12
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	73.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	26.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.37	2.3	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	beta-BHC, Solid*	ND	U		0.36	2.3	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	delta-BHC, Solid*	ND	U		0.14	2.3	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.20	2.3	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Heptachlor, Solid*	ND	U		0.20	2.3	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Aldrin, Solid*	ND	U		0.48	2.7	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Heptachlor epoxide, Solid*	15		M	0.15	2.3	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Endosulfan I, Solid*	ND	U		0.20	2.3	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Dieldrin, Solid*	ND	U		0.43	4.4	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	4,4'-DDE, Solid*	41			0.58	4.4	1.00000	ug/Kg	25876		12/01/03 1929	dmm
	Endrin, Solid*	ND	U		1.2	6.7	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Endosulfan II, Solid*	ND	U		0.23	4.4	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	4,4'-DDD, Solid*	ND	U		0.51	4.4	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Endosulfan sulfate, Solid*	8.8			0.23	4.4	1.00000	ug/Kg	25876		12/01/03 1929	dmm
	4,4'-DDT, Solid*	ND	U		0.41	4.4	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Methoxychlor, Solid*	ND	U		2.8	23	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	alpha-Chlordane, Solid*	ND	U		0.15	2.3	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	gamma-Chlordane, Solid*	ND	U		0.12	2.3	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Toxaphene, Solid*	ND	U		6.5	110	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Endrin aldehyde, Solid*	2.6	J		0.43	4.4	1.00000	ug/Kg	25871		11/26/03 2007	dmm
	Endrin ketone, Solid*	13		M	0.19	4.4	1.00000	ug/Kg	25876		12/01/03 1929	dmm

* In Description = Dry Wgt.

000067

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-10(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-13
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	81.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	18.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		1.6	10	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	beta-BHC, Solid*	ND	U		1.6	10	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	delta-BHC, Solid*	ND	U		0.61	10	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.90	10	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Heptachlor, Solid*	ND	U		0.89	10	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Aldrin, Solid*	ND	U		2.1	12	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Heptachlor epoxide, Solid*	21		M	0.68	10	5.00000	ug/Kg	25876		12/01/03 2033	dmm
	Endosulfan I, Solid*	ND	U		0.87	10	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Dieldrin, Solid*	ND	U		1.9	20	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	4,4'-DDE, Solid*	140			2.6	20	5.00000	ug/Kg	25876		12/01/03 2033	dmm
	Endrin, Solid*	ND	U		5.3	30	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Endosulfan II, Solid*	ND	U		1.0	20	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	4,4'-DDD, Solid*	ND	U		2.3	20	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Endosulfan sulfate, Solid*	48			1.0	20	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	4,4'-DDT, Solid*	ND	U		1.8	20	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Methoxychlor, Solid*	ND	U		13	100	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	alpha-Chlordane, Solid*	ND	U		0.65	10	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	gamma-Chlordane, Solid*	ND	U		0.54	10	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Toxaphene, Solid*	ND	U		29	490	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Endrin aldehyde, Solid*	ND	U		1.9	20	5.00000	ug/Kg	25871		12/02/03 0316	dmm
	Endrin ketone, Solid*	50			0.86	20	5.00000	ug/Kg	25871		12/02/03 0316	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-14
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	86.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.31	1.9	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	beta-BHC, Solid*	ND	U		0.31	1.9	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	delta-BHC, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	Heptachlor, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	Aldrin, Solid*	ND	U		0.41	2.3	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	Heptachlor epoxide, Solid*	3.3			0.13	1.9	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	Endosulfan I, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	Dieldrin, Solid*	ND	U		0.37	3.8	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	4,4'-DDE, Solid*	18			0.50	3.8	1.00000	ug/Kg	25876		12/01/03 2137	dmm
	Endrin, Solid*	ND	U		1.0	5.7	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.8	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	4,4'-DDD, Solid*	2.1	J		0.44	3.8	1.00000	ug/Kg	25876		12/01/03 2137	dmm
	Endosulfan sulfate, Solid*	3.2	J		0.20	3.8	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	4,4'-DDT, Solid*	4.5			0.35	3.8	1.00000	ug/Kg	25876		12/01/03 2137	dmm
	Methoxychlor, Solid*	ND	U		2.4	19	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	alpha-Chlordane, Solid*	4.1		M	0.13	1.9	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	gamma-Chlordane, Solid*	2.0			0.10	1.9	1.00000	ug/Kg	25876		12/01/03 2137	dmm
	Toxaphene, Solid*	ND	U		5.5	95	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	Endrin aldehyde, Solid*	ND	U		0.37	3.8	1.00000	ug/Kg	25871		11/26/03 2120	dmm
	Endrin ketone, Solid*	11		M	0.16	3.8	1.00000	ug/Kg	25871		11/26/03 2120	dmm

* in Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-15
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	77.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	22.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.36	2.2	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	beta-BHC, Solid*	ND	U		0.35	2.2	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	delta-BHC, Solid*	ND	U		0.13	2.2	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.20	2.2	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Heptachlor, Solid*	ND	U		0.19	2.2	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Aldrin, Solid*	ND	U		0.46	2.6	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Heptachlor epoxide, Solid*	8.5			0.15	2.2	1.00000	ug/Kg	25876		12/01/03 2240	dmm
	Endosulfan I, Solid*	ND	U		0.19	2.2	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Dieldrin, Solid*	ND	U		0.41	4.3	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	4,4'-DDE, Solid*	20		M	0.56	4.3	1.00000	ug/Kg	25876		12/01/03 2240	dmm
	Endrin, Solid*	ND	U		1.1	6.5	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Endosulfan II, Solid*	ND	U		0.22	4.3	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	4,4'-DDD, Solid*	ND	U		0.49	4.3	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Endosulfan sulfate, Solid*	ND	U		0.22	4.3	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	4,4'-DDT, Solid*	ND	U		0.40	4.3	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Methoxychlor, Solid*	150		M	2.7	22	1.00000	ug/Kg	25876		12/01/03 2240	dmm
	alpha-Chlordane, Solid*	ND	U		0.14	2.2	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	gamma-Chlordane, Solid*	ND	U		0.12	2.2	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Toxaphene, Solid*	ND	U		6.2	110	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Endrin aldehyde, Solid*	ND	U		0.42	4.3	1.00000	ug/Kg	25871		11/26/03 2156	dmm
	Endrin ketone, Solid*	ND	U		0.19	4.3	1.00000	ug/Kg	25871		11/26/03 2156	dmm

C000070

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-6(1-3)
Date Sampled.....: 11/17/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.2	19	1.00000	ug/Kg	25768		11/25/03 2114	kam
	Aroclor 1221, Solid*	ND	U		1.7	37	1.00000	ug/Kg	25768		11/25/03 2114	kam
	Aroclor 1232, Solid*	ND	U		2.1	19	1.00000	ug/Kg	25768		11/25/03 2114	kam
	Aroclor 1242, Solid*	30		M	3.4	19	1.00000	ug/Kg	25768		11/25/03 2114	kam
	Aroclor 1248, Solid*	ND	U		3.1	19	1.00000	ug/Kg	25768		11/25/03 2114	kam
	Aroclor 1254, Solid*	40		M	1.4	19	1.00000	ug/Kg	25769		11/25/03 2114	kam
	Aroclor 1260, Solid*	17	J	M	4.5	19	1.00000	ug/Kg	25768		11/25/03 2114	kam

0000071

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Date:12/03/2003

Job Number: 205347

ATTN: Jeff Shelkey

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

Customer Sample ID: HA-B-4(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	86.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.2	19	1.00000	ug/Kg	25768		11/25/03 2209	kam
	Aroclor 1221, Solid*	ND	U		1.7	37	1.00000	ug/Kg	25768		11/25/03 2209	kam
	Aroclor 1232, Solid*	ND	U		2.1	19	1.00000	ug/Kg	25768		11/25/03 2209	kam
	Aroclor 1242, Solid*	ND	U		3.4	19	1.00000	ug/Kg	25768		11/25/03 2209	kam
	Aroclor 1248, Solid*	ND	U		3.0	19	1.00000	ug/Kg	25768		11/25/03 2209	kam
	Aroclor 1254, Solid*	13	J	M	1.4	19	1.00000	ug/Kg	25768		11/25/03 2209	kam
	Aroclor 1260, Solid*	8.2	J		4.5	19	1.00000	ug/Kg	25769		11/25/03 2209	kam

000072

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date: 12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	7.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	25768		11/25/03 2303	kam
	Aroclor 1221, Solid*	ND	U		1.6	35	1.00000	ug/Kg	25768		11/25/03 2303	kam
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	25768		11/25/03 2303	kam
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	25768		11/25/03 2303	kam
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	25768		11/25/03 2303	kam
	Aroclor 1254, Solid*	31		M	1.3	18	1.00000	ug/Kg	25769		11/25/03 2303	kam
	Aroclor 1260, Solid*	21			4.3	18	1.00000	ug/Kg	25768		11/25/03 2303	kam

0000073

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	91.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	25768		11/25/03 2322	kam
	Aroclor 1221, Solid*	ND	U		1.7	36	1.00000	ug/Kg	25768		11/25/03 2322	kam
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	25768		11/25/03 2322	kam
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	25768		11/25/03 2322	kam
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	25768		11/25/03 2322	kam
	Aroclor 1254, Solid*	31			1.3	18	1.00000	ug/Kg	25768		11/25/03 2322	kam
	Aroclor 1260, Solid*	79			4.3	18	1.00000	ug/Kg	25768		11/25/03 2322	kam

0000074

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-5
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.2	19	1.00000	ug/Kg	25768		11/25/03 2340	kam
	Aroclor 1221, Solid*	ND	U		1.7	37	1.00000	ug/Kg	25768		11/25/03 2340	kam
	Aroclor 1232, Solid*	ND	U		2.1	19	1.00000	ug/Kg	25768		11/25/03 2340	kam
	Aroclor 1242, Solid*	ND	U		3.4	19	1.00000	ug/Kg	25768		11/25/03 2340	kam
	Aroclor 1248, Solid*	44		M	3.0	19	1.00000	ug/Kg	25768		11/25/03 2340	kam
	Aroclor 1254, Solid*	84		M	1.4	19	1.00000	ug/Kg	25769		11/25/03 2340	kam
	Aroclor 1260, Solid*	87			4.5	19	1.00000	ug/Kg	25768		11/25/03 2340	kam

000075

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-9S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-6
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.1	19	1.00000	ug/Kg	25768		11/25/03 2358	kam
	Aroclor 1221, Solid*	ND	U		1.7	37	1.00000	ug/Kg	25768		11/25/03 2358	kam
	Aroclor 1232, Solid*	ND	U		2.1	19	1.00000	ug/Kg	25768		11/25/03 2358	kam
	Aroclor 1242, Solid*	ND	U		3.3	19	1.00000	ug/Kg	25768		11/25/03 2358	kam
	Aroclor 1248, Solid*	ND	U		3.0	19	1.00000	ug/Kg	25768		11/25/03 2358	kam
	Aroclor 1254, Solid*	ND	U		1.3	19	1.00000	ug/Kg	25768		11/25/03 2358	kam
	Aroclor 1260, Solid*	25			4.4	19	1.00000	ug/Kg	25768		11/25/03 2358	kam

* In Description = Dry Wgt.

0000076

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.1	19	1.00000	ug/Kg	25768		11/26/03 0017	kam
	Aroclor 1221, Solid*	ND	U		1.7	37	1.00000	ug/Kg	25768		11/26/03 0017	kam
	Aroclor 1232, Solid*	ND	U		2.1	19	1.00000	ug/Kg	25768		11/26/03 0017	kam
	Aroclor 1242, Solid*	33			3.3	19	1.00000	ug/Kg	25768		11/26/03 0017	kam
	Aroclor 1248, Solid*	ND	U		3.0	19	1.00000	ug/Kg	25768		11/26/03 0017	kam
	Aroclor 1254, Solid*	78		M	1.3	19	1.00000	ug/Kg	25769		11/26/03 0017	kam
	Aroclor 1260, Solid*	110			4.4	19	1.00000	ug/Kg	25768		11/26/03 0017	kam

0000077

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-8
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	83.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	17.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.4	20	1.00000	ug/Kg	25768		11/26/03 0035	kam
	Aroclor 1221, Solid*	ND	U		1.8	40	1.00000	ug/Kg	25768		11/26/03 0035	kam
	Aroclor 1232, Solid*	ND	U		2.2	20	1.00000	ug/Kg	25768		11/26/03 0035	kam
	Aroclor 1242, Solid*	51			3.6	20	1.00000	ug/Kg	25768		11/26/03 0035	kam
	Aroclor 1248, Solid*	ND	U		3.2	20	1.00000	ug/Kg	25768		11/26/03 0035	kam
	Aroclor 1254, Solid*	69		M	1.5	20	1.00000	ug/Kg	25769		11/26/03 0035	kam
	Aroclor 1260, Solid*	35		M	4.8	20	1.00000	ug/Kg	25768		11/26/03 0035	kam

* In Description = Dry Wgt.

000078

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/05/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-9
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	85.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	14.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.3	20	1.00000	ug/Kg	25768		11/26/03 0053	kam
	Aroclor 1221, Solid*	ND	U		1.8	38	1.00000	ug/Kg	25768		11/26/03 0053	kam
	Aroclor 1232, Solid*	ND	U		2.2	20	1.00000	ug/Kg	25768		11/26/03 0053	kam
	Aroclor 1242, Solid*	88		M	3.5	20	1.00000	ug/Kg	25768		11/26/03 0053	kam
	Aroclor 1248, Solid*	ND	U		3.1	20	1.00000	ug/Kg	25768		11/26/03 0053	kam
	Aroclor 1254, Solid*	100		M	1.4	20	1.00000	ug/Kg	25768		11/26/03 0053	kam
	Aroclor 1260, Solid*	41			4.6	20	1.00000	ug/Kg	25768		11/26/03 0053	kam

0000079

* In Description = Dry Wgt.

Job Number: 205347

LABORATORY TEST RESULTS

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

Date:12/02/2003

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-10
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	83.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	16.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.4	20	1.00000	ug/Kg	25768		11/26/03 0111	kam
	Aroclor 1221, Solid*	ND	U		1.8	39	1.00000	ug/Kg	25768		11/26/03 0111	kam
	Aroclor 1232, Solid*	ND	U		2.2	20	1.00000	ug/Kg	25768		11/26/03 0111	kam
	Aroclor 1242, Solid*	ND	U		3.6	20	1.00000	ug/Kg	25768		11/26/03 0111	kam
	Aroclor 1248, Solid*	220			3.2	20	1.00000	ug/Kg	25768		11/26/03 0111	kam
	Aroclor 1254, Solid*	ND	U		1.4	20	1.00000	ug/Kg	25769		11/26/03 0111	kam
	Aroclor 1260, Solid*	160		M	4.8	20	1.00000	ug/Kg	25769		11/26/03 0111	kam
		57		M								

* in Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-5(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-11
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	80.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	19.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.4	21	1.00000	ug/Kg	25768		11/26/03 0130	kam
	Aroclor 1221, Solid*	ND	U		1.9	41	1.00000	ug/Kg	25768		11/26/03 0130	kam
	Aroclor 1232, Solid*	ND	U		2.3	21	1.00000	ug/Kg	25768		11/26/03 0130	kam
	Aroclor 1242, Solid*	15	J	M	3.7	21	1.00000	ug/Kg	25768		11/26/03 0130	kam
	Aroclor 1248, Solid*	ND	U		3.3	21	1.00000	ug/Kg	25768		11/26/03 0130	kam
	Aroclor 1254, Solid*	22		M	1.5	21	1.00000	ug/Kg	25769		11/26/03 0130	kam
	Aroclor 1260, Solid*	7.8	J	M	4.9	21	1.00000	ug/Kg	25769		11/26/03 0130	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date: 12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-7(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-12
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	26.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.8	23	1.00000	ug/Kg	25768		11/26/03 0148	kam
	Aroclor 1221, Solid*	ND	U		2.0	44	1.00000	ug/Kg	25768		11/26/03 0148	kam
	Aroclor 1232, Solid*	ND	U		2.5	23	1.00000	ug/Kg	25768		11/26/03 0148	kam
	Aroclor 1242, Solid*	ND	U		4.0	23	1.00000	ug/Kg	25768		11/26/03 0148	kam
	Aroclor 1248, Solid*	ND	U		3.6	23	1.00000	ug/Kg	25768		11/26/03 0148	kam
	Aroclor 1254, Solid*	ND	U		1.6	23	1.00000	ug/Kg	25768		11/26/03 0148	kam
	Aroclor 1260, Solid*	ND	U		5.3	23	1.00000	ug/Kg	25768		11/26/03 0148	kam

0000082

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-10(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-13
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	81.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	18.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.3	20	1.00000	ug/Kg	25768		11/26/03 0206	kam
	Aroclor 1221, Solid*	ND	U		1.8	39	1.00000	ug/Kg	25768		11/26/03 0206	kam
	Aroclor 1232, Solid*	ND	U		2.2	20	1.00000	ug/Kg	25768		11/26/03 0206	kam
	Aroclor 1242, Solid*	ND	U		3.6	20	1.00000	ug/Kg	25768		11/26/03 0206	kam
	Aroclor 1248, Solid*	ND	U		3.2	20	1.00000	ug/Kg	25768		11/26/03 0206	kam
	Aroclor 1254, Solid*	ND	U		1.4	20	1.00000	ug/Kg	25768		11/26/03 0206	kam
	Aroclor 1260, Solid*	ND	U		4.7	20	1.00000	ug/Kg	25768		11/26/03 0206	kam

0000083

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-14
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	86.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.2	19	1.00000	ug/Kg	25768		11/26/03 0225	kam
	Aroclor 1221, Solid*	ND	U		1.7	38	1.00000	ug/Kg	25768		11/26/03 0225	kam
	Aroclor 1232, Solid*	ND	U		2.1	19	1.00000	ug/Kg	25768		11/26/03 0225	kam
	Aroclor 1242, Solid*	14	J	M	3.4	19	1.00000	ug/Kg	25768		11/26/03 0225	kam
	Aroclor 1248, Solid*	ND	U		3.1	19	1.00000	ug/Kg	25768		11/26/03 0225	kam
	Aroclor 1254, Solid*	49		M	1.4	19	1.00000	ug/Kg	25768		11/26/03 0225	kam
	Aroclor 1260, Solid*	23			4.6	19	1.00000	ug/Kg	25768		11/26/03 0225	kam

* In Description = Dry Wgt.

000084

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/02/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-15
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	77.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	22.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.6	22	1.00000	ug/Kg	25768		11/26/03 0243	kam
	Aroclor 1221, Solid*	ND	U		2.0	43	1.00000	ug/Kg	25768		11/26/03 0243	kam
	Aroclor 1232, Solid*	ND	U		2.4	22	1.00000	ug/Kg	25768		11/26/03 0243	kam
	Aroclor 1242, Solid*	29			3.9	22	1.00000	ug/Kg	25768		11/26/03 0243	kam
	Aroclor 1248, Solid*	ND	U		3.5	22	1.00000	ug/Kg	25768		11/26/03 0243	kam
	Aroclor 1254, Solid*	33			1.6	22	1.00000	ug/Kg	25768		11/26/03 0243	kam
	Aroclor 1260, Solid*	22		M	5.2	22	1.00000	ug/Kg	25769		11/26/03 0243	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-6(1-3)
Date Sampled.....: 11/17/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.87	B		0.046	1.9	1.0000	mg/Kg	25705		12/01/03 1335	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	17.5		*N	1.4	11.4	5	mg/Kg	25606		11/24/03 1452	nnp
	Barium, Solid*	218		N	0.43	2.9	5	mg/Kg	25606		11/24/03 1452	nnp
	Cadmium, Solid*	ND	U	N	1.4	4.3	5	mg/Kg	25606		11/24/03 1452	nnp
	Chromium, Solid*	23.6			0.71	4.3	5	mg/Kg	25606		11/24/03 1452	nnp
	Lead, Solid*	619		*	1.4	12.9	5	mg/Kg	25606		11/24/03 1452	nnp
	Selenium, Solid*	ND	U		2.3	22.9	5	mg/Kg	25606		11/24/03 1452	nnp
	Silver, Solid*	ND	U		0.43	4.3	5	mg/Kg	25606		11/24/03 1452	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	86.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.58	B		0.053	2.1	1.0000	mg/Kg	25705		12/01/03 1342	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	3.6	B	*N	1.4	11.2	5	mg/Kg	25606		11/24/03 1545	nnp
	Barium, Solid*	86.1		N	0.42	2.8	5	mg/Kg	25606		11/24/03 1545	nnp
	Cadmium, Solid*	ND	U	N	1.4	4.2	5	mg/Kg	25606		11/24/03 1545	nnp
	Chromium, Solid*	15.0			0.70	4.2	5	mg/Kg	25606		11/24/03 1545	nnp
	Lead, Solid*	160		*	1.4	12.6	5	mg/Kg	25606		11/24/03 1545	nnp
	Selenium, Solid*	ND	U		2.2	22.4	5	mg/Kg	25606		11/24/03 1545	nnp
	Silver, Solid*	ND	U		0.42	4.2	5	mg/Kg	25606		11/24/03 1545	nnp

* in Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-4S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	7.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.29	B		0.046	1.9	1.0000	mg/Kg	25705		12/01/03 1345	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	3.9	B	*N	1.3	10.4	5	mg/Kg	25606		11/24/03 1609	nnp
	Barium, Solid*	88.3		N	0.39	2.6	5	mg/Kg	25606		11/24/03 1609	nnp
	Cadmium, Solid*	ND	U	N	1.3	3.9	5	mg/Kg	25606		11/24/03 1609	nnp
	Chromium, Solid*	14.1			0.65	3.9	5	mg/Kg	25606		11/24/03 1609	nnp
	Lead, Solid*	111		*	1.3	11.7	5	mg/Kg	25606		11/24/03 1609	nnp
	Selenium, Solid*	ND	U		2.1	20.8	5	mg/Kg	25606		11/24/03 1609	nnp
	Silver, Solid*	ND	U		0.39	3.9	5	mg/Kg	25606		11/24/03 1609	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.064	B		0.055	2.2	1.0000	mg/Kg	25705		12/01/03 1347	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	2.8	B	*N	1.3	10.3	5	mg/Kg	25606		11/24/03 1615	nnp
	Barium, Solid*	27.1		N	0.39	2.6	5	mg/Kg	25606		11/24/03 1615	nnp
	Cadmium, Solid*	ND	U	N	1.3	3.9	5	mg/Kg	25606		11/24/03 1615	nnp
	Chromium, Solid*	15.8			0.64	3.9	5	mg/Kg	25606		11/24/03 1615	nnp
	Lead, Solid*	27.3		*	1.3	11.6	5	mg/Kg	25606		11/24/03 1615	nnp
	Selenium, Solid*	ND	U		2.1	20.6	5	mg/Kg	25606		11/24/03 1615	nnp
	Silver, Solid*	ND	U		0.39	3.9	5	mg/Kg	25606		11/24/03 1615	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-1(5-7)
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-5
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	1.4	B		0.25	10.1	5.0000	mg/Kg	25705		12/01/03 1413	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	10.7	B	*N	1.4	11.4	5	mg/Kg	25606		11/24/03 1621	nnp
	Barium, Solid*	269		N	0.43	2.8	5	mg/Kg	25606		11/24/03 1621	nnp
	Cadmium, Solid*	5.8		N	1.4	4.3	5	mg/Kg	25606		11/24/03 1621	nnp
	Chromium, Solid*	24.8			0.71	4.3	5	mg/Kg	25606		11/24/03 1621	nnp
	Lead, Solid*	1120		*	1.4	12.8	5	mg/Kg	25606		11/24/03 1621	nnp
	Selenium, Solid*	ND	U		2.3	22.7	5	mg/Kg	25606		11/24/03 1621	nnp
	Silver, Solid*	0.83	B		0.43	4.3	5	mg/Kg	25606		11/24/03 1621	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-9S(0-2)
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-6
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.19	B		0.055	2.2	1.0000	mg/Kg	25705		12/01/03 1349	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	4.3	B	*N	1.2	9.6	5	mg/Kg	25606		11/24/03 1627	nnp
	Barium, Solid*	72.5		N	0.36	2.4	5	mg/Kg	25606		11/24/03 1627	nnp
	Cadmium, Solid*	ND	U	N	1.2	3.6	5	mg/Kg	25606		11/24/03 1627	nnp
	Chromium, Solid*	16.9			0.60	3.6	5	mg/Kg	25606		11/24/03 1627	nnp
	Lead, Solid*	141		*	1.2	10.8	5	mg/Kg	25606		11/24/03 1627	nnp
	Selenium, Solid*	ND	U		1.9	19.1	5	mg/Kg	25606		11/24/03 1627	nnp
	Silver, Solid*	ND	U		0.36	3.6	5	mg/Kg	25606		11/24/03 1627	nnp

0000191

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	10.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.41	B		0.053	2.1	1.0000	mg/Kg	25705		12/01/03 1351	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	3.8	B	*N	1.3	10.4	5	mg/Kg	25606		11/24/03 1633	nnp
	Barium, Solid*	116		N	0.39	2.6	5	mg/Kg	25606		11/24/03 1633	nnp
	Cadmium, Solid*	1.4	B	N	1.3	3.9	5	mg/Kg	25606		11/24/03 1633	nnp
	Chromium, Solid*	13.8			0.65	3.9	5	mg/Kg	25606		11/24/03 1633	nnp
	Lead, Solid*	210		*	1.3	11.7	5	mg/Kg	25606		11/24/03 1633	nnp
	Selenium, Solid*	ND	U		2.1	20.8	5	mg/Kg	25606		11/24/03 1633	nnp
	Silver, Solid*	ND	U		0.39	3.9	5	mg/Kg	25606		11/24/03 1633	nnp

0000032

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-2(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-8
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	83.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	17.0			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.43	B		0.058	2.3	1.0000	mg/Kg	25705		12/01/03 1352	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	3.9	B	*N	1.4	11.6	5	mg/Kg	25606		11/24/03 1639	nnp
	Barium, Solid*	66.0		N	0.43	2.9	5	mg/Kg	25606		11/24/03 1639	nnp
	Cadmium, Solid*	ND	U	N	1.4	4.3	5	mg/Kg	25606		11/24/03 1639	nnp
	Chromium, Solid*	11.4			0.72	4.3	5	mg/Kg	25606		11/24/03 1639	nnp
	Lead, Solid*	146		*	1.4	13.0	5	mg/Kg	25606		11/24/03 1639	nnp
	Selenium, Solid*	ND	U		2.3	23.2	5	mg/Kg	25606		11/24/03 1639	nnp
	Silver, Solid*	ND	U		0.43	4.3	5	mg/Kg	25606		11/24/03 1639	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-9
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	85.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	14.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.45	B		0.058	2.3	1.0000	mg/Kg	25705		12/01/03 1355	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	6.5	B	*N	1.3	10.4	5	mg/Kg	25606		11/24/03 1657	nnp
	Barium, Solid*	166		N	0.39	2.6	5	mg/Kg	25606		11/24/03 1657	nnp
	Cadmium, Solid*	2.3	B	N	1.3	3.9	5	mg/Kg	25606		11/24/03 1657	nnp
	Chromium, Solid*	57.6			0.65	3.9	5	mg/Kg	25606		11/24/03 1657	nnp
	Lead, Solid*	454		*	1.3	11.7	5	mg/Kg	25606		11/24/03 1657	nnp
	Selenium, Solid*	ND	U		2.1	20.8	5	mg/Kg	25606		11/24/03 1657	nnp
	Silver, Solid*	0.41	B		0.39	3.9	5	mg/Kg	25606		11/24/03 1657	nnp

0000094

* in Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-3(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-10
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	83.2			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	16.8			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.56	B		0.049	1.9	1.0000	mg/Kg	25705		12/01/03 1357	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	6.5	B	*N	1.4	10.8	5	mg/Kg	25606		11/24/03 1703	nnp
	Barium, Solid*	243		N	0.41	2.7	5	mg/Kg	25606		11/24/03 1703	nnp
	Cadmium, Solid*	8.9		N	1.4	4.1	5	mg/Kg	25606		11/24/03 1703	nnp
	Chromium, Solid*	25.2			0.68	4.1	5	mg/Kg	25606		11/24/03 1703	nnp
	Lead, Solid*	1190		*	1.4	12.2	5	mg/Kg	25606		11/24/03 1703	nnp
	Selenium, Solid*	ND	U		2.2	21.7	5	mg/Kg	25606		11/24/03 1703	nnp
	Silver, Solid*	1.4	B		0.41	4.1	5	mg/Kg	25606		11/24/03 1703	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-5(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-11
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	80.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	19.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	2.1	B		0.30	11.8	5.0000	mg/Kg	25705		12/01/03 1414	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	24.5		*N	1.5	12.0	5	mg/Kg	25606		11/24/03 1709	nnp
	Barium, Solid*	127		N	0.45	3.0	5	mg/Kg	25606		11/24/03 1709	nnp
	Cadmium, Solid*	ND	U	N	1.5	4.5	5	mg/Kg	25606		11/24/03 1709	nnp
	Chromium, Solid*	14.9			0.75	4.5	5	mg/Kg	25606		11/24/03 1709	nnp
	Lead, Solid*	497		*	1.5	13.5	5	mg/Kg	25606		11/24/03 1709	nnp
	Selenium, Solid*	ND	U		2.4	23.9	5	mg/Kg	25606		11/24/03 1709	nnp
	Silver, Solid*	ND	U		0.45	4.5	5	mg/Kg	25606		11/24/03 1709	nnp

* in Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-7(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-12
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	73.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	26.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.61	B		0.057	2.3	1.0000	mg/Kg	25705		12/01/03 1400	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	13.9		*N	1.7	13.4	5	mg/Kg	25606		11/24/03 1716	nnp
	Barium, Solid*	253		N	0.50	3.4	5	mg/Kg	25606		11/24/03 1716	nnp
	Cadmium, Solid*	ND	U	N	1.7	5.0	5	mg/Kg	25606		11/24/03 1716	nnp
	Chromium, Solid*	16.8			0.84	5.0	5	mg/Kg	25606		11/24/03 1716	nnp
	Lead, Solid*	879		*	1.7	15.1	5	mg/Kg	25606		11/24/03 1716	nnp
	Selenium, Solid*	ND	U		2.7	26.8	5	mg/Kg	25606		11/24/03 1716	nnp
	Silver, Solid*	ND	U		0.50	5.0	5	mg/Kg	25606		11/24/03 1716	nnp

* in Description = Dry Wgt.

000097

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-10(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-13
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	81.9			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	18.1			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.87	B		0.055	2.2	1.0000	mg/Kg	25705		12/01/03 1401	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	32.0		*N	1.4	11.0	5	mg/Kg	25606		11/24/03 1722	nnp
	Barium, Solid*	455		N	0.41	2.7	5	mg/Kg	25606		11/24/03 1722	nnp
	Cadmium, Solid*	3.1	B	N	1.4	4.1	5	mg/Kg	25606		11/24/03 1722	nnp
	Chromium, Solid*	60.0			0.69	4.1	5	mg/Kg	25606		11/24/03 1722	nnp
	Lead, Solid*	1680		*	1.4	12.4	5	mg/Kg	25606		11/24/03 1722	nnp
	Selenium, Solid*	ND	U		2.2	22.0	5	mg/Kg	25606		11/24/03 1722	nnp
	Silver, Solid*	0.43	B		0.41	4.1	5	mg/Kg	25606		11/24/03 1722	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8S(0-2)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-14
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	86.3			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	13.7			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.39	B		0.051	2.0	1.0000	mg/Kg	25705		12/01/03 1402	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	23.2		*N	1.3	10.6	5	mg/Kg	25606		11/24/03 1728	nnp
	Barium, Solid*	93.7		N	0.40	2.7	5	mg/Kg	25606		11/24/03 1728	nnp
	Cadmium, Solid*	ND	U	N	1.3	4.0	5	mg/Kg	25606		11/24/03 1728	nnp
	Chromium, Solid*	37.2			0.66	4.0	5	mg/Kg	25606		11/24/03 1728	nnp
	Lead, Solid*	224		*	1.3	12.0	5	mg/Kg	25606		11/24/03 1728	nnp
	Selenium, Solid*	ND	U		2.1	21.3	5	mg/Kg	25606		11/24/03 1728	nnp
	Silver, Solid*	ND	U		0.40	4.0	5	mg/Kg	25606		11/24/03 1728	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205347

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-B-8(4-8)
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205347-15
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	77.4			0.10	0.10	1	%	25430		11/21/03 0000	epm
	% Moisture, Solid	22.6			0.10	0.10	1	%	25430		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.74	B		0.056	2.2	1.0000	mg/Kg	25705		12/01/03 1403	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	6.2	B	*N	1.5	11.9	5	mg/Kg	25606		11/24/03 1734	nnp
	Barium, Solid*	100		N	0.44	3.0	5	mg/Kg	25606		11/24/03 1734	nnp
	Cadmium, Solid*	ND	U	N	1.5	4.4	5	mg/Kg	25606		11/24/03 1734	nnp
	Chromium, Solid*	12.8			0.74	4.4	5	mg/Kg	25606		11/24/03 1734	nnp
	Lead, Solid*	212		*	1.5	13.3	5	mg/Kg	25606		11/24/03 1734	nnp
	Selenium, Solid*	ND	U		2.4	23.7	5	mg/Kg	25606		11/24/03 1734	nnp
	Silver, Solid*	ND	U		0.44	4.4	5	mg/Kg	25606		11/24/03 1734	nnp

* in Description = Dry Wgt.

LABORATORY CHRONICLE

Job Number: 205347 Date: 12/17/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205347-1 Client ID: HA-B-6(1-3) Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1335	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1452	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1235	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	11/26/2003	1512	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1235	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	11/26/2003	1512	1.00000
8082	PCB Analysis	1	25768	25409	11/25/2003	2114	1.00000
8082	PCB Analysis	1	25769	25409	11/25/2003	2114	1.00000
8082	PCB Analysis, Confirmation	1	25768	25409	11/25/2003	2114	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/25/2003	2114	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/04/2003	0926	2.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	1554	1.00000

Lab ID: 205347-2 Client ID: HA-B-4(5-7) Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25616				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1342	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1545	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1315	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	11/26/2003	1544	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1315	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	11/26/2003	1544	1.00000
8082	PCB Analysis	1	25768	25409	11/25/2003	2209	1.00000
8082	PCB Analysis	1	25769	25409	11/25/2003	2209	1.00000
8082	PCB Analysis, Confirmation	1	25768	25409	11/25/2003	2209	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/25/2003	2209	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/03/2003	2213	1.00000
8270C	Semivolatile Organics	2	26318	26173	12/11/2003	1443	2.00000
8260B	Volatile Organics	1	25627	25616	11/25/2003	1036	1.00000

Lab ID: 205347-3 Client ID: HA-B-4S(0-2) Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1345	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1609	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1351	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	11/26/2003	1616	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1351	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	11/26/2003	1616	1.00000

L A B O R A T O R Y C H R O N I C L E

Job Number: 205347

Date: 12/17/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDDS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205347-3 Client ID: HA-B-4S(0-2) Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8082	PCB Analysis	1	25768	25409	11/25/2003	2303	1.00000
8082	PCB Analysis	1	25769	25409	11/25/2003	2303	1.00000
8082	PCB Analysis, Confirmation	1	25768	25409	11/25/2003	2303	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/25/2003	2303	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/05/2003	1321	25.0000
8260B	Volatile Organics	1	25648	25560	11/24/2003	1656	1.00000
8260B	Volatile Organics	2	25627	25616	11/25/2003	1107	1.00000

Lab ID: 205347-4 Client ID: HA-B-1S(0-2) Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1347	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1615	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1428	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	11/26/2003	1647	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1428	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	11/26/2003	1647	1.00000
8082	PCB Analysis	1	25768	25409	11/25/2003	2322	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/25/2003	2322	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/04/2003	0002	1.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	1727	1.00000

Lab ID: 205347-5 Client ID: HA-B-1(5-7) Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1413	5.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1621	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1505	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	11/26/2003	1719	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1505	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	11/26/2003	1719	1.00000
8082	PCB Analysis	1	25768	25409	11/25/2003	2340	1.00000
8082	PCB Analysis	1	25769	25409	11/25/2003	2340	1.00000
8082	PCB Analysis, Confirmation	1	25768	25409	11/25/2003	2340	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/25/2003	2340	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/05/2003	1347	4.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	1759	1.00000

Lab ID: 205347-6 Client ID: HA-B-9S(0-2) Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	

0000102

L A B O R A T O R Y C H R O N I C L E

Job Number: 205347 Date: 12/17/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205347-6 Client ID: HA-B-9S(0-2) Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1349	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1627	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1550	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	11/26/2003	1751	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1550	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	11/26/2003	1751	1.00000
8082	PCB Analysis	1	25768	25409	11/25/2003	2358	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/25/2003	2358	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/04/2003	0056	1.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	1830	1.00000

Lab ID: 205347-7 Client ID: HA-B-2S(0-2) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1351	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1633	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1627	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	11/26/2003	1823	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1627	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	11/26/2003	1823	1.00000
8082	PCB Analysis	1	25768	25409	11/26/2003	0017	1.00000
8082	PCB Analysis	1	25769	25409	11/26/2003	0017	1.00000
8082	PCB Analysis, Confirmation	1	25768	25409	11/26/2003	0017	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/26/2003	0017	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/04/2003	1148	2.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	1901	1.00000

Lab ID: 205347-8 Client ID: HA-B-2(4-8) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1352	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1639	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1703	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	11/26/2003	1855	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1703	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	11/26/2003	1855	1.00000
8082	PCB Analysis	1	25768	25409	11/26/2003	0035	1.00000
8082	PCB Analysis	1	25769	25409	11/26/2003	0035	1.00000
8082	PCB Analysis, Confirmation	1	25768	25409	11/26/2003	0035	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/26/2003	0035	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/04/2003	1212	2.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	1932	1.00000

Lab ID: 205347-9 Client ID: HA-B-3S(0-2) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	

LABORATORY CHRONICLE

Job Number: 205347 Date: 12/17/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205347-9 Client ID: HA-B-3S(0-2) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1355	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1657	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1740	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	12/01/2003	1618	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1740	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	12/01/2003	1618	1.00000
8082	PCB Analysis	1	25768	25409	11/26/2003	0053	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/26/2003	0053	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/04/2003	1235	5.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	2003	1.00000

Lab ID: 205347-10 Client ID: HA-B-3(4-8) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1357	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1703	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1817	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	12/01/2003	1722	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1817	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	12/01/2003	1722	1.00000
8082	PCB Analysis	1	25768	25409	11/26/2003	0111	1.00000
8082	PCB Analysis	1	25769	25409	11/26/2003	0111	1.00000
8082	PCB Analysis, Confirmation	1	25768	25409	11/26/2003	0111	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/26/2003	0111	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/04/2003	1259	2.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	2034	1.00000

Lab ID: 205347-11 Client ID: HA-B-5(4-8) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1414	5.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1709	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	1930	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	12/01/2003	1825	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	1930	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	12/01/2003	1825	1.00000
8082	PCB Analysis	1	25768	25409	11/26/2003	0130	1.00000
8082	PCB Analysis	1	25769	25409	11/26/2003	0130	1.00000
8082	PCB Analysis, Confirmation	1	25768	25409	11/26/2003	0130	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/26/2003	0130	1.00000

LABORATORY CHRONICLE

Job Number: 205347

Date: 12/17/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205347-11 Client ID: HA-B-5(4-8) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8270C	Semivolatile Organics	1	26316	25433	12/04/2003	0312	1.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	2106	1.00000

Lab ID: 205347-12 Client ID: HA-B-7(4-8) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1400	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1716	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	2007	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	12/01/2003	1929	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	2007	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	12/01/2003	1929	1.00000
8082	PCB Analysis	1	25768	25409	11/26/2003	0148	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/26/2003	0148	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/05/2003	1413	5.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	2137	1.00000

Lab ID: 205347-13 Client ID: HA-B-10(4-8) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1401	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1722	5
8081A	Organochlorine Pesticide Analysis	1	25876	25409	12/01/2003	2033	5.00000
8081A	Organochlorine Pesticide Analysis	1	25871	25409	12/02/2003	0316	5.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	12/01/2003	2033	5.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	12/02/2003	0316	5.00000
8082	PCB Analysis	1	25768	25409	11/26/2003	0206	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/26/2003	0206	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/04/2003	1346	8.00000
8260B	Volatile Organics	1	25648	25560	11/24/2003	2208	1.00000

Lab ID: 205347-14 Client ID: HA-B-8S(0-2) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25616				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1402	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1728	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	2120	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	12/01/2003	2137	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	2120	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	12/01/2003	2137	1.00000

LABORATORY CHRONICLE

Job Number: 205347

Date: 12/17/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205347-14 Client ID: HA-B-BS(0-2) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8082	PCB Analysis	1	25768	25409	11/26/2003	0225	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/26/2003	0225	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/05/2003	1439	4.00000
8260B	Volatile Organics	1	25627	25616	11/25/2003	1138	1.00000

Lab ID: 205347-15 Client ID: HA-B-B(4-8) Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25430		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25560				
7470/7471	74706 Digestion (Hg)	1	25664		11/30/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25433		11/22/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25409		11/22/2003	0000	
7471A	Mercury (CVAA) Solids	1	25705	25664	12/01/2003	1403	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25606	25336	11/24/2003	1734	5
8081A	Organochlorine Pesticide Analysis	1	25871	25409	11/26/2003	2156	1.00000
8081A	Organochlorine Pesticide Analysis	1	25876	25409	12/01/2003	2240	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25871	25409	11/26/2003	2156	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25876	25409	12/01/2003	2240	1.00000
8082	PCB Analysis	1	25768	25409	11/26/2003	0243	1.00000
8082	PCB Analysis	1	25769	25409	11/26/2003	0243	1.00000
8082	PCB Analysis, Confirmation	1	25768	25409	11/26/2003	0243	1.00000
8082	PCB Analysis, Confirmation	1	25769	25409	11/26/2003	0243	1.00000
8270C	Semivolatile Organics	1	26316	25433	12/05/2003	1505	50.0000
8260B	Volatile Organics	1	25648	25560	11/24/2003	2310	1.00000

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.

3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 10604
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviation

Inorganic Qualifiers (Q-Column)

U Analyte was not detected at or above the reporting limit.
< Not detected at or above the reporting limit.
J Result is less than the RL, but greater than or equal to the method detection limit.
B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S Result was determined by the Method of Standard Additions.

Inorganic Flags (Flag Column)

^ ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed th upper or lower control limits.
* LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+ MSA correlation coefficient is less than 0.995.
4 MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E SD: Serial dilution exceeds the control limits.
H MB, EB: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N MS, MSD: Spike recovery exceeds the upper or lower control limits.
W PS: Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U Analyte was not detected at or above the reporting limit.
ND Compound not detected.
J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q Result was qualitatively confirmed, but not quantified.
C Pesticide identification was confirmed by GC/MS.
Y The chromatographic response resembles a typical fuel pattern.
Z The chromatographic response does not resemble a typical fuel pattern.
E Result exceeded calibration range, secondary dilution required.

Organic Flags (Flags Column)

^ MB,EB, MLE: Batch QC is greater than reporting limit.
* LCS, LCD, CCV, MS, MSD, Surrogate, RS:Batch QC exceeds the upper or lower control limits.
A Concentration exceeds the instrument calibration range or below the reporting limit.
B Compound was found in the blank and sample.
D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H Alternate peak selection upon analytical review
I Indicates the presence of an interfence, recovery is not calculated.
M Manually integrated compound.
P The lower of the two values is reported when the % difference between the results of two GC columns is greater than 25%.

Abbreviations

Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation Analysis
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
Dil Fac	Dilution Factor
DL	Secondary dilution and analysis
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB	Extraction Blank
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A
ISB	Interference Check Sample B
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
Lab ID	An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PACK	Packed Column
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PS	Post Spike
PSD	Post Spike Duplicate
RA	Re-analysis
RE	Re-extraction and analysis
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RS	Reference Standard
RT	Retention Time
RTW	Retention Time Window
SampleID	A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution
UCB	Unseeded Control Blank

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.

0000108

STL-Connecticut
Certification Summary (as of September 2003)

The laboratory identification numbers for the STL-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

State	Responsible Agency	Certification	Expiration Date	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	12/31/04	PH-0497
Maine	Department of Health and Environmental Services	Drinking Water, Wastewater/Solid, Hazardous Waste	04/18/04	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	06/30/04	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	08/29/04	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	06/30/03	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste **NELAC**	04/01/04	10602
North Carolina	Division of Environmental Management	Wastewater	12/31/03	388
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	12/30/03	A43
Utah	Department of Health	RCRA	05/31/02	2032614458

00001109

ProScience Analytical Services, Inc

Jill Pfister
Severn Trent Services (STL-CT)
128 Long Hill Cross Road
Shelton, CT 06484

December 01, 2003

Dear Jill Pfister,

The enclosed analytical results have been obtained using the EPA/600/R-93/116 method. However the sample preparation technique used was in accordance with the US EPA office of Environmental Evaluation and Measurement -Region 1 requirements. This technique implies the elimination of interfering particles trough several steps which include the homogenization of the sample, separation of different fractions and mandatory examination under the stereomicroscope. Asbestos content less then 1% is recorded on the report as "TR"(Trace).

The quality control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of three months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Valerica Stanca

Valerica Stanca, Optical Asbestos Manager
Adrian Stanca, Laboratory Director

Enclosure:
LAB BATCH ID: S 23169 CLIENT PROJECT ID: 205347
Client #: 885
NVLAP ID# 200090-0; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; AIHA ID# 102754; VT ID# AL016876; PH ID# 218(TEM,PLM); ELAP ID# 11632; RI ID# 186.

22 Cummings Park • Woburn, Massachusetts • 01801 • Phone (781)935-3212 • Fax (781)932-4857

ProScience Analytical Services, Inc

Client #: 885
Client Project: 205347
Client Reference: N/A
Client Name: Severn Trent Services (STL-CT)
Method: EPA/600/R-93/116; ENV.EVAL. and MEAS.- REGION 1 Requirements

Batch: 3 23169
Date Sampled: N/A
Date Received: 11/20/2003
Date Analyzed: 11/26/2003
Date of Report: 12/1/2003

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221396	HA B-6(1-3) 205347-1	Brown	0	0	0	0	0	0	0	0	10	0	0	0	90

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221397	HA B-4(5-7) 205347-2	Brown	0	0	0	0	0	0	0	0	10	0	0	0	90

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221398	HA B-45(0-2) 205347-3	Brown	0	0	0	0	0	0	0	TR	5	0	0	0	95

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221399	HA B-15(0-2) 205347-4	Brown	0	0	0	0	0	0	0	TR	TR	0	0	0	100

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221400	HA B-1(5-7) 205347-5	Brown	0	0	0	0	0	0	0	0	5	0	0	0	95

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221401	HA B-95(0-2) 205347-6	Brown	0	0	0	0	0	0	0	0	2	0	0	0	98

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

0000111

ProScience Analytical Services, Inc

Client #: 885
Client Project: 205347
Client Reference: N/A
Client Name: Severn Trent Services (STL-CT)
Method: EPA/600/R-93/116; ENV.EVAL. and MEAS.- REGION 1 Requirements

Batch: 23169
Date Sampled: N/A
Date Received: 11/20/2003
Date Analyzed: 11/26/2003
Date of Report: 12/1/2003

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221402	HA B-25(0-2) 205347-7	Brown	0	0	0	0	0	0	0	0	10	0	0	0	90

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221403	HA B-2(4-8) 205347-8	Brown	0	0	0	0	0	0	0	0	5	0	0	0	95

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221404	HA B-35(0-2) 205347-9	Brown	TR	0	0	0	0	0	0	0	5	0	0	0	95

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221405	HA B-3(4-8) 205347-10	Brown	0	0	0	0	0	0	0	0	5	0	0	0	95

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221406	HA B-5(4-8) 205347-11	Brown	0	0	0	0	0	0	0	0	10	0	0	0	90

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221407	HA B-7(4-8) 205347-12	Brown	0	TR	0	0	0	0	0	5	10	0	0	0	85

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

0000112

ProScience Analytical Services, Inc

Client #: 885
Client Project: 205347
Client Reference: N/A
Client Name: Severn Trent Services (STL-CT)
Method: EPA/600/R-93/116; ENV.EVAL. and MEAS.- REGION 1 Requirements

Batch: 3 23169
Date Sampled: N/A
Date Received: 11/20/2003
Date Analyzed: 11/26/2003
Date of Report: 12/1/2003

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221408	HA B-10(4-8) 205347-13	Brown	0	0	0	0	0	0	0	0	10	0	0	0	90

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221409	HA B-85(0-2) 205347-14	Brown	0	0	0	0	0	0	0	0	5	0	0	0	95

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221410	HA B-8(4-8) 205347-15	Brown	0	0	0	0	0	0	0	0	10	0	0	0	90

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

Asbestos Codes: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite

Non-Asbestos Codes: FBG = Fiberglass MNW = Mineral Wool CEL = Cellulose HAR = Hair SYN = Synthetic OTH = Other NON = Non-Fibrous Minerals

* All results are in percentage.

Stefanie Bishop, Analyst

0000113

ANALYTICAL REPORT

JOB NUMBER: 205348

Prepared For:

Energy and Environmental Analysts, Inc.
55 Hilton Ave.
Garden City, NY 11530

Project: NYCDOS SWB INCINERAT

Attention: Jeff Shelkey

Date: 12/09/2003

Signature

Date 12/9/03

Name: Jill M. Pfister

Title: Project Manager

E-Mail: jpfister@stl-inc.com

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (43) Pages

SEVERN TRENT STL

STL Report : 205348

EEA, INC. – NYCDOS SWB INCENERATOR PLANT

Case Narrative

Sample Receipt – Samples received on 11/18/03 were in good condition and at the proper temperatures of 1.0°C, 6.0°C, 2.0°C, 0.0°C, and 4.0°C. Sample HA-MS(B6) was not listed on the COC and was added by the laboratory on 11/18/03.

Organic Extraction - Samples were extracted according to method 3510C. No problems were encountered

Volatile Organics – Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 5030B/8260B.

The spike compound percent recoveries were within the laboratory generated guidelines in the independent source quality control sample.

Sample Calculation:

Sample ID-HA-MW-2
Compound-Acetone

$$\frac{(15154)(125)(1)}{(429961)(.169)(5)} = 5.21 = 5 \text{ UG/L.}$$

Polychlorinated Biphenyls (PCB's) - PCB samples were analyzed by GC/ECD using guidance provided in Method 8082. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

All samples were analyzed without any apparent problems.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID –25610-3LCS
Compound --Aroclor1260 peak at retention time 9.371

$$\frac{(19845678\text{area})(10000\text{ul})}{(47111529.8\text{area/ng})(1000\text{ml})(1\text{ul})} = 4.21\text{ug/L}$$

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

The spike compounds Endosulfan I and alpha Chlordane were reported from the DB-1701 column for 25610-2LCS because they coelute on the RTX-35 column.

The spike compounds Endosulfan II and 4,4'-DDD were reported from the RTX-35 column for 25610-2LCS because they coelute on the DB-1701 column.

The delta-BHC detected in sample HA-MW-2 was reported from the RTX-35 column. There was less interference on this column with this compound.

The gamma-BHC detected in sample HA-MW3 was reported from the DB-1701 column. There was less interference on this column with this compound.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID –HA-MW3
Compound – Heptachlor epoxide
(3115369area)(10000ul) = .0247ug/L
(1259566258area/ng)(1000ml)(1ul)

Metals – ICAP metals were determined using a JA61E trace ICAP; mercury was determined by cold vapor technique using a Perkin Elmer mercury analyzer; following guidance provided in SW846 according to methods: ICAP – 3010A/6010B; mercury-7470A.

Arsenic failed the controls for spike recovery analysis of sample 205348-1 resulting in one "N" flag.

No other problems occurred during analysis. All appropriate protocols were employed. All data appears to be consistent.

Semi-Volatile Organics - Semi-volatile organic samples were analyzed by capillary GC/MS according to NYSDEC Protocols using guidance provided in Method 8270C. The instrumentation used was a Hewlett-Packard Gas Chromatograph interfaced with a Mass Selective Detector.

A 2ul injection was used for all samples and standards. The instrument was calibrated at 10ng/ul (20 ng), 25 ng/ul(50 ng), 40ng/ul(80ng), 60ng/ul(120ng) and 80ng/ul(160ng). Internal standards were added to all samples and standards were at 20ng/ul(40ng).

All samples were analyzed without any apparent problems.

Sample Calculation:

Sample ID – HA-MW3
Compound - naphthalene

$$\frac{(116949)(40)(1000)(1.0)}{(288974)(.962)(2.0)(1000)} = 8.4 = 8 \text{ ug/l}$$

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

S A M P L E I N F O R M A T I O N

Date: 12/09/2003

Job Number.: 205348
Customer...: Energy and Environmental Analysts, Inc.
Attn.....: Jeff Shelkey

Project Number.....: 20000963
Customer Project ID....: NYCDOS SWB INCINERAT
Project Description....: NYCDOS SWB Incinerator Plant

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
205348-1	HA-MW-2	Water	11/17/2003	12:00	11/18/2003	15:00
205348-2	HA-EB	Water	11/17/2003	13:00	11/18/2003	15:00
205348-3	HA-MW3	Water	11/17/2003	13:45	11/18/2003	15:00
205348-4	HA-MW4	Water	11/17/2003	14:10	11/18/2003	15:00
205348-5	HA-GW3	Water	11/18/2003	10:00	11/18/2003	15:00
205348-6	HA-GW7	Water	11/18/2003	11:25	11/18/2003	15:00
205348-7	HA-MW1	Water	11/18/2003	12:00	11/18/2003	15:00
205348-8	HA-MS(B6)	Water	11/17/2003	12:00	11/18/2003	15:00

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW-2
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Acetone	5	J		2	10	1.00000	ug/L	25600		11/24/03 1416	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1416	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25600		11/24/03 1416	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1416	kjk

* In Description = Dry Wgt.

000005

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW-2
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1416	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1416	kjk

000006

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-EB
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Acetone	ND	U		2	10	1.00000	ug/L	25600		11/24/03 1722	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1722	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25600		11/24/03 1722	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1722	kjk

* In Description = Dry Wgt.

0000007

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-EB
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1722	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1722	kjk

00000008

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW3
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205348-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Acetone	4	J	B	2	10	1.00000	ug/L	25600		11/24/03 1445	kjk
	Methylene chloride	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1445	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Benzene	1	J	H	0.4	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25600		11/24/03 1445	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1445	kjk

* In Description = Dry Wgt.

000009

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW3
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205348-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Ethylbenzene	0.9	J		0.3	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1445	kjk
	Xylenes (total)	2	J		1	5	1.00000	ug/L	25600		11/24/03 1445	kjk

0T00010

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW4
Date Sampled.....: 11/17/2003
Time Sampled.....: 14:10
Sample Matrix.....: Water

Laboratory Sample ID: 205348-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Acetone	ND	U		2	10	1.00000	ug/L	25600		11/24/03 1515	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1515	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Benzene	2	J	H	0.4	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25600		11/24/03 1515	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1515	kjk

000011

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW4
Date Sampled.....: 11/17/2003
Time Sampled.....: 14:10
Sample Matrix.....: Water

Laboratory Sample ID: 205348-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Ethylbenzene	1	J		0.3	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1515	kjk
	Xylenes (total)	2	J		1	5	1.00000	ug/L	25600		11/24/03 1515	kjk

000012

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-GW3
Date Sampled.....: 11/18/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-5
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Acetone	20			2	10	1.00000	ug/L	25600		11/24/03 1544	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1544	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Benzene	1	J		0.4	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25600		11/24/03 1544	kjk
	Toluene	0.5	J		0.3	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1544	kjk

* In Description = Dry Wgt.

000013

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-GW3
Date Sampled.....: 11/18/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-5
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Chlorobenzene	2	J		0.2	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1544	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1544	kjk

000014

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-GW7
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:25
Sample Matrix.....: Water

Laboratory Sample ID: 205348-6
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Acetone	12			2	10	1.00000	ug/L	25600		11/24/03 1614	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1614	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25600		11/24/03 1614	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1614	kjk

00000015

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-GW7
Date Sampled.....: 11/18/2003
Time Sampled.....: 11:25
Sample Matrix.....: Water

Laboratory Sample ID: 205348-6
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1614	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1614	kjk

000016

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-MW1
Date Sampled.....: 11/18/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Acetone	ND	U		2	10	1.00000	ug/L	25600		11/24/03 1644	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1644	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25600		11/24/03 1644	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25600		11/24/03 1644	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW1
Date Sampled.....: 11/18/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25600		11/24/03 1644	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25600		11/24/03 1644	kjk

0000018

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/08/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW-2
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Fluorene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2022	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2022	jdw

* In Description = Dry Wgt.

000019

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/08/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-EB
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Fluorene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2142	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2142	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/08/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-MW3
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205348-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	14			0.4	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	2-Methylnaphthalene	52			0.3	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Acenaphthene	43			0.3	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Fluorene	13			0.4	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Phenanthrene	8	J		0.4	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Anthracene	1	J		0.5	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Fluoranthene	1	J		0.4	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Pyrene	1	J		0.4	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Chrysene	ND	U	M	0.6	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2208	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2208	jdw

0000021

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/08/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-MW4
Date Sampled.....: 11/17/2003
Time Sampled.....: 14:10
Sample Matrix.....: Water

Laboratory Sample ID: 205348-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	14			0.4	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	2-Methylnaphthalene	64			0.3	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Acenaphthene	53			0.3	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Fluorene	17			0.4	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Phenanthrene	10	J		0.4	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Anthracene	0.9	J		0.5	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Fluoranthene	1	J		0.4	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Pyrene	0.7	J		0.4	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2234	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2234	jdw

* In Description = Dry Wgt.

000025

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/08/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW1
Date Sampled.....: 11/18/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Fluorene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	26004		12/02/03 2300	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	26004		12/02/03 2300	jdw

0000023

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW-2
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	delta-BHC	0.016	J		0.0046	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25818		11/27/03 0249	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0249	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	25818		11/27/03 0249	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0249	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25818		11/27/03 0249	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0249	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25818		11/27/03 0249	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25818		11/27/03 0249	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25818		11/27/03 0249	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25818		11/27/03 0249	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0249	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0249	kam

* In Description = Dry Wgt.

0000024

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-EB
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	O	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25818		11/27/03 0326	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0326	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	25818		11/27/03 0326	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0326	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25818		11/27/03 0326	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0326	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25818		11/27/03 0326	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25818		11/27/03 0326	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25818		11/27/03 0326	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25818		11/27/03 0326	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0326	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0326	kam

* In Description = Dry Wgt.

000025

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW3
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205348-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25818		11/27/03 0403	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25818		11/27/03 0403	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	25818		11/27/03 0403	kam
	gamma-BHC (Lindane)	0.0066	J		0.0033	0.050	1.00000	ug/L	25819		11/27/03 0117	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	25818		11/27/03 0403	kam
	Aldrin	0.017	J		0.0041	0.050	1.00000	ug/L	25818		11/27/03 0403	kam
	Heptachlor epoxide	0.025	J		0.0056	0.050	1.00000	ug/L	25819		11/27/03 0117	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25818		11/27/03 0403	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25818		11/27/03 0403	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0403	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	25818		11/27/03 0403	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0403	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25818		11/27/03 0403	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0403	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25818		11/27/03 0403	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25818		11/27/03 0403	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25818		11/27/03 0403	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25818		11/27/03 0403	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25818		11/27/03 0403	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0403	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0403	kam

* In Description = Dry Wgt.

000026

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW4
Date Sampled.....: 11/17/2003
Time Sampled.....: 14:10
Sample Matrix.....: Water

Laboratory Sample ID: 205348-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25818		11/27/03 0439	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25818		11/27/03 0439	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	25818		11/27/03 0439	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25818		11/27/03 0439	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	25819		11/27/03 0149	kam
	Aldrin	0.030	J		0.0041	0.050	1.00000	ug/L	25819		11/27/03 0149	kam
	Heptachlor epoxide	0.048	J		0.0056	0.050	1.00000	ug/L	25818		11/27/03 0439	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25818		11/27/03 0439	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25818		11/27/03 0439	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0439	kam
	Endrin	0.010	J		0.0085	0.10	1.00000	ug/L	25818		11/27/03 0439	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0439	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25818		11/27/03 0439	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0439	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25818		11/27/03 0439	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25818		11/27/03 0439	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25818		11/27/03 0439	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25818		11/27/03 0439	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25818		11/27/03 0439	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0439	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0439	kam

000027

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW1
Date Sampled.....: 11/18/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25818		11/27/03 0516	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0516	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	25818		11/27/03 0516	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0516	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25818		11/27/03 0516	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0516	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25818		11/27/03 0516	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25818		11/27/03 0516	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25818		11/27/03 0516	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25818		11/27/03 0516	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25818		11/27/03 0516	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25818		11/27/03 0516	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-MW-2
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25692		11/26/03 1959	jos
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25692		11/26/03 1959	jos
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25692		11/26/03 1959	jos
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25692		11/26/03 1959	jos
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25692		11/26/03 1959	jos
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25692		11/26/03 1959	jos
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25692		11/26/03 1959	jos

000029

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-EB
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25692		11/26/03 2017	jos
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25692		11/26/03 2017	jos
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25692		11/26/03 2017	jos
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25692		11/26/03 2017	jos
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25692		11/26/03 2017	jos
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25692		11/26/03 2017	jos
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25692		11/26/03 2017	jos

000030

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA-MW3
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205348-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25692		11/26/03 2036	jos
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25692		11/26/03 2036	jos
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25692		11/26/03 2036	jos
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25692		11/26/03 2036	jos
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25692		11/26/03 2036	jos
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25692		11/26/03 2036	jos
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25692		11/26/03 2036	jos

* In Description = Dry Wgt.

00000031

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW4
Date Sampled.....: 11/17/2003
Time Sampled.....: 14:10
Sample Matrix.....: Water

Laboratory Sample ID: 205348-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25692		11/26/03 2054	jos
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25692		11/26/03 2054	jos
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25692		11/26/03 2054	jos
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25692		11/26/03 2054	jos
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25692		11/26/03 2054	jos
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25692		11/26/03 2054	jos
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25692		11/26/03 2054	jos

0000032

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW1
Date Sampled.....: 11/18/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25692		11/26/03 2112	jos
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25692		11/26/03 2112	jos
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25692		11/26/03 2112	jos
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25692		11/26/03 2112	jos
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25692		11/26/03 2112	jos
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25692		11/26/03 2112	jos
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25692		11/26/03 2112	jos

000003

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW-2
Date Sampled.....: 11/17/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-1
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	0.22			0.18	0.20	1.0000	ug/L	25843		12/02/03 1542	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	ND	U	N	17.5	200	5	ug/L	25821		11/24/03 1557	nnp
	Barium	262			4.3	25.0	5	ug/L	25821		11/24/03 1557	nnp
	Cadmium	ND	U		4.7	50.0	5	ug/L	25821		11/24/03 1557	nnp
	Chromium	10.9	B		7.0	50.0	5	ug/L	25821		11/24/03 1557	nnp
	Lead	94.3			18.0	50.0	5	ug/L	25821		11/24/03 1557	nnp
	Selenium	ND	U		25.0	150	5	ug/L	25821		11/24/03 1557	nnp
	Silver	ND	U		4.6	30.0	5	ug/L	25821		11/24/03 1557	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-EB
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-2
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	ND	U		0.18	0.20	1.0000	ug/L	25843		12/02/03 1545	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	ND	U	N	3.5	40.0	1	ug/L	25821		11/24/03 1621	nnp
	Barium	1.8	B		0.86	5.0	1	ug/L	25821		11/24/03 1621	nnp
	Cadmium	ND	U		0.94	10.0	1	ug/L	25821		11/24/03 1621	nnp
	Chromium	ND	U		1.4	10.0	1	ug/L	25821		11/24/03 1621	nnp
	Lead	ND	U		3.6	10.0	1	ug/L	25821		11/24/03 1621	nnp
	Selenium	ND	U		5.0	30.0	1	ug/L	25821		11/24/03 1621	nnp
	Silver	ND	U		0.93	6.0	1	ug/L	25821		11/24/03 1621	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW3
Date Sampled.....: 11/17/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205348-3
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)	0.86			0.18	0.20	1.0000	ug/L	25843		12/02/03 1546	nnp
	Mercury											
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	ND	U	N	17.5	200	5	ug/L	25821		11/24/03 1627	nnp
	Barium	251			4.3	25.0	5	ug/L	25821		11/24/03 1627	nnp
	Cadmium	ND	U		4.7	50.0	5	ug/L	25821		11/24/03 1627	nnp
	Chromium	48.5	B		7.0	50.0	5	ug/L	25821		11/24/03 1627	nnp
	Lead	333			18.0	50.0	5	ug/L	25821		11/24/03 1627	nnp
	Selenium	ND	U		25.0	150	5	ug/L	25821		11/24/03 1627	nnp
	Silver	ND	U		4.6	30.0	5	ug/L	25821		11/24/03 1627	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW4
Date Sampled.....: 11/17/2003
Time Sampled.....: 14:10
Sample Matrix.....: Water

Laboratory Sample ID: 205348-4
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	0.22			0.18	0.20	1.0000	ug/L	25843		12/02/03 1547	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	ND	U	N	17.5	200	5	ug/L	25821		11/24/03 1633	nnp
	Barium	123			4.3	25.0	5	ug/L	25821		11/24/03 1633	nnp
	Cadmium	ND	U		4.7	50.0	5	ug/L	25821		11/24/03 1633	nnp
	Chromium	14.6	B		7.0	50.0	5	ug/L	25821		11/24/03 1633	nnp
	Lead	87.0			18.0	50.0	5	ug/L	25821		11/24/03 1633	nnp
	Selenium	ND	U		25.0	150	5	ug/L	25821		11/24/03 1633	nnp
	Silver	ND	U		4.6	30.0	5	ug/L	25821		11/24/03 1633	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205348

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA-MW1
Date Sampled.....: 11/18/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205348-7
Date Received.....: 11/18/2003
Time Received.....: 15:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	4.4			0.18	0.20	1.0000	ug/L	25843		12/02/03 1548	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	129	B	N	17.5	200	5	ug/L	25821		11/24/03 1639	nnp
	Barium	1220			4.3	25.0	5	ug/L	25821		11/24/03 1639	nnp
	Cadmium	13.5	B		4.7	50.0	5	ug/L	25821		11/24/03 1639	nnp
	Chromium	38.9	B		7.0	50.0	5	ug/L	25821		11/24/03 1639	nnp
	Lead	684			18.0	50.0	5	ug/L	25821		11/24/03 1639	nnp
	Selenium	ND	U		25.0	150	5	ug/L	25821		11/24/03 1639	nnp
	Silver	ND	U		4.6	30.0	5	ug/L	25821		11/24/03 1639	nnp

* In Description = Dry Wgt.

LABORATORY CHRONICLE

Job Number: 205348

Date: 12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205348-1 Client ID: HA-MW-2

Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25537				
7470/7471	74706 Digestion (Hg)	1	25732		12/01/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25610		11/24/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25565		11/24/2003	0000	
7470A	Mercury (CVAA)	1	25843	25732	12/02/2003	1542	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25821	25327	11/24/2003	1557	5
8081A	Organochlorine Pesticide Analysis	1	25818	25610	11/27/2003	0249	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25819	25610	11/27/2003	0014	1.00000
8082	PCB Analysis	1	25692	25610	11/26/2003	1959	1.00000
8270C	Semivolatile Organics	1	26004	25565	12/02/2003	2022	1.00000
8260B	Volatile Organics (5mL Purge)	1	25600	25537	11/24/2003	1416	1.00000

Lab ID: 205348-2 Client ID: HA-EB

Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25537				
7470/7471	74706 Digestion (Hg)	1	25732		12/01/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25610		11/24/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25565		11/24/2003	0000	
7470A	Mercury (CVAA)	1	25843	25732	12/02/2003	1545	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25821	25327	11/24/2003	1621	
8081A	Organochlorine Pesticide Analysis	1	25818	25610	11/27/2003	0326	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25819	25610	11/27/2003	0046	1.00000
8082	PCB Analysis	1	25692	25610	11/26/2003	2017	1.00000
8270C	Semivolatile Organics	1	26004	25565	12/02/2003	2142	1.00000
8260B	Volatile Organics (5mL Purge)	1	25600	25537	11/24/2003	1722	1.00000

Lab ID: 205348-3 Client ID: HA-MW3

Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25537				
7470/7471	74706 Digestion (Hg)	1	25732		12/01/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25610		11/24/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25565		11/24/2003	0000	
7470A	Mercury (CVAA)	1	25843	25732	12/02/2003	1546	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25821	25327	11/24/2003	1627	5
8081A	Organochlorine Pesticide Analysis	1	25819	25610	11/27/2003	0117	1.00000
8081A	Organochlorine Pesticide Analysis	1	25818	25610	11/27/2003	0403	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25819	25610	11/27/2003	0117	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25818	25610	11/27/2003	0403	1.00000
8082	PCB Analysis	1	25692	25610	11/26/2003	2036	1.00000
8270C	Semivolatile Organics	1	26004	25565	12/02/2003	2208	1.00000
8260B	Volatile Organics (5mL Purge)	1	25600	25537	11/24/2003	1445	1.00000

Lab ID: 205348-4 Client ID: HA-MW4

Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25537				
7470/7471	74706 Digestion (Hg)	1	25732		12/01/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25610		11/24/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25565		11/24/2003	0000	
7470A	Mercury (CVAA)	1	25843	25732	12/02/2003	1547	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25821	25327	11/24/2003	1633	5
8081A	Organochlorine Pesticide Analysis	1	25819	25610	11/27/2003	0149	1.00000

LABORATORY CHRONICLE

Job Number: 205348 Date: 12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205348-4 Client ID: HA-MW4 Date Recvd: 11/18/2003 Sample Date: 11/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8081A	Organochlorine Pesticide Analysis	1	25818	25610	11/27/2003	0439	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25819	25610	11/27/2003	0149	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25818	25610	11/27/2003	0439	1.00000
8082	PCB Analysis	1	25692	25610	11/26/2003	2054	1.00000
8270C	Semivolatile Organics	1	26004	25565	12/02/2003	2234	1.00000
8260B	Volatile Organics (5mL Purge)	1	25600	25537	11/24/2003	1515	1.00000

Lab ID: 205348-5 Client ID: HA-GW3 Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25537				
8260B	Volatile Organics (5mL Purge)	1	25600	25537	11/24/2003	1544	1.00000

Lab ID: 205348-6 Client ID: HA-GW7 Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25537				
8260B	Volatile Organics (5mL Purge)	1	25600	25537	11/24/2003	1614	1.00000

Lab ID: 205348-7 Client ID: HA-MW1 Date Recvd: 11/18/2003 Sample Date: 11/18/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25537				
7470/7471	74706 Digestion (Hg)	1	25732		12/01/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25610		11/24/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25565		11/24/2003	0000	
7470A	Mercury (CVAA)	1	25843	25732	12/02/2003	1548	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25821	25327	11/24/2003	1639	5
8081A	Organochlorine Pesticide Analysis	1	25818	25610	11/27/2003	0516	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25819	25610	11/27/2003	0221	1.00000
8082	PCB Analysis	1	25692	25610	11/26/2003	2112	1.00000
8270C	Semivolatile Organics	1	26004	25565	12/02/2003	2300	1.00000
8260B	Volatile Organics (5mL Purge)	1	25600	25537	11/24/2003	1644	1.00000

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.

3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 10604
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviation

Inorganic Qualifiers (Q-Column)

U Analyte was not detected at or above the reporting limit.
< Not detected at or above the reporting limit.
J Result is less than the RL, but greater than or equal to the method detection limit.
B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S Result was determined by the Method of Standard Additions.

Inorganic Flags (Flag Column)

^ ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed th upper or lower control limits.
* LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+ MSA correlation coefficient is less than 0.995.
4 MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E SD: Serial dilution exceeds the control limits.
H MB, EB: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N MS, MSD: Spike recovery exceeds the upper or lower control limits.
W PS: Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U Analyte was not detected at or above the reporting limit.
ND Compound not detected.
J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q Result was qualitatively confirmed, but not quantified.
C Pesticide identification was confirmed by GC/MS.
Y The chromatographic response resembles a typical fuel pattern.
Z The chromatographic response does not resemble a typical fuel pattern.
E Result exceeded calibration range, secondary dilution required.

Organic Flags (Flags Column)

^ MB,EB, MLE: Batch QC is greater than reporting limit.
* LCS, LCD, CCV, MS, MSD, Surrogate, RS:Batch QC exceeds the upper or lower control limits.
A Concentration exceeds the instrument calibration range or below the reporting limit.
B Compound was found in the blank and sample.
D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H Alternate peak selection upon analytical review
I Indicates the presence of an interfence, recovery is not calculated.
M Manually integrated compound.
P The lower of the two values is reported when the % difference between the results of two GC columns is greater than 25%.

Abbreviations

Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation Analysis
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
Dil Fac	Dilution Factor
DL	Secondary dilution and analysis
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB	Extraction Blank
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A
ISB	Interference Check Sample B
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
Lab ID	An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PACK	Packed Column
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PS	Post Spike
PSD	Post Spike Duplicate
RA	Re-analysis
RE	Re-extraction and analysis
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RS	Reference Standard
RT	Retention Time
RTW	Retention Time Window
SampleID	A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution
UCB	Unseeded Control Blank

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.

STL-Connecticut
Certification Summary (as of September 2003)

The laboratory identification numbers for the STL-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

State	Responsible Agency	Certification	Expiration Date	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	12/31/04	PH-0497
Maine	Department of Health and Environmental Services	Drinking Water, Wastewater/Solid, Hazardous Waste	04/18/04	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	06/30/04	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	08/29/04	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	06/30/03	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste **NELAC**	04/01/04	10602
North Carolina	Division of Environmental Management	Wastewater	12/31/03	388
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	12/30/03	A43
Utah	Department of Health	RCRA	05/31/02	2032614458

00000043

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

PAGE OF | NO.

STL JOB #:

CLIENT: EEA INC

PROJECT ID: 03718 Hamilton Ave Incinerator

STL PROJECT MGR: J. Pfister

RUSH ☐ YES ☐ NO | DUE DATE

TESTS								GENERAL REMARKS
Metal 8260 VOC	Method 8091 8082 PCB	Method 8270 PAH	RCRA metals					CAT B Deliverables
BOTTLE TYPE AND PRESERVATION								
3-40ml	3-1L	2-1L	500ml					

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED - CIRCLE Y OR N								SAMPLE REMARKS
						Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	
9	HA-MW-2	17 Nov 03 1200	AQ			✓	✓	✓	✓					
9	HA-MS (MW-2)	17 Nov 03 1200	AQ			✓	✓	✓	✓					
9	HA-MSD (MW-2)	17 Nov 03 1300	AQ			✓	✓	✓	✓					
9	HA-EB	17 Nov 03 1300	AQ			✓	✓	✓	✓					
9	HA-MW3	17 Nov 03 1345	AQ			✓	✓	✓	✓					
9	HA-MW4	17 Nov 03 1415	AQ			✓	✓	✓	✓					
3 (A)	HA GW3	18 Nov 03 1010	AQ			✓	~~Y~~ (A) omit	~~Y~~ (N) omit	~~Y~~ (A) omit					
3 (A)	HA GW7	18 Nov 03 1125	AQ			✓	~~Y~~ (A) omit	~~Y~~ (N) omit	~~Y~~ (A) omit					
9	HA-MW1	18 Nov 03 1200	AQ			✓	✓	✓	✓					

MATRIX CODES	
A - AIR	S - SOIL
AQ - AQUEOUS	SL - SLUDGE
C - COMPLEX	W - WIPE
D - DRUM WASTE	O - OTHER
OI - OIL	FB - FIELD BLANK
	TB - TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
Jennifer Sutton-Polsky	11/18/03	RICHARD L FORD	11/18/03
SIGNATURE	1500	SIGNATURE	1500
SAMPLES COLLECTED BY	DATE/TIME	RECEIVED IN LAB BY	DATE/TIME
SIGNATURE		SIGNATURE	

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

STL-812

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

NO.

STL JOB #:

CLIENT: EEA, Inc.

PROJECT ID: 03718 Hamilton Ave. Incinerator

STL PROJECT MGR: J Pfister

RUSH ☐ YES ☐ NO DUE DATE

TESTS								GENERAL REMARKS
EPA method 8260 VOCs	pesticides 8081/8082	Asbestos	RCRA Metals	EPA method 8270 PAHs				Cat. B Deliverables
BOTTLE TYPE AND PRESERVATION								
2oz	8oz	4oz	8oz	8oz				

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED - CIRCLE Y OR N								SAMPLE REMARKS
						Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
3	HA B-6 (1-3')	11/17/03 9:45	soil			✓	✓	✓	✓	✓				
2	HA MS (B-6)	11/17/03 10:00	soil			✓	✓		✓	✓				
3	HA B-4 (5-7')	11/17/03 10:45	soil			✓	✓	✓	✓	✓				
3	HA B-4S (0-2')	11/17/03 10:45	soil			✓	✓	✓	✓	✓		✓		
2	HA MSD (B-4)	11/17/03 11:00	soil			✓	✓		✓	✓				
3	HA B-1S (0-2")	11/17/03 1200	soil			✓	✓	✓	✓	✓				
3	HA B-1 (5-7')	11/17/03 1200	soil			✓	✓	✓	✓	✓				
3	HA B-9S (0-2')	11/17/03 1330	soil			✓	✓	✓	✓	✓				
~~3~~	~~HA B-9 ( )~~	~~11/17/03 1330~~	~~soil~~			~~✓~~	~~✓~~	~~✓~~	~~✓~~	~~✓~~	omit	FT		

MATRIX CODES

A - AIR
AQ - AQUEOUS
C - COMPLEX
D - DRUM WASTE
OI - OIL
S - SOIL
SL - SLUDGE
W - WIPE
O - OTHER
FB - FIELD BLANK
TB - TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
Farha Islam	11/18/03	RICHARD L FORD	11/18/03
SIGNATURE: Farha Islam	1300	SIGNATURE: Richard L Ford	1300
SAMPLES COLLECTED BY	DATE/TIME	RECEIVED IN LAB BY	DATE/TIME
SIGNATURE		SIGNATURE	

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

NO.

STL JOB #:

CLIENT: EEA, Inc.

PROJECT ID: 03718 Hamilton Ave. Incinerator

STL PROJECT MGR: J. Pfister

RUSH ☐ YES ☐ NO DUE DATE

TESTS								GENERAL REMARKS
EPA Method 8260 VOCs	pesticides/PCB 8081/8082	Asbestos	RCRA Metals	EPA Method 8270 PAHs				Cat. B deliverables
BOTTLE TYPE AND PRESERVATION								
2oz.	8oz.	4oz.	8oz	8oz.				

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED – CIRCLE Y OR N Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	SAMPLE REMARKS
3	HA B-2S (0-2")	11/18/03 9:00	S			✓	✓	✓	✓	✓				
3	HA B-2 (4-8')	11/18/03 9:00	S			✓	✓	✓	✓	✓				
3	HA B-3 S (0-2")	11/18/03 930	S			✓	✓	✓	✓	✓				
3	HA B-3 (4-8')	11/18/03 930	S			✓	✓	✓	✓	✓				
3	HA B-5 (4-8')	11/18/03 1130	S			✓	✓	✓	✓	✓				
3	HA B-7 (4-8')	11/18/03 1115	S			✓	✓	✓	✓	✓				
3	HA B-10 (4-8')	11/18/03 1100	S			✓	✓	✓	✓	✓				
3	HA B-8S (0-2")	11/18/03 1145	S			✓	✓	✓	✓	✓				
3	HA B-8 (4-8')	11/18/03 1145	S			✓	✓	✓	✓	✓				

MATRIX CODES

A - AIR
AQ - AQUEOUS
C - COMPLEX
D - DRUM WASTE
OI - OIL
S - SOIL
SL - SLUDGE
W - WIPE
O - OTHER
FB - FIELD BLANK
TB - TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
Farita Islam	11/18/03	RICHARD L FORD	11/18/03
SIGNATURE	1500	SIGNATURE	1500
SAMPLES COLLECTED BY	DATE/TIME	RECEIVED IN LAB BY	DATE/TIME
SIGNATURE		SIGNATURE	

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

Job Number: 206852

LABORATORY TEST RESULTS

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA B-6(1-3)
Date Sampled.....: 06/10/2004
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-1
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TE
ASTM D-2216												
	% Solids, Solid	87.6			0.10	0.10	1	%	33891		06/15/04 0000	sb
	% Moisture, Solid	12.4			0.10	0.10	1	%	33891		06/15/04 0000	sb
6010B	Metals Analysis (ICAP Trace)											
	Lead, Solid*	602000			896	10600	1	ug/Kg	34037		06/17/04 1502	dw
	Lead, TCLP	1280			15.0	50.0	1	ug/L	34009		06/17/04 1540	dw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 206852

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA B-5(4-8)
Date Sampled.....: 06/10/2004
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-2
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TEC
ASTM D-2216												
	% Solids, Solid	87.3			0.10	0.10	1	%	33891		06/15/04 0000	sbr
	% Moisture, Solid	12.7			0.10	0.10	1	%	33891		06/15/04 0000	sbr
6010B	Metals Analysis (ICAP Trace)											
	Lead, Solid*	5150	B		800	9480	1	ug/Kg	34037		06/17/04 1508	dwh
	Lead, TCLP	ND	U		15.0	50.0	1	ug/L	34009		06/17/04 1546	dwh

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 206852

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA B-1(5-7)
Date Sampled.....: 06/10/2004
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-3
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	79.8			0.10	0.10	1	%	33891		06/15/04 0000	sbw
	% Moisture, Solid	20.2			0.10	0.10	1	%	33891		06/15/04 0000	sbw
6010B	Metals Analysis (ICAP Trace)											
	Lead, Solid*	2550000			1080	12800	1	ug/Kg	34037		06/17/04 1514	dwh
	Lead, TCLP	7080			15.0	50.0	1	ug/L	34009		06/17/04 1552	dwh

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 206852

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: HA B-3S(0-2)
Date Sampled.....: 06/10/2004
Time Sampled.....: 10:00
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-4
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	86.7			0.10	0.10	1	%	33891		06/15/04 0000	sbw
	% Moisture, Solid	13.3			0.10	0.10	1	%	33891		06/15/04 0000	sbw
6010B	Metals Analysis (ICAP Trace)											
	Lead, Solid*	503000			843	9980	1	ug/Kg	34037		06/17/04 1520	dwh
	Lead, TCLP	774			15.0	50.0	1	ug/L	34009		06/17/04 1558	dwh

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 206852

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA B-3(4-8)
Date Sampled.....: 06/10/2004
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-5
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	86.3			0.10	0.10	1	%	33891		06/15/04 0000	sbw
	% Moisture, Solid	13.7			0.10	0.10	1	%	33891		06/15/04 0000	sbw
6010B	Metals Analysis (ICAP Trace)											
	Lead, Solid*	895000			881	10400	1	ug/Kg	34037		06/17/04 1527	dwh
	Lead, TCLP	6800			15.0	50.0	1	ug/L	34009		06/17/04 1604	dwh

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 206852

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: HA 8-7(4-8)
Date Sampled.....: 06/10/2004
Time Sampled.....: 10:30
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-6
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TEC
ASTM D-2216												
	% Solids, Solid	80.1			0.10	0.10	1	%	33891		06/15/04 0000	sbk
	% Moisture, Solid	19.9			0.10	0.10	1	%	33891		06/15/04 0000	sbk
6010B	Metals Analysis (ICAP Trace)											
	Lead, Solid*	1780000			1080	12800	1	ug/Kg	34037		06/17/04 1533	dwh
	Lead, TCLP	13700			15.0	50.0	1	ug/L	34009		06/17/04 1610	dwh

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 206852

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP B-9(4)
Date Sampled.....: 06/10/2004
Time Sampled.....: 12:15
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-8
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TEC
ASTM D-2216	% Solids, Solid	91.2			0.10	0.10	1	%	33891		06/15/04 0000	sbk
	% Moisture, Solid	8.8			0.10	0.10	1	%	33891		06/15/04 0000	sbk
6010B	Metals Analysis (ICAP Trace)											
	Lead, Solid*	403000			983	11600	1	ug/Kg	34037		06/17/04 1539	dwh
	Lead, TCLP	765			15.0	50.0	1	ug/L	34009		06/17/04 1617	dwh

* In Description = Dry Wgt.

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

NO.

STL JOB #:

CLIENT: EEA INC

PROJECT ID: NYC DOS INCINERATOR

STL PROJECT MGR: Jill Pfister

RUSH ☑ YES ☐ NO DUE DATE

206852

06/27/2004

ENERGY AND ENVIRONMENTAL ANALYSTS, INC.
JEFF SHELKEY
NYCDOS SWB INCINERATOR PLANT

72-96 HR TAT All samples

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	Total TCLP Lead	Full TCLP + RCRA Char							SAMPLE REMARKS
						4 oz Jars	4-4 oz 1-2 oz Jars							
						FIELD FILTERED - CIRCLE Y OR N								
						Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
1	HA B-6 (1-3')	6/10/04 / 0900	S	(00)		X								Cat B Del
1	HA B-5 (4-8')	6/10/04 / 0930	S	(02)		X								" "
1	HA B-1 (5-7')	6/10/04 / 0945	S	(03)		X								" "
1	HA B-3S (0-2")	6/10/04 / 1000	S	(04)		X								" "
1	HA B-3 (4-8')	6/10/04 / 1015	S	(05)		X								" "
1	HA B-7 (4-8')	6/10/04 / 1030	S	(06)		X								" "
5	HA D-1	6/10/04	SD	(08)			✓						OC	NO CAT B Re
1	GP B-9 (4')	6/10/04 / 1015	S	(18)		X							23.5	Cat B Del
1	GP B-2S (0-2")	6/10/04 / 1300	S	(09)		X								" "
1	GP B-1 (10-12')	6/10/04 / 1330	S	(10)		X								" "

"PASSED RAD SCREEN"

MATRIX CODES

A - AIR
AQ - AQUEOUS
C - COMPLEX
D - DRUM WASTE
OI - OIL
S - SOIL
SL - SLUDGE
W - WIPE
O - OTHER
FB - FIELD BLANK
TB - TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
SIGNATURE		SIGNATURE	
SAMPLES COLLECTED BY: J B Shelkey	DATE/TIME: 10 June 04	RECEIVED IN LAB BY: [illegible]	DATE/TIME: 06/10/04
SIGNATURE: Jeffrey B Shelkey		SIGNATURE: [illegible]	10:15

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEA
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

STL-

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

NO.

STL JOB #:

CLIENT: EEA INC

PROJECT ID: NYC DOS INCINERATORS

STL PROJECT MGR: J. Pfister

RUSH [✓] YES [ ] NO | DUE DATE

BOTTLE (SET #)	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	MOD Y/N	FIELD FILTERED CIRCLE Y OR N (TESTS: Full TCLP + PCBs + CHAR)								SAMPLE REMARKS
						Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
3	GPD-1	10 June 04	SD	11		✓								NO CAT B REQ
1														
2														
3														
4														
5														

GENERAL REMARKS: 72-96 hr TAT

206852 06/27/2004
ENERGY AND ENVIRONMENTAL ANALYSTS, INC.
JEFF SHELKEY
NYCDOS SWB INCINERATOR PLANT

23.5 °C

"PASSED RAD SCREEN"

MATRIX CODES

A	AIR	S	SOIL
AQ	AQUEOUS	SL	SLUDGE
C	COMPLEX	W	WIPE
D	DRUM WASTE	O	OTHER
OI	OIL	FB	FIELD BLANK
		TB	TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
SIGNATURE		SIGNATURE	
SAMPLES COLLECTED BY: J. B. Shelkey	DATE/TIME: 10 June 04	RECEIVED IN LAB BY: Alisa Cook	DATE/TIME: 06/15/04
SIGNATURE: Jeffrey B Shelkey		SIGNATURE:	10:15

REMARKS ON SAMPLE RECEIPT

[ ] BOTTLES INTACT [ ] CUSTODY SEA
[ ] PRESERVED [ ] SEALS INTACT
[ ] CHILLED [ ] SEE REMARKS

STL-

PHASE II SITE INVESTIGATION SOUTHWEST BROOKLYN MARINE TRANSFER STATION NEW YORK CITY DEPARTMENT OF SANITATION BROOKLYN, NEW YORK

Prepared for:

NEW YORK CITY
DEPARTMENT OF SANITATION
44 BEAVER STREET
NEW YORK, NEW YORK

Prepared by:

EEA, *Inc.*
55 Hilton Avenue
Garden City, New York 11530
(516) 746-4400
(212) 227-3200

DECEMBER 2004

Project: 03718

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1.0 INTRODUCTION

1.1 Purpose

Henningson, Durham & Richardson Architecture & Engineering, P.C., in association with HDR Engineering, Inc. and EEA, Inc. (HDR/EEA) was contracted by the New York City Department of Sanitation (NYCDOS) to provide engineering services for the demolition of the Southwest Brooklyn Incinerator and reutilization of the Southwest Brooklyn Marine Transfer Station (MTS). As part of the contract requirements, a Phase II Site Investigation Report (SIR) was undertaken by EEA, subcontractor to HDR. The purpose of this limited site investigation was to characterize on-site soil and groundwater contamination by: 1) Performing a Ground Penetrating Radar (GPR) and Magnetometer Survey to locate the presence of underground storage tanks (USTs) and other underground structures; and 2) Collecting soil and groundwater samples for laboratory analysis. Investigation of the environmental concerns within or beneath the incinerator building was not included in this site investigation. The results of this site investigation will be used to support the environmental review and permitting for the new MTS facility and will be presented in the FEIS for the MTS Containerization Program.

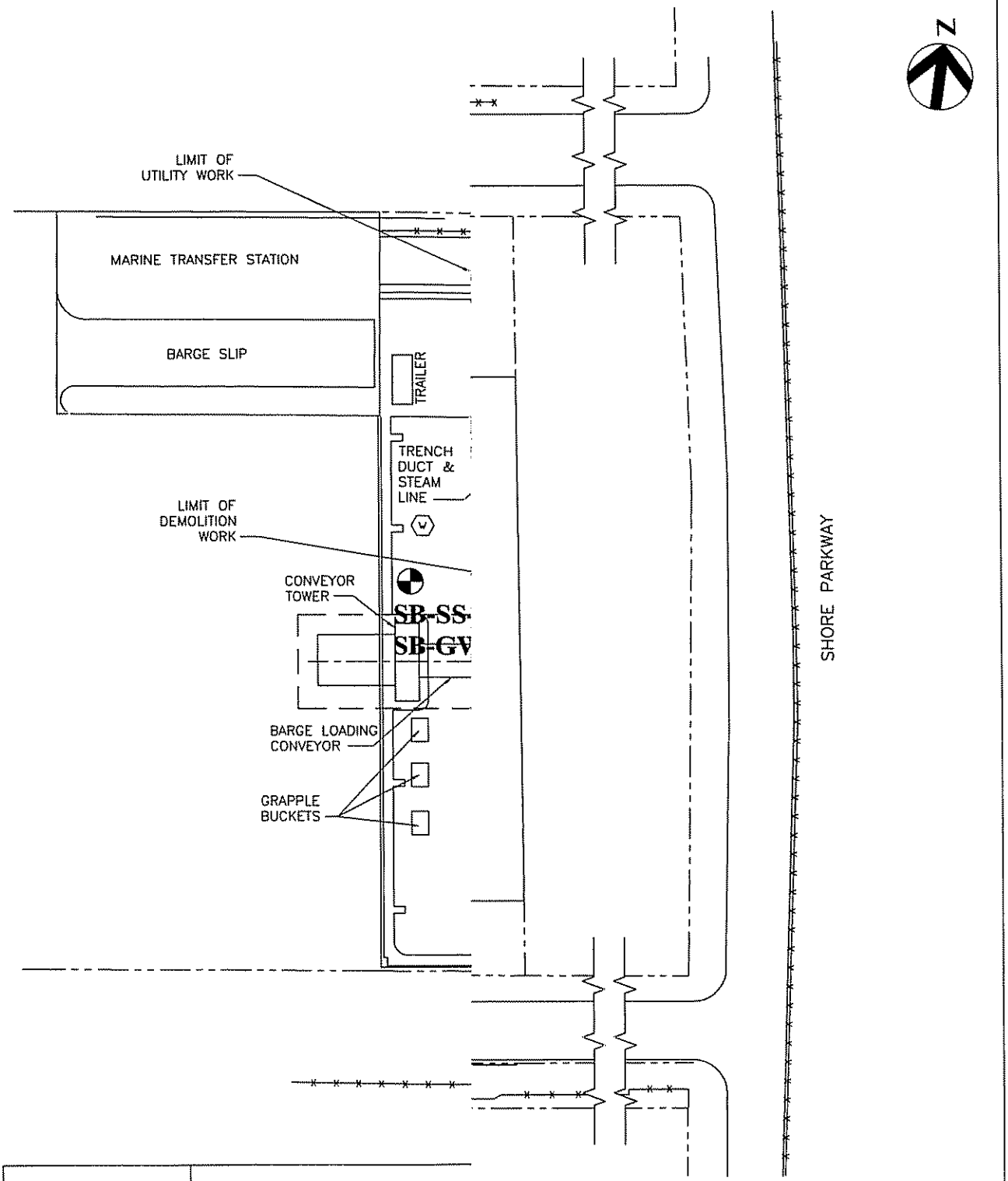
1.2 Site Location

The facility is located off the south service road of the Shore (Belt) Parkway in the Bensonhurst section of Brooklyn at Bay 41st Street. The site is bounded by Bay 41st Street to the south, 25th Avenue (extended) to the north, a NYCDOS garage facility to the east and Gravesend Bay to the west. The site location is shown on Figure 1.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

Shown in Figure 1, the Southwest Brooklyn MTS is located along the Shore Parkway service road in the Bensonhurst section of Brooklyn in Brooklyn Community Board District 11. The site is bounded by 25th Avenue (extended) to the north, Gravesend Bay to the west, Bay 41st Street to the south, and the Department's District 7 Garage to the east. The entire site is approximately 17 acres, of which 6.2 acres are upland areas and 10.9 acres are over water. The existing MTS building occupies approximately 0.6 of the site's acreage. In addition to the MTS building, the site includes Self Help Site, the Department's permanently closed Southwest Brooklyn Incinerator, an



KEY	SB-SS-1 SB-GW-1 MW-1	Soil Bo (SB-G Locati

No Scale

EEA, Inc.

55 Hilton Avenue
Garden City, New York
(516) 746-4400

FiPlan

Job No.: 03718

Date	Revisions	By
1/28/04	Edit boring locations	FI
7/8/04	Include GW Flow Direction	FI
12/21/04	Add prefix SB & SS	FI

employee parking lot, and a salt shed. Based on City tax maps, the site is comprised of all or a portion of Lot 30 in Block 6943.

The MTS site is zoned M3-1. The areas surrounding the MTS site are used for a variety of purposes, including industrial, commercial and residential uses. Shore Parkway separates the MTS from the residential neighborhood of one (1)- and two (2)-family houses and high-rise buildings to the east. Immediately to the north of the MTS is a large outdoor shopping plaza and undeveloped land. Immediately to the east of the District Garage is an amusement park. To the south of Bay 41st Street is a marina.

The nearest residential district is used as a park, Dreier-Offerman Park; it is bordered by Bay 44th Street and is approximately 725 feet southeast of the site. The New York School for Retarded Children is approximately 770 feet east of the site boundary.

A 5,000-gallon UST is located to the northeast side of the incinerator, outside the building, between the building and the fence, per the environmental investigation of the incinerator building.

2.2 Site History

The site consists of the incinerator building and MTS that have been previously used to handle waste. Historically, the existing MTS has transferred waste from Brooklyn Collection Districts 10, 11, 12, 13, 15, 16, and 17 to the Fresh Kills Landfill. Currently, no volume of waste is handled by this facility. The MTS building is built on piers over Gravesend Bay and can be accessed from 25th Avenue via a truck ramp that extends along the north side of the incinerator building.

3.0 SITE INVESTIGATION

3.1 Scope of Work

The following is the Scope of Work that was completed in October and November 2003. The object of the site investigation was to complete an assessment of the subsurface environmental conditions associated with the former facility. The work performed followed the detailed Phase II Site Investigation Work Plan of October 2003 as approved by the NYCDOS and NYCDEP. The field work included:

- Performing a GPR and Magnetometer survey;
- Collecting one (1) subsurface soil sample from 14 boring locations;
- Collecting one (1) groundwater sample from three (3) boring locations;
- Collecting one (1) groundwater sample from three (3) permanent monitoring wells;
- Collecting one (1) surface soil sample from four (4) of the boring locations;
- Laboratory analysis of soil and groundwater samples for VOCs, SVOCs, Pesticides/PCBs, RCRA metals, asbestos; and

- TCLP extraction and laboratory analysis of subsurface ash samples if encountered.

4.0 DETAILED SITE INVESTIGATION

4.1 GPR and Magnetometer Survey

An EEA subcontractor completed a geophysical survey of the entire site utilizing a GPR and Magnetometer. The GPR and Magnetometer surveys were conducted throughout the open areas of the site. Prior to initiating the survey, track lines were painted on the accessible areas of the site and given an individual track number at the time of the survey. The GPR survey consisted of transmitting and receiving electromagnetic pulses through the ground, to a maximum depth of 10 feet. The pulses were recorded and used to determine the existence and shape of buried objects. Surface improvements, such as reinforced concrete, can affect the performance of a GPR survey. The GPR subcontractor interpreted the anomalies detected from the GPR survey to establish if they were consistent with the configuration of an underground storage tank. This survey also helped in locating underground pipes and utilities. The magnetometer was used to assist in the delineation of ferrous metal objects. The GPR and magnetometer survey report was issued in September 2003 and a copy with the track lines and any interpretations is included as a complete report in Appendix A.

4.2 Continuous Soil Sampling

Fourteen (14) soil borings, identified as SB-SS-1 through SB-SS-14 were drilled using hollow stem auger and split spoon or geoprobe sampling techniques. Surface samples were collected from three (3) of the boring locations (SB-SS-3, SB-SS-6 and SB-SS-8) using a stainless steel spoon; subsurface soil samples were collected from 14 locations at the site using split spoon soil or Geoprobe Macrocore sampling methodologies. These sampling locations were selected to obtain representative coverage of the site; however, the exact locations of the boring sampling points were based on the GPR and Magnetometer survey and field conditions.

Split spoon soil sampling was used to collect the soil samples at 2-foot intervals, from the surface to the depth of the groundwater surface, or to a depth of 18 feet, whichever was less. Geoprobe soil sampling with a 4-foot long macro core with clear plastic liner was used to collect soil samples in locations where monitoring wells were not installed. The hollow stem drill rig was used to advance the borehole to the top of the 2-foot sample interval. The augers were advanced and the length of the split spoon driven past the bottom of the auger, into the underlying material, and then withdrawn. Using a PID, each of the soil samples collected was screened for the presence of organic vapors. When the Geoprobe was used, a 4-foot continuous sample was collected; the plastic liner was cut open and soils were then screened with a PID.

A subsurface soil sample from the depth exhibiting the highest PID reading was submitted to the laboratory for analysis. When no organic vapors, odors, or signs of

staining were detected in any samples from a given sampling location, the sample collected nearest to the soil-water interface was submitted for analysis.

All of the soil samples collected were analyzed for VOCs, SVOCs, Pesticides/PCBs, Asbestos and RCRA metals. In addition, when ash residue was found within the sample, soil samples were tested for TCLP metals and SVOCs.

4.3 Groundwater Sampling

Once the soil samples were obtained from the boring locations, a groundwater sample was collected from a total of six (6) locations. Three (3) permanent monitoring wells (MW-1 through MW-3) were installed at three of the boring Locations (SB-SS-3, SB-SS-12 and SB-SS-14) and three (3) groundwater samples (SB-GW-1, SB-GW-5 and SB-GW-13) were collected from open boreholes (SB-SS-1, SB-SS-5 and SB-SS-13). Three (3) samples were collected in the inferred upgradient direction (SB-GW-1, MW-1, and SB-GW-5) from the existing incinerator building, and three (3) in the inferred downgradient direction (MW-2, SB-GW-13 and MW-3). The three groundwater samples that were collected downgradient of the incinerator building were located slightly inland to reduce the tidal influence on the samples. The upgradient wells were used to characterize potential impacts from off-site while the downgradient wells were used to characterize potential impacts from the incinerator. Additionally, the three permanent monitoring wells were used to calculate the groundwater flow and direction. The groundwater samples were collected and analyzed for VOCs, SVOCs, RCRA metals and Pesticides/PCBs. Because turbidity was potentially a problem when sampling from boreholes and/or temporary well points, metals samples were sampled through a slotted screen which aided in lowering the turbidity of the samples.

4.4 Sample Handling

Samples were labeled as shown on the chain-of-custody. Samples were labeled immediately before or after collection and shipped in coolers with ice to a New York State approved laboratory.

4.5 Sample Analyses

Previous sampling around the existing UST indicated that some contamination was present on-site. A range of analyses was completed on the soil and groundwater samples to evaluate these chemicals of concern and potential impacts to these site media. The analytical parameters analyzed for the soil and groundwater samples included VOCs, SVOCs, RCRA metals and Pesticides/PCBs. In addition, QC samples were collected and analyzed. The QC samples included: (1) A duplicate soil and groundwater sample; (2) A Matrix Spike and Matrix Spike Duplicate (MS/MSD) for a soil and groundwater sample; (3) A trip blank for each group of samples sent to the laboratory; and (4) A rinsate blank for every 20 samples obtained. All analyses were performed in accordance with the NYSDEC ASP, 2000. Severn Trent, Inc., ELAP and CLP certified in the State of New

York performed the analyses and provided the sample results and Category B deliverables for the analyses.

5.0 RESULTS OF THE INVESTIGATION

5.1 Results of the Ground Penetrating Radar Survey

A Ground Penetrating Radar Survey was performed on all open and accessible areas of the site along previously painted track lines. When an anomaly was located near a proposed soil boring or monitoring well, the location was slightly offset and resurveyed with the GPR to verify the area was clear. The detailed survey report is included in Appendix A, and includes an indication and interpretation of anomalies encountered on the track line. The magnetometer survey was attempted along the same track lines; however, rebar, wire mesh and ferrous metal debris embedded in the pavement throughout the site prevented any meaningful data from being collected.

5.2 Results of Soil Sampling – Southwest Brooklyn

Soil samples were obtained at 13 soil boring locations: SB-SS-1, SB-SS-2, SB-22-3, SB-SS-5, SB-SS-6, SB-SS-7, SB-SS-8, SB-SS-9, SB-SS-10, SB-SS-11, SB-SS-12, SB-SS-13 and SB-SS-14 using a Geoprobe LT 54 drill rig or a Mobil B-57 drill rig. No samples were obtained from SB-SS-4 due to shallow refusal and adjacent buried utility lines. Three attempts were made to collect soil samples in the immediate area of SB-SS-4, but refusal was encountered at each attempt. As buried and active high voltage power lines were located in this area, additional sampling was not attempted.

- <u>Volatile Organic Compounds (VOCs)</u>

VOCs were not detected above the New York State Department of Environmental Conservation's (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) criteria in any of the soil samples from any of the borings (see Table 1). However, there were low-level concentrations of VOCs present in some of the soil samples as well as background levels of Methylene Chloride (a typical laboratory solvent) in all of the soil samples.

- <u>Semi-Volatile Organic Compounds (SVOCs)</u>

SVOCs were detected above the NYSDEC TAGM criteria in soil samples from borings SB-SS-2, SB-SS-3, SB-SS-5, SB-SS-8, SB-SS-10, SB-SS-11, and SB-SS-13 (see Table 2). The soils underlying the property are composed of fill material consisting of coal, brick and asphalt materials intermixed with sand and soil. Although the concentrations of SVOCs were above the NYSDEC TAGM criteria, these exceedances are typical for this type of fill material for near-shore industrial areas of Brooklyn and New York City. EEA finds similar results in other properties it has investigated in the region.

- RCRA Metals

Various RCRA metals (Mercury, Arsenic, Barium, Cadmium and Chromium) were detected above the NYSDEC TAGM criteria in soil samples from borings SB-SS-2, SB-SS-3, SB-SS-5, SB-SS-8, SB-SS-10, SB-SS-11, and SB-SS-13 (see Table 3). Lead was also detected at elevated levels in several borings.

- Pesticides/PCBs

Dieldrin, a pesticide, was detected above the NYSDEC TAGM criteria in a soil sample from boring SB-SS-5 (Table 4). No other pesticides or PCBs were detected above the NYSDEC TAGM criteria in the remaining soil borings.

- TCLP Soil Analytical Results

A soil sample from boring SB-SS-2 was analyzed for TCLP RCRA metals and TCLP SVOCs. There were no exceedances for these compounds above the TCLP Regulatory levels (see Table 5).

- Asbestos Analysis

A soil sample from 0-2 feet at SB-SS-6 showed a trace of Chrysotile asbestos fibers. All other samples were non-detect. No table for this result was produced. All asbestos results are included in the laboratory appendix.

5.3 Results of Groundwater Sampling

Groundwater samples were obtained at three soil boring locations: SB-GW-1, SB-GW-5, and SB-GW-13 using a Geoprobe. In addition, a groundwater sample was obtained from each of the three permanent wells installed on the site (MW-1, MW-2, MW-3).

- Volatile Organic Compounds (VOCs)

VOCs were not detected in any of the groundwater samples analyzed. Only Acetone was detected below the Groundwater Standard (see Tables 6a and 6b).

- Semi-volatile Organic Compounds (SVOCs)

Semi-volatile organic compounds were not detected in any of the samples analyzed (see Tables 7a and 7b).

- RCRA Metals

Chromium was detected in the three Geoprobe water samples above the groundwater standards. Lead was detected above the groundwater standards in each of the three monitoring wells (see Tables 8a and 8b).

- Pesticides/PCBs

Pesticides/PCBs were not detected in any of the groundwater samples collected at the site (see Tables 9a and 9b).

- Groundwater Gradient

The elevation of the groundwater table was determined by surveying the top of well casing for MW-1, MW-2 and MW-3, and measuring the depth to the groundwater to the closest 0.01 foot. The surface elevation was then established. The direction of groundwater flow was determined as south southwest of the facility.

6.0 DISCUSSION

Minimum amounts of contamination exist in the soils in the area surrounding the Brooklyn incinerator. Several semi-volatile organics and RCRA metals were found at levels above TAGM standards. This could be attributed to the fill materials used during the construction at this site, also typically seen in urban fill areas.

Low level concentrations of Lead and Chromium were detected in the groundwater samples above the standards, also typically seen in urban fill areas.

No additional testing is deemed necessary at this time.

TABLE 1
VOLATILE ORGANIC COMPOUNDS
SOIL ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

VOLATILE ORGANIC COMPOUNDS (ug/Kg) METHOD 8260B	SB-SS-1 (4-8')	SB-SS-2 (0-4')	SB-SS-3 (0-2")	SB-SS-3 (5-7')	SB-SS-5 (4-8')	SB-SS-6 (0-2")	SB-SS-6 (4-8')	SB-SS-7 (4-8')	SB-SS-8 (0-2")	SB-SS-8 (4-8')	SB-SS-9 (4-8')	SB-SS-10 (0-4')	SB-SS-11 (4-8')	SB-SS-12 (5-7')	SB-SS-13 (4-8')	SB-SS-14 (5-7')	NYSDEC TAGM (ug/Kg)
Chloromethane	U < 0.8	U < 0.8	U < 0.9	U < 0.9	U < 0.9	U < 0.9	U < 0.8	U < 0.8	U < 0.8	U < 0.8	U < 0.9	U < 0.9	U < 0.8	U < 0.9	U < 1	U < 0.9	
Vinyl chloride	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	200
Bromomethane	U < 3	U < 3	U < 3	U < 2	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	
Chloroethane	U < 0.7	U < 0.7	U < 0.8	U < 0.7	U < 0.8	U < 0.8	U < 0.7	U < 0.7	U < 0.7	U < 0.7	U < 0.8	U < 0.8	U < 0.7	U < 0.8	U < 0.9	U < 0.8	1,900
1 1-Dichloroethene	U < 0.5	U < 0.5	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.7	U < 0.5	400
Carbon disulfide	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.2	U < 0.3	U < 0.2	2,700
Acetone	U < 5	U < 6	U < 6	U < 5	U < 6	U < 6	11	11	U < 5	U < 5	J 7	U < 6	U < 6	15	U < 7	14	200
Methylene chloride	B 4	B 16	B, J 5	B 7	B, J 3	B 12	B, J 4	B, J 3	B 7	B 13	B, J 2	B, 13	B, J 3	B 11	B 18	B 15	100
trans-1 2-Dichloroethene	U < 0.5	U < 0.5	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.7	U < 0.5	300
1 1-Dichloroethane	U < 0.5	U < 0.5	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.7	U < 0.5	200
Vinyl acetate	U < 3	U < 3	U < 3	U < 3	U < 3	U < 4	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 4	U < 3	
cis-1 2-Dichloroethene	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.6	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.7	U < 0.5	
2-Butanone (MEK)	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 4	U < 3	300
Chloroform	U < 0.6	U < 0.6	U < 0.7	U < 0.7	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.8	U < 0.7	300
1 1 1-Trichloroethane	U < 0.5	34	7	14	U < 0.5	7	U < 0.5	U < 0.5	U < 0.5	7	U < 0.5	J 5	U < 0.5	6	J 6	11	800
Carbon tetrachloride	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	600
Benzene	U < 0.5	6	U < 0.5	J 3	U < 0.5	J 2	U < 0.5	U < 0.5	U < 0.5	J 3	U < 0.5	2	U < 0.5	U < 0.5	U < 0.7	J 2	60
1 2-Dichloroethane	U < 0.4	U < 0.4	U < 0.4	J 2	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	100
Trichloroethene	U < 0.5	J 4	U < 0.5	U < 0.6	U < 0.5	14	U < 0.5	U < 0.5	J 2	9	U < 0.5	J 4	U < 0.5	J 1	8	J 3	700
1 2-Dichloropropane	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	
Bromodichloromethane	U < 0.5	U < 0.5	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.7	U < 0.5	
cis-1 3-Dichloropropene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	300
4-Methyl-2-pentanone (MIBK)	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 4	U < 3	1,000
Toluene	U < 0.4	11	J 1	5	U < 0.4	J 5	U < 0.4	U < 0.4	J 2	8	U < 0.4	14	U < 0.4	J 2	J 4	J 5	1,500
trans-1 3-Dichloropropene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	
1 1 2-Trichloroethane	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.6	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.7	U < 0.5	
Tetrachloroethene	U < 0.4	J 3	U < 0.4	U < 0.4	U < 0.4	J 1	U < 0.4	U < 0.4	J 1	14	U < 0.4	J 2	U < 0.4	U < 0.4	J 2	U < 0.4	1,400
2-Hexanone	U < 4	U < 4	U < 4	U < 3	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 5	U < 4	
Dibromochloromethane	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.4	
Chlorobenzene	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.6	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.7	U < 0.5	1,700
Ethylbenzene	U < 0.4	J 0.9	U < 0.4	J 6	U < 0.4	J 1	U < 0.4	U < 0.4	U < 0.4	J 3	U < 0.4	J 1	U < 0.4	J 0.6	J 2	U < 0.4	5,500
Styrene	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.6	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.5	U < 0.7	U < 0.5	
Bromoform	U < 0.6	U < 0.6	U < 0.7	U < 0.7	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.6	U < 0.7	U < 0.6	U < 0.6	U < 0.8	U < 0.7	
1 1 2 2-Tetrachloroethane	U < 0.9	U < 1	U < 1	U < 0.9	U < 1	U < 1	U < 0.9	U < 1	U < 0.9	U < 0.9	U < 1	U < 1	U < 1	U < 1	U < 1	U < 1	600
Xylenes (total)	U < 1	J 5	U < 1	J 3	U < 1	J 4	U < 1	U < 1	J 2	8	U < 1	J 4	U < 1	J 2	J 6	J 2	1,200

Notes:
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
B = Compound was found in blank and sample
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 2
SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

SEMI-VOLATILE ORGANIC COMPOUNDS (ug/Kg) METHOD 8270C	SB-SS-1 (4-8')	SB-SS-2 (0-4')	SB-SS-3 (0-2")	SB-SS-3 (5-7')	SB-SS-5 (4-8')	SB-SS-6 (0-2")	SB-SS-6 (4-8')	SB-SS-7 (4-8')	SB-SS-8 (0-2")	SB-SS-8 (4-8')	SB-SS-9 (4-8')	SB-SS-10 (0-4')	SB-SS-11 (4-8')	SB-SS-12 (5-7')	SB-SS-13 (4-8')	SB-SS-14 (5-7')	NYSDEC TAGM (ug/Kg)
Naphthalene	U < 33	J 130	J 280	U < 69	U < 270	U < 74	U < 33	U < 33	U < 130	U < 65	J 38	J 170	U < 33	U < 34	J 140	J 380	13,000
2-Methylnaphthalene	U < 29	J 160	J 120	U < 61	J 270	U < 64	U < 29	U < 29	U < 110	U < 57	U < 30	J 210	U < 29	U < 30	J 150	J 220	36,400
Acenaphthylene	U < 11	J 30	U < 12	U < 24	U < 94	J 120	U < 11	U < 11	J 150	J 26	U < 12	J 59	U < 12	U < 12	J 34	U < 46	41,000
Acenaphthene	U < 15	U < 15	J 40	U < 32	U < 130	U < 35	U < 15	U < 15	U < 60	U < 30	J 20	J 75	U < 16	J 54	J 27	U < 63	50,000
Fluorene	U < 20	U < 20	J 47	U < 43	U < 170	U < 46	U < 21	U < 21	U < 80	U < 40	J 22	J 80	U < 21	U < 22	J 26	J 99	50,000
Phenanthrene	U < 25	350	740	J 73	J 600	J 540	U < 25	U < 25	J 150	J 170	J 33	1,100	U < 25	J 45	J 290	J 770	50,000
Anthracene	U < 12	J 39	J 65	U < 26	J 110	J 130	U < 12	U < 12	J 90	J 51	U < 13	J 220	U < 13	J 17	J 71	J 200	50,000
Fluoranthene	U < 22	340	J 260	J 130	J 710	990	U < 23	U < 23	J 320	J 280	U < 23	1,700	J 26	J 72	J 410	J 1100	50,000
Pyrene	U < 19	350	J 210	J 110	J 630	920	U < 20	U < 20	J 390	J 290	U < 20	1,600	J 24	J 73	J 400	J 1000	50,000
Benzo(a)anthracene	U < 15	J 180	J 56	J 54	**J 350**	**J 490**	U < 15	U < 15	**J 300**	J 170	U < 16	**790**	J 16	J 23	J 220	**J 590**	224
Chrysene	U < 17	J 230	J 84	J 69	**J 440**	**J 600**	U < 18	U < 18	**J 410**	J 200	U < 18	**860**	U < 18	J 25	J 230	**J 640**	400
Benzo(b)fluoranthene	U < 39	J 160	U < 41	U < 82	J 400	J 440	U < 39	U < 39	J 380	J 140	U < 40	510	U < 40	U < 41	J 180	J 510	1,100
Benzo(k)fluoranthene	U < 40	J 140	U < 42	U < 84	U < 330	J 520	U < 40	U < 40	J 390	J 140	U < 41	710	U < 41	U < 42	J 190	J 360	1,100
Benzo(a)pyrene	U < 16	**J 170**	J 27	J 58	**J 350**	**J 500**	U < 17	U < 16	**J 430**	**J 160**	U < 17	**700**	U < 17	U < 17	**J 190**	**J 480**	61
Indeno(1 2 3-cd)pyrene	U < 18	J 100	U < 19	J 46	J 280	J 360	U < 19	U < 19	J 390	J 110	U < 19	360	U < 19	U < 19	J 130	J 270	3,200
Dibenzo(a h)anthracene	U < 18	U < 18	U < 19	U < 39	U < 150	**J 170**	U < 19	U < 19	U < 72	**J 57**	U < 19	**J 190**	U < 19	U < 19	**J 49**	**J 120**	14
Benzo(ghi)perylene	U < 17	J 140	U < 18	J 64	J 330	J 420	U < 18	U < 18	J 510	J 140	U < 18	400	U < 18	U < 18	J 150	J 310	50,000

Notes:

U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory QA/QC purposes.

J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)

NYSDEC = New York State Department of Environmental Conservation

TAGM = Technical and Administrative Guidance Memorandum

Blank indicates Standard Not Established

Bold indicates analytes detected above the Standards

TABLE 3
RCRA METALS
SOIL ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

RCRA METALS (mg/Kg) METHOD 6010B / 7471A	SB-SS-1 (4-8')	SB-SS-2 (0-4')	SB-SS-3 (0-2")	SB-SS-3 (5-7')	SB-SS-5 (4-8')	SB-SS-6 (0-2")	SB-SS-6 (4-8')	SB-SS-7 (4-8')	SB-SS-8 (0-2")	SB-SS-8 (4-8')	SB-SS-9 (4-8')	SB-SS-10 (0-4')	SB-SS-11 (4-8')	SB-SS-12 (5-7')	SB-SS-13 (4-8')	SB-SS-14 (5-7')	NYSDEC TAGM (mg/Kg)
Mercury	U < 0.049	**B 0.16**	B 0.049	U < 0.048	**B 0.64**	N/A	N/A	N/A	**B 25.6**	**B 1.9**	U < 0.044	**B 0.29**	0.078	U < 0.053	**B 0.11**	B 0.092	0.1
Arsenic	U < 1.3	**26.4**	**19.8**	U < 1.4	U < 1.3	N/A	N/A	N/A	**17.2**	B 4	U < 1.3	**B 9**	1.3	B 1.8	B 3.3	B 2.9	7.5
Barium	4.4	168	174	25.9	6.8	N/A	N/A	N/A	204	106	4.4	**644**	93.7	5.7	58.6	39.3	300
Cadmium	U < 1.3	U < 1.2	U < 1.4	U < 1.4	U < 1.3	N/A	N/A	N/A	**B 2.4**	< 1.2	U < 1.3	U < 1.2	U < 1.2	U < 1.3	U < 1.5	U < 1.3	1
Chromium	B 3.3	**16.2**	**17.7**	7.2	B 3.9	N/A	N/A	N/A	**22.5**	**15.7**	B 3.3	**13.6**	**10.5**	4.8	**10.1**	9.4	10
Lead	1.3	127	15	729	B 9.2	N/A	N/A	N/A	431	304	B 1.5	1480	87.8	B 5.3	85.3	63.1	SB
Selenium	U < 2	U < 2	U < 2.2	U < 2.2	U < 2.1	N/A	N/A	N/A	U < 2	U < 2	U < 2.1	U < 2	U < 1.9	U < 2.1	U < 2.5	U < 2	2
Silver	U < 0.38	U < 0.37	U < 0.41	U < 0.41	U < 0.4	N/A	N/A	N/A	U < 0.37	U < 0.37	U < 0.4	U < 0.37	U < 0.35	U < 0.38	U < 0.46	U < 0.38	SB

Notes:
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
B = Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
N/A = Not Analyzed
SB = Site Background levels (SB for Lead = 500 mg/Kg)
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 4
PESTICIDES / PCBs
SOIL ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

PESTICIDES / PCBs (ug/Kg) METHOD 8081A; 8082	SB-SS-1 (4-8')	SB-SS-2 (0-4')	SB-SS-3 (0-2")	SB-SS-3 (5-7')	SB-SS-5 (4-8')	SB-SS-6 (0-2")	SB-SS-6 (4-8')	SB-SS-7 (4-8')	SB-SS-8 (0-2")	SB-SS-8 (4-8')	SB-SS-9 (4-8')	SB-SS-10 (0-4')	SB-SS-11 (4-8')	SB-SS-12 (5-7')	SB-SS-13 (4-8')	SB-SS-14 (5-7')	NYSDEC TAGM (ug/Kg)
alpha-BHC	U < 0.28	U < 0.29	U < 0.29	U < 0.3	U < 1.5	U < 0.32	U < 0.29	U < 0.29	U < 0.28	U < 0.28	U < 0.29	U < 0.3	U < 0.29	U < 0.29	U < 0.37	U < 0.3	110
beta-BHC	U < 0.27	U < 0.29	U < 0.29	U < 0.29	U < 1.5	J 0.81	U < 0.28	U < 0.28	U < 0.28	U < 0.28	U < 0.29	J 1.5	U < 0.28	J 1.1	U < 0.36	U < 0.29	200
delta-BHC	U < 0.11	U < 0.11	U < 0.11	J 0.45	U < 0.56	U < 0.12	U < 0.11	U < 0.11	U < 0.11	U < 0.11	U < 0.11	U < 0.11	U < 0.11	J 0.29	U < 0.14	U < 0.11	300
gamma-BHC (Lindane)	U < 0.16	U < 0.16	U < 0.16	U < 0.17	U < 0.82	U < 0.18	U < 0.16	U < 0.16	U < 0.16	U < 0.16	U < 0.16	U < 0.17	U < 0.16	U < 0.16	U < 0.2	U < 0.16	60
Heptachlor	U < 0.15	U < 0.16	U < 0.16	U < 0.16	U < 0.81	U < 0.18	U < 0.16	U < 0.16	U < 0.16	U < 0.15	U < 0.16	U < 0.16	U < 0.16	J 0.76	U < 0.2	U < 0.16	100
Aldrin	U < 0.36	U < 0.38	U < 0.38	U < 0.39	U < 1.9	U < 0.42	U < 0.37	U < 0.37	U < 0.37	U < 0.36	U < 0.38	U < 0.39	U < 0.37	U < 0.38	U < 0.48	U < 0.39	41
Heptachlor epoxide	U < 0.12	J 0.26	U < 0.12	U < 0.12	U < 0.61	J 1.6	U < 0.12	U < 0.12	J 0.53	J 0.14	U < 0.12	J 1.4	J 1.7	J 0.34	J 0.66	J 0.19	20
Endosulfan I	U < 0.15	U < 0.16	U < 0.16	U < 0.16	U < 0.79	U < 0.17	U < 0.15	U < 0.15	U < 0.15	U < 0.15	U < 0.16	U < 0.16	U < 0.15	U < 0.16	U < 0.2	U < 0.16	900
Dieldrin	U < 0.33	6.2	U < 0.34	U < 0.35	55	J 0.39	U < 0.34	U < 0.33	U < 0.33	U < 0.33	U < 0.34	J 2.5	U < 0.34	U < 0.34	J 1.9	U < 0.35	44
4 4'-DDE	U < 0.44	6.5	J 0.7	J 1.8	J 11	20	U < 0.45	U < 0.45	3.8	J 3.3	U < 0.46	20	J 1.8	J 2.5	6.4	4.1	2,100
Endrin	U < 0.91	U < 0.94	U < 0.95	U < 0.97	U < 4.8	U < 1	U < 0.93	U < 0.93	U < 0.92	U < 0.91	U < 0.95	U < 0.97	U < 0.93	U < 0.95	U < 1.2	U < 0.97	100
Endosulfan II	U < 0.17	U < 0.18	U < 0.18	U < 0.18	U < 0.92	U < 0.2	U < 0.18	U < 0.18	U < 0.18	U < 0.17	U < 0.18	U < 0.19	U < 0.18	U < 0.18	U < 0.23	U < 0.18	900
4 4'-DDD	U < 0.39	U < 0.4	U < 0.41	U < 0.41	J 11	U < 0.45	U < 0.4	U < 0.4	U < 0.39	J 2.3	U < 0.41	U < 0.41	U < 0.4	U < 0.4	J 2.1	U < 0.41	2,900
Endosulfan sulfate	U < 0.18	U < 0.18	U < 0.19	U < 0.19	U < 0.93	U < 0.2	U < 0.18	U < 0.18	U < 0.18	U < 0.18	U < 0.18	U < 0.19	U < 0.18	U < 0.18	U < 0.23	U < 0.19	1,000
4 4'-DDT	U < 0.32	J 1.8	U < 0.33	U < 0.34	J 8.4	2.7	U < 0.32	U < 0.32	U < 0.32	J 1	U < 0.33	9.8	J 0.57	U < 0.33	J 3	J 1.9	2,100
Methoxychlor	U < 2.2	U < 2.2	U < 2.3	U < 2.3	U < 11	U < 2.5	U < 2.2	U < 2.2	U < 2.2	U < 2.2	U < 2.3	U < 2.3	U < 2.2	J 4.4	U < 2.8	U < 2.3	
alpha-Chlordane	U < 0.11	U < 0.12	U < 0.12	U < 0.12	J 8	U < 0.13	U < 0.12	U < 0.11	U < 0.11	U < 0.11	U < 0.12	U < 0.12	6.8	U < 0.12	U < 0.15	J 1.2	
gamma-Chlordane	U < 0.093	J 0.89	U < 0.097	U < 0.099	J 3.5	U < 0.11	U < 0.095	U < 0.095	U < 0.094	U < 0.093	U < 0.097	U < 0.099	4.8	U < 0.097	J 1.8	J 0.79	540
Toxaphene	U < 4.9	U < 5.1	U < 5.2	U < 5.3	U < 26	U < 5.7	U < 5.1	U < 5	U < 5	U < 5	U < 5.2	U < 5.3	U < 5.1	U < 5.1	U < 6.5	U < 5.2	
Endrin aldehyde	U < 0.33	U < 0.34	U < 0.35	U < 0.35	U < 1.7	U < 0.38	U < 0.34	U < 0.34	J 3	U < 0.33	U < 0.35	U < 0.35	U < 0.34	U < 0.34	U < 0.43	U < 0.35	
Endrin ketone	U < 0.15	5.4	U < 0.15	U < 0.16	J 4.9	16	U < 0.15	U < 0.15	7.8	J 2.6	U < 0.15	U < 0.16	U < 0.15	U < 0.15	U < 0.19	U < 0.16	
Aroclor 1016	U < 2.9	U < 3	U < 3	U < 3.1	U < 3	U < 3.3	U < 2.9	U < 2.9	U < 2.9	U < 2.9	U < 3	U < 3.1	U < 2.9	U < 3	U < 3.8	U < 3	1,000/10,000*
Aroclor 1221	U < 1.6	U < 1.6	U < 1.6	U < 1.7	U < 1.7	U < 1.8	U < 1.6	U < 1.6	U < 1.6	U < 1.6	U < 1.6	U < 1.7	U < 1.6	U < 1.6	U < 2.1	U < 1.7	1,000/10,000*
Aroclor 1232	U < 1.9	U < 2	U < 2	U < 2	U < 2	U < 2.2	U < 1.9	U < 1.9	U < 1.9	U < 1.9	U < 2	U < 2	U < 2	U < 2	U < 2.5	U < 2	1,000/10,000*
Aroclor 1242	U < 3.1	U < 3.2	U < 3.2	U < 3.3	U < 3.2	U < 3.5	U < 3.1	U < 3.1	U < 3.1	U < 3.1	U < 3.2	U < 3.3	U < 3.1	U < 3.2	U < 4	U < 3.2	1,000/10,000*
Aroclor 1248	U < 2.7	U < 2.9	U < 2.9	U < 2.9	U < 2.9	U < 3.1	U < 2.8	U < 2.8	U < 2.8	U < 2.8	U < 2.9	U < 2.9	U < 2.8	U < 2.9	U < 3.6	U < 2.9	1,000/10,000*
Aroclor 1254	U < 1.2	U < 1.3	U < 1.3	U < 1.3	51	U < 1.4	U < 1.3	U < 1.3	U < 1.3	J 9.1	U < 1.3	U < 1.3	U < 1.3	U < 1.3	U < 1.6	U < 1.3	1,000/10,000*
Aroclor 1260	U < 4.1	U < 4.2	U < 4.3	U < 4.3	32	26	U < 4.2	U < 4.2	J 4.9	U < 4.1	U < 4.3	54	U < 4.2	U < 4.2	29	J 9	1,000/10,000*

Notes:
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory OA/QC purposes.
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
* = 1,000 ug/Kg surface/10,000 ug/Kg subsurface
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 5
TCLP SOIL ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

RCRA METALS (mg/L) METHOD 6010B / 7471A	SB-SS-2 (0-4')	TCLP Regulatory Levels (mg/L)
Mercury	U < 0.0009	0.2
Arsenic	0.0195	5
Barium	0.682	100
Cadmium	0.0048	1
Chromium	U < 0.0065	5
Lead	0.284	5
Selenium	0.033	1
Silver	U < 0.0046	5

SEMI-VOLATILE ORGANIC COMPOUNDS (mg/L) METHOD 8270C	SB-SS-2 (0-4')	TCLP Regulatory Levels (mg/L)
Pyridine	U < 9	5
1 4-Dichlorobenzene	U < 0.4	7.5
2-Methylphenol	U < 0.6	
Hexachloroethane	U < 0.8	3
4-Methylphenol	1	
Nitrobenzene	U < 0.6	2
Hexachlorobutadiene	U < 1	0.5
2 4 6-Trichlorophenol	1	2
2 4 5-Trichlorophenol	3	400
2 4-Dinitrotoluene	U < 0.8	0.13
Hexachlorobenzene	U < 1	0.13
Pentachlorophenol	U < 5	100

Notes:

U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)

There may also be additional flags other than U used for internal Laboratory QA/QC purposes.

TCLP = Toxicity Characteric Leachate Procedure

Blank indicates Standard Not Established

Bold indicates analytes detected above the Standards

TABLE 6a
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8260 B	SB - GW - 5	SB-GW-1	SB-GW-13	NYSDEC TAGM Groundwater Standards (ug/L)
Chloromethane	U < 1	U < 1	U < 1	
Vinyl chloride	U < 1	U < 1	U < 1	2
Bromomethane	U < 3	U < 3	U < 3	
Chloroethane	U < 0.8	U < 0.8	U < 0.8	50
1 1-Dichloroethene	U < 0.8	U < 0.8	U < 0.8	5
Carbon disulfide	U < 0.6	U < 0.6	U < 0.6	50
Acetone	J 3	J 4	U < 2	50
Methylene chloride	B, U < 0.4	B, U < 0.4	B, U < 0.4	5
trans-1 2-Dichloroethene	U < 0.6	U < 0.6	U < 0.6	5
1 1-Dichloroethane	U < 0.6	U < 0.6	U < 0.6	5
Vinyl acetate	U < 2	U < 2	U < 2	2
cis-1 2-Dichloroethene	U < 0.6	U < 0.6	U < 0.6	
2-Butanone (MEK)	U < 1	U < 1	U < 1	50
Chloroform	U < 0.4	U < 0.4	U < 0.4	7
1 1 1-Trichloroethane	U < 0.4	U < 0.4	U < 0.4	5
Carbon tetrachloride	U < 0.3	U < 0.3	U < 0.3	5
Benzene	U < 0.4	U < 0.4	U < 0.4	0.7
1 2-Dichloroethane	U < 0.3	U < 0.3	U < 0.3	5
Trichloroethene	U < 0.7	U < 0.7	U < 0.7	5
1 2-Dichloropropane	U < 0.6	U < 0.6	U < 0.6	
Bromodichloromethane	U < 0.6	U < 0.6	U < 0.6	
cis-1 3-Dichloropropene	U < 0.6	U < 0.6	U < 0.6	
4-Methyl-2-pentanone (MIBK)	U < 0.5	U < 0.5	U < 0.5	50
Toluene	U < 0.3	U < 0.3	U < 0.3	5
trans-1 3-Dichloropropene	U < 0.4	U < 0.4	U < 0.4	
1 1 2-Trichloroethane	U < 0.8	U < 0.8	U < 0.8	
Tetrachloroethene	U < 0.4	U < 0.4	U < 0.4	5
2-Hexanone	U < 1	U < 1	U < 1	
Dibromochloromethane	U < 0.2	U < 0.2	U < 0.2	50
Chlorobenzene	U < 0.2	U < 0.2	U < 0.2	5
Ethylbenzene	U < 0.3	U < 0.3	U < 0.3	5
Styrene	U < 0.4	U < 0.4	U < 0.4	
Bromoform	U < 0.4	U < 0.4	U < 0.4	
1 1 2 2-Tetrachloroethane	U < 0.7	U < 0.7	U < 0.7	5
Xylenes (total)	U < 1	U < 1	U < 1	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U <= Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
B = Compound was found in blank and sample
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 6b
VOLATILE ORGANIC COMPOUNDS
MONITORING WELL ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8260 B	MW-1	MW-2	MW-3	MW-4 Duplicate MW-3	NYSDEC TAGM Groundwater Standards (ug/L)
Chloromethane	U < 1	U < 1	U < 1	U < 1	
Vinyl chloride	U < 1	U < 1	U < 1	U < 1	2
Bromomethane	U < 3	U < 3	U < 3	U < 3	
Chloroethane	U < 0.8	U < 0.8	U < 0.8	U < 0.8	50
1 1-Dichloroethene	U < 0.8	U < 0.8	U < 0.8	U < 0.8	5
Carbon disulfide	U < 0.6	U < 0.6	U < 0.6	U < 0.6	50
Acetone	U < 2	U < 2	J 3	J 3	50
Methylene chloride	B, U < 0.4	B, U < 0.4	B, U < 0.4	B, U < 0.4	5
trans-1 2-Dichloroethene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	5
1 1-Dichloroethane	U < 0.6	U < 0.6	U < 0.6	U < 0.6	5
Vinyl acetate	U < 2	U < 2	U < 2	U < 2	2
cis-1 2-Dichloroethene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
2-Butanone (MEK)	U < 1	U < 1	U < 1	U < 1	50
Chloroform	U < 0.4	U < 0.4	U < 0.4	U < 0.4	7
1 1 1-Trichloroethane	U < 0.4	U < 0.4	U < 0.4	U < 0.4	5
Carbon tetrachloride	U < 0.3	U < 0.3	U < 0.3	U < 0.3	5
Benzene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	0.7
1 2-Dichloroethane	U < 0.3	U < 0.3	U < 0.3	U < 0.3	5
Trichloroethene	U < 0.7	U < 0.7	U < 0.7	U < 0.7	5
1 2-Dichloropropane	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
Bromodichloromethane	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
cis-1 3-Dichloropropene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
4-Methyl-2-pentanone (MIBK)	U < 0.5	U < 0.5	U < 0.5	U < 0.5	50
Toluene	U < 0.3	U < 0.3	U < 0.3	U < 0.3	5
trans-1 3-Dichloropropene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	
1 1 2-Trichloroethane	U < 0.8	U < 0.8	U < 0.8	U < 0.8	
Tetrachloroethene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	5
2-Hexanone	U < 1	U < 1	U < 1	U < 1	
Dibromochloromethane	U < 0.2	U < 0.2	U < 0.2	U < 0.2	50
Chlorobenzene	U < 0.2	U < 0.2	U < 0.2	U < 0.2	5
Ethylbenzene	U < 0.3	U < 0.3	U < 0.3	U < 0.3	5
Styrene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	
Bromoform	U < 0.4	U < 0.4	U < 0.4	U < 0.4	
1 1 2 2-Tetrachloroethane	U < 0.7	U < 0.7	U < 0.7	U < 0.7	5
Xylenes (total)	U < 1	U < 1	U < 1	U < 1	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
B = Compound was found in blank and sample
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
There may also be additional flags other than U used for internal Laboratory OA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 7a
SEMI-VOLATILE ORGANIC COMPOUNDS
GROUNDWATER ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

SEMI-VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8270 C	SB - GW - 5	SB-GW-1	SB-GW-13	NYSDEC TAGM Groundwater Standards (ug/L)
Naphthalene	U < 0.4	U < 0.4	U < 0.4	10
2-Methylnaphthalene	U < 0.3	U < 0.3	U < 0.3	50
Acenaphthylene	U < 0.4	U < 0.4	U < 0.4	20
Acenaphthene	U < 0.3	U < 0.3	U < 0.3	20
Fluorene	U < 0.4	U < 0.4	U < 0.4	50
Phenanthrene	U < 0.4	U < 0.4	U < 0.4	50
Anthracene	U < 0.5	U < 0.5	U < 0.5	50
Fluoranthene	U < 0.4	U < 0.4	U < 0.4	50
Pyrene	U < 0.4	U < 0.4	U < 0.4	50
Benzo(a)anthracene	U < 0.5	U < 0.5	U < 0.5	0.002
Chrysene	U < 0.6	U < 0.6	U < 0.6	0.002
Benzo(b)fluoranthene	U < 1	U < 1	U < 1	0.002
Benzo(k)fluoranthene	U < 0.3	U < 0.3	U < 0.3	0.002
Benzo(a)pyrene	U < 0.4	U < 0.4	U < 0.4	0.002
Indeno(1 2 3-cd)pyrene	U < 0.4	U < 0.4	U < 0.4	0.002
Dibenzo(a h)anthracene	U < 0.5	U < 0.5	U < 0.5	50
Benzo(ghi)perylene	U < 0.4	U < 0.4	U < 0.4	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
There may also be additional flags other than U used for internal Laboratory OA/QC purposes
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 7b
SEMI-VOLATILE ORGANIC COMPOUNDS
MONITORING WELL ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

SEMI-VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8270 C	MW-1	MW-2	MW-3	MW-4 Duplicate MW-3	NYSDEC TAGM Groundwater Standards (ug/L)
Naphthalene	U < 0.4	U < 0.4	J 0.5	U < 0.4	10
2-Methylnaphthalene	U < 0.3	U < 0.3	U < 0.3	U < 0.3	50
Acenaphthylene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	20
Acenaphthene	U < 0.3	J 1	U < 0.3	U < 0.3	20
Fluorene	U < 0.4	0.5	U < 0.4	U < 0.4	50
Phenanthrene	U < 0.4	0.7	J 0.5	U < 0.4	50
Anthracene	U < 0.5	U < 0.5	U < 0.5	U < 0.5	50
Fluoranthene	U < 0.4	J 0.6	J 0.4	U < 0.4	50
Pyrene	U < 0.4	J 0.4	J 0.6	J 0.4	50
Benzo(a)anthracene	U < 0.5	U < 0.5	U < 0.5	U < 0.5	0.002
Chrysene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	0.002
Benzo(b)fluoranthene	U < 1	U < 1	U < 1	U < 1	0.002
Benzo(k)fluoranthene	U < 0.3	U < 0.3	U < 0.3	U < 0.3	0.002
Benzo(a)pyrene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	0.002
Indeno(1 2 3-cd)pyrene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	0.002
Dibenzo(a h)anthracene	U < 0.5	U < 0.5	U < 0.5	U < 0.5	50
Benzo(ghi)perylene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 8a
RCRA METALS
GROUNDWATER ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

RCRA METALS (ug/L) METHOD 6010B; 7470A	**SB - GW - 5**	**SB-GW-1**	**SB-GW-13**	**NYSDEC Groundwater Standards (ug/L)**
Mercury	U < 0.18	U < 0.18	U < 0.18	0.7
Arsenic	B 6.9	B 12	U < 17.5	25
Barium	32	99.1	90.1	1,000
Cadmium	B 1	B 2.5	U < 4.7	5
Chromium	**345**	**225**	**158**	50
Lead	14.9	14	**105**	25
Selenium	U < 5	B 13.9	U < 25	10
Silver	U < 0.93	U < 0.93	U < 4.6	50

Notes:
NYSDEC = New York State Department of Environmental Conservation
Groundwater Standards based on the NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
B = Result is less than CRDL/RL, but greater than or equal to the IDL/ML.
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.

Blank	indicates Standard Not Established
Bold	indicates analytes detected above the Standards

TABLE 8b
RCRA METALS
MONITORING WELL ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

RCRA METALS (ug/L) METHOD 6010B; 7470A	**MW-1**	**MW-2**	**MW-3**	**MW-4** Duplicate MW-3	**NYSDEC Groundwater Standards (ug/L)**
Mercury	U < 0.18	0.45	U < 0.18	U < 0.18	0.7
Arsenic	B 8.8	B 19.9	U < 3.5	B 4	25
Barium	63.5	334	269	271	1,000
Cadmium	U < 0.94	B 1.7	U < 0.94	U < 0.94	5
Chromium	13.1	32.3	B 3.1	B 4.8	50
Lead	**20.1**	**363**	**26.1**	**47.4**	25
Selenium	U < 5	U < 5	U < 5	U < 5	10
Silver	U < 0.93	U < 0.93	U < 0.93	U < 0.93	50

Notes:
NYSDEC = New York State Department of Environmental Conservation
Groundwater Standards based on the NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
B = Result is less than CRDL/RL, but greater than or equal to the IDL/ML
There may also be additional flags other than U used for internal Laboratory OA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 9a
PESTICIDES / PCBs
GROUNDWATER ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

PESTICIDES / PCBs (ug/L) METHOD 808A; 8082	SB - GW - 5	SB-GW-1	SB-GW-13	NYSDEC TAGM Groundwater Standards (ug/L)
alpha-BHC	U < 0.0068	U < 0.0068	U < 0.0068	< 0.05
beta-BHC	U < 0.0072	U < 0.0072	U < 0.0072	< 0.05
delta-BHC	U < 0.0046	U < 0.0046	U < 0.0046	< 0.05
gamma-BHC (Lindane)	U < 0.0033	U < 0.0033	U < 0.0033	< 0.05
Heptachlor	U < 0.0054	U < 0.0054	U < 0.0054	< 0.01
Aldrin	U < 0.0041	U < 0.0041	U < 0.0041	< 0.01
Heptachlor epoxide	U < 0.0056	U < 0.0056	U < 0.0056	< 0.01
Endosulfan I	U < 0.0041	U < 0.0041	U < 0.0041	0.1
Dieldrin	U < 0.0079	U < 0.0079	U < 0.0079	< 0.01
4 4'-DDE	U < 0.012	U < 0.012	U < 0.012	< 0.01
Endrin	U < 0.0085	U < 0.0085	U < 0.0085	< 0.01
Endosulfan II	U < 0.011	U < 0.011	U < 0.011	0.1
4 4'-DDD	U < 0.026	U < 0.026	U < 0.026	< 0.01
Endosulfan sulfate	U < 0.012	U < 0.012	U < 0.012	0.1
4 4'-DDT	U < 0.013	U < 0.013	U < 0.013	< 0.01
Methoxychlor	U < 0.062	U < 0.062	U < 0.062	35.0
alpha-Chlordane	U < 0.0057	U < 0.0057	U < 0.0057	0.1
gamma-Chlordane	U < 0.006	U < 0.006	U < 0.006	0.1
Toxaphene	U < 0.11	U < 0.11	U < 0.11	
Endrin aldehyde	U < 0.011	U < 0.011	U < 0.011	
Endrin ketone	U < 0.012	U < 0.012	U < 0.012	
Aroclor 1016	U < 0.057	U < 0.057	U < 0.057	0.1
Aroclor 1221	U < 0.11	U < 0.11	U < 0.11	0.1
Aroclor 1232	U < 0.081	U < 0.081	U < 0.081	0.1
Aroclor 1242	U < 0.072	U < 0.072	U < 0.072	0.1
Aroclor 1248	U < 0.06	U < 0.06	U < 0.06	0.1
Aroclor 1254	U < 0.094	U < 0.094	U < 0.094	0.1
Aroclor 1260	U < 0.082	U < 0.082	U < 0.082	0.1

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 9b
PESTICIDES / PCBs
MONITORING WELL ANALYTICAL RESULTS
SOUTHWEST BROOKLYN INCINERATOR
BROOKLYN, NEW YORK

PESTICIDES / PCBs (ug/L) METHOD 8081A; 8082	MW-1	MW-2	MW-3	MW-4 Duplicate MW-3	NYSDEC TAGM Groundwater Standards (ug/L)
alpha-BHC	U < 0.0068	U < 0.0068	U < 0.0068	U < 0.0068	< 0.05
beta-BHC	U < 0.0072	U < 0.0072	U < 0.0072	U < 0.0072	< 0.05
delta-BHC	J 0.011	J 0.0052	U < 0.0046	U < 0.0046	< 0.05
gamma-BHC (Lindane)	U < 0.0033	U < 0.0033	U < 0.0033	U < 0.0033	< 0.05
Heptachlor	U < 0.0054	U < 0.0054	U < 0.0054	U < 0.0054	< 0.01
Aldrin	U < 0.0041	U < 0.0041	U < 0.0041	U < 0.0041	< 0.01
Heptachlor epoxide	U < 0.0056	U < 0.0056	U < 0.0056	U < 0.0056	< 0.01
Endosulfan I	U < 0.0041	U < 0.0041	U < 0.0041	U < 0.0041	0.1
Dieldrin	U < 0.0079	U < 0.0079	U < 0.0079	U < 0.0079	< 0.01
4 4'-DDE	U < 0.012	U < 0.012	U < 0.012	U < 0.012	< 0.01
Endrin	U < 0.0085	U < 0.0085	U < 0.0085	U < 0.0085	< 0.01
Endosulfan II	U < 0.011	U < 0.011	U < 0.011	U < 0.011	0.1
4 4'-DDD	U < 0.026	U < 0.026	U < 0.026	U < 0.026	< 0.01
Endosulfan sulfate	U < 0.012	U < 0.012	U < 0.012	U < 0.012	0.1
4 4'-DDT	U < 0.013	U < 0.013	U < 0.013	U < 0.013	< 0.01
Methoxychlor	U < 0.062	U < 0.062	U < 0.062	U < 0.062	35.0
alpha-Chlordane	U < 0.0057	U < 0.0057	U < 0.0057	U < 0.0057	0.1
gamma-Chlordane	U < 0.006	U < 0.006	U < 0.006	U < 0.006	0.1
Toxaphene	U < 0.11	U < 0.11	U < 0.11	U < 0.11	
Endrin aldehyde	U < 0.011	U < 0.011	U < 0.011	U < 0.011	
Endrin ketone	U < 0.012	U < 0.012	U < 0.012	U < 0.012	
Aroclor 1016	U < 0.057	U < 0.057	U < 0.057	U < 0.057	0.1
Aroclor 1221	U < 0.11	U < 0.11	U < 0.11	U < 0.11	0.1
Aroclor 1232	U < 0.081	U < 0.081	U < 0.081	U < 0.081	0.1
Aroclor 1242	U < 0.072	U < 0.072	U < 0.072	U < 0.072	0.1
Aroclor 1248	U < 0.06	U < 0.06	U < 0.06	U < 0.06	0.1
Aroclor 1254	U < 0.094	U < 0.094	U < 0.094	U < 0.094	0.1
Aroclor 1260	U < 0.082	U < 0.082	U < 0.082	U < 0.082	0.1

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

Appendix A

GPR Survey Report with Track Lines and Images

SOUTHWEST BROOKLYN INCINERATOR GROUND PENETRATING RADAR FIELD SURVEY REPORT

Prepared for:

HDR INC.
711 WESTCHESTER AVENUE
WHITE PLAINS,NEW YORK

Prepared by:

EEA, *Inc.*
55 Hilton Avenue
Garden City, New York 11530
(516) 746-4400
(212) 227-3200

SEPTEMBER 2003

Project: 03718

EXECUTIVE SUMMARY

On August 12th and 13th, 2003, a Ground Penetrating Radar (GPR) survey was performed at the Southwest Brooklyn Incinerator. The purpose of the investigation was to determine the presence and locations of any underground storage tanks, piping, utilities or anomalies beneath the surface. Prior to initiation of the GPR survey, track lines spaced approximately 20 feet apart were painted on the pavement and sidewalks to maintain a linear survey track line. All GPR survey track lines are shown on Figure 1. Each track line was given an individual file number and was recorded on the site plan. A CD was created to archive all files and is included as an Appendix to this report. Anomalies along the track lines were noted in the field notes immediately after the completion and review of each track line scan. Permanent orange spray paint was used to mark the locations of pipes and lines on the pavement.

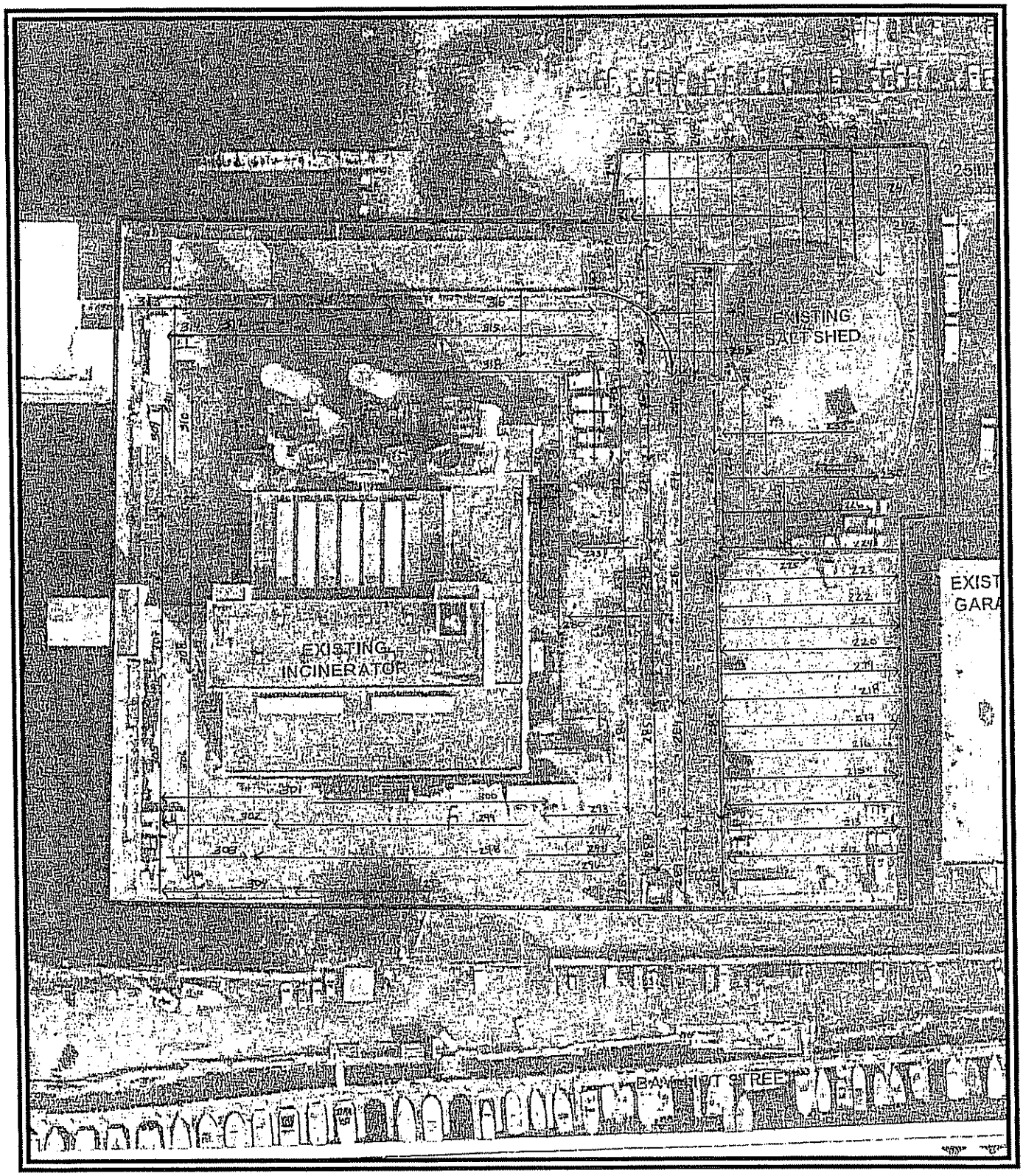
INTRODUCTION

EEA, Inc. has completed a Ground Penetrating Radar (GPR) survey of the Southwest Brooklyn Incinerator Facility as a precursor to the Phase II Subsurface Investigation to be completed at this site. This report with appendices presents the findings of the investigation. EEA subcontracted Advanced Cleanup Technologies of Farmingdale, New York to operate the GPR survey equipment. Their report is included in the Appendix of this document.

METHODS

Prior to initiation of the GRP Survey, the pavement and sidewalk within the facility boundaries were marked off in 20-foot intervals and survey lines were painted to give the survey operator a track line to follow. The GPR survey was initiated by establishing a new file number, then pulling a 500-megahertz transducer over the ground surface for approximately 70 feet (the length of the transducer cable). The recording was stopped and the survey track was immediately reviewed. If anomalous returns were observed, the interpretation was recorded with the file number in the field notes, also included in this report.

The GPR Survey was started with track line No. 212 in the enforcement parking lot along the west side of the DOS garage. The survey was completed with track line No. 321 at the underground storage tank. It should be noted that void spaces in the subsurface fill material, salt water intrusion into the subsurface soils, surface puddles or standing water, obscured the radar signal, and interpretation and analysis in those locations was not possible.



Southwest Brooklyn Incinerator
Ground Penetrating Radar Survey
Track Lines

Figure 1

OBSERVATIONS AND CONCLUSIONS

A large concrete storm water culvert was observed to the north of the existing salt storage shed on 25th Avenue at proposed soil boring location GPSS-1.

Electric utility lines were located in the traffic island west of the enforcement parking lot at proposed boring locations GPSS-3 and GPSS-4.

Electric utility lines are located in the approximate locations of soil borings GPSS-6 and GPSS-9.

Images of anomalies observed and interpreted are included in the ACT Report attached as an Appendix.

At the conclusion of the GPR Survey, a magnetometer survey was conducted on August 13, 2003. The Fisher TW-1 magnetometer was tuned to reject small ferrous objects. However, the extensive use of rebar, reinforcing wire mesh and metal debris in the subsurface in the construction of this site prevented recovery of any additional meaningful results beyond what was observed with the GPR.

RECOMMENDATIONS

Prior to the start of the Phase II drilling program, site utilities should be cleared by outside contractors specializing in utility locating services.

FIELD NOTES

Line No.	Comment
232 (plus extra short run not numbered)	Short run to determine if line was there – disturbance due to water
237	Short pass to determine if water causing reaction
250	Short run over shallow subsurface wall
251	Read at 4 feet
254	Mark indicates where an 8 foot pipe probably runs as a drainage pipe
257	Downward marking – vertical
263	Two pipes – one to fire hydrant, one to two drains
273	1 to 2 pipes
274	Small divets
275, 276	Checking irreg. mark (probably salt or water)
281	Water or power pipe
282	Possible steam pipes 4 feet down (two pipes)
283	Possible pipe at front of side gate (not seen on 284)
293	Rough pavement, coarse fill
294	Rough pavement, coarse fill
295	Rough pavement, coarse fill
296	Fill
297	On sidewalk – storm drain and large outfall pipe adjacent to curb
299	Painted mark for pipes
300	Painted mark for pipe

301	Two small pipes near surface
302	Marked pipe near surface
304	Rebar mat in sidewalk; 3 pipes in sidewalk
307	Drain line to ash house
308	Drain line to ash house
315	Trench to transformer vault
315	Telephone and electric lines in trench
317	Cross line – trench for telephone and electric in roadway
318	Confirmed trench and power
319	Confirmed electric to salt shed
320	Water line from manhole
321	Surveyed tank – poor response due to brush
322	Off edge of tank – poor response

Numbers not on map: 231, 234, 239, 240, 255, 256, 268 because of file numbering in GPR unit.

Appendix

ACT GPR Survey Report

Advanced Cleanup Technologies, Inc.
ENVIRONMENTAL CONSULTANTS

August 28, 2003

Mr. Jeff Shelkey
EEA, Inc.
55 Hilton Avenue
Garden City, NY 11530

Re: Ground-Penetrating Radar Survey
SW Brooklyn Incinerators

Dear Jeff:

This report is intended to provide you with the results of a Ground-Penetrating Radar (GPR) survey performed by Advanced Cleanup Technologies, Inc. (ACT) at the above-referenced property on August 12th and 13th, 2003. The purpose for the survey was to determine the presence and precise locations of any underground storage tanks, piping, and other anomalies beneath the subject property.

GPR EQUIPMENT

The survey was performed utilizing an SIR-2000 GPR Unit and a 500 megahertz transducer. The transducer was pulled along pre-determined transects, emitting radar into the subsurface. The radar signal reflects off stratigraphical materials and foreign objects in the subsurface and back to the transducer based upon differences in the conductivity and dielectric constant of subsurface features. The radar signal is then converted into an electrical signal which is visually displayed on a video monitor.

GPR PROTOCOL

The GPR survey covered an area of approximately 85,000 square feet. The survey encompassed those portions of the site containing marked transect lines. These lines were spray painted by EEA at 20 foot spacings prior to commencement of the survey.

115 Rome Street · Farmingdale, New York 11735 · Tel: 631/293-4992 · Fax: 631/293-4986
1000 7th North Street, Suite B-30 · Liverpool, New York 13088 · Tel: 315/451-9720 · Fax: 315/451-9727
E-mail: advancedcleanuptech.com

At EEA,s request, the radar antenna was pulled along the 20 foot transects in only one direction. At several locations, transects were added at 20 foot spacings perpendicular to the spray-painted transects to create a 20 foot by 20 foot rectangular grid.

The survey was performed at a range to allow for the identification of anomalies to a depth of approximately 10 feet below ground surface. The results of the GPR survey are described below. A site diagram containing the transects was maintained by EEA's field personnel.

GPR RESULTS

A number of anomalies were identified during the GPR survey. The locations of these anomalies were identified during the survey and marked on the pavement with spray paint. They were also recorded by EEA's field manager.

Possible structures producing the identified anomalies include pipes, voids, settled ground surface and other buried debris. Due to the large number of anomalies identified beneath this site, all anomalies could not be described in this report. Some examples of anomalies identified during the survey which produced reflections characteristic of buried structures are identified on the enclosed images. Copies of the computer files containing all of the survey results are also enclosed.

Also of note were the fill and vent pipes reportedly associated with a 5,000 gallon underground storage tank identified by EEA. The GPR survey was not conclusive with respect to the presence or precise location of the underground storage tank due to the presence of metal debris and an uneven ground surface caused by small trees, stumps, branches, and weeds over the area of the suspect tank.

LIMITATIONS

GPR is primarily used as a preliminary survey of a property for the development of subsurface information prior to a formal site assessment. Surface cover, subsurface soil types or buried debris can mask or conceal the presence and precise locations of underground structures or even suggest their presence when none exist. The presence, absence or precise locations of underground structures indicated during a GPR survey should be confirmed by excavation or other invasive procedures.

Advanced Cleanup Technologies, Inc. is not responsible for areas not surveyed or information not collected. This report is given without a warranty or guarantee of any kind, expressed or implied. Advanced Cleanup Technologies, Inc. assumes no responsibility for losses associated with the use of this report.

Advanced Cleanup Technologies, Inc.
ENVIRONMENTAL CONSULTANTS

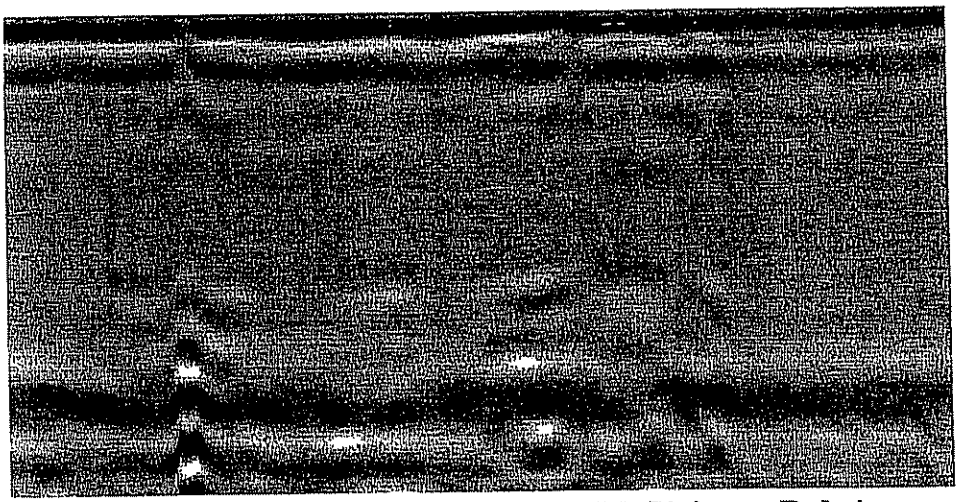
Please contact the undersigned if you have any questions concerning the above. Thank you for this opportunity to be of assistance.

Very truly yours,

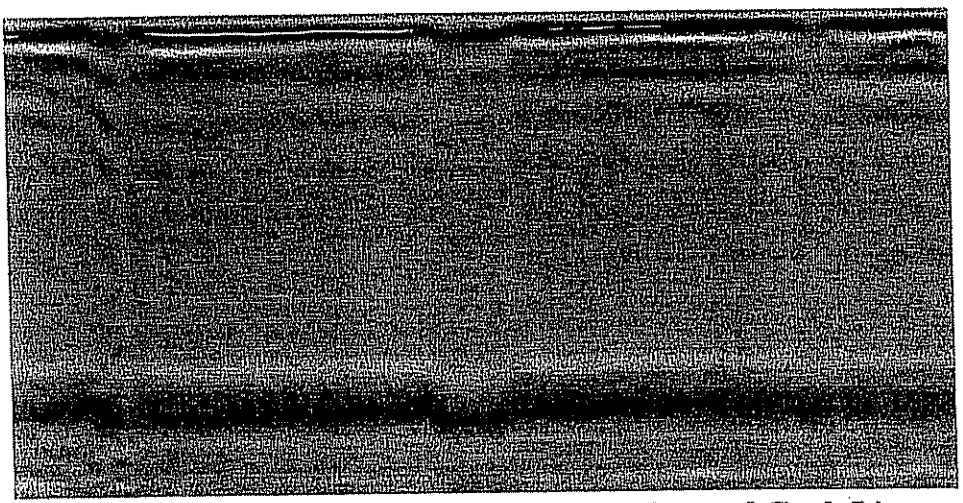
Steven Walls

Steven Walls
Project Scientist

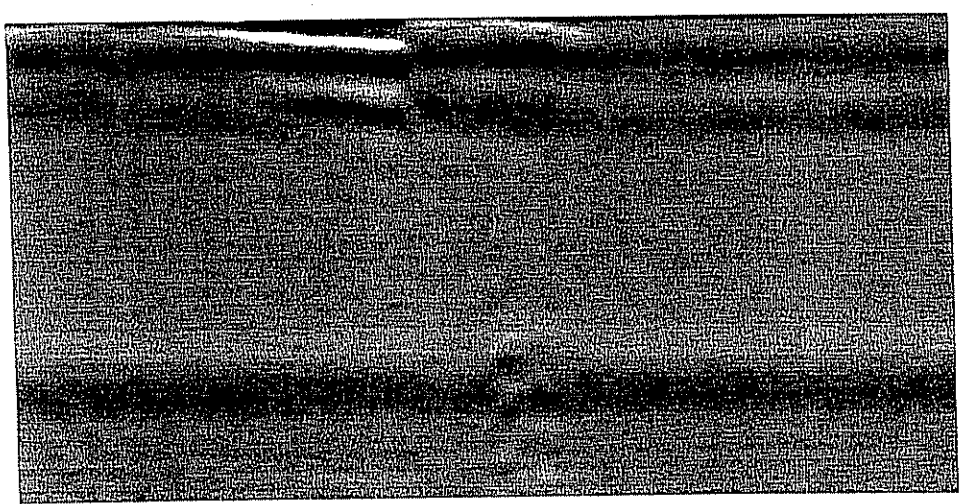
SW/bv
enc.



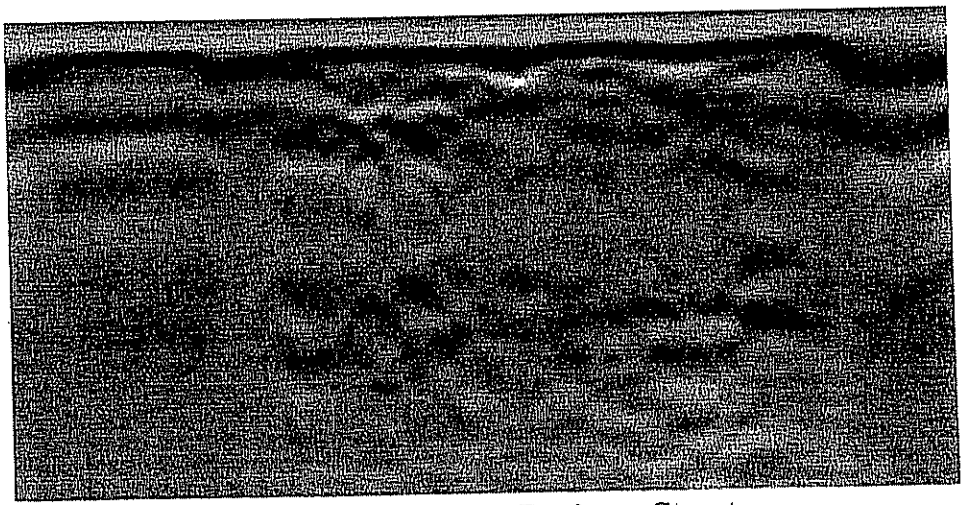
Run #223 - Disturbed Soil with Possible Piping or Debris



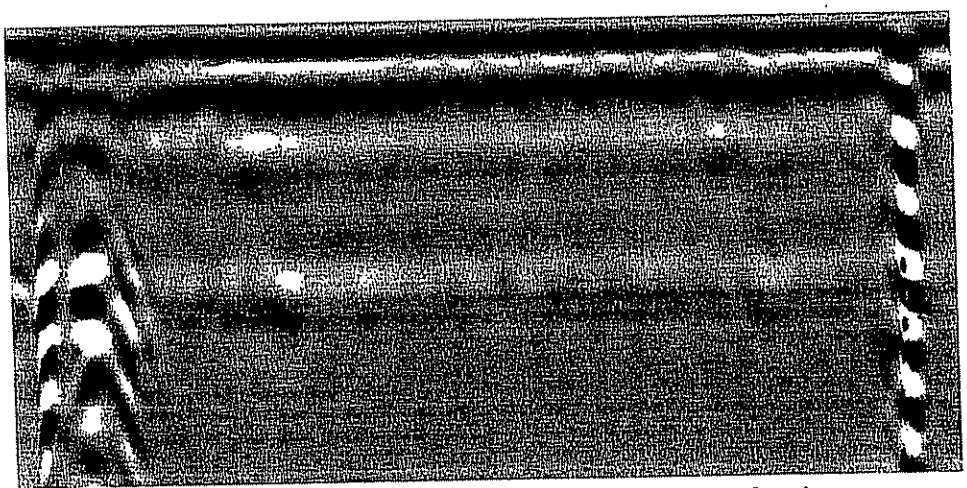
Run #228 - Electric Line, Salt Water at Surface and Curb Line



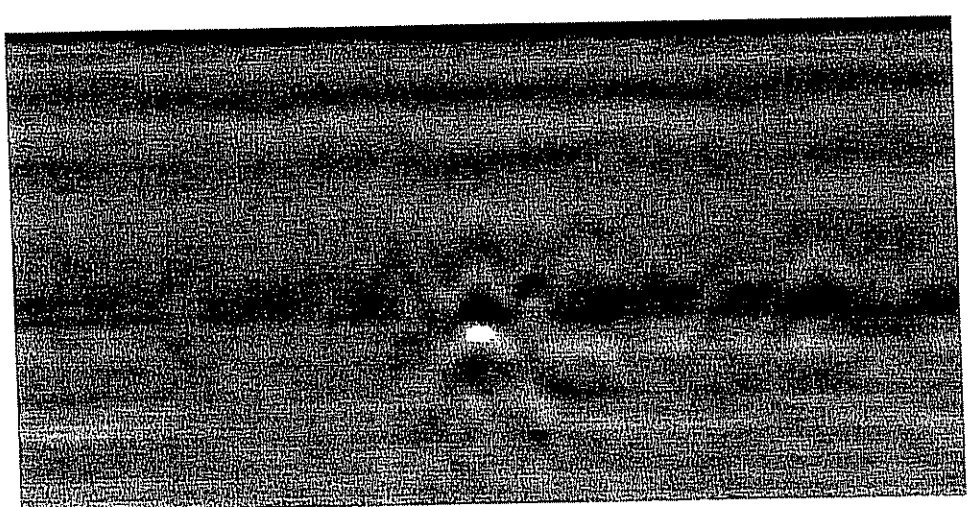
Run #236 - Possible Ground Settling or Former Curb



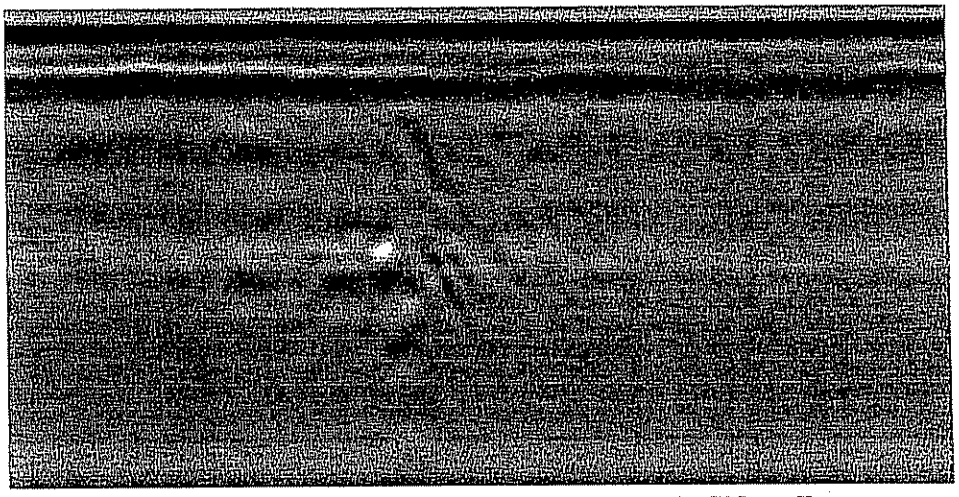
Run #254 - Possible Large Drainage Structure



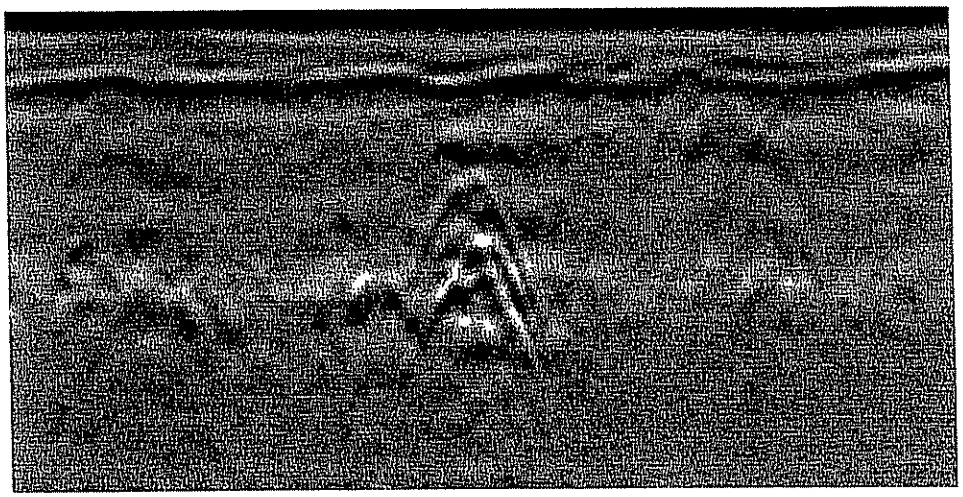
Run #263 - 2 Pipes: Fire Hydrant pipe and drain pipe



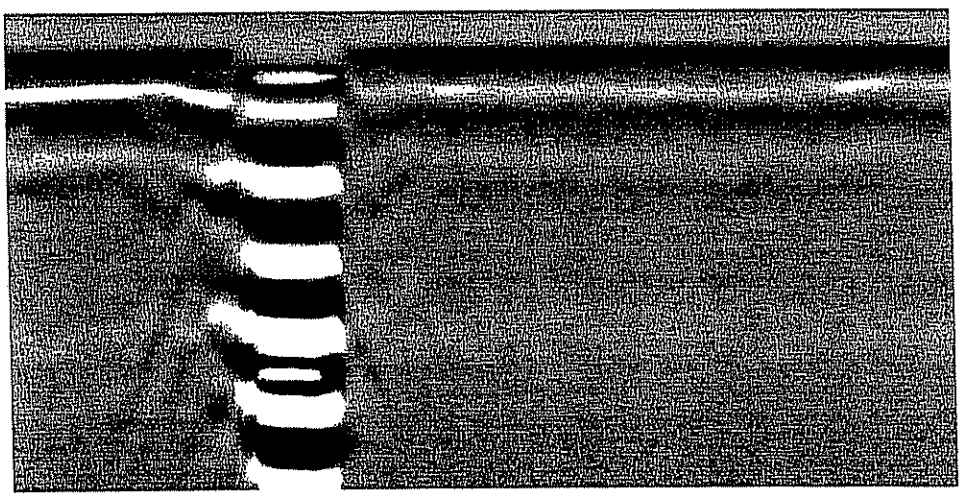
Run #283 - Possible Pipe Near Gate



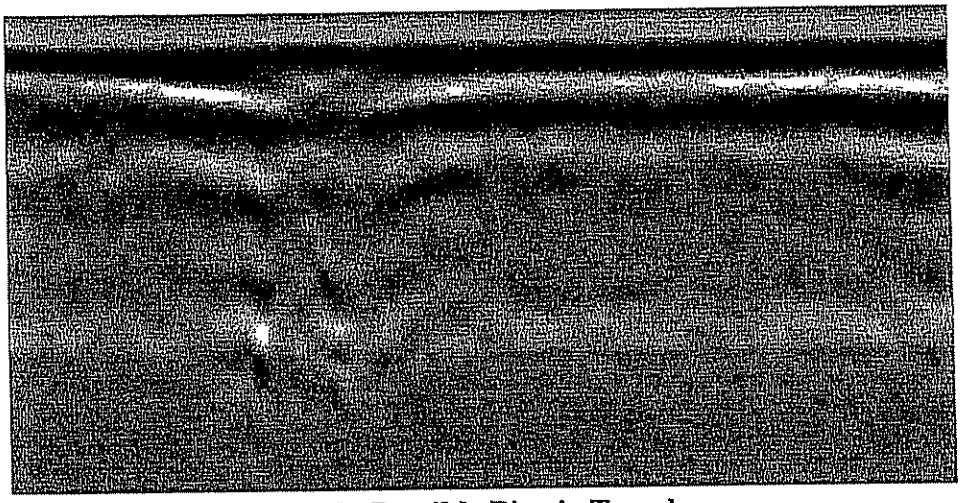
Run #305 - Possible Large Pipe Beneath Sidewalk



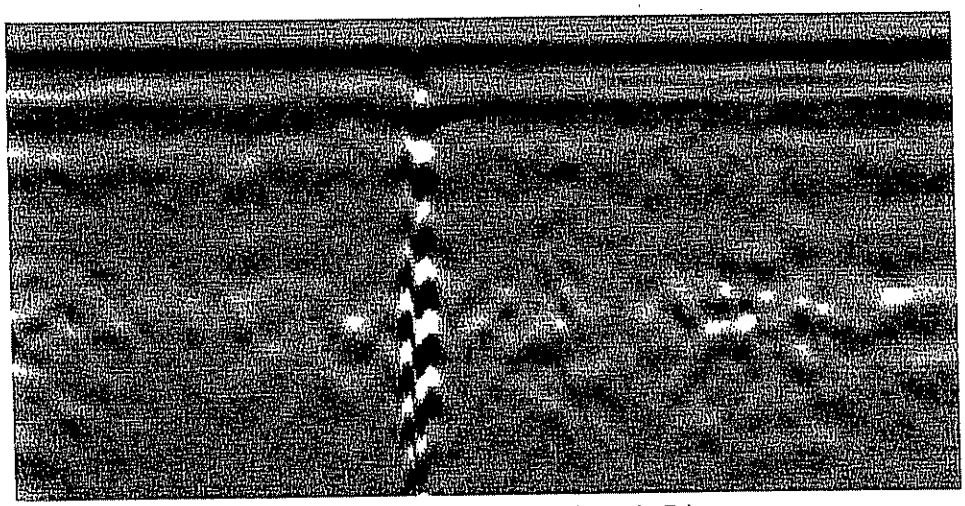
Run #307 - Large Drain Pipe



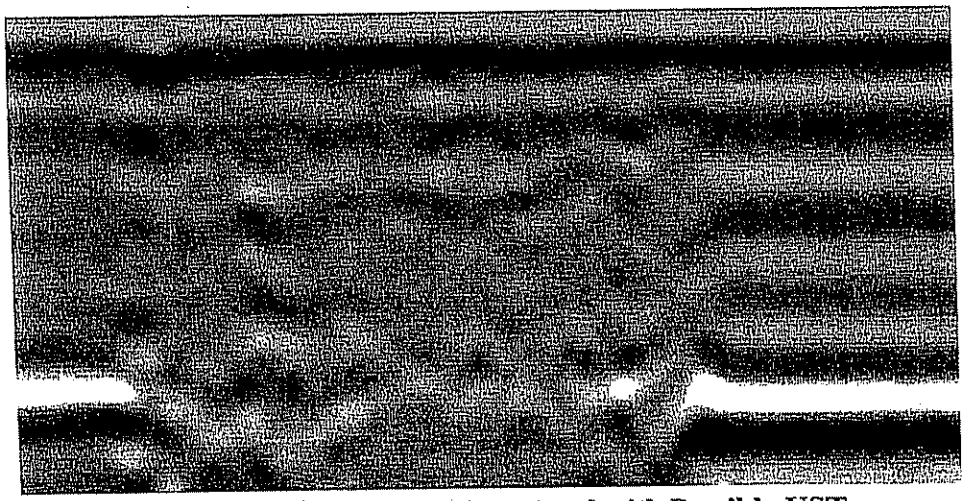
Run #313 - Large Metal Surface Conduit



Run #315 - Possible Pipe in Trench



Run #318 - Small Diameter Electric Line



Run #322 - Disturbed Soil Associated with Possible UST

Appendix B

Soil Boring Logs and Monitor Well Logs

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 1

DATE: 10/28/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~8 fbg
SCREEN: n/a	**RISER:** n/a **SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	36"		0		1, 2, 3, 4	8" asphalt 6" of asphalt macadam material, cloth debris, burnt wood chips Red fine SAND fill - Typical odor. no staining Dry
*4 - 8'	24"	SB-SS-1 (4-8)	0	▼	5, 6, 7, 8	Tan fine SAND No odor or staining Moist to wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg SB-SS-1 (4-8') taken at 1145 GW collected at SB-GW-1 taken at 1200 * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 2

DATE: 10/28/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (In open borehole):** ~8 fbg
SCREEN: n/a	**RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	24"	SB-SS-2 (0-4)	0		1	4" asphalt Brown/black fill material with chips of coal and bricks Typical odor and staining (6")
*0 - 4'		TCLP			2	Then fine tan SAND No odor or staining
					3	Moist
					4	
4 - 8'	24"		0		5	Same as above Fine SAND No odor or staining
					6	Moist to wet
					7	Wet @ 8 fbg
				▼	8	
					9	EOB @ 8 fbg
					10	
					11	
					12	
					13	SB-SS-2 (0-4') taken at 1400 SB-SS-2 (0-4) for TCLP taken at 1400
					14	
					15	
					16	
					17	
					18	
					19	
					20	
					21	* soil sample collected for laboratory analysis
					22	

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 3 / MW - 1

DATE: 10/27/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 2 1/2 in. OD **TYPE:** 2" split spoon
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Mobil B-57 **CASING TYPE:** Hollow Stem Auger 4 1/2 in. OD
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW - 1**	**SURFACE ELEVATION:**	**WATER LEVEL (In open borehole):** 7 fbg
SCREEN: 5 - 15' / **RISER:** 0 - 5	**SAND:** 2 bags	**BENTONITE:** 1/2 bag	Well casing & 9/16 in. screws

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 2"		SB-SS-3 (0-2")	900		1	7-8" asphalt and sub-base
1 - 3'			0		2, 3	1-3 – 12" recovery Brown striated fine SAND with trace shells Black/red fill material first 8" No odor or staining; Dry
3 - 5'	12"		0		4, 5	3-5 gray SAND with shells 12" recovery No odor or staining Dry
*5 - 7'		SB-SS-3 (5-7')	0	▼	6, 7	5-7 same as above - fine Moist
7 - 9'			0		8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	7-9 same as above No odor or staining Wet

* soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 4

DATE: 10/28/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):**
SCREEN: n/a	**RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
						Hit refusal – 3 attempts
					1	Concrete below asphalt
						Too close to electric to change locations
					2	
						OMIT / REFUSAL
					3	
					4	
					5	
					6	
					7	
					8	
					9	
					10	
					11	
					12	
					13	
					14	
					15	
					16	
					17	
					18	
					19	
					20	
					21	
					22	* soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 5

DATE: 10/28/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved parkinglot
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~8 fbg
SCREEN: n/a	**RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	36"	MS/MSD	0		1	8" slab
					2	Brown moist fine SAND No odor or staining Top 4" has black staining and asphalt odor
					3	Moist
					4	
*4 - 8'	24"	SB-SS-5 (0-4)	0		5	Tan/gray fine SAND No odor or staining Moist to wet
*4 - 8'		dup			6	
					7	
				▼	8	Water table @ 8 ft.
					9	EOB @ 8 fbg
					10	
					11	
					12	
					13	SB-SS-5 (4-8) taken at 1015 Duplicate taken at 1015 at SB-SS-5 (4-8')
					14	MS/MSD (0-4') taken at 1000
					15	
					16	
					17	
					18	
					19	
					20	
					21	* soil sample collected for laboratory analysis
					22	

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 6

DATE: 10/28/03	**LOGGED BY:** J. Shelkey	**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR	**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator		**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling		**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis		**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW** - n/a / **SURFACE ELEVATION:** n/a	**WATER LEVEL (In open borehole):**
SCREEN: n/a / **RISER:** n/a	**SAND:** n/a / **BENTONITE:** n/a	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 2"		SB-SS-6S	0		1, 2, 3, 4	Asphalt 0-4" Base gravel 4-6" Fill – sand, gravel, trace red brick Dry
*4 - 8'		SB-SS-6	0		5, 6, 7, 8	Fine SAND – tan Dry 7.5' Saturated 7.5 - 8'
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg * soil sample collected for laboratory analysis

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SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 7

DATE: 10/28/03	**LOGGED BY:** J. Shelkey		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:**
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (In open borehole):**
SCREEN: n/a	**RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'			0		1, 2, 3, 4	Asphalt 0-6" Fill 6-12" Dark brown SAND, trace red brick. trace gravel 12" – 4' Medium to fine. tan, dry No odor
*4 - 8'		SB-SS-7	0		5, 6, 7, 8	Medium to fine SAND Tan, dry to 7.5' Saturated @ 7.5' BG No odor
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg * soil sample collected for laboratory analysis

EEA *Inc.*

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SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 8

DATE: 10/28/03	**LOGGED BY:** J. Shelkey		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):**
SCREEN: n/a / **RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 2"		SB-SS-8S (0-2)	0		1, 2, 3, 4	Fine to medium SAND Trace fines Tan Dry
*4 - 8'		SB-SS-8 (4-8)	0		5, 6, 7, 8	Damp Medium to fine SAND Refusal at 7' Cobble in tip – wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg SB-SS-2s (0-2) collected surface sample SB-SS-2 (4-8) collected sample 6-7 ft * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 9

DATE: 10/28/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~7.5 fbg
SCREEN: n/a	**RISER:** n/a **SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	24"		0		1, 2, 3, 4	6" gravelly asphalt 6" black macadam Tan fine SAND No odor or staining Moist
*4 - 8'	48"	SB-SS-9 (4-8)	0	▼	5, 6, 7, 8	Tan fine SAND; moist Saturated at 7.5 fbg No odor or staining Moist to wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg SB-SS-9 (4-8) taken at 1330 * soil sample collected for laboratory analysis

EEA *Inc.*

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PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 10

DATE: 10/28/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** ground
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (In open borehole):**
SCREEN: n/a	**RISER:** n/a **SAND:** n/a	**BENTONITE:** n/a	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	24"	SB-SS-10 (0-4)	0		1	4" organic soil then 4" fill (soil with bricks)
						Then lineated tan then white soil (?) – strange
						No odor or staining (fill)
					2	Moist
					3	
					4	Refusal
						EOB @ 4 fbg
					5	
					6	
					7	
					8	
					9	
					10	
					11	
					12	
					13	SB-SS-10 (0-4) taken at 1350
					14	
					15	
					16	
					17	
					18	
					19	
					20	
					21	
					22	

* soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
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SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 11

DATE: 10/28/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~7.5 fbg
SCREEN: n/a	**RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	36"		0		1, 2, 3, 4	6" asphalt Brown to reddish brown fine to medium SAND No odor or staining Moist
*4 - 8'	36"	SB-SS-11 (4-8)	0	▼	5, 6, 7, 8	Medium to fine SAND Brown Damp to 7.5 fbg Saturated 7.5-8' No odor or staining Moist to wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg SB-SS-11 (4-8) taken at 1300 * soil sample collected for laboratory analysis

EEA *Inc.*

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SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 12 / MW - 2

DATE: 10/27/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 2 1/2 in. OD **TYPE:** 2" split spoon
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Mobil B-57 **CASING TYPE:** Hollow Stem Auger 4 1/2 in. OD
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** asphalt
MONITORING WELL SPECS	**MW - 2**	**SURFACE ELEVATION:**	**WATER LEVEL (In open borehole):**
SCREEN: 15 - 5' / **RISER:** 5 - 0	**SAND:** 2 bags	**BENTONITE:** 1/2 bag	Well casing & 9/16 in. screws

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 6"					1	6" of asphalt
1 - 3'					2, 3	1-3 14" recovery – black/brown soil and black asphalt-type material and trace glass chips (fill) Typical odor and staining Dry
3 - 5'	12"				4, 5	3-5 6" recovery – fine SAND brown No odor or staining Dry
*5 - 7'		SB-SS-12 (5-7')		▼	6, 7	5-7 water table approx 6 ft. Fine gray/brown SAND No odor or staining Moist to wet
					8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	

* soil sample collected for laboratory analysis

EEA *Inc.*

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SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 13

DATE: 10/28/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS	**MW** - n/a	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~7.5 fbg
SCREEN: n/a	**RISER:** n/a	**SAND:** n/a	**BENTONITE:** n/a

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	36"		0		1, 2, 3, 4	3" asphalt 3-6" sub-base course to fine GRAVEL - angular 0 - 4' SAND medium to fine Trace gravel, tan Dry
*4 - 8'	12"	SB-SS-13 (4-8)	0	▼	5, 6, 7, 8	Loose tan. medium to course SAND Saturated at 7' Moist to wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg SB-SS-13 (4-8) taken at 1230 GW collected at SB-GW-13 * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
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SOIL BORING REPORT LOG

SHEET _1_OF _1_

SB-SS - 14 / MW - 3

DATE: 10/27/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 2 1/2 in. OD **TYPE:** 2" split spoon
PROJECT LOCATION: Southwest Brooklyn DOS Incinerator			**DRILL RIG:** Mobil B-57 **CASING TYPE:** Hollow Stem Auger 4 1/2 in. OD
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** asphalt
MONITORING WELL SPECS	**MW - 3**	**SURFACE ELEVATION:**	**WATER LEVEL (in open borehole):** 7 fbg
SCREEN: 5 - 15' / **RISER:** 5 - 0'	**SAND:** 2 bags	**BENTONITE:** 1/2 bag	Well casing & 9/16 in. screws

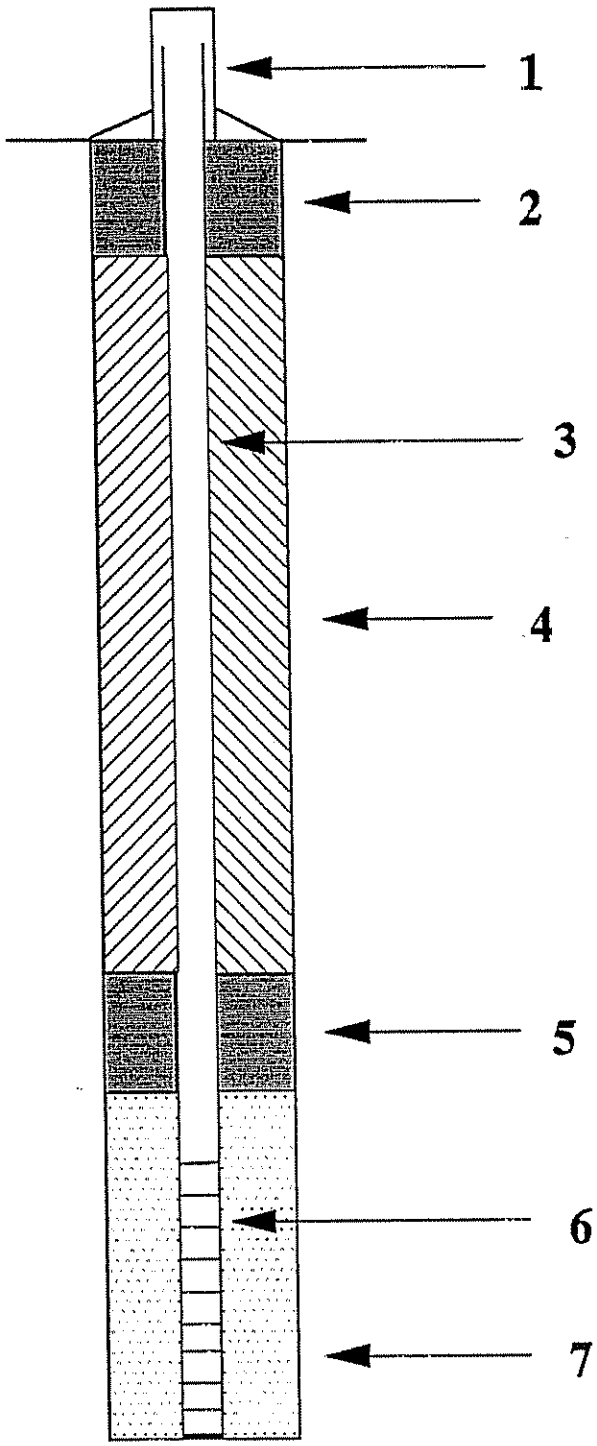
SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'			0		1, 2, 3, 4	4" of asphalt Fill coal and fine SAND Brown sand No odor / no staining Dry
					5	
*5 - 7'		SB-SS-14 (5-7')	0	▼	6, 7	Moist
					8, 9, 10, 11, 12, 13, 14, 15	Start installing well
					16, 17, 18, 19, 20, 21, 22	EOB @ 15 ft * soil sample collected for laboratory analysis

MONITOR WELL CONSTRUCTION SPECIFICATION
ENERGY AND ENVIROMENTAL ANALYSTS, INC.

SWB

JOB NUMBER : 03718

WELL IDENTIFICATION : MW-1 (B-3)



DATE: 10/27/03

HYDROGEOLOGIST : F. Islam

DRILLING CONTRACTOR : Tri-State Drilling Technologies, Inc.

1.PROTECTIVE CASING (YES) NO

2. CONCRETE SEAL (YES) NO

3. RISER PIPE TYPE : PVC

LENGTH : 5 FT

DIAMETER : 2 inch

4. TYPE OF BACKFILL : # 2 Morie Gravel

HOW INSTALLED : backfilled

5. TYPE OF LOWER SEAL : Bentonite Chips

6. SCREEN TYPE : PVC

SLOTTED LENGTH : 10FT

SLOT SIZE ; 10 Slot

7. TYPE OF BACKFILL : # 2 Morie Gravel

COMMENTS ;

WATER LEVEL CHECKS :

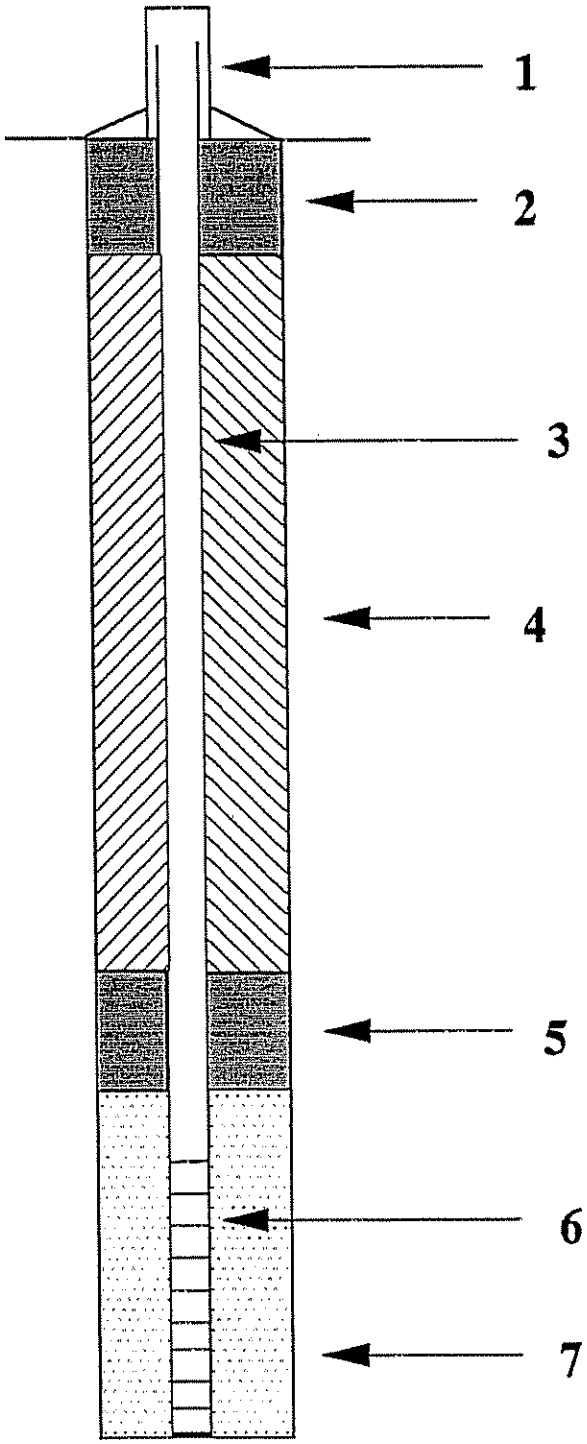
DATE	DEPTH	REMARKS

MONITOR WELL CONSTRUCTION SPECIFICATION
ENERGY AND ENVIROMENTAL ANALYSTS, INC.

SWB

JOB NUMBER : 03718

WELL IDENTIFICATION : MW-3 (B-14)



DATE: 10/27/03

HYDROGEOLOGIST : F. Islam

DRILLING CONTRACTOR : Tri-State Drilling Technologies, Inc.

1.PROTECTIVE CASING YES NO

2. CONCRETE SEAL YES NO

3. RISER PIPE TYPE : PVC

LENGTH : 10 FT

DIAMETER : 2 inch

4. TYPE OF BACKFILL : #2 Morie Gravel

HOW INSTALLED : Backfilled

5. TYPE OF LOWER SEAL : Bentonite Chips

6. SCREEN TYPE : PVC

SLOTTED LENGTH : 5 FT

SLOT SIZE ; 10 Slot

7. TYPE OF BACKFILL : #2 Morie Gravel

COMMENTS ;

WATER LEVEL CHECKS :

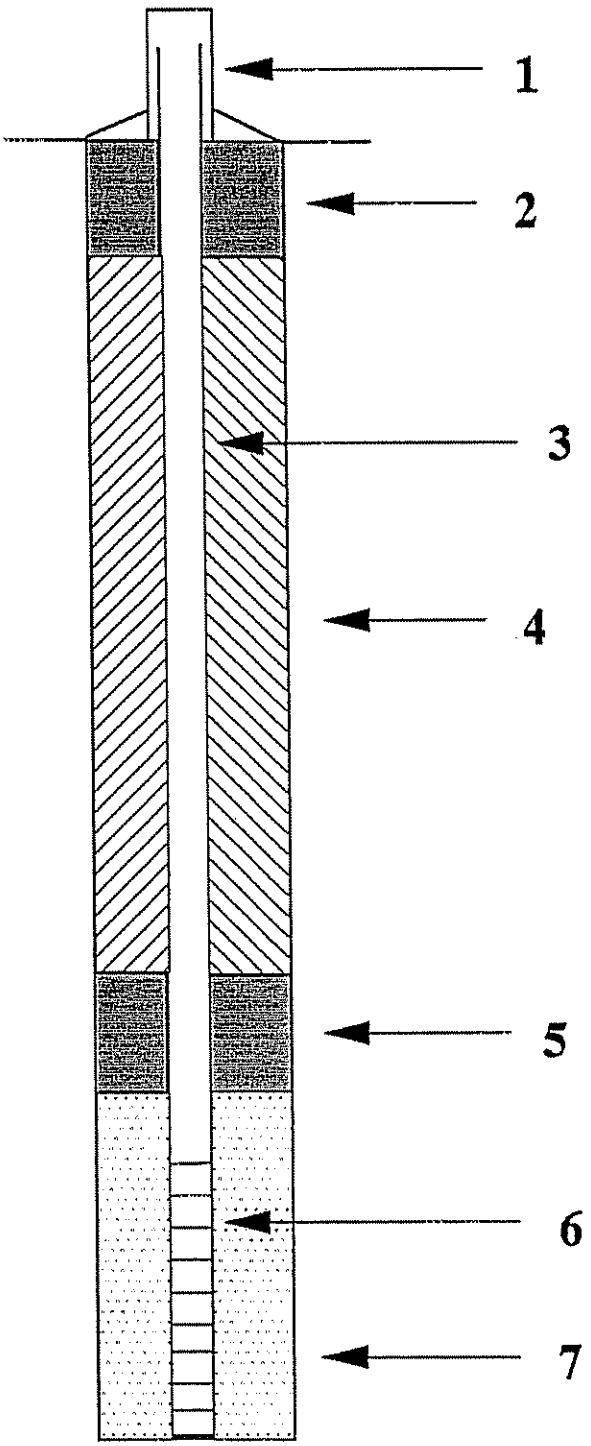
DATE	DEPTH	REMARKS

MONITOR WELL CONSTRUCTION SPECIFICATION
ENERGY AND ENVIROMENTAL ANALYSTS, INC.

SWB

JOB NUMBER : 03718

WELL IDENTIFICATION : MW-2 (B-12)



DATE: 10/27/03

HYDROGEOLOGIST : F. Islam

DRILLING CONTRACTOR : Tri-State Drilling Technologies, Inc.

1.PROTECTIVE CASING YES NO

2. CONCRETE SEAL YES NO

3. RISER PIPE TYPE : PVC

LENGTH : 5 FT

DIAMETER : 2 inch

4. TYPE OF BACKFILL : #2 Morie Grand

HOW INSTALLED : Backfilled

5. TYPE OF LOWER SEAL : Bentonite Chips

6. SCREEN TYPE : PVC

SLOTTED LENGTH : 10 FT

SLOT SIZE ; 10 Slot

7. TYPE OF BACKFILL : #2 Morie Grand

COMMENTS ;

WATER LEVEL CHECKS :

DATE	DEPTH	REMARKS

Appendix C

Laboratory Analytical Results with Chain-of-Custody

ANALYTICAL REPORT

JOB NUMBER: 205171

Prepared For:

Energy and Environmental Analysts, Inc.
55 Hilton Ave.
Garden City, NY 11530

Project: NYCDOS SWB INCINERAT

Attention: Jeff Shelkey

Date: 11/13/2003

Signature

Date 11/13/03

Name: Jill M. Pfister

Title: Project Manager

E-Mail: jpfister@stl-inc.com

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (55) Pages

SEVERN TRENT **STL**

STL Report : 205171
ENERGY AND ENVIRONMENTAL ANALYSTS, INC. – NYCDOS SWB INCINERATOR PLANT
EEA 03718

Case Narrative

Sample Receipt – Samples received on 10/29/03 were in good condition and at the proper temperatures of 7.0°C, 4.0°C, 6.0°C, 5.0°C, and 1.4°C. No VOA containers were received for the VOA Field Blank and all 3 vials received for VOA sample SB-GW-1 contained headspace. The client was notified and informed the laboratory the field blank was not taken for VOA analysis and sample SB-GW-1 experienced effervescing.

Organic Extraction - Samples were extracted according to method 3510C. No problems were encountered.

Semi-Volatile Organics - Semi-volatile organic samples were analyzed by capillary GC/MS according to NYSDEC Protocols using guidance provided in Method 8270C. The instrumentation used was a Hewlett-Packard Gas Chromatograph interfaced with a Mass Selective Detector.

A 2ul injection was used for all samples and standards. The instrument was calibrated at 10ng/ul (20 ng), 25 ng/ul(50 ng), 40ng/ul(80ng), 60ng/ul(120ng) and 80ng/ul(160ng). Internal standards were added to all samples and standards were at 20ng/ul(40ng).

All samples were analyzed without any apparent problems.

Sample Calculation:

Sample ID – SWB-MW-7
Compound - fluoranthene

$$\frac{(45933)(40)(1000)(1.0)}{(1567171)(.993)(2.0)(1000)} = .59 = 0.6\text{ug/l}$$

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

The spike compounds, Endosulfan I and alpha-Chlordane, coelute on the RTX-35 column. These compounds were reported from the DB-1701 column in 24524-2LCS.

The spike compounds, Endosulfan II and 4,4'-DDD, coelute on the DB-1701 column. These compounds were reported from the RTX-35 column in 24524-2LCS.

The delta-BHC detected in sample SWB-MW-7 was reported from the RTX-35 column. There was less interference on this column with this compound.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID –SB-GW-5MS
Compound – gamma-BHC
(60407016area)(10000ul) = .397ug/L
(1520896162area/ng)(1000ml)(1ul)

Polychlorinated Biphenyls (PCB's) - PCB samples were analyzed by GC/ECD using guidance provided in Method 8082. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

All samples were analyzed without any apparent problems.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID –SB-GW-5MS
Compound – Aroclor 1260 peak at retention time 9.48
(4939813area)(10000ul) = 1.96ug/L
(25220201area/ng)(1000ml)(1ul)

Volatile Organics – Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 5030B/8260B.

The spike compound percent recoveries were within the laboratory generated guidelines in the independent source quality control sample.

The compounds trichloroethene and 1,2-dichloropropane recovered outside of criteria in the MS/MSB on sample "SB-GW-5." These same compounds also recovered outside of criteria in the MS/MSD on sample "SB-GW-13."

SEVERN TRENT STL

Sample Calculation:

Sample ID-SWB-MW-3
Compound-Acetone

$$\frac{(8575)(125)(1)}{(451162)(.142)(5)} = 3.34 = 3 \text{ UG/L.}$$

Metals – ICAP metals were determined using a JA61E trace ICAP; mercury was determined by cold vapor technique using a Perkin Elmer mercury analyzer; following guidance provided in SW846 according to methods: ICAP – 3010A/6010B; mercury-7470A.

No problems occurred during analysis. All appropriate protocols were employed. All data appears to be consistent.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

S A M P L E I N F O R M A T I O N
Date: 11/13/2003

Job Number.: 205171
Customer...: Energy and Environmental Analysts, Inc.
Attn.....: Jeff Shelkey

Project Number.....: 20000963
Customer Project ID....: NYCDOS SWB INCINERAT
Project Description....: NYCDOS SWB Incinerator Plant

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
205171-1	FIELD BLANK-1	Water	10/28/2003	09:30	10/29/2003	17:40
205171-2	TRIP BLANK-1	Water	10/28/2003	09:30	10/29/2003	17:40
205171-3	SB-GW-5	Water	10/28/2003	11:00	10/29/2003	17:40
205171-4	SB-GW-1	Water	10/28/2003	12:00	10/29/2003	17:40
205171-5	SB-GW-13	Water	10/28/2003	12:30	10/29/2003	17:40
205171-6	SWB-MW-1	Water	10/29/2003	13:00	10/29/2003	17:40
205171-7	SWB-MW-7	Water	10/29/2003	13:45	10/29/2003	17:40
205171-8	SWB-MW-3	Water	10/29/2003	14:20	10/29/2003	17:40
205171-9	SWB-MW-4	Water	10/29/2003	14:30	10/29/2003	17:40

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: TRIP BLANK-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-2
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Acetone	5	J		2	10	1.00000	ug/L	24771		11/07/03 1112	kjk
	Methylene chloride	0.5	J	B	0.4	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1112	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24771		11/07/03 1112	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1112	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: TRIP BLANK-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-2
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1112	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1112	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-3
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Acetone	3	J		2	10	1.00000	ug/L	24771		11/07/03 1142	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1142	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24771		11/07/03 1142	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1142	kjk

* In Description = Dry Wgt.

004

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-3
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1142	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1142	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-4
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Acetone	4	J		2	10	1.00000	ug/L	24771		11/07/03 1243	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1243	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24771		11/07/03 1243	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1243	kjk

* In Description = Dry Wgt.

006

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-4
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1243	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1243	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-13
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-5
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Acetone	ND	U		2	10	1.00000	ug/L	24771		11/07/03 1213	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1213	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24771		11/07/03 1213	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1213	kjk

* In Description = Dry Wgt.

008

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-13
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-5
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1213	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1213	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-1
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-6
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Acetone	ND	U		2	10	1.00000	ug/L	24771		11/07/03 1313	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1313	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24771		11/07/03 1313	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1313	kjk

* In Description = Dry Wgt.

010

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-1
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-6
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1313	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1313	kjk

* In Description = Dry Wgt.

011

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-7
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205171-7
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Acetone	ND	U		2	10	1.00000	ug/L	24771		11/07/03 1343	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1343	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24771		11/07/03 1343	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1343	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-7
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205171-7
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1343	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1343	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-3
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:20
Sample Matrix.....: Water

Laboratory Sample ID: 205171-8
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Acetone	3	J		2	10	1.00000	ug/L	24771		11/07/03 1413	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1413	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24771		11/07/03 1413	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1413	kjk

* In Description = Dry Wgt.

014

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-3
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:20
Sample Matrix.....: Water

Laboratory Sample ID: 205171-8
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1413	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1413	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-4
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-9
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Acetone	3	J		2	10	1.00000	ug/L	24771		11/07/03 1444	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1444	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24771		11/07/03 1444	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24771		11/07/03 1444	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-4
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-9
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24771		11/07/03 1444	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24771		11/07/03 1444	kjk

* In Description = Dry Wgt.

017

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: FIELD BLANK-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-1
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Fluorene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0030	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0030	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-3
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Fluorene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0056	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0056	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-4
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Fluorene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0819	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0819	jdw

* In Description = Dry Wgt.

020

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-13
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-5
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Fluorene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Pyrene	ND	U	M	0.4	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0845	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0845	jdw

* In Description = Dry Wgt.

021

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-1
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-6
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Fluorene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0355	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0355	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-7
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205171-7
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Acenaphthene	1	J		0.3	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Fluorene	0.5	J		0.4	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Phenanthrene	0.7	J		0.4	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Fluoranthene	0.6	J		0.4	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Pyrene	0.4	J		0.4	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Benzo(b)fluoranthene	ND	U	H	1	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Benzo(k)fluoranthene	ND	U	M	0.3	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0420	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0420	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-3
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:20
Sample Matrix.....: Water

Laboratory Sample ID: 205171-8
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	0.5	J		0.4	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Fluorene	ND	U	M	0.4	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Phenanthrene	0.5	J	M	0.4	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Anthracene	ND	U	M	0.5	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Fluoranthene	0.4	J		0.4	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Pyrene	0.6	J		0.4	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Chrysene	ND	U		0.6	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Benzo(b)fluoranthene	ND	U	M	1	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Benzo(k)fluoranthene	ND	U	M	0.3	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Benzo(a)pyrene	ND	U	M	0.4	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 0936	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 0936	jdw

* In Description = Dry Wgt.

004

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-4
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-9
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Fluorene	ND	U	M	0.4	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Anthracene	ND	U	M	0.5	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Pyrene	0.4	J		0.4	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Chrysene	ND	U	M	0.6	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	24720		11/07/03 1002	jdw
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	24720		11/07/03 1002	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/07/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: FIELD BLANK-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-1
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	24663		11/05/03 1537	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1537	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	24663		11/05/03 1537	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1537	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	24663		11/05/03 1537	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1537	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	24663		11/05/03 1537	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	24663		11/05/03 1537	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	24663		11/05/03 1537	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	24663		11/05/03 1537	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1537	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1537	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/07/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-3
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	24663		11/05/03 1609	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1609	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	24663		11/05/03 1609	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1609	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	24663		11/05/03 1609	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1609	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	24663		11/05/03 1609	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	24663		11/05/03 1609	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	24663		11/05/03 1609	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	24663		11/05/03 1609	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1609	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1609	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/07/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-4
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	24663		11/05/03 1641	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1641	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	24663		11/05/03 1641	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1641	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	24663		11/05/03 1641	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1641	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	24663		11/05/03 1641	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	24663		11/05/03 1641	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	24663		11/05/03 1641	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	24663		11/05/03 1641	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1641	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1641	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/07/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-13
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-5
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	24663		11/05/03 1713	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1713	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	24663		11/05/03 1713	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1713	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	24663		11/05/03 1713	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1713	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	24663		11/05/03 1713	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	24663		11/05/03 1713	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	24663		11/05/03 1713	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	24663		11/05/03 1713	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1713	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1713	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/07/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-1
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-6
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	delta-BHC	0.011	J		0.0046	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	24663		11/05/03 1745	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1745	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	24663		11/05/03 1745	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1745	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	24663		11/05/03 1745	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1745	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	24663		11/05/03 1745	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	24663		11/05/03 1745	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	24663		11/05/03 1745	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	24663		11/05/03 1745	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1745	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1745	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-7
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205171-7
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	24663		11/05/03 1817	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	24663		11/05/03 1817	kam
	delta-BHC	0.0052	J		0.0046	0.050	1.00000	ug/L	24666		11/05/03 1845	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	24663		11/05/03 1817	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	24663		11/05/03 1817	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1817	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	24663		11/05/03 1817	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1817	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	24663		11/05/03 1817	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1817	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	24663		11/05/03 1817	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1817	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	24663		11/05/03 1817	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1817	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	24663		11/05/03 1817	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	24663		11/05/03 1817	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	24663		11/05/03 1817	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	24663		11/05/03 1817	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	24663		11/05/03 1817	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1817	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1817	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/07/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-3
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:20
Sample Matrix.....: Water

Laboratory Sample ID: 205171-8
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	24663		11/05/03 1849	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1849	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	24663		11/05/03 1849	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1849	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	24663		11/05/03 1849	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1849	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	24663		11/05/03 1849	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	24663		11/05/03 1849	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	24663		11/05/03 1849	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	24663		11/05/03 1849	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1849	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1849	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/07/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-4
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-9
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	24663		11/05/03 1920	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1920	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	24663		11/05/03 1920	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1920	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	24663		11/05/03 1920	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1920	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	24663		11/05/03 1920	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	24663		11/05/03 1920	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	24663		11/05/03 1920	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	24663		11/05/03 1920	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	24663		11/05/03 1920	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	24663		11/05/03 1920	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/06/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: FIELD BLANK-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-1
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	24599		11/05/03 1337	kam
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	24599		11/05/03 1337	kam
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	24599		11/05/03 1337	kam
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	24599		11/05/03 1337	kam
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	24599		11/05/03 1337	kam
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	24599		11/05/03 1337	kam
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	24599		11/05/03 1337	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/06/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-3
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	24599		11/05/03 1356	kam
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	24599		11/05/03 1356	kam
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	24599		11/05/03 1356	kam
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	24599		11/05/03 1356	kam
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	24599		11/05/03 1356	kam
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	24599		11/05/03 1356	kam
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	24599		11/05/03 1356	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/06/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-4
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	24599		11/05/03 1451	kam
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	24599		11/05/03 1451	kam
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	24599		11/05/03 1451	kam
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	24599		11/05/03 1451	kam
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	24599		11/05/03 1451	kam
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	24599		11/05/03 1451	kam
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	24599		11/05/03 1451	kam

* In Description = Dry Wgt.

036

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/06/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-13
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-5
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	24599		11/05/03 1509	kam
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	24599		11/05/03 1509	kam
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	24599		11/05/03 1509	kam
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	24599		11/05/03 1509	kam
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	24599		11/05/03 1509	kam
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	24599		11/05/03 1509	kam
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	24599		11/05/03 1509	kam

* In Description = Dry Wgt.

037

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/06/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-1
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-6
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	24599		11/05/03 1613	kam
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	24599		11/05/03 1613	kam
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	24599		11/05/03 1613	kam
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	24599		11/05/03 1613	kam
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	24599		11/05/03 1613	kam
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	24599		11/05/03 1613	kam
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	24599		11/05/03 1613	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/06/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-7
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205171-7
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	24599		11/05/03 1631	kam
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	24599		11/05/03 1631	kam
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	24599		11/05/03 1631	kam
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	24599		11/05/03 1631	kam
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	24599		11/05/03 1631	kam
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	24599		11/05/03 1631	kam
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	24599		11/05/03 1631	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/06/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-3
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:20
Sample Matrix.....: Water

Laboratory Sample ID: 205171-8
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	24599		11/05/03 1650	kam
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	24599		11/05/03 1650	kam
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	24599		11/05/03 1650	kam
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	24599		11/05/03 1650	kam
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	24599		11/05/03 1650	kam
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	24599		11/05/03 1650	kam
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	24599		11/05/03 1650	kam

* In Description = Dry Wgt.

040

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/06/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-4
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-9
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	24599		11/05/03 1708	kam
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	24599		11/05/03 1708	kam
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	24599		11/05/03 1708	kam
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	24599		11/05/03 1708	kam
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	24599		11/05/03 1708	kam
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	24599		11/05/03 1708	kam
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	24599		11/05/03 1708	kam

* In Description = Dry Wgt.

041

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: FIELD BLANK-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-1
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	ND	U		0.18	0.20	1.0000	ug/L	24649		11/06/03 1347	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	ND	U		3.5	40.0	1	ug/L	24878		11/10/03 1551	nnp
	Barium	1.3	B		0.86	5.0	1	ug/L	24878		11/10/03 1551	nnp
	Cadmium	ND	U		0.94	10.0	1	ug/L	24878		11/10/03 1551	nnp
	Chromium	ND	U		1.4	10.0	1	ug/L	24878		11/10/03 1551	nnp
	Lead	ND	U		3.6	10.0	1	ug/L	24878		11/10/03 1551	nnp
	Selenium	ND	U		5.0	30.0	1	ug/L	24878		11/10/03 1551	nnp
	Silver	ND	U		0.93	6.0	1	ug/L	24878		11/10/03 1551	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-3
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	ND	U		0.18	0.20	1.0000	ug/L	24649		11/06/03 1347	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	6.9	B		3.5	40.0	1	ug/L	24878		11/10/03 1557	nnp
	Barium	32.0			0.86	5.0	1	ug/L	24878		11/10/03 1557	nnp
	Cadmium	1.0	B		0.94	10.0	1	ug/L	24878		11/10/03 1557	nnp
	Chromium	345			1.4	10.0	1	ug/L	24878		11/10/03 1557	nnp
	Lead	14.9			3.6	10.0	1	ug/L	24878		11/10/03 1557	nnp
	Selenium	ND	U		5.0	30.0	1	ug/L	24878		11/10/03 1557	nnp
	Silver	ND	U		0.93	6.0	1	ug/L	24878		11/10/03 1557	nnp

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 205171

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-4
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	ND	U		0.18	0.20	1.0000	ug/L	24649		11/06/03 1351	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	12.0	B		3.5	40.0	1	ug/L	24878		11/10/03 1633	nnp
	Barium	99.1			0.86	5.0	1	ug/L	24878		11/10/03 1633	nnp
	Cadmium	2.5	B		0.94	10.0	1	ug/L	24878		11/10/03 1633	nnp
	Chromium	225			1.4	10.0	1	ug/L	24878		11/10/03 1633	nnp
	Lead	14.0			3.6	10.0	1	ug/L	24878		11/10/03 1633	nnp
	Selenium	13.9	B		5.0	30.0	1	ug/L	24878		11/10/03 1633	nnp
	Silver	ND	U		0.93	6.0	1	ug/L	24878		11/10/03 1633	nnp

* In Description = Dry Wgt.

44

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-GW-13
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-5
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	ND	U		0.18	0.20	1.0000	ug/L	24649		11/06/03 1354	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	ND	U		17.5	200	5	ug/L	24881		11/11/03 1135	nnp
	Barium	90.1			4.3	25.0	5	ug/L	24881		11/11/03 1135	nnp
	Cadmium	ND	U		4.7	50.0	5	ug/L	24881		11/11/03 1135	nnp
	Chromium	158			7.0	50.0	5	ug/L	24881		11/11/03 1135	nnp
	Lead	105			18.0	50.0	5	ug/L	24881		11/11/03 1135	nnp
	Selenium	ND	U		25.0	150	5	ug/L	24881		11/11/03 1135	nnp
	Silver	ND	U		4.6	30.0	5	ug/L	24881		11/11/03 1135	nnp

* In Description = Dry Wgt.

45

LABORATORY TEST RESULTS

Job Number: 205171

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-1
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:00
Sample Matrix.....: Water

Laboratory Sample ID: 205171-6
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	ND	U		0.18	0.20	1.0000	ug/L	24649		11/06/03 1357	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	8.8	B		3.5	40.0	1	ug/L	24878		11/10/03 1657	nnp
	Barium	63.5			0.86	5.0	1	ug/L	24878		11/10/03 1657	nnp
	Cadmium	ND	U		0.94	10.0	1	ug/L	24878		11/10/03 1657	nnp
	Chromium	13.1			1.4	10.0	1	ug/L	24878		11/10/03 1657	nnp
	Lead	20.1			3.6	10.0	1	ug/L	24878		11/10/03 1657	nnp
	Selenium	ND	U		5.0	30.0	1	ug/L	24878		11/10/03 1657	nnp
	Silver	ND	U		0.93	6.0	1	ug/L	24878		11/10/03 1657	nnp

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 205171

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-7
Date Sampled.....: 10/29/2003
Time Sampled.....: 13:45
Sample Matrix.....: Water

Laboratory Sample ID: 205171-7
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	0.45			0.18	0.20	1.0000	ug/L	24649		11/06/03 1358	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	19.9	B		3.5	40.0	1	ug/L	24878		11/10/03 1703	nnp
	Barium	334			0.86	5.0	1	ug/L	24878		11/10/03 1703	nnp
	Cadmium	1.7	B		0.94	10.0	1	ug/L	24878		11/10/03 1703	nnp
	Chromium	32.3			1.4	10.0	1	ug/L	24878		11/10/03 1703	nnp
	Lead	363			3.6	10.0	1	ug/L	24878		11/10/03 1703	nnp
	Selenium	ND	U		5.0	30.0	1	ug/L	24878		11/10/03 1703	nnp
	Silver	ND	U		0.93	6.0	1	ug/L	24878		11/10/03 1703	nnp

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 205171

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-3
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:20
Sample Matrix.....: Water

Laboratory Sample ID: 205171-8
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	ND	U		0.18	0.20	1.0000	ug/L	24649		11/06/03 1359	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	ND	U		3.5	40.0	1	ug/L	24878		11/10/03 1710	nnp
	Barium	269			0.86	5.0	1	ug/L	24878		11/10/03 1710	nnp
	Cadmium	ND	U		0.94	10.0	1	ug/L	24878		11/10/03 1710	nnp
	Chromium	3.1	B		1.4	10.0	1	ug/L	24878		11/10/03 1710	nnp
	Lead	26.1			3.6	10.0	1	ug/L	24878		11/10/03 1710	nnp
	Selenium	ND	U		5.0	30.0	1	ug/L	24878		11/10/03 1710	nnp
	Silver	ND	U		0.93	6.0	1	ug/L	24878		11/10/03 1710	nnp

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 205171

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SWB-MW-4
Date Sampled.....: 10/29/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205171-9
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	ND	U		0.18	0.20	1.0000	ug/L	24649		11/06/03 1400	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	4.0	B		3.5	40.0	1	ug/L	24878		11/10/03 1716	nnp
	Barium	271			0.86	5.0	1	ug/L	24878		11/10/03 1716	nnp
	Cadmium	ND	U		0.94	10.0	1	ug/L	24878		11/10/03 1716	nnp
	Chromium	4.8	B		1.4	10.0	1	ug/L	24878		11/10/03 1716	nnp
	Lead	47.4			3.6	10.0	1	ug/L	24878		11/10/03 1716	nnp
	Selenium	ND	U		5.0	30.0	1	ug/L	24878		11/10/03 1716	nnp
	Silver	ND	U		0.93	6.0	1	ug/L	24878		11/10/03 1716	nnp

* In Description = Dry Wgt.

L A B O R A T O R Y C H R O N I C L E

Job Number: 205171

Date: 11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205171-1 Client ID: FIELD BLANK-1 Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
7470/7471	74706 Digestion (Hg)	1	24587		11/05/2003	0000	
3010A	Acid Digestion (ICAP)	1	24588		11/05/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	24524		11/03/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	24639		11/03/2003	0000	
7470A	Mercury (CVAA)	1	24649	24587	11/06/2003	1347	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24878	24588	11/10/2003	1551	
8081A	Organochlorine Pesticide Analysis	1	24663	24524	11/05/2003	1537	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24666	24524	11/05/2003	1542	1.00000
8082	PCB Analysis	1	24599	24524	11/05/2003	1337	1.00000
8270C	Semivolatile Organics	1	24720	24639	11/07/2003	0030	1.00000

Lab ID: 205171-2 Client ID: TRIP BLANK-1 Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	24750				
8260B	Volatile Organics (5mL Purge)	1	24771	24750	11/07/2003	1112	1.00000

Lab ID: 205171-3 Client ID: SB-GW-5 Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	24750				
7470/7471	74706 Digestion (Hg)	1	24587		11/05/2003	0000	
3010A	Acid Digestion (ICAP)	1	24588		11/05/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	24524		11/03/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	24639		11/03/2003	0000	
7470A	Mercury (CVAA)	1	24649	24587	11/06/2003	1347	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24878	24588	11/10/2003	1557	
8081A	Organochlorine Pesticide Analysis	1	24663	24524	11/05/2003	1609	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24666	24524	11/05/2003	1619	1.00000
8082	PCB Analysis	1	24599	24524	11/05/2003	1356	1.00000
8270C	Semivolatile Organics	1	24720	24639	11/07/2003	0056	1.00000
8260B	Volatile Organics (5mL Purge)	1	24771	24750	11/07/2003	1142	1.00000

Lab ID: 205171-4 Client ID: SB-GW-1 Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	24750				
7470/7471	74706 Digestion (Hg)	1	24587		11/05/2003	0000	
3010A	Acid Digestion (ICAP)	1	24588		11/05/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	24524		11/03/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	24639		11/03/2003	0000	
7470A	Mercury (CVAA)	1	24649	24587	11/06/2003	1351	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24878	24588	11/10/2003	1633	
8081A	Organochlorine Pesticide Analysis	1	24663	24524	11/05/2003	1641	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24666	24524	11/05/2003	1655	1.00000
8082	PCB Analysis	1	24599	24524	11/05/2003	1451	1.00000
8270C	Semivolatile Organics	1	24720	24639	11/07/2003	0819	1.00000
8260B	Volatile Organics (5mL Purge)	1	24771	24750	11/07/2003	1243	1.00000

Lab ID: 205171-5 Client ID: SB-GW-13 Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	24750				
7470/7471	74706 Digestion (Hg)	1	24587		11/05/2003	0000	
3010A	Acid Digestion (ICAP)	1	24588		11/05/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	24524		11/03/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	24639		11/03/2003	0000	
7470A	Mercury (CVAA)	1	24649	24587	11/06/2003	1354	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24881	24588	11/11/2003	1135	5

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042

L A B O R A T O R Y C H R O N I C L E

Job Number: 205171 | Date: 11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. | PROJECT: NYCDOS SWB INCINERAT | ATTN: Jeff Shelkey

Lab ID: 205171-5 Client ID: SB-GW-13 — Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8081A	Organochlorine Pesticide Analysis	1	24663	24524	11/05/2003	1713	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24666	24524	11/05/2003	1732	1.00000
8082	PCB Analysis	1	24599	24524	11/05/2003	1509	1.00000
8270C	Semivolatile Organics	1	24720	24639	11/07/2003	0845	1.00000
8260B	Volatile Organics (5mL Purge)	1	24771	24750	11/07/2003	1213	1.00000

Lab ID: 205171-6 Client ID: SWB-MW-1 — Date Recvd: 10/29/2003 Sample Date: 10/29/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	24750				
7470/7471	74706 Digestion (Hg)	1	24587		11/05/2003	0000	
3010A	Acid Digestion (ICAP)	1	24588		11/05/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	24524		11/03/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	24639		11/03/2003	0000	
7470A	Mercury (CVAA)	1	24649	24587	11/06/2003	1357	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24878	24588	11/10/2003	1657	
8081A	Organochlorine Pesticide Analysis	1	24663	24524	11/05/2003	1745	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24666	24524	11/05/2003	1808	1.00000
8082	PCB Analysis	1	24599	24524	11/05/2003	1613	1.00000
8270C	Semivolatile Organics	1	24720	24639	11/07/2003	0355	1.00000
8260B	Volatile Organics (5mL Purge)	1	24771	24750	11/07/2003	1313	1.00000

Lab ID: 205171-7 Client ID: SWB-MW-7 — Date Recvd: 10/29/2003 Sample Date: 10/29/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	24750				
7470/7471	74706 Digestion (Hg)	1	24587		11/05/2003	0000	
3010A	Acid Digestion (ICAP)	1	24588		11/05/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	24524		11/03/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	24639		11/03/2003	0000	
7470A	Mercury (CVAA)	1	24649	24587	11/06/2003	1358	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24878	24588	11/10/2003	1703	
8081A	Organochlorine Pesticide Analysis	1	24663	24524	11/05/2003	1817	1.00000
8081A	Organochlorine Pesticide Analysis	1	24666	24524	11/05/2003	1845	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24663	24524	11/05/2003	1817	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24666	24524	11/05/2003	1845	1.00000
8082	PCB Analysis	1	24599	24524	11/05/2003	1631	1.00000
8270C	Semivolatile Organics	1	24720	24639	11/07/2003	0420	1.00000
8260B	Volatile Organics (5mL Purge)	1	24771	24750	11/07/2003	1343	1.00000

Lab ID: 205171-8 Client ID: SWB-MW-3 — Date Recvd: 10/29/2003 Sample Date: 10/29/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	24750				
7470/7471	74706 Digestion (Hg)	1	24587		11/05/2003	0000	
3010A	Acid Digestion (ICAP)	1	24588		11/05/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	24524		11/03/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	24639		11/03/2003	0000	
7470A	Mercury (CVAA)	1	24649	24587	11/06/2003	1359	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24878	24588	11/10/2003	1710	
8081A	Organochlorine Pesticide Analysis	1	24663	24524	11/05/2003	1849	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24666	24524	11/05/2003	1921	1.00000
8082	PCB Analysis	1	24599	24524	11/05/2003	1650	1.00000
8270C	Semivolatile Organics	1	24720	24639	11/07/2003	0936	1.00000
8260B	Volatile Organics (5mL Purge)	1	24771	24750	11/07/2003	1413	1.00000

Lab ID: 205171-9 Client ID: SWB-MW-4 — Date Recvd: 10/29/2003 Sample Date: 10/29/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
5030A	5030 5 mL Purge Prep	1	24750			

043

L A B O R A T O R Y C H R O N I C L E

Job Number: 205171

Date: 11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205171-9 Client ID: SWB-MW-4 Date Recvd: 10/29/2003 Sample Date: 10/29/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
7470/7471	74706 Digestion (Hg)	1	24587		11/05/2003	0000	
3010A	Acid Digestion (ICAP)	1	24588		11/05/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	24524		11/03/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	24639		11/03/2003	0000	
7470A	Mercury (CVAA)	1	24649	24587	11/06/2003	1400	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24878	24588	11/10/2003	1716	
8081A	Organochlorine Pesticide Analysis	1	24663	24524	11/05/2003	1920	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24666	24524	11/05/2003	1958	1.00000
8082	PCB Analysis	1	24599	24524	11/05/2003	1708	1.00000
8270C	Semivolatile Organics	1	24720	24639	11/07/2003	1002	1.00000
8260B	Volatile Organics (5mL Purge)	1	24771	24750	11/07/2003	1444	1.00000

052

ANALYTICAL REPORT

JOB NUMBER: 205150

Prepared For:

Energy and Environmental Analysts, Inc.
55 Hilton Ave.
Garden City, NY 11530

Project: NYCDOS SWB INCINERAT

Attention: Jeff Shelkey

Date: 11/14/2003

Signature

Name: Jill M. Pfister

Title: Project Manager

E-Mail: jpfister@stl-inc.com

11/14/03
Date

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (130) Pages

SEVERN TRENT STL

STL Report : 205150
ENERGY AND ENVIRONMENTAL ANALYSTS, INC. – NYSDOS SWB INCINERATOR PLANT
03718

Case Narrative

Sample Receipt – Samples received on 10/28/03 were in good condition and at the proper temperature of 1.6°C.

The following analyses were subcontracted out to the indicated laboratories:

Asbestos *sent to* **ProScience Analytical Services, Inc., 22 Cummings Park, Woburn, MA 01801**

Organic Extraction - Samples were extracted according to methods 3541/3550B/3510C. Samples for 8082 analysis were cleaned-up using procedures outlined in method 3665A (acid clean-up). Samples SB-SS-3(5-7), SB-SS-8(4-8), and SB-SS-6(0-2) would not concentrate to 0.5 mls for 8270 analysis and were brought to a final volume of 1 mls. Samples SB-SS-14(5-7), SB-SS-5, SB-SS-5MS, SB-SS-5MSD, and SB-SS-8(0-2) would not concentrate to 0.5 mls for 8270 analysis and were brought to a final volume of 2 mls. No other problems were encountered.

Volatile Organics – Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 5030B/8260B.

The spike compound percent recoveries were within the laboratory generated guidelines in the independent source quality control sample except for vinyl chloride. An MS/MSD/MSB was analyzed on sample "SB-SS-5(4-8FT)"; trichloroethene and 1,1,2,2-tetrachloroethane recovered outside of criteria in the MS and the MSD.

The following samples were analyzed twice due internal standard and/or surrogate recoveries outside criteria:

SB-SS-14(5-7FT)
SB-SS-3(5-7FT)\
SB-SS-3(0-2IN)
B-5
SB-SS-13(4-8FT)
SB-SS-2(0-4)
SB-SS-8(4-8)
SB-SS-6(0-2)

Sample Calculation:

Sample ID-SB-SS-14(5-7FT)

$\frac{(55921)(125)(1)}{(339918)(1.51)(5)(.919)} = 2.96 = 3$ UG/KG.

Metals – ICAP metals were determined using a JA61E trace ICAP; mercury was determined by cold vapor technique using a Perkin Elmer mercury analyzer; following guidance provided in SW846 according to methods: ICAP – 3010A, 3050B/6010B; mercury-7470A, 7471A.

TCLP samples were prepared following guidance provided in SW846 according to method 1311.

Four "*" flags resulted from duplicate analysis of soil QC sample 205150-5 for barium, chromium, mercury, and lead.

Mercury failed the controls for soil QC sample 205150-5 resulting in one "N" flag.

No other problems occurred during analysis. All appropriate protocols were employed. All data appears to be consistent.

Semi-Volatile Organics - Semi-volatile organic samples were analyzed by capillary GC/MS according to NYSDEC Protocols using guidance provided in Method 8270C. The instrumentation used was a Hewlett-Packard Gas Chromatograph interfaced with a Mass Selective Detector.

A 2ul injection was used for all samples and standards. The instrument was calibrated at 10ng/ul (20 ng), 25 ng/ul(50 ng), 40ng/ul(80ng), 60ng/ul(120ng) and 80ng/ul(160ng). Internal standards were added to all samples and standards were at 20ng/ul(40ng).

Samples SB-SS-13(4-8FT), SB-SS-10(0-4FT) and SB-SS-6(4-8) had one surrogate out of recovery criteria, but within laboratory sample acceptance criteria.

The spike recovery for the compound, 4-methylphenol, was slightly above recovery limits for 24662-4LCS.

Sample SB-SS-5(4-8FT) was analyzed at a 1:2 dilution and B-5 at a 1:4 dilution due to the presence of high levels of target compounds.

The target compounds 3-methylphenol and 4-methylphenol cannot be chromatographically separated. The isomers are reported as a total concentration of 4-methylphenol.

Sample Calculation:

Sample ID – SB-SS-3(5-7FT)
Compound - phenanthrene

$$\frac{(18669)(40)(1000)(1.0)}{(376860)(.984)(2.0)(15.3)(.907)} = 72.6 = 73 \text{ ug/kg}$$

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Surrogate recoveries for Decachlorobiphenyl were above QC limits in SB-SS-14(5-7FT), SB-SS-13(4-8FT), SB-SS-10(0-4FT), SB-SS-10(0-4FT), SB-SS-2(0-4), SB-SS-8(0-2), SB-SS-8(4-8) and SB-SS-6(0-2).

Spike percent recoveries were outside of QC limits in SB-SS-5(4-8FT)MS/MSD due to sample dilution.

Results for alpha-Chlordane and Endosulfan I were reported from the DB-1701 column in 24515-2LCS and 24590-2LCS due to coelution on the RTX-35 column.

Results for 4,4'-DDD and Endosulfan II were reported from the RTX-35 column in 24515-2LCS and 24590-2LCS due to coelution on the DB-1701 column.

Results for delta-BHC were reported from the RTX-35 column in SB-SS-3(5-7FT) and SB-SS-12(5-7FT) due to more matrix interference present on the DB-1701 column.

Results for Heptachlor Epoxide were reported from the DB-1701 column in SB-SS-12(5-7FT), SB-SS-13(4-8FT) and SB-SS-10(0-4FT) due to more matrix interference present on the RTX-35 column.

The result for Endrin aldehyde was reported from the RTX-35 column in SB-SS-8(0-2) due to more matrix interference present on the DB-1701 column.

The % breakdown for 4,4'-DDT was outside of QC limits in the IBS standard analyzed at 11:57 on 11/8/03 on the DB-1701 column. The % difference for Endrin Aldehyde and Decachlorobiphenyl were below QC limits in the INDB3 standard analyzed at 13:01 on 11/8/03 on the DB-1701 column. This was the end standard for samples 24590-1MB, 24590-2LCS, SB-SS-14(5-7), SB-SS-2(0-4), SB-SS-8(0-2), SB-SS-8(4-8), SB-SS-6(0-2), SB-SS-6(4-8) and SB-SS-7(4-9). Samples were analyzed twice with similar results. Sample matrix was the cause.

The % difference for Methoxychlor was above QC limits in the INDA3 standard analyzed at 04:03 on 11/7/03 on the RTX-35 column. This was the end standard for samples 24590-1MB and 24590-2LCS.

The % breakdown for 4,4'-DDT was outside of QC limits in the IBS standard analyzed at 04:42 on 11/11/03 on the RTX-35 column. The % difference for most compounds were below QC limits in the INDB3 standard analyzed at 05:55 on 11/11/03 on the RTX-35 column. This was the end standard for samples SB-SS-9(4-8FT), SB-SS-14(5-7FT), SB-SS-5(4-8FT)MS, SB-SS-5(4-8FT)MSD, SB-SS-14(5-7), SB-SS-2(0-4), SB-SS-8(0-2), SB-SS-8(4-8), SB-SS-6(0-2), SB-SS-6(4-8) and SB-SS-7(4-9). Samples were analyzed twice with similar results. Sample matrix was the cause. All results were reported from the DB-1701 column, except as noted. The breakdown on the DB-1701 column was less severe.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID – SB-SS-14(5-7FT)
Compound – 4,4'-DDE

$$\frac{(10254241\text{area})(10000\text{ul})}{(911929154\text{area/ng})(30.1\text{g})(1\text{ul})(0.919)} = 4.1 \text{ ug/Kg}$$

Polychlorinated Biphenyls (PCB's) - PCB samples were analyzed by GC/ECD using guidance provided in Method 8082. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Surrogate recoveries for Decachlorobiphenyl were above QC limits in SB-SS-5(4-8FT)MS, SB-SS-5(4-8FT)MSD, SB-SS-13(4-8FT) and SB-SS-10(0-4FT) on the RTX-CLPesticidesII column.

The surrogate recovery for Decachlorobiphenyl was above QC limits in SB-SS-10(0-4FT) on the RTX-CLPesticides column.

The surrogate recovery for Tetrachloro-m-xylene was below QC limits in SB-SS-8(0-2) on the RTX-CLPesticides column.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID – SB-SS-5 (4-8FT)
Compound – Aroclor-1254 peak 5.16 on RTX-CLPesticides column

$$\frac{(6239128\text{area})(10000\text{ul})}{(48028342.5\text{area/ng})(30.0\text{g})(1\text{ul})(0.927)} = 46.7 \text{ ug/Kg}$$

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

S A M P L E I N F O R M A T I O N

Date: 11/14/2003

Job Number.: 205150
Customer...: Energy and Environmental Analysts, Inc.
Attn.....: Jeff Shelkey

Project Number.....: 20000963
Customer Project ID.....: NYCDOS SWB INCINERAT
Project Description....: NYCDOS SWB Incinerator Plant

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
205150-1	SB-SS-14(5-7FT)	Soil	10/27/2003	09:30	10/28/2003	21:30
205150-2	SB-SS-3(5-7FT)	Soil	10/27/2003	10:45	10/28/2003	21:30
205150-3	SB-SS-12(5-7FT)	Soil	10/27/2003	12:15	10/28/2003	21:30
205150-4	SB-SS-3(0-2IN)	Soil	10/28/2003	09:00	10/28/2003	21:30
205150-5	SB-SS-5(4-8FT)	Soil	10/28/2003	10:15	10/28/2003	21:30
205150-6	B-5	Soil	10/28/2003	10:15	10/28/2003	21:30
205150-7	SB-SS-1(4-8FT)	Soil	10/28/2003	11:45	10/28/2003	21:30
205150-8	SB-SS-13(4-8FT)	Soil	10/28/2003	12:30	10/28/2003	21:30
205150-9	SB-SS-11(4-8FT)	Soil	10/28/2003	13:00	10/28/2003	21:30
205150-10	SB-SS-10(0-4FT)	Soil	10/28/2003	13:50	10/28/2003	21:30
205150-11	SB-SS-9(4-8FT)	Soil	10/28/2003	13:30	10/28/2003	21:30
205150-12	TB	Water	10/27/2003	00:00	10/28/2003	21:30
205150-13	FB-1	Water	10/28/2003	10:00	10/28/2003	21:30
205150-14	SB-SS-2(0-4)	Soil	10/28/2003	14:00	10/29/2003	17:40
205150-15	SB-SS-8(0-2)	Soil	10/28/2003	00:00	10/29/2003	17:40
205150-16	SB-SS-8(4-8)	Soil	10/28/2003	00:00	10/29/2003	17:40
205150-17	SB-SS-6(0-2)	Soil	10/28/2003	00:00	10/29/2003	17:40
205150-18	SB-SS-6(4-8)	Soil	10/28/2003	00:00	10/29/2003	17:40
205150-19	SB-SS-7(4-8)	Soil	10/28/2003	00:00	10/29/2003	17:40

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-14(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-1
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Acetone, Solid*	14			6	11	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Methylene chloride, Solid*	4	J	B	1	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Chloroform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Benzene, Solid*	3	J		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Toluene, Solid*	3	J		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk

* In Description = Dry Wgt.

000002

Job Number: 205150

LABORATORY TEST RESULTS

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-14(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-1
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Bromoform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24745		10/31/03 2000	kjk

000003

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-14(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-1
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Methylene chloride, Solid*	15		B	1	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Chloroform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	1,1,1-Trichloroethane, Solid*	11			0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Benzene, Solid*	2	J		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Trichloroethene, Solid*	3	J		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Toluene, Solid*	5	J		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk

* In Description = Dry Wgt.

00000004

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-14(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-1
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Bromoform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk
	Xylenes (total), Solid*	2	J		1	5	1.00000	ug/Kg	24782	RA	11/05/03 2119	kjk

000005

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-2
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	90.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	9.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Vinyl chloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Methylene chloride, Solid*	5	J	B	1	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Toluene, Solid*	3	J		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled:.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-2
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Ethylbenzene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk
	Xylenes (total), Solid*	ND	U		1	6	1.00000	ug/Kg	24745		10/31/03 2035	kjk

000007

* In Description = Dry Wgt.

Job Number: 205150

LABORATORY TEST RESULTS

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-2
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Bromomethane, Solid*	ND	U		2	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Acetone, Solid*	ND	U		5	10	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Methylene chloride, Solid*	7		B	1	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	2-Butanone (MEK), Solid*	ND	U		3	10	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	1,1,1-Trichloroethane, Solid*	14			0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Benzene, Solid*	3	J		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Trichloroethene, Solid*	2	J		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	10	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Toluene, Solid*	5			0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	2-Hexanone, Solid*	ND	U		3	10	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk

8000000

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-2
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
6000000	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Ethylbenzene, Solid*	0.6	J		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk
	Xylenes (total), Solid*	3	J		1	5	1.00000	ug/Kg	24778	RA	11/03/03 1830	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-12(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 12:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-3
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Acetone, Solid*	15			6	11	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Methylene chloride, Solid*	11		B	1	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	1,1,1-Trichloroethane, Solid*	6			0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Trichloroethene, Solid*	1	J		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Toluene, Solid*	2	J		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-12(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 12:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-3
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Ethylbenzene, Solid*	0.6	J		0.4	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk
	Xylenes (total), Solid*	2	J		1	5	1.00000	ug/Kg	24745		10/31/03 2109	kjk

0000011

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(0-2IN)
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-4
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Methylene chloride, Solid*	5	J	B	1	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Chloroform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	1,1,1-Trichloroethane, Solid*	2	J		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(0-2IN)
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-4
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Bromoform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24745		10/31/03 2143	kjk

0000013

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(0-2IN)
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-4
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Methylene chloride, Solid*	5	J	B	1	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Chloroform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	1,1,1-Trichloroethane, Solid*	7			0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Toluene, Solid*	1	J		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk

000014

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(0-2IN)
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-4
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Bromoform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24778	RA	11/03/03 1940	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-5(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-5
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Methylene chloride, Solid*	3	J	B	1	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-5(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-5
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24783		11/06/03 2036	kjk

0000017

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: B-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-6
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	93.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	6.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Methylene chloride, Solid*	11		B	1	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Toluene, Solid*	1	J		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk

* In Description = Dry Wgt.

000018

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: B-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-6
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk
	Xylenes (total), Solid*	1	J		1	5	1.00000	ug/Kg	24783		11/06/03 1709	kjk

* In Description = Dry Wgt.

000019

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: B-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-6
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Methylene chloride, Solid*	6		B	1	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk

0000020

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: B-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-6
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24783	RA	11/06/03 2001	kjk

0000021

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-1(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-7
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Acetone, Solid*	ND	U		5	10	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Methylene chloride, Solid*	2	J	B	1	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	2-Butanone (MEK), Solid*	ND	U		3	10	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	10	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk

* In Description = Dry Wgt.

000022

Job Number: 205150

LABORATORY TEST RESULTS

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-1(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-7
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	2-Hexanone, Solid*	ND	U		4	10	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24778		11/03/03 2014	kjk

000023

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-13(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-8
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	26.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Vinyl chloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Bromomethane, Solid*	ND	U		3	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Chloroethane, Solid*	ND	U		0.9	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Carbon disulfide, Solid*	ND	U		0.3	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Acetone, Solid*	ND	U		7	14	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Methylene chloride, Solid*	18		B	2	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Vinyl acetate, Solid*	ND	U		4	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	2-Butanone (MEK), Solid*	ND	U		4	14	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Chloroform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	1,1,1-Trichloroethane, Solid*	6	J		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Benzene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Trichloroethene, Solid*	8			0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Bromodichloromethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		4	14	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Toluene, Solid*	4	J		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-13(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-8
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Tetrachloroethene, Solid*	2	J		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	2-Hexanone, Solid*	ND	U		5	14	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Chlorobenzene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Ethylbenzene, Solid*	2	J		0.5	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Styrene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Bromoform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk
	Xylenes (total), Solid*	6	J		1	7	1.00000	ug/Kg	24778		11/03/03 2049	kjk

0000025

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-13(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-8
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Vinyl chloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Bromomethane, Solid*	ND	U		3	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Chloroethane, Solid*	ND	U		0.9	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Carbon disulfide, Solid*	ND	U		0.3	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Acetone, Solid*	ND	U		7	14	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Methylene chloride, Solid*	15		B	2	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Vinyl acetate, Solid*	ND	U		4	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	2-Butanone (MEK), Solid*	ND	U		4	14	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Chloroform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	1,1,1-Trichloroethane, Solid*	5	J		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Benzene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Trichloroethene, Solid*	6	J		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Bromodichloromethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		4	14	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Toluene, Solid*	3	J		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Tetrachloroethene, Solid*	2	J		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	2-Hexanone, Solid*	ND	U		5	14	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk

* In Description = Dry Wgt.

0000026

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-13(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-8
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Chlorobenzene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Ethylbenzene, Solid*	1	J		0.5	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Styrene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Bromoform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk
	Xylenes (total), Solid*	4	J		1	7	1.00000	ug/Kg	24782	RA	11/05/03 1718	kjk

0000027

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-11(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-9
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Methylene chloride, Solid*	3	J	B	1	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk

* In Description = Dry Wgt.

000028

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-11(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-9
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24778		11/03/03 2123	kjk

0000029

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-10(0-4FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:50
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-10
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Methylene chloride, Solid*	13		B	1	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Chloroform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	1,1,1-Trichloroethane, Solid*	5	J		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Benzene, Solid*	2	J		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Trichloroethene, Solid*	4	J		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Toluene, Solid*	4	J		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk

* In Description = Dry Wgt.

Job Number: 205150

LABORATORY TEST RESULTS

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-10(0-4FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:50
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-10
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Tetrachloroethene, Solid*	2	J		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Ethylbenzene, Solid*	1	J		0.4	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Bromoform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk
	Xylenes (total), Solid*	4	J		1	5	1.00000	ug/Kg	24778		11/03/03 2158	kjk

00000031

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-9(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-11
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Acetone, Solid*	7	J		6	11	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Methylene chloride, Solid*	2	J	B	1	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk

* In Description = Dry Wgt.

000032

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-9(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-11
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24778		11/03/03 2232	kjk

00003

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: TB
Date Sampled.....: 10/27/2003
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 205150-12
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Acetone	3	J		2	10	1.00000	ug/L	24619		11/05/03 1157	kjk
	Methylene chloride	0.6	J	B	0.4	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24619		11/05/03 1157	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24619		11/05/03 1157	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24619		11/05/03 1157	kjk

00000034

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: TB
Date Sampled.....: 10/27/2003
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 205150-12
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24619		11/05/03 1157	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24619		11/05/03 1157	kjk

0000035

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: FB-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205150-13
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Acetone	5	J		2	10	1.00000	ug/L	24619		11/05/03 1128	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	24619		11/05/03 1128	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	24619		11/05/03 1128	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	24619		11/05/03 1128	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: FB-1
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205150-13
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	24619		11/05/03 1128	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	24619		11/05/03 1128	kjk

000037

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-2(0-4)
Date Sampled.....: 10/28/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-14
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Methylene chloride, Solid*	16		B	1	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	1,1,1-Trichloroethane, Solid*	34			0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Benzene, Solid*	6			0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Trichloroethene, Solid*	4	J		0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Toluene, Solid*	11			0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk

* In Description = Dry Wgt.

000038

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-2(0-4)
Date Sampled.....: 10/28/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-14
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Tetrachloroethene, Solid*	3	J		0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Ethylbenzene, Solid*	0.9	J		0.4	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk
	Xylenes (total), Solid*	5	J		1	5	1.00000	ug/Kg	24782		11/05/03 1752	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-2(0-4)
Date Sampled.....: 10/28/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-14
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Methylene chloride, Solid*	10		B	1	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	1,1,1-Trichloroethane, Solid*	8			0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Benzene, Solid*	3	J		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Trichloroethene, Solid*	2	J		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Toluene, Solid*	6			0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk

* In Description = Dry Wgt.

000040

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-2(0-4)
Date Sampled.....: 10/28/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-14
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Ethylbenzene, Solid*	0.6	J		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk
	Xylenes (total), Solid*	3	J		1	5	1.00000	ug/Kg	24783	RA	11/06/03 1743	kjk

000041

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-15
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Acetone, Solid*	ND	U		5	10	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Methylene chloride, Solid*	7		B	1	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	2-Butanone (MEK), Solid*	ND	U		3	10	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Trichloroethene, Solid*	2	J		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	10	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Toluene, Solid*	2	J		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk

* In Description = Dry Wgt.

000042

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-15
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Tetrachloroethene, Solid*	1	J		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	2-Hexanone, Solid*	ND	U		4	10	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk
	Xylenes (total), Solid*	2	J		1	5	1.00000	ug/Kg	24783		11/06/03 1818	kjk

000043

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-16
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	96.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	3.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Acetone, Solid*	ND	U		5	10	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Methylene chloride, Solid*	13		B	1	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	2-Butanone (MEK), Solid*	ND	U		3	10	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	1,1,1-Trichloroethane, Solid*	7			0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Benzene, Solid*	3	J		0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Trichloroethene, Solid*	9			0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	10	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Toluene, Solid*	8			0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk

* In Description = Dry Wgt.

000044

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-16
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Tetrachloroethene, Solid*	4	J		0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	2-Hexanone, Solid*	ND	U		4	10	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Ethylbenzene, Solid*	3	J		0.4	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk
	Xylenes (total), Solid*	8			1	5	1.00000	ug/Kg	24782		11/05/03 1901	kjk

000045

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-16
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Acetone, Solid*	ND	U		5	10	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Methylene chloride, Solid*	8		B	1	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	2-Butanone (MEK), Solid*	ND	U		3	10	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Trichloroethene, Solid*	4	J		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	10	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Toluene, Solid*	0.8	J		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Tetrachloroethene, Solid*	2	J		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	2-Hexanone, Solid*	ND	U		4	10	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk

* In Description = Dry Wgt.

000046

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-16
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24783	RA	11/06/03 1852	kjk

0000047

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-17
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	85.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	14.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Acetone, Solid*	ND	U		6	12	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Methylene chloride, Solid*	12		B	1	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Vinyl acetate, Solid*	ND	U		4	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	2-Butanone (MEK), Solid*	ND	U		3	12	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	1,1,1-Trichloroethane, Solid*	7			0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Benzene, Solid*	2	J		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Trichloroethene, Solid*	4	J		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	12	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Toluene, Solid*	5	J		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-17
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Tetrachloroethene, Solid*	1	J		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	2-Hexanone, Solid*	ND	U		4	12	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Ethylbenzene, Solid*	1	J		0.5	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk
	Xylenes (total), Solid*	4	J		1	6	1.00000	ug/Kg	24782		11/05/03 1936	kjk

0000049

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-17
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Acetone, Solid*	ND	U		6	12	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Methylene chloride, Solid*	9		B	1	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Vinyl acetate, Solid*	ND	U		4	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	2-Butanone (MEK), Solid*	ND	U		3	12	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Trichloroethene, Solid*	3	J		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	12	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Toluene, Solid*	3	J		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Tetrachloroethene, Solid*	0.6	J		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	2-Hexanone, Solid*	ND	U		4	12	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-17
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Ethylbenzene, Solid*	0.9	J		0.5	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk
	Xylenes (total), Solid*	3	J		1	6	1.00000	ug/Kg	24783	RA	11/06/03 1927	kjk

0000054

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-18
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Acetone, Solid*	11			5	11	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Methylene chloride, Solid*	4	J	B	1	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk

* In Description = Dry Wgt.

0000052

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-18
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24782		11/05/03 2010	kjk

000053

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-7(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-19
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Acetone, Solid*	11			5	11	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Methylene chloride, Solid*	3	J	B	1	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk

* In Description = Dry Wgt.

000054

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-7(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-19
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	24782		11/05/03 2044	kjk

000055

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-14(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-1
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	380	J		130	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	2-Methylnaphthalene, Solid*	220	J		120	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Acenaphthylene, Solid*	ND	U		46	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Acenaphthene, Solid*	ND	U		63	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Fluorene, Solid*	99	J		84	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Phenanthrene, Solid*	770	J		100	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Anthracene, Solid*	200	J		51	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Fluoranthene, Solid*	1100	J		93	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Pyrene, Solid*	1000	J		80	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Benzo(a)anthracene, Solid*	590	J		63	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Chrysene, Solid*	640	J	M	72	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Benzo(b)fluoranthene, Solid*	510	J	M	160	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Benzo(k)fluoranthene, Solid*	360	J	M	160	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Benzo(a)pyrene, Solid*	480	J		67	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	270	J		76	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Dibenzo(a,h)anthracene, Solid*	120	J		76	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw
	Benzo(ghi)perylene, Solid*	310	J		72	1400	1.00000	ug/Kg	24879		11/10/03 1622	jdw

* In Description = Dry Wgt.

0000056

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-2
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	90.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	9.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		69	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	2-Methylnaphthalene, Solid*	ND	U		61	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Acenaphthylene, Solid*	ND	U		24	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Acenaphthene, Solid*	ND	U		32	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Fluorene, Solid*	ND	U		43	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Phenanthrene, Solid*	73	J		52	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Anthracene, Solid*	ND	U	M	26	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Fluoranthene, Solid*	130	J		48	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Pyrene, Solid*	110	J		41	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Benzo(a)anthracene, Solid*	54	J		32	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Chrysene, Solid*	69	J		37	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Benzo(b)fluoranthene, Solid*	ND	U		82	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Benzo(k)fluoranthene, Solid*	ND	U		84	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Benzo(a)pyrene, Solid*	58	J		35	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	46	J		39	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		39	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw
	Benzo(ghi)perylene, Solid*	64	J		37	710	1.00000	ug/Kg	24871		11/07/03 1955	jdw

* In Description = Dry Wgt.

000051

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-12(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 12:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-3
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		34	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	2-Methylnaphthalene, Solid*	ND	U		30	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Acenaphthylene, Solid*	ND	U		12	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Acenaphthene, Solid*	54	J		16	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Fluorene, Solid*	ND	U		22	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Phenanthrene, Solid*	45	J		26	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Anthracene, Solid*	17	J		13	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Fluoranthene, Solid*	72	J		24	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Pyrene, Solid*	73	J		20	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Benzo(a)anthracene, Solid*	23	J		16	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Chrysene, Solid*	25	J		18	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Benzo(b)fluoranthene, Solid*	ND	U		41	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Benzo(k)fluoranthene, Solid*	ND	U	M	42	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Benzo(a)pyrene, Solid*	ND	U		17	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		19	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		19	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw
	Benzo(ghi)perylene, Solid*	ND	U		18	360	1.00000	ug/Kg	24871		11/07/03 1729	jdw

* In Description = Dry Wgt.

00000058

LABORATORY TEST RESULTS

Date:11/13/2003

Job Number: 205150

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(0-2IN)
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-4
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	91.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	280	J		35	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	2-Methylnaphthalene, Solid*	120	J		30	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Acenaphthylene, Solid*	ND	U		12	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Acenaphthene, Solid*	40	J		16	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Fluorene, Solid*	47	J		22	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Phenanthrene, Solid*	740			26	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Anthracene, Solid*	65	J		13	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Fluoranthene, Solid*	260	J		24	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Pyrene, Solid*	210	J		20	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Benzo(a)anthracene, Solid*	56	J		16	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Chrysene, Solid*	84	J		18	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Benzo(b)fluoranthene, Solid*	ND	U	M	41	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Benzo(k)fluoranthene, Solid*	ND	U	M	42	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Benzo(a)pyrene, Solid*	27	J		17	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		19	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		19	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw
	Benzo(ghi)perylene, Solid*	ND	U		18	360	1.00000	ug/Kg	24871		11/07/03 1753	jdw

* In Description = Dry Wgt.

000059

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-5(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-5
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		270	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	2-Methylnaphthalene, Solid*	270	J		240	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Acenaphthylene, Solid*	ND	U		94	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Acenaphthene, Solid*	ND	U		130	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Fluorene, Solid*	ND	U		170	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Phenanthrene, Solid*	600	J		210	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Anthracene, Solid*	110	J		100	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Fluoranthene, Solid*	710	J		190	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Pyrene, Solid*	630	J		160	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Benzo(a)anthracene, Solid*	350	J		130	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Chrysene, Solid*	440	J		150	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Benzo(b)fluoranthene, Solid*	400	J	M	330	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Benzo(k)fluoranthene, Solid*	ND	U	M	330	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Benzo(a)pyrene, Solid*	350	J		140	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	280	J		150	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		150	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw
	Benzo(ghi)perylene, Solid*	330	J		150	2800	2.00000	ug/Kg	24871		11/07/03 2132	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: B-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-6
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	93.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	6.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		140	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	2-Methylnaphthalene, Solid*	ND	U		120	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Acenaphthylene, Solid*	ND	U		47	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Acenaphthene, Solid*	ND	U		64	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Fluorene, Solid*	ND	U		85	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Phenanthrene, Solid*	180	J		100	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Anthracene, Solid*	ND	U	M	51	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Fluoranthene, Solid*	220	J		93	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Pyrene, Solid*	190	J		80	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Benzo(a)anthracene, Solid*	100	J		64	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Chrysene, Solid*	120	J		72	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Benzo(b)fluoranthene, Solid*	ND	U	M	160	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Benzo(k)fluoranthene, Solid*	ND	U	M	170	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Benzo(a)pyrene, Solid*	81	J		68	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		76	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		76	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw
	Benzo(ghi)perylene, Solid*	ND	U		72	1400	4.00000	ug/Kg	24879		11/11/03 1818	jdw

* In Description = Dry Wgt.

000091

Job Number: 205150

LABORATORY TEST RESULTS

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-1(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-7
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		33	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	2-Methylnaphthalene, Solid*	ND	U		29	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Acenaphthylene, Solid*	ND	U		11	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Acenaphthene, Solid*	ND	U		15	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Fluorene, Solid*	ND	U		20	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Phenanthrene, Solid*	ND	U		25	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Anthracene, Solid*	ND	U		12	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Fluoranthene, Solid*	ND	U		22	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Pyrene, Solid*	ND	U		19	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Benzo(a)anthracene, Solid*	ND	U		15	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Chrysene, Solid*	ND	U		17	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Benzo(b)fluoranthene, Solid*	ND	U		39	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Benzo(k)fluoranthene, Solid*	ND	U		40	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Benzo(a)pyrene, Solid*	ND	U		16	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		18	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		18	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw
	Benzo(ghi)perylene, Solid*	ND	U		17	340	1.00000	ug/Kg	24871		11/07/03 1842	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-13(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-8
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	26.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	140	J		41	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	2-Methylnaphthalene, Solid*	150	J		36	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Acenaphthylene, Solid*	34	J		14	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Acenaphthene, Solid*	27	J		19	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Fluorene, Solid*	26	J		26	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Phenanthrene, Solid*	290	J		31	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Anthracene, Solid*	71	J		15	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Fluoranthene, Solid*	410	J		28	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Pyrene, Solid*	400	J		24	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Benzo(a)anthracene, Solid*	220	J		19	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Chrysene, Solid*	230	J		22	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Benzo(b)fluoranthene, Solid*	180	J		49	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Benzo(k)fluoranthene, Solid*	190	J		50	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Benzo(a)pyrene, Solid*	190	J		21	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	130	J		23	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Dibenzo(a,h)anthracene, Solid*	49	J	H	23	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw
	Benzo(ghi)perylene, Solid*	150	J		22	420	1.00000	ug/Kg	24871		11/07/03 2246	jdw

* In Description = Dry Wgt.

000003

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-11(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-9
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	94.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		33	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	2-Methylnaphthalene, Solid*	ND	U		29	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Acenaphthylene, Solid*	ND	U		12	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Acenaphthene, Solid*	ND	U		16	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Fluorene, Solid*	ND	U		21	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Phenanthrene, Solid*	ND	U		25	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Anthracene, Solid*	ND	U	M	13	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Fluoranthene, Solid*	26	J		23	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Pyrene, Solid*	24	J		20	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Benzo(a)anthracene, Solid*	16	J		16	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Chrysene, Solid*	ND	U		18	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Benzo(b)fluoranthene, Solid*	ND	U	M	40	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Benzo(k)fluoranthene, Solid*	ND	U	M	41	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Benzo(a)pyrene, Solid*	ND	U		17	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		19	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		19	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw
	Benzo(ghi)perylene, Solid*	ND	U		18	350	1.00000	ug/Kg	24871		11/07/03 1931	jdw

* In Description = Dry Wgt.

000064

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-10(0-4FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:50
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-10
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	91.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	170	J		34	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	2-Methylnaphthalene, Solid*	210	J		30	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Acenaphthylene, Solid*	59	J		12	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Acenaphthene, Solid*	75	J		16	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Fluorene, Solid*	80	J		21	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Phenanthrene, Solid*	1100			26	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Anthracene, Solid*	220	J		13	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Fluoranthene, Solid*	1700			24	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Pyrene, Solid*	1600			20	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Benzo(a)anthracene, Solid*	790			16	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Chrysene, Solid*	860			18	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Benzo(b)fluoranthene, Solid*	510		M	41	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Benzo(k)fluoranthene, Solid*	710		M	42	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Benzo(a)pyrene, Solid*	700			17	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	360			19	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Dibenzo(a,h)anthracene, Solid*	190	J		19	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw
	Benzo(ghi)perylene, Solid*	400			18	350	1.00000	ug/Kg	24871		11/07/03 2310	jdw

* In Description = Dry Wgt.

000065

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-9(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-11
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	38	J	M	34	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	2-Methylnaphthalene, Solid*	ND	U		30	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Acenaphthylene, Solid*	ND	U		12	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Acenaphthene, Solid*	20	J		16	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Fluorene, Solid*	22	J		21	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Phenanthrene, Solid*	33	J		25	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Anthracene, Solid*	ND	U	M	13	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Fluoranthene, Solid*	ND	U		23	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Pyrene, Solid*	ND	U	M	20	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Benzo(a)anthracene, Solid*	ND	U		16	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Chrysene, Solid*	ND	U		18	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Benzo(b)fluoranthene, Solid*	ND	U		40	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Benzo(k)fluoranthene, Solid*	ND	U		41	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Benzo(a)pyrene, Solid*	ND	U		17	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		19	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		19	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw
	Benzo(ghi)perylene, Solid*	ND	U		18	350	1.00000	ug/Kg	24871		11/07/03 1906	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-2(0-4)
Date Sampled.....: 10/28/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-14
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	130	J		33	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	2-Methylnaphthalene, Solid*	160	J		29	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Acenaphthylene, Solid*	30	J		11	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Acenaphthene, Solid*	ND	U		15	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Fluorene, Solid*	ND	U		20	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Phenanthrene, Solid*	350			25	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Anthracene, Solid*	39	J		12	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Fluoranthene, Solid*	340			22	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Pyrene, Solid*	350			19	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Benzo(a)anthracene, Solid*	180	J		15	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Chrysene, Solid*	230	J		17	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Benzo(b)fluoranthene, Solid*	160	J	M	39	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Benzo(k)fluoranthene, Solid*	140	J	M	40	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Benzo(a)pyrene, Solid*	170	J		16	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	100	J		18	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		18	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Benzo(ghi)perylene, Solid*	140	J		17	340	1.00000	ug/Kg	24874		11/06/03 1832	jdw
	Pyridine, TCLP	ND	U		0.009	0.040	1.00000	mg/L	24876		11/07/03 1551	jdw
	1,4-Dichlorobenzene, TCLP	ND	U		0.0004	0.020	1.00000	mg/L	24876		11/07/03 1551	jdw
	2-Methylphenol, TCLP	ND	U		0.0006	0.020	1.00000	mg/L	24876		11/07/03 1551	jdw
	Hexachloroethane, TCLP	ND	U		0.0008	0.020	1.00000	mg/L	24876		11/07/03 1551	jdw
	4-Methylphenol, TCLP	0.001	J		0.001	0.020	1.00000	mg/L	24876		11/07/03 1551	jdw
	Nitrobenzene, TCLP	ND	U		0.0006	0.020	1.00000	mg/L	24876		11/07/03 1551	jdw
	Hexachlorobutadiene, TCLP	ND	U		0.001	0.020	1.00000	mg/L	24876		11/07/03 1551	jdw

* In Description = Dry Wgt.

000097

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-2(0-4)
Date Sampled.....: 10/28/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-14
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	2,4,6-Trichlorophenol, TCLP	0.001	J	M	0.0008	0.020	1.00000	mg/L	24876		11/07/03 1551	jdw
	2,4,5-Trichlorophenol, TCLP	0.003	J		0.0006	0.10	1.00000	mg/L	24876		11/07/03 1551	jdw
	2,4-Dinitrotoluene, TCLP	ND	U		0.0008	0.020	1.00000	mg/L	24876		11/07/03 1551	jdw
	Hexachlorobenzene, TCLP	ND	U		0.001	0.020	1.00000	mg/L	24876		11/07/03 1551	jdw
	Pentachlorophenol, TCLP	ND	U		0.005	0.10	1.00000	mg/L	24876		11/07/03 1551	jdw

0000068

* In Description = Dry Wgt.

Job Number: 205150

LABORATORY TEST RESULTS

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-15
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		130	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	2-Methylnaphthalene, Solid*	ND	U		110	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Acenaphthylene, Solid*	150	J		44	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Acenaphthene, Solid*	ND	U		60	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Fluorene, Solid*	ND	U		80	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Phenanthrene, Solid*	150	J		96	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Anthracene, Solid*	90	J		48	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Fluoranthene, Solid*	320	J		88	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Pyrene, Solid*	390	J		76	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Benzo(a)anthracene, Solid*	300	J		60	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Chrysene, Solid*	410	J		68	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Benzo(b)fluoranthene, Solid*	380	J	H	150	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Benzo(k)fluoranthene, Solid*	390	J		160	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Benzo(a)pyrene, Solid*	430	J		64	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	390	J		72	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		72	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw
	Benzo(ghi)perylene, Solid*	510	J		68	1300	1.00000	ug/Kg	24874		11/06/03 1856	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-16
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	96.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	3.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		65	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	2-Methylnaphthalene, Solid*	ND	U		57	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Acenaphthylene, Solid*	26	J		22	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Acenaphthene, Solid*	ND	U		30	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Fluorene, Solid*	ND	U		40	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Phenanthrene, Solid*	170	J		49	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Anthracene, Solid*	51	J		24	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Fluoranthene, Solid*	280	J		45	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Pyrene, Solid*	290	J		38	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Benzo(a)anthracene, Solid*	170	J		30	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Chrysene, Solid*	200	J		34	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Benzo(b)fluoranthene, Solid*	140	J	M	77	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Benzo(k)fluoranthene, Solid*	140	J	M	79	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Benzo(a)pyrene, Solid*	160	J		32	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	110	J		36	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Dibenzo(a,h)anthracene, Solid*	57	J		36	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw
	Benzo(ghi)perylene, Solid*	140	J		34	670	1.00000	ug/Kg	24874		11/06/03 1921	jdw

* In Description = Dry Wgt.

000070

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-17
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	85.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	14.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		74	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	2-Methylnaphthalene, Solid*	ND	U		64	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Acenaphthylene, Solid*	120	J		25	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Acenaphthene, Solid*	ND	U		35	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Fluorene, Solid*	ND	U		46	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Phenanthrene, Solid*	540	J		55	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Anthracene, Solid*	130	J		28	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Fluoranthene, Solid*	990			51	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Pyrene, Solid*	920			44	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Benzo(a)anthracene, Solid*	490	J		35	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Chrysene, Solid*	600	J		39	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Benzo(b)fluoranthene, Solid*	440	J	H	87	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Benzo(k)fluoranthene, Solid*	520	J		90	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Benzo(a)pyrene, Solid*	500	J		37	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	360	J		41	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Dibenzo(a,h)anthracene, Solid*	170	J		41	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw
	Benzo(ghi)perylene, Solid*	420	J		39	760	1.00000	ug/Kg	24874		11/06/03 1945	jdw

* In Description = Dry Wgt.

000071

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-18
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		33	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	2-Methylnaphthalene, Solid*	ND	U		29	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Acenaphthylene, Solid*	ND	U		11	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Acenaphthene, Solid*	ND	U		15	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Fluorene, Solid*	ND	U		21	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Phenanthrene, Solid*	ND	U		25	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Anthracene, Solid*	ND	U		12	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Fluoranthene, Solid*	ND	U		23	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Pyrene, Solid*	ND	U		20	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Benzo(a)anthracene, Solid*	ND	U		15	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Chrysene, Solid*	ND	U		18	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Benzo(b)fluoranthene, Solid*	ND	U		39	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Benzo(k)fluoranthene, Solid*	ND	U		40	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Benzo(a)pyrene, Solid*	ND	U		17	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		19	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		19	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw
	Benzo(ghi)perylene, Solid*	ND	U		18	340	1.00000	ug/Kg	24874		11/06/03 1743	jdw

* In Description = Dry Wgt.

0000072

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/13/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-7(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-19
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		33	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	2-Methylnaphthalene, Solid*	ND	U		29	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Acenaphthylene, Solid*	ND	U		11	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Acenaphthene, Solid*	ND	U		15	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Fluorene, Solid*	ND	U		21	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Phenanthrene, Solid*	ND	U		25	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Anthracene, Solid*	ND	U		12	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Fluoranthene, Solid*	ND	U		23	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Pyrene, Solid*	ND	U		20	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Benzo(a)anthracene, Solid*	ND	U		15	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Chrysene, Solid*	ND	U		18	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Benzo(b)fluoranthene, Solid*	ND	U		39	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Benzo(k)fluoranthene, Solid*	ND	U		40	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Benzo(a)pyrene, Solid*	ND	U		16	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		19	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		19	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw
	Benzo(ghi)perylene, Solid*	ND	U		18	340	1.00000	ug/Kg	24874		11/06/03 1808	jdw

* In Description = Dry Wgt.

00000073

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-14(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-1
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.30	1.8	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	beta-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Aldrin, Solid*	ND	U		0.39	2.2	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Heptachlor epoxide, Solid*	0.19	J		0.12	1.8	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Dieldrin, Solid*	ND	U		0.35	3.6	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	4,4'-DDE, Solid*	4.1			0.47	3.6	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Endrin, Solid*	ND	U		0.97	5.4	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.6	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	4,4'-DDD, Solid*	ND	U		0.41	3.6	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.6	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	4,4'-DDT, Solid*	1.9	J	M	0.34	3.6	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Methoxychlor, Solid*	ND	U		2.3	18	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	alpha-Chlordane, Solid*	1.2	J		0.12	1.8	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	gamma-Chlordane, Solid*	0.79	J		0.099	1.8	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Toxaphene, Solid*	ND	U		5.2	90	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Endrin aldehyde, Solid*	ND	U		0.35	3.6	1.00000	ug/Kg	24822		11/08/03 0430	dmm
	Endrin ketone, Solid*	ND	U		0.16	3.6	1.00000	ug/Kg	24822		11/08/03 0430	dmm

* In Description = Dry Wgt.

000074

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-2
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	90.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	9.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.30	1.8	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	beta-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	delta-BHC, Solid*	0.45	J		0.11	1.8	1.00000	ug/Kg	24824		11/06/03 0505	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.8	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Aldrin, Solid*	ND	U		0.39	2.2	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Dieldrin, Solid*	ND	U		0.35	3.6	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	4,4'-DDE, Solid*	1.8	J		0.47	3.6	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Endrin, Solid*	ND	U		0.97	5.4	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.6	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	4,4'-DDD, Solid*	ND	U		0.41	3.6	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.6	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	4,4'-DDT, Solid*	ND	U		0.34	3.6	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Methoxychlor, Solid*	ND	U		2.3	18	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	gamma-Chlordane, Solid*	ND	U		0.099	1.8	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Toxaphene, Solid*	ND	U		5.3	90	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Endrin aldehyde, Solid*	ND	U		0.35	3.6	1.00000	ug/Kg	24822		11/06/03 0319	dmm
	Endrin ketone, Solid*	ND	U		0.16	3.6	1.00000	ug/Kg	24822		11/06/03 0319	dmm

* In Description = Dry Wgt.

000075

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-12(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 12:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-3
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	92.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	beta-BHC, Solid*	1.1	J		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	delta-BHC, Solid*	0.29	J		0.11	1.8	1.00000	ug/Kg	24824		11/06/03 0541	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Heptachlor, Solid*	0.76	J		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Aldrin, Solid*	ND	U		0.38	2.1	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Heptachlor epoxide, Solid*	0.34	J		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Dieldrin, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	4,4'-DDE, Solid*	2.5	J		0.46	3.5	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Endrin, Solid*	ND	U		0.95	5.3	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	4,4'-DDD, Solid*	ND	U		0.40	3.5	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	4,4'-DDT, Solid*	ND	U		0.33	3.5	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Methoxychlor, Solid*	4.4	J		2.2	18	1.00000	ug/Kg	24824		11/06/03 0541	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	gamma-Chlordane, Solid*	ND	U		0.097	1.8	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Toxaphene, Solid*	ND	U		5.1	88	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Endrin aldehyde, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/06/03 0351	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.5	1.00000	ug/Kg	24822		11/06/03 0351	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(0-2IN)
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-4
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	91.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	beta-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Aldrin, Solid*	ND	U		0.38	2.1	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Dieldrin, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	4,4'-DDE, Solid*	0.70	J		0.46	3.5	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Endrin, Solid*	ND	U		0.95	5.4	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	4,4'-DDD, Solid*	ND	U		0.41	3.5	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.5	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	4,4'-DDT, Solid*	ND	U		0.33	3.5	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Methoxychlor, Solid*	ND	U		2.3	18	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	gamma-Chlordane, Solid*	ND	U		0.097	1.8	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Toxaphene, Solid*	ND	U		5.2	89	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Endrin aldehyde, Solid*	ND	U		0.35	3.5	1.00000	ug/Kg	24822		11/06/03 0423	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.5	1.00000	ug/Kg	24822		11/06/03 0423	dmm

* In Description = Dry Wgt.

00077

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-5(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-5
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	92.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		1.5	9.2	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	beta-BHC, Solid*	ND	U		1.5	9.2	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	delta-BHC, Solid*	ND	U		0.56	9.2	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.82	9.2	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Heptachlor, Solid*	ND	U		0.81	9.2	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Aldrin, Solid*	ND	U		1.9	11	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Heptachlor epoxide, Solid*	ND	U		0.61	9.2	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Endosulfan I, Solid*	ND	U		0.79	9.2	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Dieldrin, Solid*	55			1.7	18	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	4,4'-DDE, Solid*	11	J		2.3	18	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Endrin, Solid*	ND	U		4.8	27	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Endosulfan II, Solid*	ND	U		0.92	18	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	4,4'-DDD, Solid*	11	J		2.1	18	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Endosulfan sulfate, Solid*	ND	U		0.93	18	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	4,4'-DDT, Solid*	8.4	J		1.7	18	5.00000	ug/Kg	24824		11/06/03 0654	dmm
	Methoxychlor, Solid*	ND	U		11	92	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	alpha-Chlordane, Solid*	8.0	J		0.59	9.2	5.00000	ug/Kg	24824		11/06/03 0654	dmm
	gamma-Chlordane, Solid*	3.5	J		0.49	9.2	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Toxaphene, Solid*	ND	U		26	450	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Endrin aldehyde, Solid*	ND	U		1.7	18	5.00000	ug/Kg	24822		11/06/03 0455	dmm
	Endrin ketone, Solid*	4.9	J		0.78	18	5.00000	ug/Kg	24824		11/06/03 0654	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: B-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-6
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	93.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	6.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	beta-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Aldrin, Solid*	ND	U		0.38	2.1	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Dieldrin, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	4,4'-DDE, Solid*	0.96	J		0.46	3.5	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Endrin, Solid*	ND	U		0.95	5.3	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	4,4'-DDD, Solid*	ND	U		0.40	3.5	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	4,4'-DDT, Solid*	ND	U		0.33	3.5	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Methoxychlor, Solid*	ND	U		2.2	18	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	gamma-Chlordane, Solid*	ND	U		0.097	1.8	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Toxaphene, Solid*	ND	U		5.1	88	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Endrin aldehyde, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/06/03 0559	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.5	1.00000	ug/Kg	24822		11/06/03 0559	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-1(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-7
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.28	1.7	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	beta-BHC, Solid*	ND	U		0.27	1.7	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	delta-BHC, Solid*	ND	U		0.11	1.7	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.7	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Heptachlor, Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Aldrin, Solid*	ND	U		0.36	2.0	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.7	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Dieldrin, Solid*	ND	U		0.33	3.4	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	4,4'-DDE, Solid*	ND	U		0.44	3.4	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Endrin, Solid*	ND	U		0.91	5.1	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Endosulfan II, Solid*	ND	U		0.17	3.4	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	4,4'-DDD, Solid*	ND	U		0.39	3.4	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	4,4'-DDT, Solid*	ND	U		0.32	3.4	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Methoxychlor, Solid*	ND	U		2.2	17	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	alpha-Chlordane, Solid*	ND	U		0.11	1.7	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	gamma-Chlordane, Solid*	ND	U		0.093	1.7	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Toxaphene, Solid*	ND	U		4.9	85	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Endrin aldehyde, Solid*	ND	U		0.33	3.4	1.00000	ug/Kg	24822		11/06/03 0631	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.4	1.00000	ug/Kg	24822		11/06/03 0631	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-13(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-8
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	26.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.37	2.3	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	beta-BHC, Solid*	ND	U		0.36	2.3	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	delta-BHC, Solid*	ND	U		0.14	2.3	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.20	2.3	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Heptachlor, Solid*	ND	U		0.20	2.3	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Aldrin, Solid*	ND	U		0.48	2.7	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Heptachlor epoxide, Solid*	0.66	J		0.15	2.3	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Endosulfan I, Solid*	ND	U		0.20	2.3	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Dieldrin, Solid*	1.9	J		0.43	4.4	1.00000	ug/Kg	24824		11/06/03 0920	dmm
	4,4'-DDE, Solid*	6.4			0.58	4.4	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Endrin, Solid*	ND	U		1.2	6.7	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Endosulfan II, Solid*	ND	U		0.23	4.4	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	4,4'-DDD, Solid*	2.1	J		0.51	4.4	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Endosulfan sulfate, Solid*	ND	U		0.23	4.4	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	4,4'-DDT, Solid*	3.0	J		0.42	4.4	1.00000	ug/Kg	24824		11/06/03 0920	dmm
	Methoxychlor, Solid*	ND	U		2.8	23	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	alpha-Chlordane, Solid*	ND	U		0.15	2.3	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	gamma-Chlordane, Solid*	1.8	J		0.12	2.3	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Toxaphene, Solid*	ND	U		6.5	110	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Endrin aldehyde, Solid*	ND	U		0.43	4.4	1.00000	ug/Kg	24822		11/06/03 0703	dmm
	Endrin ketone, Solid*	ND	U		0.19	4.4	1.00000	ug/Kg	24822		11/06/03 0703	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-11(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-9
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	beta-BHC, Solid*	ND	U		0.28	1.8	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Aldrin, Solid*	ND	U		0.37	2.1	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Heptachlor epoxide, Solid*	1.7	J		0.12	1.8	1.00000	ug/Kg	24824		11/06/03 1033	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.8	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Dieldrin, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	4,4'-DDE, Solid*	1.8	J		0.46	3.5	1.00000	ug/Kg	24824		11/06/03 1033	dmm
	Endrin, Solid*	ND	U		0.93	5.2	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	4,4'-DDD, Solid*	ND	U		0.40	3.5	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	4,4'-DDT, Solid*	0.57	J		0.32	3.5	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Methoxychlor, Solid*	ND	U		2.2	18	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	alpha-Chlordane, Solid*	6.8			0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	gamma-Chlordane, Solid*	4.8			0.095	1.8	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Toxaphene, Solid*	ND	U		5.1	87	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Endrin aldehyde, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/06/03 0807	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.5	1.00000	ug/Kg	24822		11/06/03 0807	dmm

* In Description = Dry Wgt.

00R0082

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-10(0-4FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:50
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-10
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	beta-BHC, Solid*	1.5	J		0.29	1.9	1.00000	ug/Kg	24824		11/06/03 1110	dmm
	delta-BHC, Solid*	ND	U		0.11	1.9	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Heptachlor, Solid*	ND	U		0.16	1.9	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Aldrin, Solid*	ND	U		0.39	2.2	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Heptachlor epoxide, Solid*	1.4	J		0.12	1.9	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.9	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Dieldrin, Solid*	2.5	J		0.35	3.6	1.00000	ug/Kg	24824		11/06/03 1110	dmm
	4,4'-DDE, Solid*	20			0.47	3.6	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Endrin, Solid*	ND	U		0.97	5.4	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.6	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	4,4'-DDD, Solid*	ND	U		0.41	3.6	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.6	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	4,4'-DDT, Solid*	9.8			0.34	3.6	1.00000	ug/Kg	24824		11/06/03 1110	dmm
	Methoxychlor, Solid*	ND	U		2.3	19	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	gamma-Chlordane, Solid*	ND	U		0.099	1.9	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Toxaphene, Solid*	ND	U		5.3	90	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Endrin aldehyde, Solid*	ND	U		0.35	3.6	1.00000	ug/Kg	24822		11/06/03 0839	dmm
	Endrin ketone, Solid*	ND	U		0.16	3.6	1.00000	ug/Kg	24822		11/06/03 0839	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-9(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-11
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	92.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	beta-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Aldrin, Solid*	ND	U		0.38	2.1	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Dieldrin, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	4,4'-DDE, Solid*	ND	U		0.46	3.5	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Endrin, Solid*	ND	U		0.95	5.3	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	4,4'-DDD, Solid*	ND	U		0.41	3.5	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	4,4'-DDT, Solid*	ND	U		0.33	3.5	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Methoxychlor, Solid*	ND	U		2.3	18	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	gamma-Chlordane, Solid*	ND	U		0.097	1.8	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Toxaphene, Solid*	ND	U		5.2	89	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Endrin aldehyde, Solid*	ND	U		0.35	3.5	1.00000	ug/Kg	24822		11/06/03 0911	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.5	1.00000	ug/Kg	24822		11/06/03 0911	dmm

* In Description = Dry Wgt.

00000084

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-2(0-4)
Date Sampled.....: 10/28/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-14
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	beta-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Aldrin, Solid*	ND	U		0.38	2.1	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Heptachlor epoxide, Solid*	0.26	J		0.12	1.8	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Dieldrin, Solid*	6.2			0.34	3.5	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	4,4'-DDE, Solid*	6.5			0.46	3.5	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Endrin, Solid*	ND	U		0.94	5.3	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	4,4'-DDD, Solid*	ND	U		0.40	3.5	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	4,4'-DDT, Solid*	1.8	J		0.33	3.5	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Methoxychlor, Solid*	ND	U		2.2	18	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	gamma-Chlordane, Solid*	0.89	J		0.097	1.8	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Toxaphene, Solid*	ND	U		5.1	88	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Endrin aldehyde, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/08/03 0534	dmm
	Endrin ketone, Solid*	5.4			0.15	3.5	1.00000	ug/Kg	24822		11/08/03 0534	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-15
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.28	1.8	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	beta-BHC, Solid*	ND	U		0.28	1.8	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Aldrin, Solid*	ND	U		0.37	2.1	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Heptachlor epoxide, Solid*	0.53	J		0.12	1.8	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.8	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Dieldrin, Solid*	ND	U		0.33	3.4	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	4,4'-DDE, Solid*	3.8			0.45	3.4	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Endrin, Solid*	ND	U		0.92	5.2	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	4,4'-DDD, Solid*	ND	U		0.39	3.4	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	4,4'-DDT, Solid*	ND	U		0.32	3.4	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Methoxychlor, Solid*	ND	U		2.2	18	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	alpha-Chlordane, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	gamma-Chlordane, Solid*	ND	U		0.094	1.8	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Toxaphene, Solid*	ND	U		5.0	86	1.00000	ug/Kg	24822		11/08/03 0606	dmm
	Endrin aldehyde, Solid*	3.0	J		0.33	3.4	1.00000	ug/Kg	24824		11/10/03 2236	dmm
	Endrin ketone, Solid*	7.8			0.15	3.4	1.00000	ug/Kg	24822		11/08/03 0606	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-16
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	96.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	3.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.28	1.7	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	beta-BHC, Solid*	ND	U		0.28	1.7	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	delta-BHC, Solid*	ND	U		0.11	1.7	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.7	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Heptachlor, Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Aldrin, Solid*	ND	U		0.36	2.0	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Heptachlor epoxide, Solid*	0.14	J		0.12	1.7	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Dieldrin, Solid*	ND	U		0.33	3.4	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	4,4'-DDE, Solid*	3.3	J		0.44	3.4	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Endrin, Solid*	ND	U		0.91	5.1	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Endosulfan II, Solid*	ND	U		0.17	3.4	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	4,4'-DDD, Solid*	2.3	J		0.39	3.4	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	4,4'-DDT, Solid*	1.0	J	M	0.32	3.4	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Methoxychlor, Solid*	ND	U		2.2	17	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	alpha-Chlordane, Solid*	ND	U		0.11	1.7	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	gamma-Chlordane, Solid*	ND	U		0.093	1.7	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Toxaphene, Solid*	ND	U		5.0	85	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Endrin aldehyde, Solid*	ND	U		0.33	3.4	1.00000	ug/Kg	24822		11/08/03 0710	dmm
	Endrin ketone, Solid*	2.6	J	M	0.15	3.4	1.00000	ug/Kg	24822		11/08/03 0710	dmm

* In Description = Dry Wgt.

000087

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-17
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	85.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	14.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.32	2.0	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	beta-BHC, Solid*	0.81	J		0.31	2.0	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	delta-BHC, Solid*	ND	U		0.12	2.0	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Heptachlor, Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Aldrin, Solid*	ND	U		0.42	2.3	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Heptachlor epoxide, Solid*	1.6	J		0.13	2.0	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Endosulfan I, Solid*	ND	U		0.17	2.0	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Dieldrin, Solid*	0.39	J		0.38	3.9	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	4,4'-DDE, Solid*	20			0.51	3.9	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Endrin, Solid*	ND	U		1.0	5.9	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Endosulfan II, Solid*	ND	U		0.20	3.9	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	4,4'-DDD, Solid*	ND	U		0.45	3.9	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Endosulfan sulfate, Solid*	ND	U		0.20	3.9	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	4,4'-DDT, Solid*	2.7	J		0.36	3.9	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Methoxychlor, Solid*	ND	U		2.5	20	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	alpha-Chlordane, Solid*	ND	U		0.13	2.0	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	gamma-Chlordane, Solid*	ND	U		0.11	2.0	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Toxaphene, Solid*	ND	U		5.7	97	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Endrin aldehyde, Solid*	ND	U		0.38	3.9	1.00000	ug/Kg	24822		11/08/03 0814	dmm
	Endrin ketone, Solid*	16			0.17	3.9	1.00000	ug/Kg	24822		11/08/03 0814	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-18
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	94.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	beta-BHC, Solid*	ND	U		0.28	1.8	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Aldrin, Solid*	ND	U		0.37	2.1	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.8	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Dieldrin, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	4,4'-DDE, Solid*	ND	U		0.45	3.5	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Endrin, Solid*	ND	U		0.93	5.2	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	4,4'-DDD, Solid*	ND	U		0.40	3.5	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	4,4'-DDT, Solid*	ND	U		0.32	3.5	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Methoxychlor, Solid*	ND	U		2.2	18	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	gamma-Chlordane, Solid*	ND	U		0.095	1.8	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Toxaphene, Solid*	ND	U		5.1	87	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Endrin aldehyde, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	24822		11/08/03 0918	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.5	1.00000	ug/Kg	24822		11/08/03 0918	dmm

* In Description = Dry Wgt.

000039

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-7(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-19
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	94.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	beta-BHC, Solid*	ND	U		0.28	1.8	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Aldrin, Solid*	ND	U		0.37	2.1	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.8	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Dieldrin, Solid*	ND	U		0.33	3.4	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	4,4'-DDE, Solid*	ND	U		0.45	3.4	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Endrin, Solid*	ND	U		0.93	5.2	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	4,4'-DDD, Solid*	ND	U		0.40	3.4	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	4,4'-DDT, Solid*	ND	U		0.32	3.4	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Methoxychlor, Solid*	ND	U		2.2	18	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	alpha-Chlordane, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	gamma-Chlordane, Solid*	ND	U		0.095	1.8	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Toxaphene, Solid*	ND	U		5.0	87	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Endrin aldehyde, Solid*	ND	U		0.34	3.4	1.00000	ug/Kg	24822		11/08/03 0950	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.4	1.00000	ug/Kg	24822		11/08/03 0950	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-14(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-1
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	24748		11/05/03 0628	dmm
	Aroclor 1221, Solid*	ND	U		1.7	36	1.00000	ug/Kg	24748		11/05/03 0628	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	24748		11/05/03 0628	dmm
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	24748		11/05/03 0628	dmm
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/05/03 0628	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/05/03 0628	dmm
	Aroclor 1260, Solid*	9.0	J	M	4.3	18	1.00000	ug/Kg	24752		11/05/03 0628	dmm

* In Description = Dry Wgt.

000081

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-2
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	90.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	9.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.1	18	1.00000	ug/Kg	24748		11/05/03 0647	dmm
	Aroclor 1221, Solid*	ND	U		1.7	36	1.00000	ug/Kg	24748		11/05/03 0647	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	24748		11/05/03 0647	dmm
	Aroclor 1242, Solid*	ND	U		3.3	18	1.00000	ug/Kg	24748		11/05/03 0647	dmm
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/05/03 0647	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/05/03 0647	dmm
	Aroclor 1260, Solid*	ND	U		4.3	18	1.00000	ug/Kg	24748		11/05/03 0647	dmm

* In Description = Dry Wgt.

0000092

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-12(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 12:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-3
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	24748		11/05/03 0705	dmm
	Aroclor 1221, Solid*	ND	U		1.6	35	1.00000	ug/Kg	24748		11/05/03 0705	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	24748		11/05/03 0705	dmm
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	24748		11/05/03 0705	dmm
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/05/03 0705	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/05/03 0705	dmm
	Aroclor 1260, Solid*	ND	U		4.2	18	1.00000	ug/Kg	24748		11/05/03 0705	dmm

* In Description = Dry Wgt.

000093

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(0-2IN)
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-4
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	91.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	24748		11/05/03 0723	dmm
	Aroclor 1221, Solid*	ND	U		1.6	35	1.00000	ug/Kg	24748		11/05/03 0723	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	24748		11/05/03 0723	dmm
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	24748		11/05/03 0723	dmm
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/05/03 0723	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/05/03 0723	dmm
	Aroclor 1260, Solid*	ND	U		4.3	18	1.00000	ug/Kg	24748		11/05/03 0723	dmm

* In Description = Dry Wgt.

000094

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-5(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-5
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	24748		11/05/03 0741	dmm
	Aroclor 1221, Solid*	ND	U		1.7	36	1.00000	ug/Kg	24748		11/05/03 0741	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	24748		11/05/03 0741	dmm
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	24748		11/05/03 0741	dmm
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/05/03 0741	dmm
	Aroclor 1254, Solid*	51		M	1.3	18	1.00000	ug/Kg	24752		11/05/03 0741	dmm
	Aroclor 1260, Solid*	32		M	4.3	18	1.00000	ug/Kg	24748		11/05/03 0741	dmm

* In Description = Dry Wgt.

000095

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: B-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-6
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	93.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	6.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	24748		11/05/03 0836	dmm
	Aroclor 1221, Solid*	ND	U		1.6	35	1.00000	ug/Kg	24748		11/05/03 0836	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	24748		11/05/03 0836	dmm
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	24748		11/05/03 0836	dmm
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/05/03 0836	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/05/03 0836	dmm
	Aroclor 1260, Solid*	4.4	J	M	4.2	18	1.00000	ug/Kg	24752		11/05/03 0836	dmm

* In Description = Dry Wgt.

0000096

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-1(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-7
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	17	1.00000	ug/Kg	24748		11/05/03 0855	dmm
	Aroclor 1221, Solid*	ND	U		1.6	34	1.00000	ug/Kg	24748		11/05/03 0855	dmm
	Aroclor 1232, Solid*	ND	U		1.9	17	1.00000	ug/Kg	24748		11/05/03 0855	dmm
	Aroclor 1242, Solid*	ND	U		3.1	17	1.00000	ug/Kg	24748		11/05/03 0855	dmm
	Aroclor 1248, Solid*	ND	U		2.7	17	1.00000	ug/Kg	24748		11/05/03 0855	dmm
	Aroclor 1254, Solid*	ND	U		1.2	17	1.00000	ug/Kg	24748		11/05/03 0855	dmm
	Aroclor 1260, Solid*	ND	U		4.1	17	1.00000	ug/Kg	24748		11/05/03 0855	dmm

* In Description = Dry Wgt.

000037

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-13(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-8
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	26.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.8	23	1.00000	ug/Kg	24748		11/05/03 0913	dmm
	Aroclor 1221, Solid*	ND	U		2.1	44	1.00000	ug/Kg	24748		11/05/03 0913	dmm
	Aroclor 1232, Solid*	ND	U		2.5	23	1.00000	ug/Kg	24748		11/05/03 0913	dmm
	Aroclor 1242, Solid*	ND	U		4.0	23	1.00000	ug/Kg	24748		11/05/03 0913	dmm
	Aroclor 1248, Solid*	ND	U		3.6	23	1.00000	ug/Kg	24748		11/05/03 0913	dmm
	Aroclor 1254, Solid*	ND	U		1.6	23	1.00000	ug/Kg	24748		11/05/03 0913	dmm
	Aroclor 1260, Solid*	29		M	5.4	23	1.00000	ug/Kg	24752		11/05/03 0913	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-11(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-9
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	94.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/05/03 0931	dmm
	Aroclor 1221, Solid*	ND	U		1.6	35	1.00000	ug/Kg	24748		11/05/03 0931	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	24748		11/05/03 0931	dmm
	Aroclor 1242, Solid*	ND	U		3.1	18	1.00000	ug/Kg	24748		11/05/03 0931	dmm
	Aroclor 1248, Solid*	ND	U		2.8	18	1.00000	ug/Kg	24748		11/05/03 0931	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/05/03 0931	dmm
	Aroclor 1260, Solid*	ND	U		4.2	18	1.00000	ug/Kg	24748		11/05/03 0931	dmm

* In Description = Dry Wgt.

000099

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-10(0-4FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:50
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-10
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.1	19	1.00000	ug/Kg	24748		11/05/03 0950	dmm
	Aroclor 1221, Solid*	ND	U		1.7	36	1.00000	ug/Kg	24748		11/05/03 0950	dmm
	Aroclor 1232, Solid*	ND	U		2.0	19	1.00000	ug/Kg	24748		11/05/03 0950	dmm
	Aroclor 1242, Solid*	ND	U		3.3	19	1.00000	ug/Kg	24748		11/05/03 0950	dmm
	Aroclor 1248, Solid*	ND	U		2.9	19	1.00000	ug/Kg	24748		11/05/03 0950	dmm
	Aroclor 1254, Solid*	ND	U		1.3	19	1.00000	ug/Kg	24748		11/05/03 0950	dmm
	Aroclor 1260, Solid*	54		M	4.3	19	1.00000	ug/Kg	24748		11/05/03 0950	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-9(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-11
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	24748		11/05/03 1139	dmm
	Aroclor 1221, Solid*	ND	U		1.6	35	1.00000	ug/Kg	24748		11/05/03 1139	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	24748		11/05/03 1139	dmm
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	24748		11/05/03 1139	dmm
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/05/03 1139	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/05/03 1139	dmm
	Aroclor 1260, Solid*	ND	U		4.3	18	1.00000	ug/Kg	24748		11/05/03 1139	dmm

* in Description = Dry Wgt.

0001101

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-2(0-4)
Date Sampled.....: 10/28/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-14
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	94.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	24748		11/06/03 1825	dmm
	Aroclor 1221, Solid*	ND	U		1.6	35	1.00000	ug/Kg	24748		11/06/03 1825	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	24748		11/06/03 1825	dmm
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	24748		11/06/03 1825	dmm
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/06/03 1825	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/06/03 1825	dmm
	Aroclor 1260, Solid*	ND	U		4.2	18	1.00000	ug/Kg	24748		11/06/03 1825	dmm

* In Description = Dry Wgt.

000102

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-15
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/06/03 1843	dmm
	Aroclor 1221, Solid*	ND	U		1.6	34	1.00000	ug/Kg	24748		11/06/03 1843	dmm
	Aroclor 1232, Solid*	ND	U		1.9	18	1.00000	ug/Kg	24748		11/06/03 1843	dmm
	Aroclor 1242, Solid*	ND	U		3.1	18	1.00000	ug/Kg	24748		11/06/03 1843	dmm
	Aroclor 1248, Solid*	ND	U		2.8	18	1.00000	ug/Kg	24748		11/06/03 1843	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/06/03 1843	dmm
	Aroclor 1260, Solid*	4.9	J	M	4.1	18	1.00000	ug/Kg	24752		11/06/03 1843	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-16
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	96.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	3.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	17	1.00000	ug/Kg	24748		11/06/03 1901	dmm
	Aroclor 1221, Solid*	ND	U		1.6	34	1.00000	ug/Kg	24748		11/06/03 1901	dmm
	Aroclor 1232, Solid*	ND	U		1.9	17	1.00000	ug/Kg	24748		11/06/03 1901	dmm
	Aroclor 1242, Solid*	ND	U		3.1	17	1.00000	ug/Kg	24748		11/06/03 1901	dmm
	Aroclor 1248, Solid*	ND	U		2.8	17	1.00000	ug/Kg	24748		11/06/03 1901	dmm
	Aroclor 1254, Solid*	9.1	J		1.2	17	1.00000	ug/Kg	24748		11/06/03 1901	dmm
	Aroclor 1260, Solid*	ND	U		4.1	17	1.00000	ug/Kg	24748		11/06/03 1901	dmm

* In Description = Dry Wgt.

0000104

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-17
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	85.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	14.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.3	20	1.00000	ug/Kg	24748		11/06/03 1920	dmm
	Aroclor 1221, Solid*	ND	U		1.8	39	1.00000	ug/Kg	24748		11/06/03 1920	dmm
	Aroclor 1232, Solid*	ND	U		2.2	20	1.00000	ug/Kg	24748		11/06/03 1920	dmm
	Aroclor 1242, Solid*	ND	U		3.5	20	1.00000	ug/Kg	24748		11/06/03 1920	dmm
	Aroclor 1248, Solid*	ND	U		3.1	20	1.00000	ug/Kg	24748		11/06/03 1920	dmm
	Aroclor 1254, Solid*	ND	U		1.4	20	1.00000	ug/Kg	24748		11/06/03 1920	dmm
	Aroclor 1260, Solid*	26		M	4.7	20	1.00000	ug/Kg	24748		11/06/03 1920	dmm

* In Description = Dry Wgt.

0000105

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-6(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-18
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/06/03 1938	dmm
	Aroclor 1221, Solid*	ND	U		1.6	35	1.00000	ug/Kg	24748		11/06/03 1938	dmm
	Aroclor 1232, Solid*	ND	U		1.9	18	1.00000	ug/Kg	24748		11/06/03 1938	dmm
	Aroclor 1242, Solid*	ND	U		3.1	18	1.00000	ug/Kg	24748		11/06/03 1938	dmm
	Aroclor 1248, Solid*	ND	U		2.8	18	1.00000	ug/Kg	24748		11/06/03 1938	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/06/03 1938	dmm
	Aroclor 1260, Solid*	ND	U		4.2	18	1.00000	ug/Kg	24748		11/06/03 1938	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/10/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-7(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-19
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	18	1.00000	ug/Kg	24748		11/06/03 1956	dmm
	Aroclor 1221, Solid*	ND	U		1.6	34	1.00000	ug/Kg	24748		11/06/03 1956	dmm
	Aroclor 1232, Solid*	ND	U		1.9	18	1.00000	ug/Kg	24748		11/06/03 1956	dmm
	Aroclor 1242, Solid*	ND	U		3.1	18	1.00000	ug/Kg	24748		11/06/03 1956	dmm
	Aroclor 1248, Solid*	ND	U		2.8	18	1.00000	ug/Kg	24748		11/06/03 1956	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	24748		11/06/03 1956	dmm
	Aroclor 1260, Solid*	ND	U		4.2	18	1.00000	ug/Kg	24748		11/06/03 1956	dmm

* In Description = Dry Wgt.

0000107

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-14(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-1
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.092	B	*N	0.052	2.1	1.0000	mg/Kg	24606		11/06/03 1032	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	2.9	B		1.3	10.2	5	mg/Kg	24804		11/10/03 1250	nnp
	Barium, Solid*	39.3		*	0.38	2.5	5	mg/Kg	24804		11/10/03 1250	nnp
	Cadmium, Solid*	ND	U		1.3	3.8	5	mg/Kg	24804		11/10/03 1250	nnp
	Chromium, Solid*	9.4		*	0.64	3.8	5	mg/Kg	24804		11/10/03 1250	nnp
	Lead, Solid*	63.1		*	1.3	11.4	5	mg/Kg	24804		11/10/03 1250	nnp
	Selenium, Solid*	ND	U		2.0	20.3	5	mg/Kg	24804		11/10/03 1250	nnp
	Silver, Solid*	ND	U		0.38	3.8	5	mg/Kg	24804		11/10/03 1250	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 10:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-2
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	90.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	9.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	ND	U	*N	0.048	1.9	1.0000	mg/Kg	24606		11/06/03 1033	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	ND	U		1.4	10.8	5	mg/Kg	24804		11/10/03 1256	nnp
	Barium, Solid*	25.9		*	0.41	2.7	5	mg/Kg	24804		11/10/03 1256	nnp
	Cadmium, Solid*	ND	U		1.4	4.1	5	mg/Kg	24804		11/10/03 1256	nnp
	Chromium, Solid*	7.2		*	0.68	4.1	5	mg/Kg	24804		11/10/03 1256	nnp
	Lead, Solid*	729		*	1.4	12.2	5	mg/Kg	24804		11/10/03 1256	nnp
	Selenium, Solid*	ND	U		2.2	21.6	5	mg/Kg	24804		11/10/03 1256	nnp
	Silver, Solid*	ND	U		0.41	4.1	5	mg/Kg	24804		11/10/03 1256	nnp

* In Description = Dry Wgt.

00001109

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-12(5-7FT)
Date Sampled.....: 10/27/2003
Time Sampled.....: 12:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-3
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	ND	U	*N	0.053	2.1	1.0000	mg/Kg	24606		11/06/03 1035	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	1.8	B		1.3	10.3	5	mg/Kg	24804		11/10/03 1302	nnp
	Barium, Solid*	5.7		*	0.38	2.6	5	mg/Kg	24804		11/10/03 1302	nnp
	Cadmium, Solid*	ND	U		1.3	3.8	5	mg/Kg	24804		11/10/03 1302	nnp
	Chromium, Solid*	4.8		*	0.64	3.8	5	mg/Kg	24804		11/10/03 1302	nnp
	Lead, Solid*	5.3	B	*	1.3	11.5	5	mg/Kg	24804		11/10/03 1302	nnp
	Selenium, Solid*	ND	U		2.1	20.5	5	mg/Kg	24804		11/10/03 1302	nnp
	Silver, Solid*	ND	U		0.38	3.8	5	mg/Kg	24804		11/10/03 1302	nnp

* In Description = Dry Wgt.

000110

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-3(0-2IN)
Date Sampled.....: 10/28/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-4
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.5			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.049	B	*N	0.049	2.0	1.0000	mg/Kg	24606		11/06/03 1036	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	19.8			1.4	10.8	5	mg/Kg	24804		11/10/03 1308	nnp
	Barium, Solid*	174		*	0.41	2.7	5	mg/Kg	24804		11/10/03 1308	nnp
	Cadmium, Solid*	ND	U		1.4	4.1	5	mg/Kg	24804		11/10/03 1308	nnp
	Chromium, Solid*	17.7		*	0.68	4.1	5	mg/Kg	24804		11/10/03 1308	nnp
	Lead, Solid*	15.0		*	1.4	12.2	5	mg/Kg	24804		11/10/03 1308	nnp
	Selenium, Solid*	ND	U		2.2	21.6	5	mg/Kg	24804		11/10/03 1308	nnp
	Silver, Solid*	ND	U		0.41	4.1	5	mg/Kg	24804		11/10/03 1308	nnp

* In Description = Dry Wgt.

0000114

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-5(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-5
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.64	B	*N	0.054	2.2	1.0000	mg/Kg	24606		11/06/03 1037	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	ND	U		1.3	10.7	5	mg/Kg	24804		11/10/03 1314	nnp
	Barium, Solid*	6.8		*	0.40	2.7	5	mg/Kg	24804		11/10/03 1314	nnp
	Cadmium, Solid*	ND	U		1.3	4.0	5	mg/Kg	24804		11/10/03 1314	nnp
	Chromium, Solid*	3.9	B	*	0.67	4.0	5	mg/Kg	24804		11/10/03 1314	nnp
	Lead, Solid*	9.2	B	*	1.3	12.0	5	mg/Kg	24804		11/10/03 1314	nnp
	Selenium, Solid*	ND	U		2.1	21.4	5	mg/Kg	24804		11/10/03 1314	nnp
	Silver, Solid*	ND	U		0.40	4.0	5	mg/Kg	24804		11/10/03 1314	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: B-5
Date Sampled.....: 10/28/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-6
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	93.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	6.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	ND	U	*N	0.044	1.8	1.0000	mg/Kg	24606		11/06/03 1043	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	1.3	B		1.2	9.5	5	mg/Kg	24804		11/10/03 1356	nnp
	Barium, Solid*	15.3		*	0.36	2.4	5	mg/Kg	24804		11/10/03 1356	nnp
	Cadmium, Solid*	ND	U		1.2	3.6	5	mg/Kg	24804		11/10/03 1356	nnp
	Chromium, Solid*	4.5		*	0.59	3.6	5	mg/Kg	24804		11/10/03 1356	nnp
	Lead, Solid*	28.9		*	1.2	10.7	5	mg/Kg	24804		11/10/03 1356	nnp
	Selenium, Solid*	ND	U		1.9	19.0	5	mg/Kg	24804		11/10/03 1356	nnp
	Silver, Solid*	ND	U		0.36	3.6	5	mg/Kg	24804		11/10/03 1356	nnp

* In Description = Dry Wgt.

000013

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-1(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 11:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-7
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.9			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.1			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	ND	U	*N	0.049	2.0	1.0000	mg/Kg	24606		11/06/03 1044	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	ND	U		1.3	10.0	5	mg/Kg	24804		11/10/03 1402	nnp
	Barium, Solid*	4.4		*	0.38	2.5	5	mg/Kg	24804		11/10/03 1402	nnp
	Cadmium, Solid*	ND	U		1.3	3.8	5	mg/Kg	24804		11/10/03 1402	nnp
	Chromium, Solid*	3.3	B	*	0.63	3.8	5	mg/Kg	24804		11/10/03 1402	nnp
	Lead, Solid*	ND	U	*	1.3	11.3	5	mg/Kg	24804		11/10/03 1402	nnp
	Selenium, Solid*	ND	U		2.0	20.1	5	mg/Kg	24804		11/10/03 1402	nnp
	Silver, Solid*	ND	U		0.38	3.8	5	mg/Kg	24804		11/10/03 1402	nnp

* In Description = Dry Wgt.

000014

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-13(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 12:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-8
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	26.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.11	B	*N	0.056	2.2	1.0000	mg/Kg	24606		11/06/03 1045	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	3.3	B		1.5	12.3	5	mg/Kg	24804		11/10/03 1409	nnp
	Barium, Solid*	58.6		*	0.46	3.1	5	mg/Kg	24804		11/10/03 1409	nnp
	Cadmium, Solid*	ND	U		1.5	4.6	5	mg/Kg	24804		11/10/03 1409	nnp
	Chromium, Solid*	10.1		*	0.77	4.6	5	mg/Kg	24804		11/10/03 1409	nnp
	Lead, Solid*	85.3		*	1.5	13.9	5	mg/Kg	24804		11/10/03 1409	nnp
	Selenium, Solid*	ND	U		2.5	24.6	5	mg/Kg	24804		11/10/03 1409	nnp
	Silver, Solid*	ND	U		0.46	4.6	5	mg/Kg	24804		11/10/03 1409	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-11(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-9
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.078	B	*N	0.042	1.7	1.0000	mg/Kg	24606		11/06/03 1046	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	1.3	B		1.2	9.4	5	mg/Kg	24804		11/10/03 1415	nnp
	Barium, Solid*	93.7		*	0.35	2.3	5	mg/Kg	24804		11/10/03 1415	nnp
	Cadmium, Solid*	ND	U		1.2	3.5	5	mg/Kg	24804		11/10/03 1415	nnp
	Chromium, Solid*	10.5		*	0.59	3.5	5	mg/Kg	24804		11/10/03 1415	nnp
	Lead, Solid*	87.8		*	1.2	10.5	5	mg/Kg	24804		11/10/03 1415	nnp
	Selenium, Solid*	ND	U		1.9	18.7	5	mg/Kg	24804		11/10/03 1415	nnp
	Silver, Solid*	ND	U		0.35	3.5	5	mg/Kg	24804		11/10/03 1415	nnp

* In Description = Dry Wgt.

0000116

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-10(0-4FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:50
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-10
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	8.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.29	B	*N	0.044	1.8	1.0000	mg/Kg	24606		11/06/03 1048	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	9.0	B		1.2	9.8	5	mg/Kg	24804		11/10/03 1421	nnp
	Barium, Solid*	644		*	0.37	2.5	5	mg/Kg	24804		11/10/03 1421	nnp
	Cadmium, Solid*	ND	U		1.2	3.7	5	mg/Kg	24804		11/10/03 1421	nnp
	Chromium, Solid*	13.6		*	0.61	3.7	5	mg/Kg	24804		11/10/03 1421	nnp
	Lead, Solid*	1480		*	1.2	11.1	5	mg/Kg	24804		11/10/03 1421	nnp
	Selenium, Solid*	ND	U		2.0	19.7	5	mg/Kg	24804		11/10/03 1421	nnp
	Silver, Solid*	ND	U		0.37	3.7	5	mg/Kg	24804		11/10/03 1421	nnp

* in Description = Dry Wgt.

00017

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-9(4-8FT)
Date Sampled.....: 10/28/2003
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-11
Date Received.....: 10/28/2003
Time Received.....: 21:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	92.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	7.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	ND	U	*N	0.044	1.8	1.0000	mg/Kg	24606		11/06/03 1049	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	ND	U		1.3	10.6	5	mg/Kg	24804		11/10/03 1427	nnp
	Barium, Solid*	4.4		*	0.40	2.6	5	mg/Kg	24804		11/10/03 1427	nnp
	Cadmium, Solid*	ND	U		1.3	4.0	5	mg/Kg	24804		11/10/03 1427	nnp
	Chromium, Solid*	3.3	B	*	0.66	4.0	5	mg/Kg	24804		11/10/03 1427	nnp
	Lead, Solid*	1.5	B	*	1.3	11.9	5	mg/Kg	24804		11/10/03 1427	nnp
	Selenium, Solid*	ND	U		2.1	21.2	5	mg/Kg	24804		11/10/03 1427	nnp
	Silver, Solid*	ND	U		0.40	4.0	5	mg/Kg	24804		11/10/03 1427	nnp

* In Description = Dry Wgt.

000118

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-2(0-4)
Date Sampled.....: 10/28/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-14
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.2			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	5.8			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.16	B	*N	0.041	1.6	1.0000	mg/Kg	24606		11/06/03 1050	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	26.4			1.2	9.9	5	mg/Kg	24804		11/10/03 1433	nnp
	Barium, Solid*	168		*	0.37	2.5	5	mg/Kg	24804		11/10/03 1433	nnp
	Cadmium, Solid*	ND	U		1.2	3.7	5	mg/Kg	24804		11/10/03 1433	nnp
	Chromium, Solid*	16.2		*	0.62	3.7	5	mg/Kg	24804		11/10/03 1433	nnp
	Lead, Solid*	127		*	1.2	11.2	5	mg/Kg	24804		11/10/03 1433	nnp
	Selenium, Solid*	ND	U		2.0	19.8	5	mg/Kg	24804		11/10/03 1433	nnp
	Silver, Solid*	ND	U		0.37	3.7	5	mg/Kg	24804		11/10/03 1433	nnp
	Arsenic, TCLP	0.0195	B		0.0170	0.200	1	mg/L	24498		11/03/03 1954	nnp
	Barium, TCLP	0.682			0.0042	0.0250	1	mg/L	24498		11/03/03 1954	nnp
	Cadmium, TCLP	0.0048	B		0.0046	0.0500	1	mg/L	24498		11/03/03 1954	nnp
	Chromium, TCLP	ND	U		0.0065	0.0500	1	mg/L	24498		11/03/03 1954	nnp
	Lead, TCLP	0.284			0.0175	0.0500	1	mg/L	24498		11/03/03 1954	nnp
	Selenium, TCLP	0.0330	B		0.0245	0.150	1	mg/L	24498		11/03/03 1954	nnp
	Silver, TCLP	ND	U		0.0046	0.0300	1	mg/L	24498		11/03/03 1954	nnp
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP	ND	U		0.00090	0.0100	1.0000	mg/L	24558		11/04/03 1629	nnp

* In Description = Dry Wgt.

000019

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(0-2)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-15
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.6			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	4.4			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	25.6	B	*N	4.5	179	100.00	mg/Kg	24606		11/06/03 1100	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	17.2			1.2	9.9	5	mg/Kg	24804		11/10/03 1439	nnp
	Barium, Solid*	204		*	0.37	2.5	5	mg/Kg	24804		11/10/03 1439	nnp
	Cadmium, Solid*	2.4	B		1.2	3.7	5	mg/Kg	24804		11/10/03 1439	nnp
	Chromium, Solid*	22.5		*	0.62	3.7	5	mg/Kg	24804		11/10/03 1439	nnp
	Lead, Solid*	431		*	1.2	11.1	5	mg/Kg	24804		11/10/03 1439	nnp
	Selenium, Solid*	ND	U		2.0	19.7	5	mg/Kg	24804		11/10/03 1439	nnp
	Silver, Solid*	ND	U		0.37	3.7	5	mg/Kg	24804		11/10/03 1439	nnp

* In Description = Dry Wgt.

000120

LABORATORY TEST RESULTS

Job Number: 205150

Date:11/11/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: SB-SS-8(4-8)
Date Sampled.....: 10/28/2003
Time Sampled.....: 00:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205150-16
Date Received.....: 10/29/2003
Time Received.....: 17:40

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	96.3			0.10	0.10	1	%	24389		10/31/03 0000	dwh
	% Moisture, Solid	3.7			0.10	0.10	1	%	24389		10/31/03 0000	dwh
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	1.9	B	*N	0.45	18.1	10.000	mg/Kg	24606		11/06/03 1059	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	4.0	B		1.2	9.9	5	mg/Kg	24804		11/10/03 1445	nnp
	Barium, Solid*	106		*	0.37	2.5	5	mg/Kg	24804		11/10/03 1445	nnp
	Cadmium, Solid*	ND	U		1.2	3.7	5	mg/Kg	24804		11/10/03 1445	nnp
	Chromium, Solid*	15.7		*	0.62	3.7	5	mg/Kg	24804		11/10/03 1445	nnp
	Lead, Solid*	304		*	1.2	11.1	5	mg/Kg	24804		11/10/03 1445	nnp
	Selenium, Solid*	ND	U		2.0	19.8	5	mg/Kg	24804		11/10/03 1445	nnp
	Silver, Solid*	ND	U		0.37	3.7	5	mg/Kg	24804		11/10/03 1445	nnp

* In Description = Dry Wgt.

00000121

L A B O R A T O R Y C H R O N I C L E

Job Number: 205150 Date: 11/14/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205150-1 Client ID: SB-SS-14(5-7FT) Date Recvd: 10/28/2003 Sample Date: 10/27/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24519				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1032	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1250	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/08/2003	0430	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/10/2003	1820	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0628	1.00000
8082	PCB Analysis	1	24752	24515	11/05/2003	0628	1.00000
8082	PCB Analysis, Confirmation	1	24748	24515	11/05/2003	0628	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0628	1.00000
8270C	Semivolatile Organics	1	24879	24512	11/10/2003	1622	1.00000
8260B	Volatile Organics	1	24745	24519	10/31/2003	2000	1.00000
8260B	Volatile Organics	2	24782	24713	11/05/2003	2119	1.00000

Lab ID: 205150-2 Client ID: SB-SS-3(5-7FT) Date Recvd: 10/28/2003 Sample Date: 10/27/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24519				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1033	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1256	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0319	1.00000
8081A	Organochlorine Pesticide Analysis	1	24824	24515	11/06/2003	0505	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24822	24515	11/06/2003	0319	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/06/2003	0505	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0647	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0647	1.00000
8270C	Semivolatile Organics	1	24871	24512	11/07/2003	1955	1.00000
8260B	Volatile Organics	1	24745	24519	10/31/2003	2035	1.00000
8260B	Volatile Organics	2	24778	24521	11/03/2003	1830	1.00000

Lab ID: 205150-3 Client ID: SB-SS-12(5-7FT) Date Recvd: 10/28/2003 Sample Date: 10/27/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24519				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1035	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1302	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0351	1.00000
8081A	Organochlorine Pesticide Analysis	1	24824	24515	11/06/2003	0541	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24822	24515	11/06/2003	0351	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/06/2003	0541	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0705	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0705	1.00000
8270C	Semivolatile Organics	1	24871	24512	11/07/2003	1729	1.00000

L A B O R A T O R Y C H R O N I C L E

Job Number: 205150 | Date: 11/14/2003

CUSTOMER: Energy and Environmental Analysts, Inc. | PROJECT: NYCDOS SWB INCINERAT | ATTN: Jeff Shelkey

Lab ID: 205150-3 Client ID: SB-SS-12(5-7FT) Date Recvd: 10/28/2003 Sample Date: 10/27/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8260B	Volatile Organics	1	24745	24519	10/31/2003	2109	1.00000

Lab ID: 205150-4 Client ID: SB-SS-3(0-21N) Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24519				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1036	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1308	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0423	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/06/2003	0618	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0723	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0723	1.00000
8270C	Semivolatile Organics	1	24871	24512	11/07/2003	1753	1.00000
8260B	Volatile Organics	1	24745	24519	10/31/2003	2143	1.00000
8260B	Volatile Organics	2	24778	24521	11/03/2003	1940	1.00000

Lab ID: 205150-5 Client ID: SB-SS-5(4-8FT) Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24715				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1037	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1314	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0455	5.00000
8081A	Organochlorine Pesticide Analysis	1	24824	24515	11/06/2003	0654	5.00000
8081A	Organochlorine Pesticide Confirmation	1	24822	24515	11/06/2003	0455	5.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/06/2003	0654	5.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0741	1.00000
8082	PCB Analysis	1	24752	24515	11/05/2003	0741	1.00000
8082	PCB Analysis, Confirmation	1	24748	24515	11/05/2003	0741	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0741	1.00000
8270C	Semivolatile Organics	1	24871	24512	11/07/2003	2132	2.00000
8260B	Volatile Organics	1	24783	24715	11/06/2003	2036	1.00000

Lab ID: 205150-6 Client ID: B-5 Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24715				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1043	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1356	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0559	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/06/2003	0807	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0836	1.00000
8082	PCB Analysis	1	24752	24515	11/05/2003	0836	1.00000

L A B O R A T O R Y C H R O N I C L E

Job Number: 205150 Date: 11/14/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205150-6 Client ID: B-5 Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8082	PCB Analysis, Confirmation	1	24748	24515	11/05/2003	0836	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0836	1.00000
8270C	Semivolatile Organics	1	24879	24512	11/11/2003	1818	4.00000
8260B	Volatile Organics	1	24783	24715	11/06/2003	1709	1.00000
8260B	Volatile Organics	1	24783	24715	11/06/2003	2001	1.00000
8260B	Volatile Organics	2	24783	24715	11/06/2003	1709	1.00000
8260B	Volatile Organics	2	24783	24715	11/06/2003	2001	1.00000

Lab ID: 205150-7 Client ID: SB-SS-1(4-8FT) Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24521				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1044	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1402	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0631	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/06/2003	0844	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0855	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0855	1.00000
8270C	Semivolatile Organics	1	24871	24512	11/07/2003	1842	1.00000
8260B	Volatile Organics	1	24778	24521	11/03/2003	2014	1.00000

Lab ID: 205150-8 Client ID: SB-SS-13(4-8FT) Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24713				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1045	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1409	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0703	1.00000
8081A	Organochlorine Pesticide Analysis	1	24824	24515	11/06/2003	0920	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24822	24515	11/06/2003	0703	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/06/2003	0920	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0913	1.00000
8082	PCB Analysis	1	24752	24515	11/05/2003	0913	1.00000
8082	PCB Analysis, Confirmation	1	24748	24515	11/05/2003	0913	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0913	1.00000
8270C	Semivolatile Organics	1	24871	24512	11/07/2003	2246	1.00000
8260B	Volatile Organics	1	24778	24521	11/03/2003	2049	1.00000
8260B	Volatile Organics	2	24782	24713	11/05/2003	1718	1.00000

Lab ID: 205150-9 Client ID: SB-SS-11(4-8FT) Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24521				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	

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Lab ID: 205150-9 Client ID: SB-SS-11(4-8FT) Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1046	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1415	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0807	1.00000
8081A	Organochlorine Pesticide Analysis	1	24824	24515	11/06/2003	1033	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24822	24515	11/06/2003	0807	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/06/2003	1033	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0931	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0931	1.00000
8270C	Semivolatile Organics	1	24871	24512	11/07/2003	1931	1.00000
8260B	Volatile Organics	1	24778	24521	11/03/2003	2123	1.00000

Lab ID: 205150-10 Client ID: SB-SS-10(0-4FT) Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24521				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1048	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1421	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0839	1.00000
8081A	Organochlorine Pesticide Analysis	1	24824	24515	11/06/2003	1110	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24822	24515	11/06/2003	0839	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/06/2003	1110	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	0950	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	0950	1.00000
8270C	Semivolatile Organics	1	24871	24512	11/07/2003	2310	1.00000
8260B	Volatile Organics	1	24778	24521	11/03/2003	2158	1.00000

Lab ID: 205150-11 Client ID: SB-SS-9(4-8FT) Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24521				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24512		11/03/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24515		11/03/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1049	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1427	5
8081A	Organochlorine Pesticide Analysis	1	24822	24515	11/06/2003	0911	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24515	11/10/2003	1744	1.00000
8082	PCB Analysis	1	24748	24515	11/05/2003	1139	1.00000
8082	PCB Analysis, Confirmation	1	24752	24515	11/05/2003	1139	1.00000
8270C	Semivolatile Organics	1	24871	24512	11/07/2003	1906	1.00000
8260B	Volatile Organics	1	24778	24521	11/03/2003	2232	1.00000

Lab ID: 205150-12 Client ID: TB Date Recvd: 10/28/2003 Sample Date: 10/27/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	24615				
8260B	Volatile Organics (5mL Purge)	1	24619	24615	11/05/2003	1157	1.00000

Lab ID: 205150-13 Client ID: FB-1 Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
5030A	5030 5 mL Purge Prep	1	24615			

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Lab ID: 205150-13 Client ID: FB-1 Date Recvd: 10/28/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8260B	Volatile Organics (5mL Purge)	1	24619	24615	11/05/2003	1128	1.00000

Lab ID: 205150-14 Client ID: SB-SS-2(0-4) Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24713				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3010A	Acid Dig. Leachates (ICAP)	1	24428		11/03/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	24662		11/05/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24638		11/04/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24590		11/05/2003	0000	
7470A	Leachable, Mercury (CVAA)	1	24558	24461	11/04/2003	1629	1.0000
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1050	1.0000
6010B	Metals Analysis (ICAP Trace)	1	24498	24428	11/03/2003	1954	
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1433	5
8081A	Organochlorine Pesticide Analysis	1	24822	24590	11/08/2003	0534	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24590	11/10/2003	2122	1.00000
8082	PCB Analysis	1	24748	24590	11/06/2003	1825	1.00000
8082	PCB Analysis, Confirmation	1	24752	24590	11/06/2003	1825	1.00000
7470	SW846 Dig. Leachates (Hg)	1	24461		11/03/2003	0000	
8270C	Semivolatile Organics	1	24874	24638	11/06/2003	1832	1.00000
8270C	Semivolatile Organics	1	24876	24662 -24492	11/07/2003	1551	1.00000
1311	TCLP Extraction	1	24492		10/31/2003	0000	
8260B	Volatile Organics	1	24782	24713	11/05/2003	1752	1.00000
8260B	Volatile Organics	2	24783	24715	11/06/2003	1743	1.00000

Lab ID: 205150-15 Client ID: SB-SS-8(0-2) Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24715				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24638		11/04/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24590		11/05/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1100	100.00
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1439	5
8081A	Organochlorine Pesticide Analysis	1	24822	24590	11/08/2003	0606	1.00000
8081A	Organochlorine Pesticide Analysis	1	24824	24590	11/10/2003	2236	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24822	24590	11/08/2003	0606	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24590	11/10/2003	2236	1.00000
8082	PCB Analysis	1	24748	24590	11/06/2003	1843	1.00000
8082	PCB Analysis	1	24752	24590	11/06/2003	1843	1.00000
8082	PCB Analysis, Confirmation	1	24748	24590	11/06/2003	1843	1.00000
8082	PCB Analysis, Confirmation	1	24752	24590	11/06/2003	1843	1.00000
8270C	Semivolatile Organics	1	24874	24638	11/06/2003	1856	1.00000
8260B	Volatile Organics	1	24783	24715	11/06/2003	1818	1.00000

Lab ID: 205150-16 Client ID: SB-SS-8(4-8) Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24713				
7470/7471	74706 Digestion (Hg)	1	24583		11/05/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	24667		11/06/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	24638		11/04/2003	0000	

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Job Number: 205150 | Date: 11/14/2003

CUSTOMER: Energy and Environmental Analysts, Inc. | PROJECT: NYCDOS SWB INCINERAT | ATTN: Jeff Shelkey

Lab ID: 205150-16 Client ID: SB-SS-8(4-8) Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24590		11/05/2003	0000	
7471A	Mercury (CVAA) Solids	1	24606	24583	11/06/2003	1059	10.000
6010B	Metals Analysis (ICAP Trace)	1	24804	24667	11/10/2003	1445	5
8081A	Organochlorine Pesticide Analysis	1	24822	24590	11/08/2003	0710	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24590	11/10/2003	2349	1.00000
8082	PCB Analysis	1	24748	24590	11/06/2003	1901	1.00000
8082	PCB Analysis, Confirmation	1	24752	24590	11/06/2003	1901	1.00000
8270C	Semivolatile Organics	1	24874	24638	11/06/2003	1921	1.00000
8260B	Volatile Organics	1	24782	24713	11/05/2003	1901	1.00000
8260B	Volatile Organics	2	24783	24715	11/06/2003	1852	1.00000

Lab ID: 205150-17 Client ID: SB-SS-6(0-2) Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24713				
3541	Extraction Soxhlet (SVOC)	1	24638		11/04/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24590		11/05/2003	0000	
8081A	Organochlorine Pesticide Analysis	1	24822	24590	11/08/2003	0814	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24590	11/11/2003	0102	1.00000
8082	PCB Analysis	1	24748	24590	11/06/2003	1920	1.00000
8082	PCB Analysis, Confirmation	1	24752	24590	11/06/2003	1920	1.00000
8270C	Semivolatile Organics	1	24874	24638	11/06/2003	1945	1.00000
8260B	Volatile Organics	1	24782	24713	11/05/2003	1936	1.00000
8260B	Volatile Organics	2	24783	24715	11/06/2003	1927	1.00000

Lab ID: 205150-18 Client ID: SB-SS-6(4-8) Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24713				
3541	Extraction Soxhlet (SVOC)	1	24638		11/04/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24590		11/05/2003	0000	
8081A	Organochlorine Pesticide Analysis	1	24822	24590	11/08/2003	0918	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24590	11/11/2003	0215	1.00000
8082	PCB Analysis	1	24748	24590	11/06/2003	1938	1.00000
8082	PCB Analysis, Confirmation	1	24752	24590	11/06/2003	1938	1.00000
8270C	Semivolatile Organics	1	24874	24638	11/06/2003	1743	1.00000
8260B	Volatile Organics	1	24782	24713	11/05/2003	2010	1.00000

Lab ID: 205150-19 Client ID: SB-SS-7(4-8) Date Recvd: 10/29/2003 Sample Date: 10/28/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	24389		10/31/2003	0000	
5030A	5030 Soil(5g)Prep	1	24713				
3541	Extraction Soxhlet (SVOC)	1	24638		11/04/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	24590		11/05/2003	0000	
8081A	Organochlorine Pesticide Analysis	1	24822	24590	11/08/2003	0950	1.00000
8081A	Organochlorine Pesticide Confirmation	1	24824	24590	11/11/2003	0328	1.00000
8082	PCB Analysis	1	24748	24590	11/06/2003	1956	1.00000
8082	PCB Analysis, Confirmation	1	24752	24590	11/06/2003	1956	1.00000
8270C	Semivolatile Organics	1	24874	24638	11/06/2003	1808	1.00000
8260B	Volatile Organics	1	24782	24713	11/05/2003	2044	1.00000

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 11/14/2003

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.

3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 10604
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviation

Inorganic Qualifiers (Q-Column)

U Analyte was not detected at or above the reporting limit.
< Not detected at or above the reporting limit.
J Result is less than the RL, but greater than or equal to the method detection limit.
B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S Result was determined by the Method of Standard Additions.

Inorganic Flags (Flag Column)

- ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed th upper or lower control limits.
* LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+ MSA correlation coefficient is less than 0.995.
4 MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E SD: Serial dilution exceeds the control limits.
H MB, EB: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N MS, MSD: Spike recovery exceeds the upper or lower control limits.
W PS: Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U Analyte was not detected at or above the reporting limit.
ND Compound not detected.
J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q Result was qualitatively confirmed, but not quantified.
C Pesticide identification was confirmed by GC/MS.
Y The chromatographic response resembles a typical fuel pattern.
Z The chromatographic response does not resemble a typical fuel pattern.
E Result exceeded calibration range, secondary dilution required.

Organic Flags (Flags Column)

- MB,EB, MLE: Batch QC is greater than reporting limit.
* LCS, LCD, CCV, MS, MSD, Surrogate, RS:Batch QC exceeds the upper or lower control limits.
A Concentration exceeds the instrument calibration range or below the reporting limit.
B Compound was found in the blank and sample.
D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H Alternate peak selection upon analytical review
I Indicates the presence of an interfence, recovery is not calculated.
M Manually integrated compound.
P The lower of the two values is reported when the % difference between the results of two GC columns is greater than 25%.

Abbreviations

Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation Analysis
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
Dil Fac	Dilution Factor
DL	Secondary dilution and analysis
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB	Extraction Blank
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A
ISB	Interference Check Sample B
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
Lab ID	An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PACK	Packed Column
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PS	Post Spike
PSD	Post Spike Duplicate
RA	Re-analysis
RE	Re-extraction and analysis
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RS	Reference Standard
RT	Retention Time
RTW	Retention Time Window
SampleID	A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution
UCB	Unseeded Control Blank

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.

STL-Connecticut
Certification Summary (as of September 2003)

The laboratory identification numbers for the STL-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

State	Responsible Agency	Certification	Expiration Date	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	12/31/04	PH-0497
Maine	Department of Health and Environmental Services	Drinking Water, Wastewater/Solid, Hazardous Waste	04/18/04	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	06/30/04	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	08/29/04	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	06/30/03	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste **NELAC**	04/01/04	10602
North Carolina	Division of Environmental Management	Wastewater	12/31/03	388
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	12/30/03	A43
Utah	Department of Health	RCRA	05/31/02	2032614458

0000130

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

NO.

STL JOB #: SW/Brooklyn Incinerator

CLIENT: EEA, Inc

PROJECT ID: EEA 03718

STL PROJECT MGR: J. Shelkey

RUSH ☐ YES ☐ NO DUE DATE

TESTS

US EPA Method 8260 | Asbestos (PLM) | US EPA Method 8270 | US EPA Method 6010/7000 RCRA Metals | US EPA Method 8081/8082 Pesticides/PCB

BOTTLE TYPE AND PRESERVATION

2oz VOA Jar As Is | 4oz As Is | 8oz As Is | 8oz As Is | 8oz As Is

GENERAL REMARKS

CAT B Deliverables

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED - CIRCLE Y or N: Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	SAMPLE REMARKS
3	SB-SS-14 (5-7ft)	10/27/03 930	S		N	X	X	X	X	X				
3	SB-SS-3 (5-7 ft.)	10/27/03 10:45	S		N	X	X	X	X	X				
3	SB-SS-12 (5-7 ft.)	10/27/03 12:15	S		N	X	X	X	X	X				
3	SB-SS-3 (0-2 in)	10/28/03 900	S		N	X	X	X	X	X				
~~3~~ 2	MS (SB-SS-5)	" 1000	S		Y	X	omit ~~X~~	X	X	X				no asbestos
~~3~~ 2	MSD (SB-SS-5)	" 1000	S		Y	X	omit ~~X~~ FF	X	X	X				no asbestos
3	SB-SS-5 (4-8 ft)	10/28/03 1015	S		N	X	X	X	X	X				* glassware is 4oz for 8260 not 2oz
3	~~SB-SS-5~~ FI B-5	10/28/03 1015	S		N	X	X	X	X	X				
3	SB-SS-1 (4-8 ft)	10/28/03 1145	S		N	X	X	X	X	X				
3	SB-SS-13 (4-8 ft)	10/28/03 1230	S		N	X	X	X	X	X				

MATRIX CODES

A - AIR
AQ - AQUEOUS
C - COMPLEX
D - DRUM WASTE
OI - OIL
S - SOIL
SL - SLUDGE
W - WIPE
O - OTHER
FB - FIELD BLANK
TB - TRIP BLANK

BOTTLES PREPARED BY — DATE/TIME
SIGNATURE

SAMPLES COLLECTED BY: J.B. Shelkey — DATE/TIME: 28 Oct 03
SIGNATURE: Jeffry B. Shelkey 1415

BOTTLES REC'D BY: RICHARD L FORD — DATE/TIME: 10/28/03
SIGNATURE: Richard L Ford 1415

RECEIVED IN LAB BY — DATE/TIME
SIGNATURE

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

STL-812

SEVERN TRENT **STL**

STL Connecticut
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Shelton, CT 06484

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CHAIN OF CUSTODY RECORD

NO.

STL JOB #: SW Bradlyn Incinerator

CLIENT: EEA Inc

PROJECT ID: EEA 03710

STL PROJECT MGR: J. Shelkey

RUSH ☐ YES ☐ NO DUE DATE

TESTS	US EPA Method 8260	Asbestos (PLM)	US EPA Method 8270	USEPA Method 6010/7000 RCRA Metals	US EPA Method 8081/8082 Pesticides/PCBs				GENERAL REMARKS
BOTTLE TYPE AND PRESERVATION	As 1s 2oz VOA Jar	4oz As 1s	8oz As 1s	8oz As 1s	8oz As 1s				CAT B Deliverables

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED – CIRCLE Y or N: Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	SAMPLE REMARKS
3	SB-SS-11 (4-8ft)	10/28/03 1300	S		N	X	X	X	X	X				
3	SB-SS-10 (0-4ft)	10/28/03 1350	S		N	X	X	X	X	X				
3	SB-SS-9 (4-8ft)	10/28/03 1330	S		N	X	X	X	X	X				

MATRIX CODES

A	AIR	S	SOIL
AQ	AQUEOUS	SL	SLUDGE
C	COMPLEX	W	WIPE
D	DRUM WASTE	O	OTHER
OI	OIL	FB	FIELD BLANK
		TB	TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
		RICHARD L FORD	10/28/03
SIGNATURE		SIGNATURE Richard L Ford	1415
SAMPLES COLLECTED BY: JB Shelkey	DATE/TIME 28 Oct 03 1415	RECEIVED IN LAB BY	DATE/TIME
SIGNATURE Jeffrey B. Shelkey	1415	SIGNATURE	

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

SEVERN TRENT **STL**

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Shelton, CT 06484

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CHAIN OF CUSTODY RECORD

NO.

STL JOB #: SW Brooklyn Incinerator

CLIENT: EEA, Inc.

PROJECT ID: EEA 03718

STL PROJECT MGR: J. Shelkey

RUSH ☐ YES ☐ NO DUE DATE

TESTS	US EPA Method 8260	US EPA Method 8270	US EPA Method 6010/7000 RCRA Metals	US EPA Method 8081/8082 Pesticides/PCBs					GENERAL REMARKS
BOTTLE TYPE AND PRESERVATION	40mL VOA HCL (3)	1L Amber glass (2)	500mL Plastic HNO3 (1)	1L Amber glass (3)					

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED – CIRCLE Y or N								SAMPLE REMARKS
						Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
9	Field Blank-1	10/28/03 930	W		Y	X	X	X	X					
3	Trip Blank-1	10/28/03 930	W		Y	X								
9	SB-GW-5	10/28/03 1100	W		N	X	X	X	X					
9	MS (SB-GW-5)	10/28/03 1105	W		Y	X	X	X	X					
9	SB-GW-1	10/28/03 1200	W		N	X	X	X	X					
9	SB-GW-13	10/28/03 1230	W		N	X	X	X	X					
9	MSD (SB-GW-13)	10/28/03 1230	W		N	X	X	X	X					
9	SWB-MW-1	10/29/03 1300	W		N	✓	✓	✓	✓					
9	SWB MW-2	10/29/03 1345	W		N	✓	✓	✓	✓					
9	SWB MW-3	10/29/03 1420	W		N	✓	✓	✓	✓					

MATRIX CODES

A - AIR
AQ - AQUEOUS
C - COMPLEX
D - DRUM WASTE
OI - OIL
S - SOIL
SL - SLUDGE
W - WIPE
O - OTHER
FB - FIELD BLANK
TB - TRIP BLANK

BOTTLES PREPARED BY — DATE/TIME
SIGNATURE

SAMPLES COLLECTED BY: J. B. Shelkey — DATE/TIME: 10/29/03 1420
SIGNATURE: Shelley B. Shelkey

BOTTLES REC'D BY: RICHARD L FORD — DATE/TIME: 10/29/03
SIGNATURE: Richard L Ford 1430

RECEIVED IN LAB BY — DATE/TIME
SIGNATURE

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☒ CHILLED ☐ SEE REMARKS

STL-812

SEVERN TRENT **STL**

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Shelton, CT 06484

Tel: (203) 929-8140
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CHAIN OF CUSTODY RECORD

NO.

STL JOB #: SW Brooklyn Incinerator

CLIENT: EEA Inc

PROJECT ID: EEA03718

STL PROJECT MGR: J. Shelkey

RUSH ☐ YES ☐ NO DUE DATE

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	USEPA Method 8260	USEPA Method 600R Asbestos	US EPA Method 8270	US EPA Method 8081/8082	USEPA Method 6010/7000 RCRA Metals	TCLP Metals	TCLP PAHs		GENERAL REMARKS
						1 ~~8oz~~ VOA Jar As/S	4oz As/S	8oz As/S	8oz As/S	8oz As/S	8oz As/S	8oz As/S		
						FIELD FILTERED - CIRCLE Y or N								SAMPLE REMARKS
4	SB-SS-2 (0-4")	10/28/03 1400	S		N	Y / N X	Y / N X	Y / N X	Y / N X	Y / N X	Y / N X	Y / N X	Y / N	
~~3~~	~~SB SS-4 (0-2")~~ Omit	~~10/28/03~~ Omit												
~~3~~	~~SB-SS-4 (4-8")~~	Omit												
3	SB-SS-8 0-2"	10/28/03	S		N	✓	✓	✓	✓	✓				
3	SB-SS-8 4-8'	10/28/03	S		N	✓	✓	✓	✓	—				
3	SB SS-6 0-2"	10/28/03	S		N	✓	✓	✓	✓					
3	SB SS-6 4-8'	10/28/03	S		N	✓	✓	✓	✓					
3	SB SS-7 4-8'	10/28/03	S		N	✓	✓	✓	✓					

MATRIX CODES

A	AIR	S	SOIL
AQ	AQUEOUS	SL	SLUDGE
C	COMPLEX	W	WIPE
D	DRUM WASTE	O	OTHER
OI	OIL	FB	FIELD BLANK
		TB	TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME
SIGNATURE	
SAMPLES COLLECTED BY: J B Shelkey	DATE/TIME: 28 Oct 03 1400
SIGNATURE: J B Shelkey	

BOTTLES REC'D BY: RICHARD L FORD	DATE/TIME: 10/29/03
SIGNATURE: Richard L Ford	1430
RECEIVED IN LAB BY	DATE/TIME
SIGNATURE	

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

SEVERN TRENT **STL**

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Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

NO.

STL JOB #: SW Brooklyn Incinerator

CLIENT: EEA INC

PROJECT ID: EEA 03718

STL PROJECT MGR: J Shelker

RUSH ☐ YES ☐ NO DUE DATE

TESTS								GENERAL REMARKS
Method 8260	Method 8270 (2)	Method 6010/7000 PCBs Pb (4)	Method 8081 (5)					
BOTTLE TYPE AND PRESERVATION								
Vial/VOC (3)	1 L Amber glass (2)	500 mL Plastic HNO3 (1)	1 L Amber (3)					

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED - CIRCLE Y or N								SAMPLE REMARKS
						Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
9	SWB MW-4	10/29/03 1430	W		N	✓	✓	✓	✓					

MATRIX CODES

A	AIR	S	SOIL
AQ	AQUEOUS	SL	SLUDGE
C	COMPLEX	W	WIPE
D	DRUM WASTE	O	OTHER
OI	OIL	FB	FIELD BLANK
		TB	TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
		RICHARD L FORD	10/29/03
SIGNATURE		SIGNATURE Richard L Ford	1430
SAMPLES COLLECTED BY	DATE/TIME	RECEIVED IN LAB BY	DATE/TIME
JB Shelker	29 oct 03		
SIGNATURE	1430	SIGNATURE	

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

STL-812

PHASE II SITE INVESTIGATION
GREENPOINT MARINE
TRANSFER STATION
NEW YORK CITY
DEPARTMENT OF SANITATION
BROOKLYN, NEW YORK

Prepared for:

NEW YORK CITY
DEPARTMENT OF SANITATION
44 BEAVER STREET
NEW YORK, NEW YORK

Prepared by:

EEA, *Inc.*
55 Hilton Avenue
Garden City, New York 11530
(516) 746-4400
(212) 227-3200

DECEMBER 2004

Project: 03718

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1.0 INTRODUCTION

1.1 Purpose

Henningson, Durham & Richardson Architecture & Engineering, P.C., in association with HDR Engineering, Inc. and EEA, Inc. (HDR/EEA) was contracted by the New York City Department of Sanitation (NYCDOS) to provide engineering services for the demolition of the Greenpoint Incinerator and reutilization of the Greenpoint Marine Transfer Station (MTS). As part of the contract requirements, a Phase II Site Investigation (SIR) was undertaken by EEA, subcontractor to HDR. The purpose of this limited site investigation was to characterize on-site soil and groundwater contamination by: 1) Performing a Ground Penetrating Radar (GPR) and Magnetometer Survey to locate the presence of underground storage tanks (USTs) and other underground structures; and 2) Collecting soil and groundwater samples for laboratory analysis. Investigation of the environmental concerns within or beneath the incinerator building was not included in this site investigation. The results of this site investigation will be used to support the environmental review and permitting for the new MTS facility and will be presented in the FEIS for the MTS Containerization Program.

1.2 Site Location

The facility is located at the intersection of North Henry Street and Kingsland Avenue in the Greenpoint section of Brooklyn.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

Shown in Figure 1, the Greenpoint MTS is located on the Newtown Creek in the Greenpoint section of Brooklyn, in Brooklyn Community Board District 1. The site is bounded by Newtown Creek to the north, North Henry Street to the east, the City Department of Environmental Protection (DEP) Newtown Creek Water Pollution Control Plant (WPCP) to the south, and Whale Creek Canal to the west. The MTS building occupies approximately 0.6 of the site's acreage. The overall site is approximately 6.3 acres, of which 3.5 acres are upland parcel; the remaining 2.8 acres are over water. In addition to the MTS building, the site includes: open water on the east and west sides of the MTS building, within the property boundaries; the permanently closed Greenpoint Incinerator; and a large parking area on three sides of the incinerator building. Portions of the incinerator building are now used by the Department's Auxiliary Field Force. Based on City tax maps, the site is comprised of Lot No. 1 in Block 2508.

The site and the immediate surrounding area is zoned M3-1 for heavy industry. This area of Greenpoint is heavily industrialized. The MTS is surrounded by gas and oil storage facilities (Mobile Oil Corp.), the Newtown Creek WPCP, and a City Department of Transportation (DOT) asphalt production facility.

There are no residentially zoned districts, schools, parks, or other sensitive receptors within a .25-mile radius of the site. The nearest residential area is between North Guineas Boulevard and Provost Street. There are no on-site structures listed or eligible for listing in the State or National Registers of Historic Places.

A 5,000-gallon UST is most likely present near the northwest corner of the incinerator building, directly outside of the boiler room. This was concluded through EEA's visual observation of vent pipes, fillport and tank manway cover, as built drawings, and HDR demolition specifications for the incinerator building.

2.2 Site History

Based on Phase I information, a manufacturing facility and an oil storage terminal have occupied the site. In addition, the Greenpoint site was previously used as an MTS and an incinerator facility. Historically, the existing MTS has been used to transfer waste from Brooklyn Collection Districts 1, 3, 4, and 5 and Queens Collection Districts 1, 2, 3, 4, 5 and 6 to the Fresh Kills Landfill. Currently, as a result of interim export from Brooklyn, no volume of waste is handled by this facility. The MTS is built on piers over Newtown Creek and is accessed from North Henry Street via a truck ramp that begins along the west side of the incinerator building.

3.0 SITE INVESTIGATION

3.1 Scope of Work

The following is the Scope of Work that was completed in October and November 2003. The object of the site investigation was to complete an assessment of the subsurface environmental conditions associated with the former incinerators and/or marine transfer station on-site. The work performed followed the detailed Phase II Site Investigation Work Plan of October 2003 as approved by the NYCDOS and the NYCDEP. The field work included:

- Performing a GPR and Magnetometer survey;
- Collecting one (1) subsurface soil sample from eleven (11) boring locations;
- Collecting one (1) groundwater sample from two (2) boring locations;
- Collecting one (1) groundwater sample from three (3) permanent monitoring wells;
- Collecting one (1) surface soil sample from one (1) of the boring locations; and

- Laboratory analysis of soil and groundwater samples for VOCs, SVOCs, Pesticides/PCBs and RCRA metals, and asbestos.

- Laboratory analysis of asbestos in soil samples only.

- Resampling and analysis for Total and TCLP Lead in all locations with total Lead concentrations above TAGM Guidelines.

All field sample collection procedures are detailed in the approved Work Plan.

4.0 DETAILED SITE INVESTIGATION

4.1 GPR and Magnetometer Survey

An EEA subcontractor completed a geophysical survey of the entire site utilizing a GPR and Magnetometer. The GPR and Magnetometer survey was conducted throughout the open areas of the site. The GPR and Magnetometer survey consisted of transmitting and receiving electromagnetic pulses through the ground, at a maximum depth of 10 feet. The pulses were recorded and used to determine the existence and shape of buried objects. Surface improvements, such as reinforced concrete, did affect the performance of a GPR and Magnetometer survey. The subcontractor interpreted the anomalies detected from the GPR and Magnetometer survey to determine if the detected anomalies were consistent with the configuration of an underground storage tank. This survey also helped in locating underground pipes. Sewer grates and manholes were visible across a large portion of the site. The location of these underground structures did impact on the location of the sampling locations and some of the proposed locations were offset to avoid utilities. The GPR and Magnetometer Survey Report was issued in September 2003, and a copy with the Site Location Plan, Track Lines and Images is included as a complete report in Appendix A.

4.2 Continuous Soil Sampling

Eleven (11) soil borings identified as GP-B-1 through GP-B-11 were drilled using hollow stem auger and split spoon or Geoprobe sampling techniques. A surface sample was collected from one (1) of the boring locations (GP-B-2), using a stainless steel spoon; subsurface soil samples were collected from eleven (11) locations at the site using split spoon sampling or Geoprobe methodologies. The sample locations are provided in Figure 1. A subsurface soil sample was collected from the boring located near the area believed to contain a UST (GP-B-3). Originally, ten soil borings were proposed for this facility. The GPR survey identified an anomaly, which could not be resolved. An additional soil boring was added (GP-B-11) in that area.

Split spoon soil sampling was used to collect the soil samples at 2-foot intervals, from the surface to the depth of the groundwater surface, or to a depth of 18 feet, whichever is less. Geoprobe soil sampling with a 4-foot long macro core with clear plastic liner was used to collect soil samples in locations where monitoring wells were

not installed. The drill rig was used to advance the borehole to the top of the 2-foot sample interval. The augers were advanced and the length of the split spoon driven past the bottom of the auger, into the underlying material, and then withdrawn. Using a PID, each of the soil samples collected was screened for the presence of organic vapors. When the Geoprobe was used, a 4-foot continuous sample was collected; the plastic liner was cut open and soils where then screened with a PID.

A subsurface soil sample from the depth exhibiting the highest PID reading was submitted to the laboratory for analysis. When no organic vapors, odors, or signs of staining were detected in any samples from a given sampling location, the sample collected nearest to the soil-water interface was submitted for analysis.

All of the soil samples collected were analyzed for VOCs, SVOCs, Pesticides/PCBs, Asbestos and RCRA metals. In addition, when ash residue was found within the sample, soil samples were tested for TCLP metals and SVOCs.

Upon receipt and review of the soil samples collected from the November 2003 sampling, additional sampling was completed and soil samples were analyzed for Total and TCLP Lead in Borings GP-B-9 (4 feet), GP-B-2S (0 to 2 inches) and GP-B-1 (10 to 12 feet) to determine if the material would be considered hazardous.

4.3 Groundwater Sampling

Once the soil samples were obtained from the boring locations, groundwater samples were collected from a total of five (5) locations. Three (3) permanent monitoring wells (MW-1 through MW-3) were installed at three of the boring locations (GP-B-1, GP-B-3 and GP-B-11) and two (2) groundwater samples (GP-GW-6 and GP-GW-10) were collected from open boreholes (GP-B-6 and GP-B-10). Two (2) samples were collected in the inferred upgradient direction (MW-3 and GW-B-10) from the existing incinerator building and two (2) in the inferred downgradient direction (MW-1 and MW-2). The two groundwater samples that were collected downgradient of the incinerator building were located slightly inland to reduce the tidal influence on the samples. As with the soil samples, the exact locations of the groundwater samples were based on the results of the GPR and Magnetometer survey and field conditions. The upgradient wells were used to characterize potential impacts from off-site, while the downgradient wells characterized potential impacts from the incinerator. One monitoring well groundwater sample (MW-3) was collected from one of the borings (GP-B-3) located near the area believed to contain a UST. The three permanent monitoring wells were surveyed and used to calculate groundwater flow direction. Soil and groundwater sampling locations are presented in Figure 1. The groundwater samples were collected and analyzed for VOCs, SVOCs, Pesticides/PCBs and RCRA metals. Because turbidity was potentially a problem when sampling from boreholes and/or temporary well points, metal samples were sampled through a slotted screen, which aided in lowering the turbidity of the samples.

4.4 Equipment Decontamination

An equipment decontamination area was established on-site, prior to the commencement of the soil and/or groundwater activities. All equipment and measuring devices used in obtaining samples were decontaminated in a manner consistent with the procedures that follow prior to use, between sampling points and intervals, and prior to leaving the site. The decontamination procedures followed methods as specified in the Final Work Plan.

4.5 Sample Handling

Samples were labeled as shown in the chain-of-custody. Samples were labeled immediately before or after collection and shipped in coolers with ice. Specific requirements for sample handling were followed as specified in the FSP/QAPP.

4.6 Sample Analyses

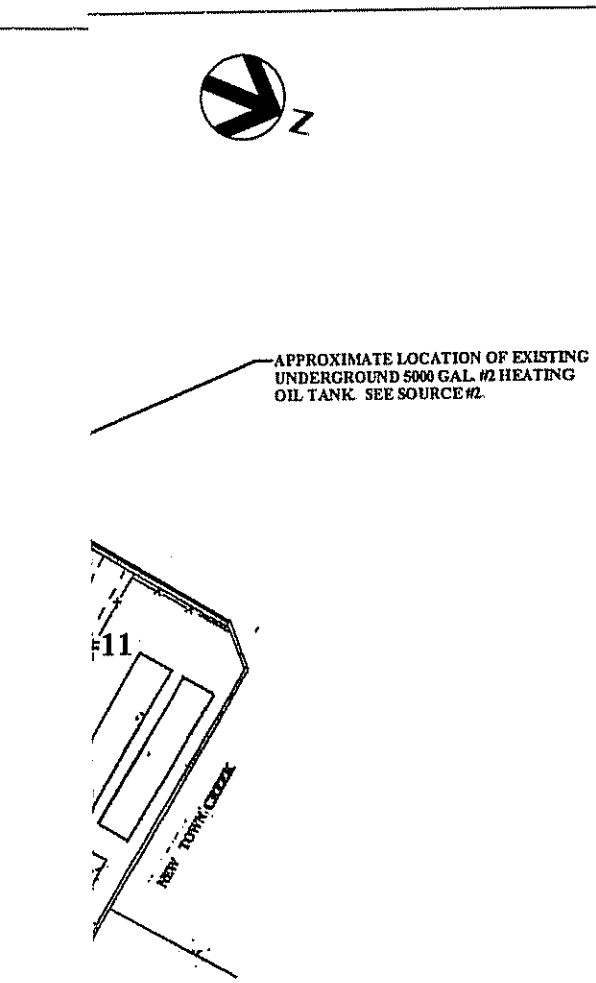
The analytical parameters for the soil and groundwater samples included VOCs, SVOCs, Pesticides/PCBs and RCRA metals. In addition, quality Control (QC) samples were collected and analyzed. The QC samples included: a duplicate soil and groundwater sample; a Matrix Spike and Matrix Spike Duplicate (MS/MSD) for a soil and groundwater sample; a trip blank for each group of samples sent to the laboratory; and a rinsate blank for every 20 samples obtained. Additionally, all soil samples were analyzed for asbestos. All analyses were performed in accordance with the NYSDEC ASP, 2000.

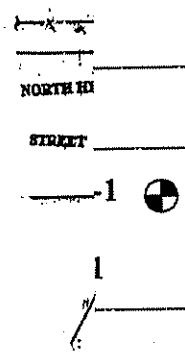
Severn Trent Laboratories, Inc. an ELAP and CLP certified in the State of New York, performed the analyses and provided the sample results and Category B deliverables for the analyses.

5.0 RESULTS OF THE INVESTIGATION

5.1 Results of Ground Penetrating Radar Survey

A Ground Penetrating Radar Survey was performed on all open and accessible areas of the site along previously painted track lines. When an anomaly was located near a proposed soil boring or monitoring well, the location was slightly offset and resurveyed with the GPR to verify the area was clear. The detailed survey report is included in Appendix A, and includes an indication and interpretation of anomalies encountered on the trackline. The magnetometer survey was attempted along the same track lines; however, rebar, wire mesh and ferrous metal debris embedded in the pavement throughout the site prevented any meaningful data from being collected.





KEY

◐	Soil Boring (B-1)/Groundwater (GW-1)/Monitoring Well (MW-1) Location
	Groundwater Flow Direction

No Scale

EEA, Inc.

55 Hilton Avenue
Garden City, New York
(516) 746-4400

Fig n

Job No.: 03718

Date	Revisions	By
1/28/04	Edit boring locations	FI
7/8/04	Include GW Flow Direction	FI
12/6/04	Add prefix GP to all borings	FI

5.2 Results of Soil Sampling

Soil samples were obtained at eleven (11) soil boring locations: GP-B-1, GP-B-2, GP-B-3, GP-B-4, GP-B-5, GP-B-6, GP-B-7, GP-B-8, GP-B-9, GP-B-10 and GP-B-11.

- Volatile Organic Compounds (VOCs)

VOCs were not detected above the New York State Department of Environmental Conservation's (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) criteria in any of the soil samples from any of the borings (see Table 1). However, there were low-level concentrations of VOCs present in some of the soil samples as well as background levels of the VOC, Methylene Chloride in all of the soil samples. Methylene Chloride is a common laboratory contaminant.

- Semi-Volatile Organic Compounds (SVOCs)

SVOCs (PAHs) were detected well above the NYSDEC TAGM criteria in soil samples from borings GP-B-1, GP-B-2, GP-B-3, GP-B-4, GP-B-5, GP-B-6, GP-B-7, GP-B-8, GP-B-9 and GP-B-10 (see Table 2).

- RCRA Metals

RCRA metals (Mercury, Arsenic, Barium, Cadmium and Chromium) were detected above the NYSDEC TAGM criteria in soil samples from borings GP-B-1, GP-B-2, GP-B-3, GP-B-4, GP-B-5, GP-B-6, GP-B-7, GP-B-8, GP-B-9 and GP-B-10 (see Table 3). Lead was also detected at elevated levels in three of the borings (GP-B-1, 10 to 12 feet, GP-B-2S, 0 to 2 inches, GP-B-9, 4 feet).

- Pesticides/PCBs

Heptachlor Epoxide, a pesticide, was detected above the NYSDEC TAGM criteria in a soil sample from boring GP-B-6 (see Table 4). No other pesticides or PCBs were detected above the NYSDEC TAGM criteria in the remaining soil borings.

- Asbestos Analysis

At boring GP-B-1 (10-12 feet) 2 percent Chrysotile asbestos was detected. At boring GP-B-3 (3-7 feet) a trace of Chrysotile asbestos was detected. All other soil samples were non-detect.

- Additional Soil Boring GP-B-11

The additional soil boring included in this investigation did not reveal the presence of an additional tank as had been hypothesized. The soils in that area were much cleaner than other areas on the site, and were most likely clean fill materials installed to replace a blow-out in the sea wall/bulkhead.

5.3 Results of Groundwater Sampling

Groundwater samples were obtained at two locations: GP-B-6 and GP-B-10 using a Geoprobe. In addition, a groundwater sample was obtained from each of the three permanent monitoring wells installed on the site (MW-1, MW-2, MW-3).

- Volatile Organic Compounds (VOCs)

Benzene was found in GW-B-6 at 1 μg/L, slightly above the 0.7μg/L groundwater standards. Elevated levels of Benzene were also found in MW-1, MW-2, and MW-3 (see Tables 5a and 5b).

- Semi-volatile Organic Compounds (SVOCs)

Elevated levels above the groundwater standards of the polyaromatic hydrocarbons (PAHS) were found at GW-B-6 (see Tables 6a and 6b).

- RCRA Metals

RCRA metals exceeding the groundwater standards were found at both GW-B-6 and GW-B-10. Lead and Arsenic were found at very high levels (see Tables 7a and 7b).

The levels of RCRA heavy metals found in MW-1, MW-2, and MW-3 greatly exceed the groundwater standards. Levels of Arsenic and Lead were extremely high (see Table 7b).

- Pesticides/PCBs

Pesticides/PCBs were not detected in any of the groundwater samples obtained for laboratory analysis.

- Groundwater Gradient

The elevation of the groundwater table was determined by surveying the top of well casing for MW-1, MW-2 and MW-3, and measuring the depth to the groundwater to the closest 0.01 foot. The surface elevation was then established and the direction calculated. The direction of groundwater flow was determined to be south, towards the waste water treatment plant and is shown on Figure 1. An elevation difference of 4.73 feet was observed between MW-1 and MW-3. The extreme gradient is indicative of the ongoing groundwater/petroleum recovery at the adjacent Mobil facility, or a subsurface dewatering program for the construction of the wastewater treatment plant.

6.0 DISCUSSION OF LABORATORY RESULTS

The area adjacent to the incinerator site was formerly the Mobil/Texaco oil terminals and tank farms. This section of Greenpoint has been identified as sources of numerous significant spills and leaks of petroleum products. Thus, it is not surprising that semi-volatile organic compounds (PAHs) have been found in subsurface soil and groundwater, especially in the area of GP-B-6, which was the boring closest to the Buckeye Pipelines on North Henry Street. Soil and groundwater samples collected closest to the 5,000-gallon UST (GP-B-3 and MW-2) did not show any elevated increase of volatile or semi-volatile compounds indicating the UST was leaking.

Appropriate engineering controls should be included during construction at this site. Resampling of the soils where Lead exceeded the TAGM Guidelines was completed. The soil samples were collected in close proximity to the previous boring locations and were reanalyzed for Lead and TCLP Lead. No TCLP analytical results exceeded the 5 mg/L hazardous waste characteristics.

The high concentrations of metals encountered at the site are most likely due to the fill material deposited in the area in the past.

TABLE 1
VOLATILE ORGANIC COMPOUNDS
SOIL ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

VOLATILE ORGANIC COMPOUNDS (ug/kg) METHOD 8260B	GP-B-1 (4-6)	GP-B-1 (10-12)	GP-B-2 (4-8)	GP-B-2S	GP-B-3 (3-7)	GP-B-4 (0-4)	GP-B-5 (4-8)	GP-B-6 (0-4)	*GP-B-7 (5-7)	GP-B-8 (0-4)	GP-B-9 (4-8)	GP-B-10 (8-12)	GP-B-11 (4-8)	GP-B-12 (4-8) Duplicate GP-B-11 (4-8)	NYSDEC TAGM (ug/Kg)
Chloromethane	U < 0.9	U < 2	U < 0.8	U < 0.9	U < 1	U < 0.8	U < 0.9	U < 0.8	U < 0.9	U < 0.8	U < 0.9	U < 1	U < 0.8	U < 0.8	
Vinyl chloride	U < 0.4	U < 0.9	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.5	U < 0.4	U < 0.4	200
Bromomethane	U < 3	U < 5	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	
Chloroethane	U < 0.8	U < 1	U < 0.7	U < 0.8	U < 0.9	U < 0.7	U < 0.8	U < 0.7	U < 0.8	U < 0.7	U < 0.8	U < 1	U < 0.7	U < 0.7	1,900
1 1-Dichloroethene	U < 0.5	U < 1	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.7	U < 0.5	U < 0.5	400
Carbon disulfide	U < 0.2	1 3	U < 0.2	U < 0.2	U < 0.3	U < 0.2	U < 0.2	U < 0.2	6	U < 0.2	2	U < 0.3	U < 0.2	U < 0.2	2,700
Acetone	U < 6	J 21	U < 5	U < 6	20	U < 5	11	U < 5	26	U < 5	18	U < 7	U < 5	U < 5	200
Methylene chloride	J B 2	J B 5	J B 3	B 5	J B 2	J B 4	B 6	J B 3	B 6	J B 2	J B 2	B 11	J B 2	J B 3	100
trans-1 2-Dichloroethene	U < 0.5	U < 1	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.7	U < 0.5	U < 0.5	300
1 1-Dichloroethane	U < 0.5	U < 1	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.7	U < 0.5	U < 0.5	200
Vinyl acetate	U < 3	U < 6	U < 3	U < 3	U < 4	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 4	U < 3	U < 3	
cis-1 2-Dichloroethene	U < 0.5	U < 1	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.7	U < 0.5	U < 0.5	
2-Butanone (MEK)	U < 3	U < 6	U < 3	U < 3	U < 4	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 4	U < 3	U < 3	300
Chloroform	U < 0.7	U < 1	U < 0.6	U < 0.7	U < 0.8	U < 0.6	U < 0.7	U < 0.6	U < 0.7	U < 0.6	U < 0.7	U < 0.8	U < 0.6	U < 0.6	300
1 1 1-Trichloroethane	U < 0.5	U < 1	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	11	U < 0.5	U < 0.5	800
Carbon tetrachloride	U < 0.4	U < 0.9	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.5	U < 0.4	U < 0.4	600
Benzene	J 0.8	15	U < 0.5	U < 0.6	J 3	J 1	U < 0.6	J 1	J 2	U < 0.5	8	J 5	U < 0.5	U < 0.5	60
1 2-Dichloroethane	U < 0.4	U < 0.9	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.5	U < 0.4	U < 0.4	100
Trichloroethene	U < 0.5	U < 1	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	J 1	U < 0.6	U < 0.5	U < 0.6	J 7	U < 0.5	U < 0.5	700
1 2-Dichloropropane	U < 0.4	U < 0.9	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.5	U < 0.4	U < 0.4	
Bromodichloromethane	U < 0.5	U < 1	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.7	U < 0.5	U < 0.5	
cis-1 3-Dichloropropene	U < 0.4	U < 0.9	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.5	U < 0.4	U < 0.4	300
4-Methyl-2-pentanone (MIBK)	U < 3	U < 6	U < 3	U < 3	U < 4	U < 3	U < 3	U < 3	U < 3	U < 3	U < 3	U < 4	U < 3	U < 3	1,000
Toluene	J 0.5	1 6	U < 0.4	U < 0.4	J 1	J 2	U < 0.4	J 3	1 2	U < 0.4	J 2	11	U < 0.4	U < 0.4	1,500
trans-1 3-Dichloropropene	U < 0.4	U < 0.9	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.5	U < 0.4	U < 0.4	
1 1 2-Trichloroethane	U < 0.5	U < 1	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.7	U < 0.5	U < 0.5	
Tetrachloroethene	J 0.6	U < 0.9	U < 0.4	U < 0.4	U < 0.5	J 0.6	U < 0.4	J 1	U < 0.4	U < 0.4	U < 0.5	16	U < 0.4	U < 0.4	1,400
2-Hexanone	U < 4	U < 7	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 4	U < 5	U < 4	U < 4	
Dibromochloromethane	U < 0.4	U < 0.9	U < 0.4	U < 0.4	U < 0.5	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.4	U < 0.5	U < 0.5	U < 0.4	U < 0.4	
Chlorobenzene	U < 0.5	U < 1	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.7	U < 0.5	U < 0.5	1,700
Ethylbenzene	U < 0.4	100	U < 0.4	U < 0.4	J 1	J 0.6	U < 0.4	J 1	J 0.5	U < 0.4	J 1	J 2	U < 0.4	U < 0.4	5,500
Styrene	U < 0.5	1 4	U < 0.5	U < 0.6	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.5	U < 0.6	U < 0.7	U < 0.5	U < 0.5	
Bromoform	U < 0.7	U < 1	U < 0.6	U < 0.7	U < 0.8	U < 0.6	U < 0.7	U < 0.6	U < 0.7	U < 0.6	U < 0.7	U < 0.8	U < 0.6	U < 0.6	
1 1 2 2-Tetrachloroethane	U < 1	U < 2	U < 0.9	U < 1	U < 1	U < 0.9	U < 1	U < 1	U < 1	U < 0.9	U < 1	U < 1	U < 0.9	U < 0.9	600
Xylenes (total)	U < 1	24	U < 1	J 2	J 3	J 2	U < 1	J 3	J 3	U < 1	J 4	8	U < 1	U < 1	1,200

Notes:
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
J = Result is an estimated value below the reporting limit or a tentatively identified compound. B = Compound was found in the blank and sample.
NYSDEC = New York State Department of Environmental Conservation TAGM = Technical and Administrative Guidance Memorandum
* = GP B-7 (5-7) is identified as GP MSD (B-7) in the laboratory analytical report
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 2
SEMI-VOLATILE ORGANIC COMPOUNDS
SOIL ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

SEMI-VOLATILE ORGANIC COMPOUNDS (ug/kg) METHOD 8270C	GP-B-1 (4-6)	GP-B-1 (10-12)	GP-B-2 (4-8)	GP-B-2S	GP-B-3 (3-7)	GP-B-4 (0-4)	GP-B-5 (4-8)	GP-B-6 (0-4)	*GP-B-7 (5-7)	GP-B-8 (0-4)	GP-B-9 (4-8)	GP-B-10 (8-12)	GP-B-11 (4-8)	GP-B-12 (4-8) Duplicate GP-B-11 (4-8)	NYSDEC TAGM (ug/Kg)
Naphthalene	U < 69	J 2500	U < 32	J 130	J 210	U < 66	J 210	J 150	J 1200	J 160	J 2500	J 430	U < 32	U < 32	13,000
2-Methylnaphthalene	U < 60	J 670	U < 28	J 48	J 81	U < 58	J 100	J 57	J 640	J 64	J 1200	J 240	U < 28	U < 28	36,400
Acenaphthylene	J 160	5,100	U < 11	J 81	J 460	J 110	J 360	580	J 580	J 300	J 2900	J 190	U < 11	U < 11	41,000
Acenaphthene	J 130	J 3000	U < 15	J 140	J 300	U < 31	J 230	J 35	J 1800	J 130	J 1900	J 390	U < 15	U < 15	50,000
Fluorene	J 86	J 2100	U < 20	J 140	J 180	U < 41	J 140	J 39	J 2100	J 150	J 2700	J 670	U < 20	U < 20	50,000
Phenanthrene	2,000	16,000	U < 24	1,200	1,600	J 310	1,100	530	17,000	1,600	19,000	18,000	U < 24	U < 24	50,000
Anthracene	J 360	5,900	U < 12	390	J 780	J 120	J 450	370	4,600	J 500	4,600	4,400	U < 12	U < 12	50,000
Fluoranthene	3,500	13,000	U < 22	2,000	3,200	J 510	1,800	2,500	16,000	1,900	12,000	17,000	U < 22	U < 22	50,000
Pyrene	2,200	17,000	U < 19	2,100	3,800	J 380	1,700	1,400	15,000	2,500	17,000	14,000	U < 19	U < 19	50,000
Benzo(a)anthracene	**1,200**	**8,000**	U < 15	**800**	**1,600**	**J 240**	**910**	**1,300**	**6,700**	**1,100**	**7,300**	**6,200**	U < 15	U < 15	224
Chrysene	**1,200**	**8,100**	U < 17	**740**	**1,600**	J 250	**930**	**1,300**	**6,700**	**1,400**	**7,300**	**6,000**	U < 17	U < 17	400
Benzo(b)fluoranthene	**1,100**	**6,300**	U < 39	660	**1,100**	J 270	J 610	900	**4,100**	**1,200**	**6,100**	**3,100**	U < 37	U < 38	1,100
Benzo(k)fluoranthene	**1,700**	**7,200**	U < 40	620	**1,300**	J 310	960	**1,400**	**4,700**	**1,100**	**6,000**	**4,700**	U < 38	U < 39	1,100
Benzo(a)pyrene	**1,200**	**9,300**	U < 16	**760**	**1,800**	**J 290**	**920**	**1,500**	**5,800**	**1,200**	**8,800**	**4,700**	U < 16	U < 16	61
Indeno(1 2 3-cd)pyrene	J 250	**4,200**	U < 18	510	1,100	J 84	J 380	500	**J3200**	J 350	**6,100**	2,700	U < 18	U < 18	3,200
Dibenzo(a h)anthracene	**J 130**	**J 2400**	U < 18	**J 240**	**J 550**	U < 37	**J 220**	**J 240**	**J 1800**	**J 210**	**J 3400**	**J 1300**	U < 18	U < 18	14
Benzo(ghi)perylene	J 250	4,000	U < 17	560	1,100	U < 35	J 370	540	J 3300	J 350	6,700	2,800	U < 17	U < 17	50,000

Notes:

U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory OA/QC purposes.

J = Result is an estimated value below the reporting limit or a tenatively identified compound

B = Compound was found in the blank and sample.

NYSDEC = New York State Department of Environmental Conservation

TAGM = Technical and Administrative Guidance Memorandum

* = GP B-7 (5-7) is identified as GP MSD (B-7) in the laboratory analytical report

Blank indicates Standard Not Established

Bold indicates analytes detected above the Standards

TABLE 3
RCRA METALS
SOIL ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

RCRA METALS (mg/kg) METHOD 6010B / 7471A	GP-B-1 (4-6)	GP-B-1 (10-12)	GP-B-2 (4-8)	GP-B-2S	GP-B-3 (3-7)	GP-B-4 (0-4)	GP-B-5 (4-8)	GP-B-6 (0-4)	*GP-B-7 (5-7)	GP-B-8 (0-4)	GP-B-9 (4-8)	GP-B-10 (8-12)	GP-B-11 (4-8)	GP-B-12 (4-8) Duplicate GP-B-11 (4-8)	NYSDEC TAGM (mg/Kg)
Mercury	B **0.18**	B **0.78**	U < 0.046	B 0.097	B **0.23**	B **0.15**	B **0.3**	B **0.32**	B **0.95**	B **0.2**	B **0.49**	B **0.31**	U < 0.042	U < 0.038	0.1
Arsenic	B 5.7	B **8**	U < 1.2	B 2.1	B 4.9	B 2.7	B 4.4	B 5.4	B 6.3	B 3.9	B **9.8**	**19.1**	U < 1.2	U < 1.2	7.5
Barium	140	**2,800**	4.4	198	144	39.3	85.8	118	195	73.1	**442**	49.6	5.5	8	300
Cadmium	B **1.7**	U < 1.5	U < 1.2	B **3.3**	U < 1.4	**4.2**	U < 1.2	U < 1.3	B **1.3**	U < 1.3	U < 1.3	U < 1.6	U < 1.2	U < 1.2	1
Chromium	**18.9**	**16.2**	B 1.7	**19.7**	**18.3**	8.4	**28.1**	**12.8**	**23.3**	9.2	**14.5**	**10.9**	5.9	7	10
Lead	216	**916**	B 1.4	**1,420**	151	144	90.6	159	270	193	**468**	68.7	B 2	B 6.7	SB
Selenium	U < 2	U < 2.3	U < 1.9	U < 1.9	U < 2.2	U < 2	U < 1.9	U < 2	U < 2	U < 2.1	U < 2.1	U < 2.5	U < 2	U < 2	2
Silver	U < 0.38	U < 0.44	U < 0.35	U < 0.36	U < 0.41	U < 0.38	U < 0.35	U < 0.38	U < 0.38	U < 0.39	U < 0.4	U < 0.47	U < 0.37	U < 0.37	SB

Notes:
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory OA/QC purposes.
B = Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL
NYSDEC = New York State Department of Environmental Conservation TAGM = Technical and Administrative Guidance Memorandum
N/A = Not Analyzed
SB = Site Background levels (SB for Lead = 400 mg/Kg)
* = GP B-7 (5-7) is identified as GP MSD (B-7) in the laboratory analytical report
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 3a
TOTAL AND TCLP LEAD CONCENTRATIONS IN SOIL AT THE GREENPOINT AVENUE INCINERATOR

	GP-B-1 (10-12')	GP-B-2S (0-2")	GP-B-9 (4')
Total Lead (mg/Kg)	2.190	244.0	403.0
TCLP Lead (mg/L)	ND	0.487	0.765

BOLD Results indicate concentration above regulatory levels for Hazardous Waste Classification
ND = Not Detected TCLP = Toxicity Characteristic Leachate Procedure

TABLE 4
PESTICIDES / PCBs
SOIL ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

PESTICIDES / PCBs (ug/kg) METHOD 8081A; 8082	GP-B-1 (4-6)	GP-B-1 (10-12)	GP-B-2 (4-8)	GP-B-2S	GP-B-3 (3-7)	GP-B-4 (0-4)	GP-B-5 (4-8)	GP-B-6 (0-4)	*GP-B-7 (5-7)	GP-B-8 (0-4)	GP-B-9 (4-8)	GP-B-10 (8-12)	GP-B-11 (4-8)	GP-B-12 (4-8) Duplicate GP-B-11 (4-8)	NYSDEC TAGM (ug/Kg)
alpha-BHC	U < 0.29	3.2	U < 0.28	U < 0.3	U < 0.35	U < 0.28	U < 0.3	U < 0.29	U < 0.3	2.4	2.2	U < 0.37	U < 0.28	U < 0.28	110
beta-BHC	J 1.4	U < 0.32	U < 0.27	U < 0.3	U < 0.34	U < 0.28	J 0.86	U < 0.28	U < 0.3	U < 0.28	U < 0.31	J 0.77	U < 0.27	U < 0.27	200
delta-BHC	U < 0.11	U < 0.12	U < 0.1	U < 0.11	U < 0.13	U < 0.11	U < 0.11	U < 0.11	U < 0.11	U < 0.11	U < 0.12	U < 0.14	U < 0.1	U < 0.1	300
gamma-BHC (Lindane)	U < 0.16	U < 0.18	U < 0.15	U < 0.17	U < 0.19	U < 0.16	U < 0.17	U < 0.16	U < 0.17	17	U < 0.17	U < 0.2	U < 0.15	U < 0.15	60
Heptachlor	U < 0.16	J 1.5	U < 0.15	U < 0.17	U < 0.19	J 0.36	J 1.2	U < 0.16	U < 0.17	9	J 1.1	U < 0.2	U < 0.15	J 0.6	100
Aldrin	U < 0.38	2.4	U < 0.36	U < 0.39	U < 0.46	U < 0.37	U < 0.39	U < 0.37	U < 0.39	11	U < 0.41	U < 0.48	U < 0.36	U < 0.36	41
Heptachlor epoxide	J 1.3	6.3	U < 0.12	J 0.46	1.1	U < 0.12	J 1.3	**34**	4.9	6	5.4	J 1.2	U < 0.11	U < 0.11	20
Endosulfan I	U < 0.16	U < 0.17	U < 0.15	U < 0.16	U < 0.19	U < 0.15	U < 0.16	U < 0.15	U < 0.16	U < 0.15	U < 0.17	U < 0.2	U < 0.15	U < 0.15	900
Dieldrin	J 0.56	U < 0.38	U < 0.33	J 3.1	U < 0.41	U < 0.33	J 0.75	J 0.73	J 2.6	16	U < 0.37	U < 0.43	U < 0.32	U < 0.32	44
4 4'-DDE	13	13	U < 0.44	5	4.1	J 2.3	6.4	19	18	16	18	13	U < 0.44	U < 0.43	2,100
Endrin	U < 0.95	19	U < 0.9	U < 0.98	U < 1.1	U < 0.92	U < 0.98	8.1	12	33	19	J 5.8	U < 0.9	U < 0.89	100
Endosulfan II	U < 0.18	U < 0.2	U < 0.17	U < 0.19	U < 0.22	U < 0.18	U < 0.19	U < 0.18	U < 0.19	U < 0.18	U < 0.19	U < 0.23	U < 0.17	U < 0.17	900
4 4'-DDD	J 2.3	U < 0.45	U < 0.39	U < 0.42	J 2.1	J 1.7	J 2.3	U < 0.4	26	U < 0.39	U < 0.44	U < 0.51	U < 0.38	U < 0.38	2,900
Endosulfan sulfate	U < 0.18	U < 0.2	U < 0.18	U < 0.19	U < 0.22	U < 0.18	U < 0.19	U < 0.18	U < 0.19	U < 0.18	U < 0.2	U < 0.23	U < 0.17	U < 0.17	1,000
4 4'-DDT	7.1	U < 0.36	U < 0.31	0.56	U < 0.4	J 2.1	5.3	4.4	U < 0.34	18	U < 0.35	5	U < 0.31	U < 0.31	2,100
Methoxychlor	U < 2.3	34	U < 2.1	U < 2.3	U < 2.7	U < 2.2	U < 2.3	46	U < 2.3	65	84	U < 2.8	U < 2.1	U < 2.1	
alpha-Chlordane	U < 0.12	U < 0.13	U < 0.11	U < 0.12	U < 0.14	U < 0.11	J 1.6	U < 0.11	U < 0.12	U < 0.11	U < 0.13	U < 0.15	J 0.68	U < 0.11	
gamma-Chlordane	J 1.5	4.1	U < 0.092	U < 0.1	J 0.67	U < 0.094	J 1.4	J 1.5	2.5	2.6	J 1.7	U < 0.12	J 0.8	J 0.17	540
Toxaphene	U < 5.2	U < 5.7	U < 4.9	U < 5.3	U < 6.2	U < 5	U < 5.3	U < 5	U < 5.4	U < 5	U < 5.5	U < 6.5	U < 4.9	U < 4.8	
Endrin aldehyde	U < 0.34	J 3.2	U < 0.33	U < 0.36	U < 0.41	U < 0.33	0.98	U < 0.34	U < 0.36	U < 0.33	4.9	U < 0.43	U < 0.32	U < 0.32	
Endrin ketone	11	U < 0.17	U < 0.15	3.3	U < 0.18	U < 0.15	U < 0.16	10	19	U < 0.15	U < 0.16	U < 0.19	U < 0.14	U < 0.14	
Aroclor 1016	U < 3	U < 3.3	U < 2.9	U < 3.1	U < 3.6	U < 2.9	U < 3.1	U < 2.9	U < 3.1	U < 2.9	U < 3.2	U < 3.8	U < 2.8	U < 2.8	1,000/10,000**
Aroclor 1221	U < 1.6	U < 1.8	U < 1.6	U < 1.7	U < 2	U < 1.6	U < 1.7	U < 1.6	U < 1.7	U < 1.6	U < 1.8	U < 2.1	U < 1.5	U < 1.5	1,000/10,000**
Aroclor 1232	U < 2	U < 2.2	U < 1.9	U < 2.1	U < 2.4	U < 1.9	U < 2	U < 1.9	U < 2.1	U < 1.9	U < 2.1	U < 2.5	U < 1.9	U < 1.9	1,000/10,000**
Aroclor 1242	U < 3.2	U < 3.5	U < 3	U < 3.3	U < 3.8	U < 3.1	U < 3.3	U < 3.1	U < 3.3	U < 3.1	U < 3.4	U < 4	U < 3	U < 3	1,000/10,000**
Aroclor 1248	U < 2.9	U < 3.2	U < 2.7	U < 3	U < 3.4	U < 2.8	U < 3	U < 2.8	U < 3	U < 2.8	U < 3.1	U < 3.6	U < 2.7	U < 2.7	1,000/10,000**
Aroclor 1254	J 10	U < 1.4	U < 1.2	U < 1.3	U < 1.6	J 16	U < 1.3	U < 1.3	U < 1.3	U < 1.2	U < 1.4	24	U < 1.2	U < 1.2	1,000/10,000**
Aroclor 1260	32	U < 4.7	U < 4	27	J 18	J 16	J 13	27	170	J 17	U < 4.6	33	U < 4	U < 4	1,000/10,000**

Notes:
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted); There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
J = Result is an estimated value below the reporting limit or a tentatively identified compound.
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
* = GP B-7 (5-7) is identified as GP MSD (B-7) in the laboratory analytical report
** = 1,000 ug/Kg surface/10,000 ug/Kg subsurface
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 5a
VOLATILE ORGANIC COMPOUNDS
GROUNDWATER ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8260B	GP-B-6	GP-B-10	NYSDEC TAGM Groundwater Standards (ug/L)
Chloromethane	U < 1	U < 1	
Vinyl chloride	U < 1	U < 1	2
Bromomethane	U < 3	U < 3	
Chloroethane	U < 0.8	U < 0.8	50
1 1-Dichloroethene	U < 0.8	U < 0.8	5
Carbon disulfide	U < 0.6	U < 0.6	50
Acetone	J 5	J 3	50
Methylene chloride	U < 0.4	U < 0.4	5
trans-1 2-Dichloroethene	U < 0.6	U < 0.6	5
1 1-Dichloroethane	U < 0.6	U < 0.6	5
Vinyl acetate	U < 2	U < 2	2
cis-1 2-Dichloroethene	U < 0.6	U < 0.6	
2-Butanone (MEK)	U < 1	U < 1	50
Chloroform	U < 0.4	U < 0.4	7
1 1 1-Trichloroethane	U < 0.4	U < 0.4	5
Carbon tetrachloride	U < 0.3	U < 0.3	5
Benzene	J **1**	U < 0.4	0.7
1 2-Dichloroethane	U < 0.3	U < 0.3	5
Trichloroethene	U < 0.7	U < 0.7	5
1 2-Dichloropropane	U < 0.6	U < 0.6	
Bromodichloromethane	U < 0.6	U < 0.6	
cis-1 3-Dichloropropene	U < 0.6	U < 0.6	
4-Methyl-2-pentanone (MIBK)	U < 0.5	U < 0.5	50
Toluene	U < 0.3	U < 0.3	5
trans-1 3-Dichloropropene	U < 0.4	U < 0.4	
1 1 2-Trichloroethane	U < 0.8	U < 0.8	
Tetrachloroethene	U < 0.4	U < 0.4	5
2-Hexanone	U < 1	U < 1	
Dibromochloromethane	U < 0.2	U < 0.2	50
Chlorobenzene	J 0.5	U < 0.2	5
Ethylbenzene	U < 0.3	U < 0.3	5
Styrene	U < 0.4	U < 0.4	
Bromoform	U < 0.4	U < 0.4	
1 1 2 2-Tetrachloroethane	U < 0.7	U < 0.7	5
Xylenes (total)	U < 1	U < 1	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound
There may also be additional flags other than U used for internal Laboratory OA/QC purposes.
Blank indicates Standard Not Established **BOLD** indicates analytes detected above the Standard

TABLE 5b
VOLATILE ORGANIC COMPOUNDS
MONITORING WELL ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8260B	MW-1	MW-2	MW-3	MW-4 Duplicate MW-3	NYSDEC TAGM Groundwater Standards (ug/L)
Chloromethane	U < 1	U < 1	U < 1	U < 1	
Vinyl chloride	U < 1	U < 1	U < 1	U < 1	2
Bromomethane	U < 3	U < 3	U < 3	U < 3	
Chloroethane	U < 0.8	U < 0.8	U < 0.8	U < 0.8	50
1 1-Dichloroethene	U < 0.8	U < 0.8	U < 0.8	U < 0.8	5
Carbon disulfide	U < 0.6	U < 0.6	U < 0.6	U < 0.6	50
Acetone	J 5	14	11	J 4	50
Methylene chloride	U < 0.4	U < 0.4	U < 0.4	U < 0.4	5
trans-1 2-Dichloroethene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	5
1 1-Dichloroethane	U < 0.6	U < 0.6	U < 0.6	U < 0.6	5
Vinyl acetate	U < 2	U < 2	U < 2	U < 2	2
cis-1 2-Dichloroethene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
2-Butanone (MEK)	U < 1	U < 1	U < 1	U < 1	50
Chloroform	U < 0.4	U < 0.4	U < 0.4	U < 0.4	7
1 1 1-Trichloroethane	U < 0.4	U < 0.4	U < 0.4	U < 0.4	5
Carbon tetrachloride	U < 0.3	U < 0.3	U < 0.3	U < 0.3	5
Benzene	**J 4**	**J 3**	**J 2**	**J 1**	0.7
1 2-Dichloroethane	U < 0.3	U < 0.3	U < 0.3	U < 0.3	5
Trichloroethene	U < 0.7	U < 0.7	U < 0.7	U < 0.7	5
1 2-Dichloropropane	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
Bromodichloromethane	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
cis-1 3-Dichloropropene	U < 0.6	U < 0.6	U < 0.6	U < 0.6	
4-Methyl-2-pentanone (MIBK)	U < 0.5	U < 0.5	U < 0.5	U < 0.5	50
Toluene	J 0.7	J 0.4	U < 0.3	U < 0.3	5
trans-1 3-Dichloropropene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	
1 1 2-Trichloroethane	U < 0.8	U < 0.8	U < 0.8	U < 0.8	
Tetrachloroethene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	5
2-Hexanone	U < 1	U < 1	U < 1	U < 1	
Dibromochloromethane	U < 0.2	U < 0.2	U < 0.2	U < 0.2	50
Chlorobenzene	U < 0.2	U < 0.2	U < 0.2	U < 0.2	5
Ethylbenzene	**5**	0.4	U < 0.3	1	5
Styrene	U < 0.4	U < 0.4	U < 0.4	U < 0.4	
Bromoform	U < 0.4	U < 0.4	U < 0.4	U < 0.4	
1 1 2 2-Tetrachloroethane	U < 0.7	U < 0.7	U < 0.7	U < 0.7	5
Xylenes (total)	J 2	U < 1	U < 1	U < 1	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound.
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank Indicates Standard Not Established **Bold** indicates analytes detected above the Standards

TABLE 6a
SEMI-VOLATILE ORGANIC COMPOUNDS
GROUNDWATER ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

SEMI VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8270C	GW-B-6	GW-B-10	NYSDEC TAGM Groundwater Standards (ug/L)
Naphthalene	U < 0.4	U < 0.4	10
2-Methylnaphthalene	J 1	U < 0.3	50
Acenaphthylene	J 0.9	U < 0.4	20
Acenaphthene	J 8	U < 0.3	20
Fluorene	J 2	U < 0.4	50
Phenanthrene	J 4	U < 0.4	50
Anthracene	J 2	U < 0.5	50
Fluoranthene	J 5	U < 0.4	50
Pyrene	J 5	U < 0.4	50
Benzo(a)anthracene	J **2**	U < 0.5	0.002
Chrysene	J **2**	U < 0.6	0.002
Benzo(b)fluoranthene	J **1**	U < 1	0.002
Benzo(k)fluoranthene	J **1**	U < 0.3	0.002
Benzo(a)pyrene	J **2**	U < 0.4	0.002
Indeno(1 2 3-cd)pyrene	J **0.7**	U < 0.4	0.002
Dibenzo(a h)anthracene	U < 0.5	U < 0.5	50
Benzo(ghi)perylene	J 1	U < 0.4	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound.
There may also be additional flags other than U used for internal Laboratory OA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 6b
SEMI-VOLATILE ORGANIC COMPOUNDS
MONITORING WELL ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

SEMI VOLATILE ORGANIC COMPOUNDS (ug/L) METHOD 8270C	MW-1	MW-2	MW-3	MW-4 Duplicate MW-3	NYSDEC TAGM Groundwater Standards (ug/L)
Naphthalene	**71**	J 7	**12**	**53**	10
2-Methylnaphthalene	J 3	J 1	J 1	J 3	50
Acenaphthylene	J 3	U < 0.4	U < 0.4	J 3	20
Acenaphthene	J 13	J 3	J 3	11	20
Fluorene	J 5	J 0.8	J 2	J 6	50
Phenanthrene	J 12	J 2	J 4	J 8	50
Anthracene	J 2	J 1	J 1	J 2	50
Fluoranthene	J 2	J 1	J 0.8	J 2	50
Pyrene	J 4	U < 0.4	U < 0.4	J 3	50
Benzo(a)anthracene	U < 1	U < 0.5	U < 0.5	J 0.5	0.002
Chrysene	U < 1	U < 0.6	U < 0.6	U < 0.6	0.002
Benzo(b)fluoranthene	U < 2	U < 1	U < 1	U < 1	0.002
Benzo(k)fluoranthene	U < 0.6	U < 0.3	U < 0.3	U < 0.3	0.002
Benzo(a)pyrene	U < 0.8	U < 0.4	U < 0.4	U < 0.4	0.002
Indeno(1 2 3-cd)pyrene	U < 0.8	U < 0.4	U < 0.4	U < 0.4	0.002
Dibenzo(a h)anthracene	U < 1	U < 0.5	U < 0.5	U < 0.5	50
Benzo(ghi)perylene	U < 0.8	U < 0.4	U < 0.4	U < 0.4	5

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound.
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 7a
RCRA METALS
GROUNDWATER ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

RCRA METALS (ug/L) METHOD 6010B; 7470A	GW-B-6	GW-B-10	NYSDEC Groundwater Standards (ug/L)
Mercury	**6.2**	**3.9**	0.7
Arsenic	B **194**	**404**	25
Barium	**2,100**	411	1,000
Cadmium	B **11.2**	B **5.7**	5
Chromium	**728**	**401**	50
Lead	**3,800**	**492**	25
Selenium	U < 25	B **37.6**	10
Silver	B 8.8	B 12	50

Notes:
NYSDEC = New York State Department of Environmental Conservation
Groundwater Standards based on the NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
B = Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 7b
RCRA METALS
MONITORING WELL ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

RCRA METALS (ug/L) METHOD 6010B; 7470A	**MW-1**	**MW-2**	**MW-3**	**MW-4** Duplicate MW-3	**NYSDEC Groundwater Standards (ug/L)**
Mercury	**3.1**	**22.3**	**6**	1	0.7
Arsenic	B **36.5**	B **172**	B **93.9**	U < 17.5	25
Barium	1,330	**6,510**	**8,210**	773	1,000
Cadmium	U < 4.7	B **16.9**	B **13.4**	U < 4.7	5
Chromium	73.5	**337**	**198**	B 29.9	50
Lead	**1,600**	**12,000**	**13,800**	**613**	25
Selenium	U < 25	U < 25	U < 25	U < 25	10
Silver	U < 4.6	B 19.3	B 7.6	U < 4.6	50

Notes:
NYSDEC = New York State Department of Environmental Conservation
Groundwater Standards based on the NYSDEC June 1998 Ambient Water Quality Standards and Guidance Values for Groundwater Class GA
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
B = Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
There may also be additional flags other than U used for internal Laboratory QA/QC purposes.

Blank	indicates Standard Not Established
Bold	indicates analytes detected above the Standards

TABLE 8a
PESTICIDES / PCBs
GROUNDWATER ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

PESTICIDES / PCBs (ug/L) METHOD 8081A; 8082	GW-B-6	GW-B-10	NYSDEC TAGM Groundwater Standards (ug/L)
alpha-BHC	U < 0.01	U < 0.01	< 0.05
beta-BHC	U < 0.01	U < 0.01	< 0.05
delta-BHC	J 0.01	U < 0	< 0.05
gamma-BHC (Lindane)	U < 0	U < 0	< 0.05
Heptachlor	J 0.01	U < 0.01	< 0.01
Aldrin	U < 0	U < 0	< 0.01
Heptachlor epoxide	J 0.01	U < 0.01	< 0.01
Endosulfan I	U < 0	U < 0	0.1
Dieldrin	U < 0.01	U < 0.01	< 0.01
4 4'-DDE	J 0.02	U < 0.01	< 0.01
Endrin	U < 0.01	U < 0.01	< 0.01
Endosulfan II	U < 0.01	U < 0.01	0.1
4 4'-DDD	U < 0.03	U < 0.03	< 0.01
Endosulfan sulfate	U < 0.01	U < 0.01	0.1
4 4'-DDT	U < 0.01	U < 0.01	< 0.01
Methoxychlor	U < 0.06	U < 0.06	35.0
alpha-Chlordane	U < 0.01	U < 0.01	0.1
gamma-Chlordane	U < 0.01	U < 0.01	0.1
Toxaphene	U < 0.11	U < 0.11	
Endrin aldehyde	U < 0.01	U < 0.01	
Endrin ketone	U < 0.01	U < 0.01	
Aroclor 1016	U < 0.06	U < 0.06	0.1
Aroclor 1221	U < 0.11	U < 0.11	0.1
Aroclor 1232	U < 0.08	U < 0.08	0.1
Aroclor 1242	U < 0.07	U < 0.07	0.1
Aroclor 1248	U < 0.06	U < 0.06	0.1
Aroclor 1254	U < 0.09	U < 0.09	0.1
Aroclor 1260	U < 0.08	U < 0.08	0.1

Notes:
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U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
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There may also be additional flags other than U used for internal Laboratory QA/QC purposes
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

TABLE 8b
PESTICIDES / PCBs
MONITORING WELL ANALYTICAL RESULTS
GREENPOINT INCINERATOR
BROOKLYN, NEW YORK

PESTICIDES / PCBs (ug/L) METHOD 8081A; 8082	**MW-1**	**MW-2**	**MW-3**	**MW-4** Duplicate MW-3	**NYSDEC TAGM Groundwater Standards (ug/L)**
alpha-BHC	J 0.02	U < 0.01	U < 0.01	U < 0.01	< 0.05
beta-BHC	U < 0.01	U < 0.01	U < 0.01	U < 0.01	< 0.05
delta-BHC	J 0.02	J 0.03	J 0.01	J 0.02	< 0.05
gamma-BHC (Lindane)	U < 0	U < 0	U < 0	U < 0	< 0.05
Heptachlor	J 0.03	U < 0.01	U < 0.01	J 0.02	< 0.01
Aldrin	U < 0	J 0.01	U < 0	J 0.01	< 0.01
Heptachlor epoxide	J 0.01	U < 0.01	J 0.01	J 0.01	< 0.01
Endosulfan I	J 0.03	U < 0	U < 0	U < 0	0.1
Dieldrin	U < 0.01	U < 0.01	U < 0.01	U < 0.01	< 0.01
4 4'-DDE	U < 0.01	U < 0.01	J 0.02	U < 0.01	< 0.01
Endrin	U < 0.01	J 0.02	U < 0.01	J 0.03	< 0.01
Endosulfan II	U < 0.01	U < 0.01	U < 0.01	U < 0.01	0.1
4 4'-DDD	U < 0.03	U < 0.03	U < 0.03	U < 0.03	< 0.01
Endosulfan sulfate	U < 0.01	U < 0.01	U < 0.01	U < 0.01	0.1
4 4'-DDT	U < 0.01	U < 0.01	U < 0.01	U < 0.01	< 0.01
Methoxychlor	U < 0.06	U < 0.06	U < 0.07	U < 0.06	35.0
alpha-Chlordane	U < 0.01	U < 0.01	U < 0.01	U < 0.01	0.1
gamma-Chlordane	U < 0.01	U < 0.01	U < 0.01	U < 0.01	0.1
Toxaphene	U < 0.11	U < 0.11	U < 0.12	U < 0.11	
Endrin aldehyde	U < 0.01	U < 0.01	U < 0.01	U < 0.01	
Endrin ketone	U < 0.01	U < 0.01	U < 0.01	U < 0.01	
Aroclor 1016	U < 0.06	U < 0.06	U < 0.06	U < 0.06	0.1
Aroclor 1221	U < 0.11	U < 0.11	U < 0.12	U < 0.11	0.1
Aroclor 1232	U < 0.08	U < 0.08	U < 0.09	U < 0.08	0.1
Aroclor 1242	U < 0.07	U < 0.07	U < 0.08	U < 0.07	0.1
Aroclor 1248	U < 0.06	U < 0.06	U < 0.07	U < 0.06	0.1
Aroclor 1254	U < 0.09	U < 0.09	U < 0.1	U < 0.09	0.1
Aroclor 1260	U < 0.08	U < 0.08	U < 0.09	U < 0.08	0.1

Notes:
NYSDEC = New York State Department of Environmental Conservation
TAGM = Technical and Administrative Guidance Memorandum
U < = Analyte not detected above the Laboratory Reporting Limit (detection limit noted)
J = Result is an estimated value below the reporting limit or a tentatively identified compound.
There may also be additional flags other than U used for internal Laboratory OA/QC purposes.
Blank indicates Standard Not Established
Bold indicates analytes detected above the Standards

Appendix A

GPR Survey Report with Track Lines and Images

GREENPOINT INCINERATOR GROUND PENETRATING RADAR FIELD SURVEY REPORT

Prepared for:

HDR, INC.
711 WESTCHESTER AVENUE
WHITE PLAINS, NEW YORK

Prepared by:

EEA, *Inc.*
55 Hilton Avenue
Garden City, New York 11530
(516) 746-4400
(212) 227-3200

SEPTEMBER 2003

Project: 03718

Executive Summary

On September 17th and 18th, 2003 a Ground Penetrating Radar (GPR) Survey was performed at the Greenpoint Incinerator. The purpose of the investigation was to determine the presence and locations of any underground storage tanks, piping, utilities or anomalies beneath the surface. Prior to initiation of the GPR survey, track lines spaced approximately 20 feet apart were painted on the pavement and sidewalks to maintain a linear survey track line. All GPR survey track lines are shown on Figure 1. Each track line was given an individual file number and was recorded on the site plan. A CD was created to archive all files and is included as an Appendix to this report. Anomalies along the track lines were noted in the field notes immediately after the completion and review of each track line scan. Permanent orange spray painting was used to mark the locations of pipes and lines on the pavement.

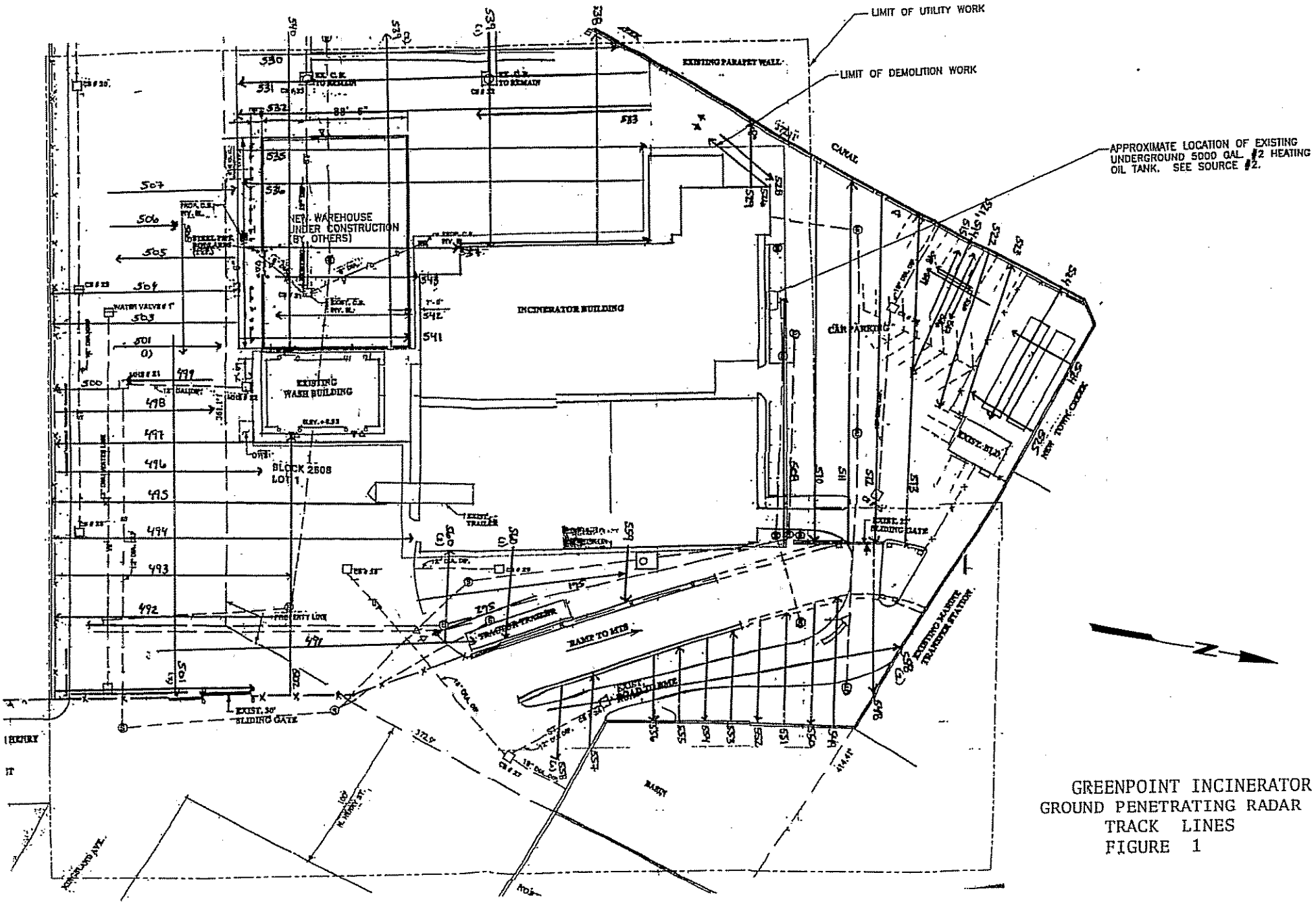
INTRODUCTION

EEA, Inc. has completed a Ground Penetrating Radar (GPR) Survey of the Greenpoint Incinerator Facility as a precursor to the Phase II Subsurface Investigation to be completed at this site. This report with appendices presents the findings of the investigation. EEA, Inc. subcontracted Advanced Cleanup Technologies of Farmingdale, New York to operate the GPR survey equipment. Their report is included as an Appendix to this document.

METHODS

Prior to initiation of the GPR Survey, the pavement and sidewalks within the facility boundaries were marked off in 20-foot intervals and survey lines were painted to give the operator a track line to follow. The GPR survey was initiated by establishing a new file number, then pulling a 500-megahertz transducer over the ground surface for approximately 70 feet (the length of the transducer cable). The recording was stopped and the survey track was immediately reviewed. If anomalous returns were observed, the interpretation was recorded with the file number in the field notes, also included in this report.

The GPR Survey was started with track lines No. 491 in the southeast corner of the parking lot, next to the perimeter fence. The final track line was No. 562 in the small parking lot on the east side of the incinerator building.



GREENPOINT INCINERATOR
GROUND PENETRATING RADAR
TRACK LINES
FIGURE 1

OBSERVATIONS AND CONCULUSIONS

On the western side of the incinerator building, in the location for the warehouse, two chimney bases, electrical lines and sewer pipes were detected. Rebar and fill were also detected in this area.

Near the bulkhead on the western side of the property, there is a sewer pipe running parallel to the wall.

On the southwestern side of the incinerator building near the wash building is electrical lines and more sewer pipes.

On the eastern side of the wash building, directly in front of the building, is a pipe running from both of the entranceways to the southern edge of the building to the oil water separator.

In the northern parking lot, there were electrical lines and sewer pipes detected. The existing No.2 heating oil underground tank was slightly detected as marked on the utilities map, but was not clear due to other interferences.

On the far edge of the northwestern side of the lot, there was an abnormality detected.

Near the overhead ramp on the eastern side a high-pressure gas line is running along the edge of the street, near the sidewalk. This line extends down this street and into the back northern parking lot.

In the small parking lot on the eastern side of the incinerator building electric lines and sewer lines were noted.

Images of anomalies observed and interpreted are included in the ACT Report attached as an Appendix.

RECOMMENDATIONS

Prior to the start of the Phase II drilling program, site utilities should be cleared by outside contractors specializing in utility locating services.

FIELD NOTES

Line No.	Comment
490	Buried pipe past gate
491	Shallow trench – possibly electric lines to light poles
492	Several disturbances – near Buckeye Pipeline warning sign
494	Trench in front of door
496	Disturbance along sidewalk
497	Drain lines at wash house GW @ 7-8 feet
498	Sewer line
499	Sewer line
501	Second half of file electric line
502	Trench to oil water separator with pipe
503	Deep disturbance ≈ 6 feet BG
508	Three small pipes under surface
509	At back of building – edge of curbs – electric line
510	Two sewers, one electric line
511	Sewer lines
512	Two sewer lids
514	Possible UST, drain pipe
515	Focus grid
516	Disturbed area
517	Disturbed area
518	Disturbed area

519	Disturbed area – added B-X
521	Repeat of 514
522	Two sewer lines rebar or debris
524	Small pipe near surface
524	Cross line to check trench
524	Cross line to check trench
525	Cross line – debris
526	Rebar near surface
528	Rebar on surface – pipe at bulkhead
529	Rebar at surface, storm drain at edge of concrete
530	Start along bulkhead wall; water pipe at H piles - bollards
531	Pipe 2' – possible vault (location marked)
532	Foundations for chimneys
533	Same as No. 532
534	2 chimney bases; electric vault and lines
535	I-beams in concrete at surface; concrete slabs at grade
536	2 concrete slabs; debris and supports; electric line
537	Concrete slabs and rebar
538	Cross line - concrete slab; drain line along bulkhead
539	Drain at water line bulkhead; concrete below grade; ash conveyor to bulkhead; drain line second half of No. 539 – drain line near bulkhead; sewer pipe; debris
540	Pipes along bulkhead

541	Electric line at building
542	Electric line
543	Electric line
544, 545	Oil tank – longitude section
546	Oil storage tank; longitude section
547	Oil tank – cross section
549	Gas line; curbs
550	Curbs; gas line; electric line
551	Curbs; electric line to light pole
552	Curbs; electric line
553	Large drainline along bulkhead
554	Large drainline along bulkhead
555	Large drainline along bulkhead
557	Large DIA pipe
560	Drain, water, sewer lines second half of No. 560 - sewer and electric lines
561	Sewer pipe
562	Rebar and trench

Additional notes:
The following had two runs on the same file: No. 501, 524, 539, 558, 560.
Track lines No. 518 and 520 were almost in the same location (different directions).
Track line No. 521 is over the same track line as No. 514 (same direction) in order to reevaluate images.

Appendix

ACT GPR Survey Report

Advanced Cleanup Technologies, Inc.
ENVIRONMENTAL CONSULTANTS

SEP 23 2003

September 19, 2003

Mr. Jeff Shelkey
EEA, Inc.
55 Hilton Avenue
Garden City, NY 11530

Re: Ground-Penetrating Radar Survey
Greenpoint: Marine Transfer Station

Dear Jeff:

This report is intended to provide you with the results of a Ground-Penetrating Radar (GPR) survey performed by Advanced Cleanup Technologies, Inc. (ACT) at the above-referenced property on September 17th and 18th, 2003. The purpose for the survey was to determine the presence and precise locations of any underground storage tanks, piping, and other anomalies beneath the subject property.

GPR EQUIPMENT

The survey was performed utilizing an SIR-2000 GPR Unit and a 500 megahertz transducer. The transducer was pulled along pre-determined transects, emitting radar into the subsurface. The radar signal reflects off stratigraphical materials and foreign objects in the subsurface and back to the transducer based upon differences in the conductivity and dielectric constant of subsurface features. The radar signal is then converted into an electrical signal which is visually displayed on a video monitor.

GPR PROTOCOL

The GPR survey covered the areas outside of the buildings on site. The survey encompassed those portions of the site containing marked transect lines. These lines were spray painted by EEA at 20 foot spacings prior to commencement of the survey.

115 Rome Street • Farmingdale, New York 11735 • Tel: 631/293-4992 • Fax: 631/293-4986
1000 7th North Street, Suite B-30 • Liverpool, New York 13088 • Tel: 315/451-9720 • Fax: 315/451-9727
E-mail: advancedcleanuptech.com

At EEA's request, the radar antenna was pulled along the 20 foot transects in only one direction. At several locations, transects were added at 20 foot spacings perpendicular to the spray-painted transects to create a 20 foot by 20 foot rectangular grid.

The survey was performed at a range to allow for the identification of anomalies to a depth of approximately 10 feet below ground surface. The results of the GPR survey are described below. A site diagram containing the transects was maintained by EEA's field personnel.

GPR RESULTS

A number of anomalies were identified during the GPR survey. The locations of these anomalies were identified during the survey and marked on the pavement with spray paint. They were also recorded by EEA's field manager.

Possible structures producing the identified anomalies include pipes, voids, settled ground surface and other buried debris. Due to the large number of anomalies identified beneath this site, all anomalies could not be described in this report. Some examples of anomalies identified during the survey which produced reflections characteristic of buried structures are identified on the enclosed images. Copies of the computer files containing all of the survey results are also enclosed.

In the northern portion of the site, several small diameter, high angle parabolas were produced, indicating the possible presence of buried piping. These objects were located close to the ground surface. One large anomaly was also observed and can be seen in Run numbers 514, 516, 518 of the enclosed images. This anomaly produced reflections with partial and irregular parabolas. This anomaly could represent an underground storage tank or another object producing reflections similar to an underground storage tank.

Also of note were the fill and vent pipes reportedly associated with a 5,000 gallon underground storage tank identified by EEA. The GPR survey was not conclusive with respect to the presence or precise location of the underground storage tank due to the presence of metal roll-off's, a metal fence, and a raised concrete sidewalk over the area of the suspect tank.

LIMITATIONS

GPR is primarily used as a preliminary survey of a property for the development of subsurface information prior to a formal site assessment. Surface cover, subsurface soil types or buried debris can mask or conceal the presence and precise locations of underground structures or even suggest their presence when none exist. The presence, absence or precise locations of underground structures indicated during a GPR survey should be confirmed by excavation or other invasive procedures.

Advanced Cleanup Technologies, Inc. is not responsible for areas not surveyed or information not collected. This report is given without a warranty or guarantee of any kind, expressed or implied. Advanced Cleanup Technologies, Inc. assumes no responsibility for losses associated with the use of this report.

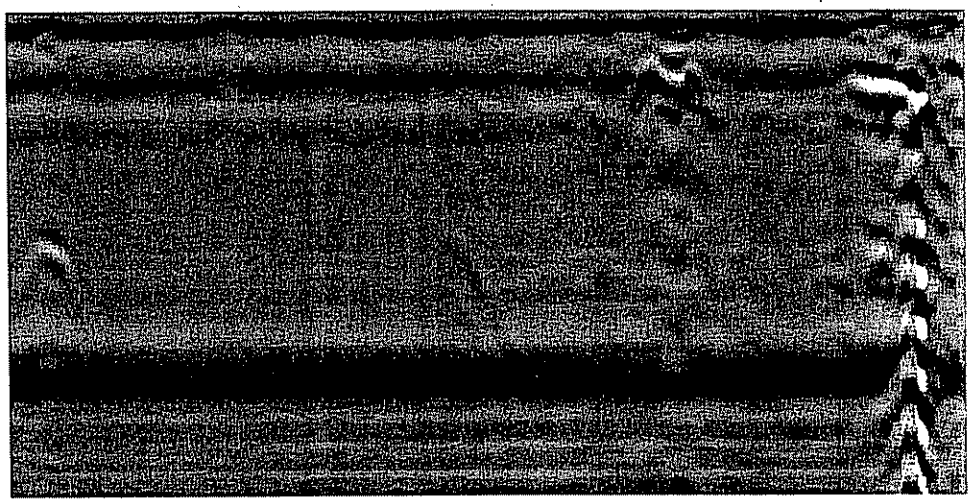
Please contact the undersigned if you have any questions concerning the above. Thank you for this opportunity to be of assistance.

Very truly yours,

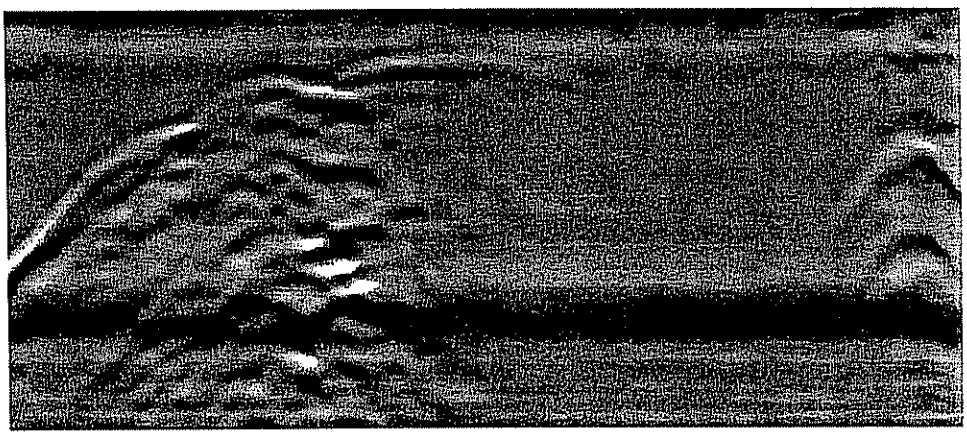
Steven Walls

Steven Walls
Project Scientist

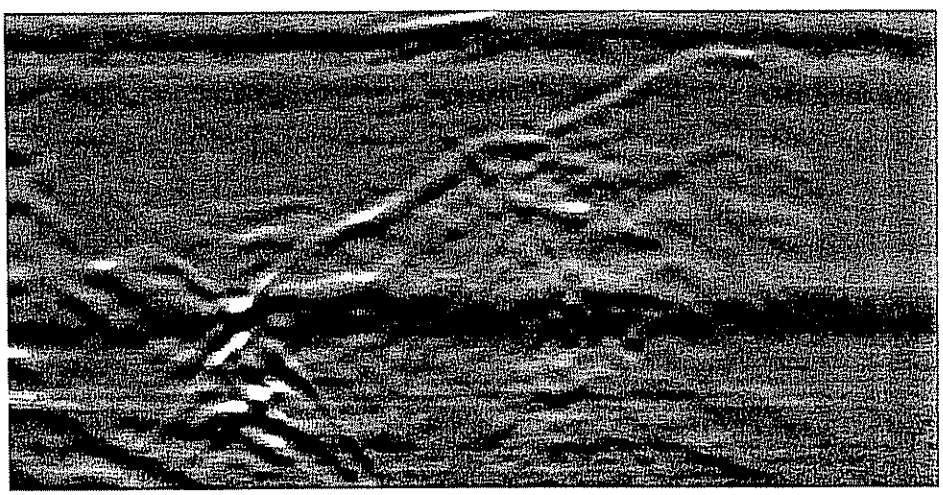
SW/bv
enc.



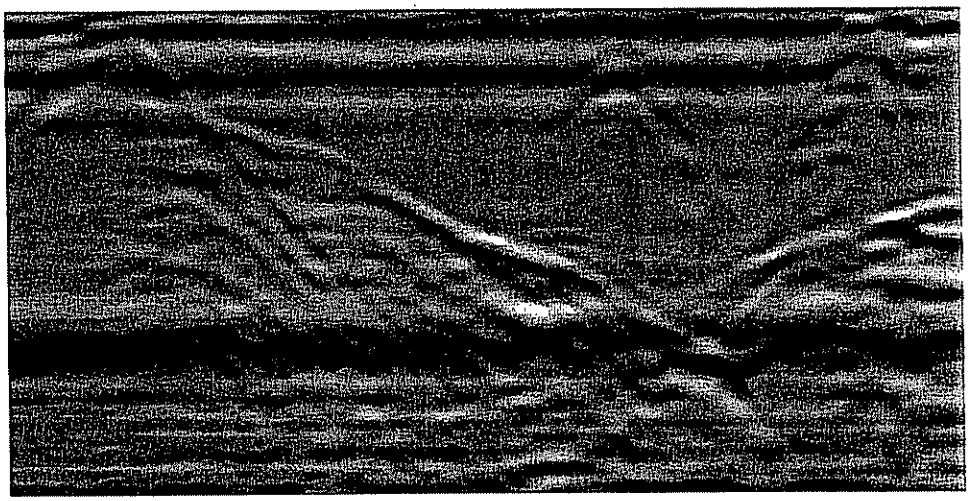
Run #511 - Possible Sewer Pipe, Electric Conduit, Drain Pipe



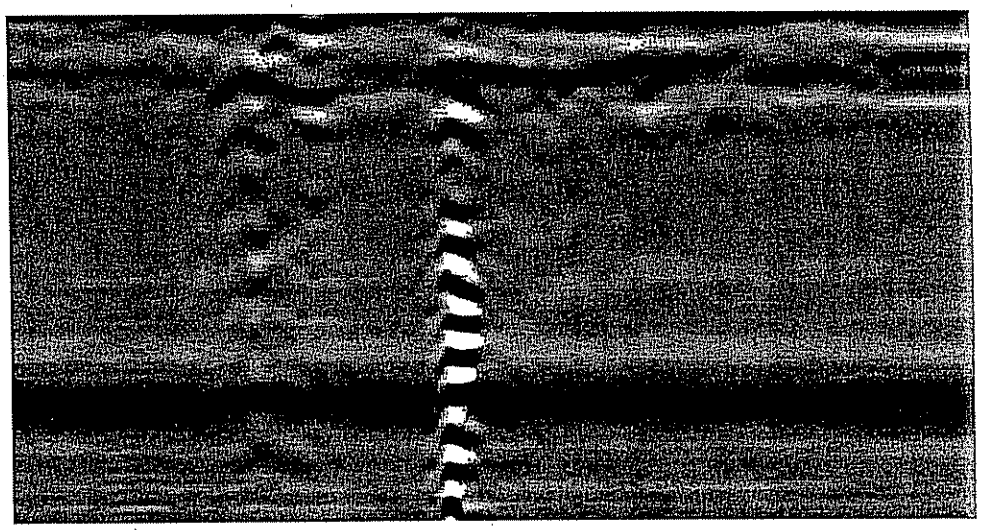
Run #514 - Possible UST, Sewer Pipe



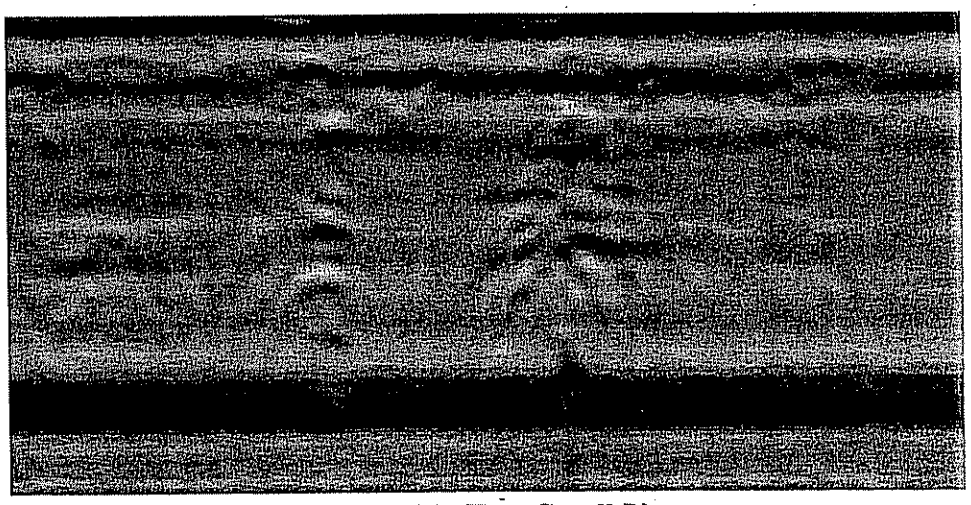
Run #516 - Possible UST identified in Run #514



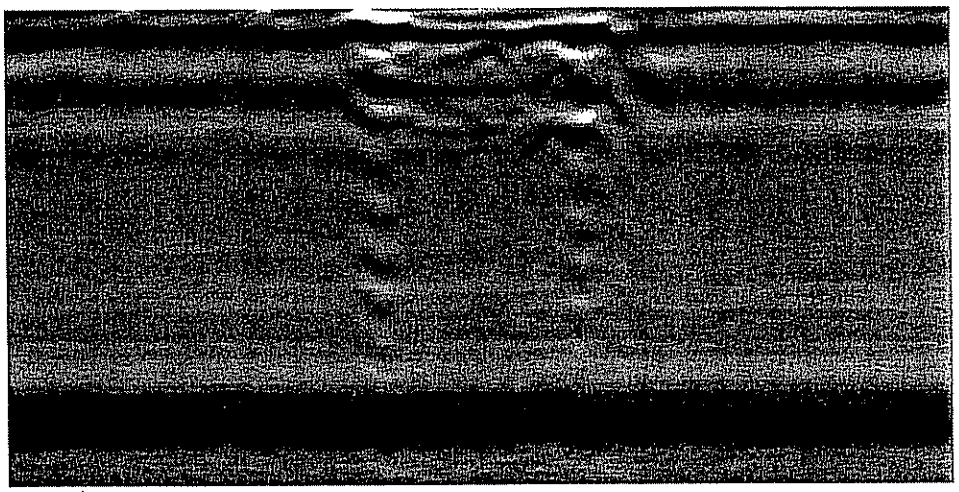
Run #518 - Possible UST identified in Run # 514 with small pipes



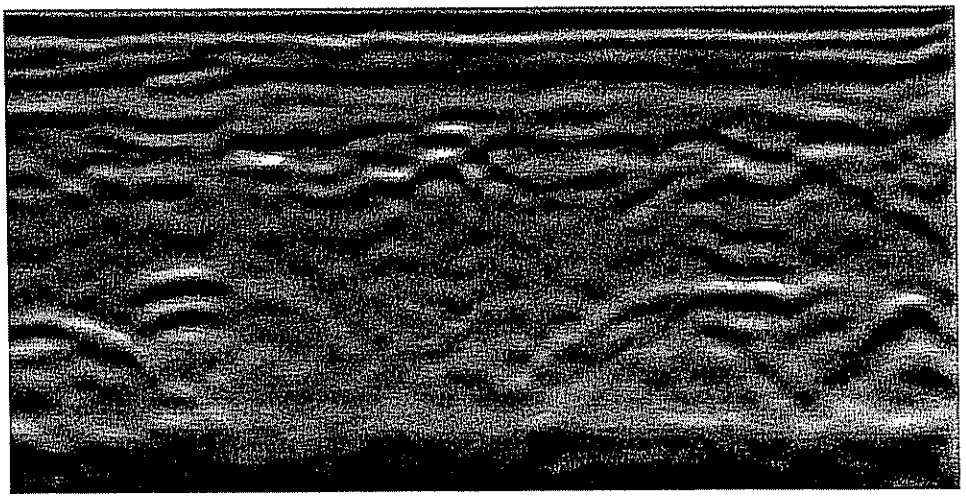
Run #524 - Remnants of Former Fence Line



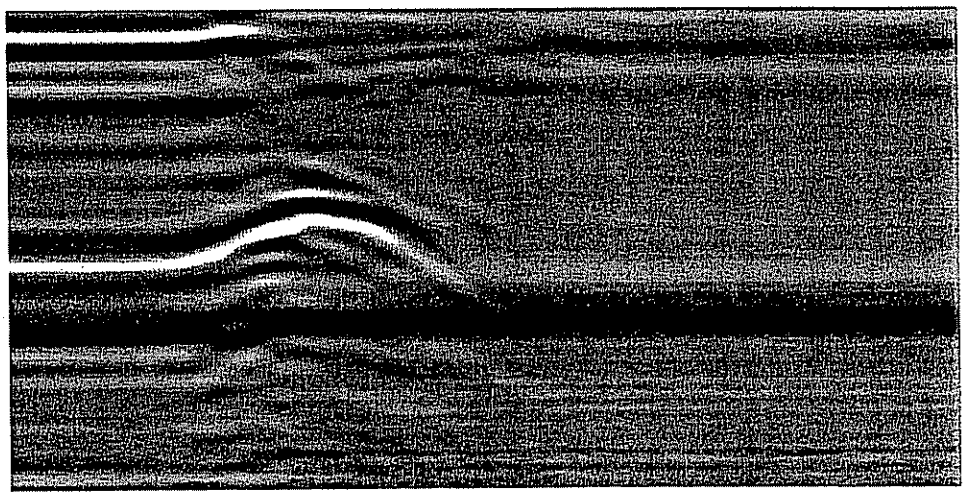
Run #530 - Possible Two Small Pipes



Run #535 - Concrete Slab with Metal support beams



Run #546 - Area Adjacent to Possible UST



Run #553 - Possible Large diameter drain pipe

Appendix B

Soil Boring Logs and Monitor Well Logs

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 1 / MW - 1

DATE: 11/12/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 2 1/2 in. OD **TYPE:** 2" split spoon
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Mobil B-57 **CASING TYPE:** Hollow Stem Auger 4 1/2 in. OD
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** asphalt sidewalk
MONITORING WELL SPECS	**MW-1**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~6 fbg
SCREEN: 4 - 14' / **RISER:** 4 - 0.5'	**SAND:** 2 bags	**BENTONITE:** 1/2 bag chips	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 2'	12"		0		1, 2	Auger through ~6" of pavement Medium to fine SAND, brown; no odor or staining Trace bricks and some cobbles and pebbles (fill) Moist
2 - 4'	4"		0		3, 4	Same as above Moist
*4 - 6'	x	B - 1 (4-6)		▼	5, 6	No recovery / respoon (12" recovery - same as above) Moist
6 - 8'	10"				7, 8	Water table at ~6' Brown medium to course SAND and CLAY. Organic bay-type odor Brick (trace) - wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg Set well * GP B-1 (4 - 6') taken at 930 * GP B-1 (10-12') taken at 1015 ^ sampled at 10 fbg from auger cuttings which were contaminated soil black stained with fuel oil odor * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 2

DATE: 11/13/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS n/a	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~8 fbg
SCREEN: **RISER:**	**SAND:**	**BENTONITE:**	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	48"	B - 2 S	0		1, 2, 3, 4	6" asphalt 36" of asphalt that grades to brown medium to fine SAND and concrete mix with bricks (fill) Last 12" tan medium to course SAND No odor or staining Moist
*4 - 8'	38"	B - 2 (4-8)	0	▼	5, 6, 7, 8	Medium to course tan SAND with little GRAVEL No odor or staining Moist to wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg *GP B-2 (surface) taken at 930 am *GP B-2 (4-8') taken at 930 am * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 3 / MW - 2

DATE: 11/12/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 2 1/2 in. OD **TYPE:** 2" split spoon
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Mobil B-57 **CASING TYPE:** Hollow Stem Auger 4 1/2 in. OD
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** Paved roadway
MONITORING WELL SPECS	**MW- 2**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~7 fbg
SCREEN: 15 - 5' / **RISER:** 5 - 0.5'	**SAND:** 2 bags	**BENTONITE:** 1/2 bag chips	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 1.5'	6"		0.1		1	Auger 6" of asphalt Brown medium to course SAND and pebbles, some bricks (fill) No odor or staining; dry
					2 3	Refusal at 2' - retry Auger down through concrete block ⇓
*3 - 5'	24"		0.8		4 5	Fill - Red brick, timber, sand, gravel Moist
*5 - 7'	6"	B - 3 (5-7)	1.1	▼	6 7	Course to fine SAND Petroleum hydrocarbon odor Moist Water saturated at 7'; wet
7 - 9'	24"		0.8		8 9	EOB @ 7 fbg Same as above Wet at 7'
					10 11 12 13 14 15 16 17 18 19 20 21 22	Set well - M-2 * GP B-3 (5-7') taken at 1400 * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 4

DATE: 11/13/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS n/a	**MW**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~4 fbg
SCREEN: **RISER:**	**SAND:**	**BENTONITE:**	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	48"	B - 4 (0-4)	0	▼	1 2 3 4	6" of concrete Fill SAND, concrete mix Then brown fine to medium SAND with little GRAVEL Last 2" tan medium to course SAND (wet) No odor or staining Moist to wet
					5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	EOB @ 4 fbg * GP B-4 (0-4') taken at 1315 * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 5

DATE: 11/13/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS n/a	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~8 fbg
SCREEN: **RISER:**	**SAND:**	**BENTONITE:**	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	48"		0		1, 2, 3, 4	6" asphalt Brown medium to fine SAND and little GRAVEL Mixed with concrete and bricks No odor or staining Dry
*4 - 8'	6"	B - 5 (4-8)	0	▼	5, 6, 7, 8	Little recovery. Saturated at tip Medium to fine brown SAND and CLAY with some bricks No odor or staining Wet
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg *GP B-5 (4-8') taken at 945 am * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 6

DATE: 11/13/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS n/a	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** 4 fbg
SCREEN: **RISER:**	**SAND:**	**BENTONITE:**	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	48"		0			6" asphalt
					1	6" of concrete SAND mix
						Then brown fine to medium SAND with trace gravel
					2	Last 2" brown medium to course SAND (saturated)
						No odor or staining
					3	Moist to wet
				▼	4	
						EOB @ 4 fbg
					5	
					6	*GP B-6 (0-4') taken at 1320
						*Water sample GP B-6 GW taken at 1430
					7	
					8	
					9	
					10	
					11	
					12	
					13	
					14	
					15	
					16	
					17	
					18	
					19	
					20	
					21	
					22	

* soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 7 / MW - 3

DATE: 11/12/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 2 1/2 in. OD **TYPE:** 2" split spoon
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Mobil B-57 **CASING TYPE:** Hollow Stem Auger 4 1/2 in. OD
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved roadway
MONITORING WELL SPECS	**MW - 3**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~12 fbg
SCREEN: 20 - 10' / **RISER:** 10 - 0.5'	**SAND:** 2 bags	**BENTONITE:** 1/2 bag chips	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
					1	Refusal - move boring
						Auger through 6" of asphalt
					2	Refusal
						Augered down to 5 ft.
					3	Dry
					4	
					5	
*5 - 7'	24"	B - 7 (5-7)	16.4			Fine to medium SAND and some CLAY with little gravel
					6	Black staining and petroleum odor
						Fill (?)
					7	Moist
7 - 9'	12"		9			Same as above
					8	Moist
					9	
9 - 11'	2"		0.7			Little recovery (rock)
					10	Same as above
						Moist
					11	
11 - 13'	8"		0.4			Fine to medium SAND and CLAY
				▼	12	~12fbg water table
						Odor and staining (black - petroleum)
					13	Wet
						EOB @ 13 fbg
					14	
					15	
						* GP B-7 (5-7') taken at 1130
					16	* GP MSD B-7 taken at 945
					17	
					18	
					19	
					20	Set well MW-3 at 20'
					21	
					22	* soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
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SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 8

DATE: 11/13/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS n/a	**MW**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~3.5 fbg
SCREEN: **RISER:**	**SAND:**	**BENTONITE:**	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
*0 - 4'	36"	B - 8 (0-4)	0	▼	1, 2, 3, 4	Wet at 3.5 fbg 6" of fill (soil and concrete) Then brown fine to medium SAND, trace gravel Last 6" light tan medium to course SAND Saturated at 3.5 fbg No ordor or staining Moist to wet
4 - 8'	36"		0		5, 6, 7, 8	No odor or staining Medium to course tan SAND Saturated
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg * GP B-8 (0-4') taken at 1200 * soil sample collected for laboratory analysis

EEA *Inc.*

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SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 9

DATE: 11/13/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS n/a	**MW**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~11 fbg
SCREEN: **RISER:**	**SAND:**	**BENTONITE:**	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	48"		0		1, 2, 3, 4	Drill through 8" of asphalt Move hole Fill material Medium to course tan to black SAND and some CLAY intermixed with bricks, rocks (stones) - fill Slight petroleum odor Dry
*4 - 8'	48"	B-9 (4-8) MS (B-9)	1.1		5, 6, 7, 8	More fill material - concrete and brick with medium to course SAND at At bottom 6" of black gravelly SAND asphalt mix No odor Dry to moist
8 - 12'	12"	B - 10	0	▼	9, 10, 11, 12	Water table approximately at 11 fbg Same as above Gravelly SAND, asphalt Not enough recovery Wet
					13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 12 fbg * GP B-9 (4-8') taken at 1100 *GP MS B-9 taken at 1100 * soil sample collected for laboratory analysis

EEA *Inc.*

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Garden City, New York 11530
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SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 10

DATE: 11/13/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS n/a	**MW**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~11 fbg
SCREEN: **RISER:**	**SAND:**	**BENTONITE:**	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	48"		0		1 2 3 4	Brown medium to fine SAND and some CLAY Bottom 6" more concrete (fill) Begin geoprobe 8" of asphalt 12" of concrete and then bricks 12" of gray - black fine to medium SAND and some CLAY Petroleum odors Dry
4 - 8'	40"		0		5 6 7 8	Black with no odor that grades to medium to fine SAND and some CLAY (no odor) Crumbly course material Sand, asphalt, gravel mix (?) Dry
*8 - 12'	40"	B - 10 (8-12)	0	▼	9 10 11 12	Saturated at 11' Same as above Course black SAND Asphalt, GRAVEL mix No odor Staining Moist to wet
					13 14 15 16 17 18 19 20 21 22	EOB @ 12 fbg * GP B-10 (8-12') taken at 915 sample ~ 10 - 11' (above water table) GP B-10 GW taken at 915 * soil sample collected for laboratory analysis

EEA *Inc.*

55 Hilton Avenue
Garden City, New York 11530
PH: (516) 746-4400

SOIL BORING REPORT LOG

SHEET _1_ OF _1_

GP B - 11

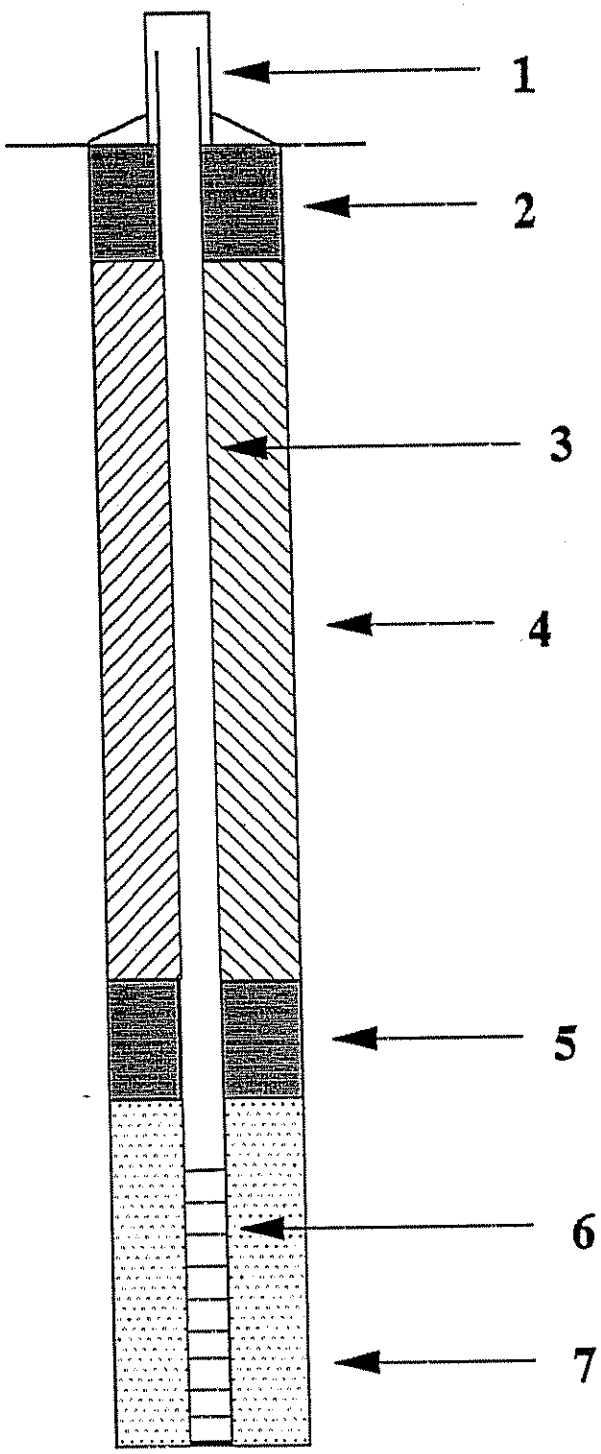
DATE: 11/13/03	**LOGGED BY:** F. Islam		**PROJECT DESCRIPTION:** soil and groundwater sampling; monitoring well installation
CLIENT: HDR		**PROJECT NO.:** 03718	**SOIL SAMPLER** **SIZE:** 4' - 2 in. OD **TYPE:** acetate sleeve
PROJECT LOCATION: Greenpoint DOS Incinerator Kingsland Ave.			**DRILL RIG:** Geoprobe LT 54 **CASING TYPE:** Macrocore
DRILLING CONTRACTOR: Tri-State Drilling			**HAMMER WEIGHT / FALL:** n/a
DRILLERS: P. Recchia, P. DeBonis			**SURFACE MATERIAL:** paved asphalt
MONITORING WELL SPECS n/a	**MW -**	**SURFACE ELEVATION:** n/a	**WATER LEVEL (in open borehole):** ~8 fbg
SCREEN: **RISER:**	**SAND:**	**BENTONITE:**	

SAMPLE DEPTH (ft.)	PENET / RECOV	SAMPLE NUMBER	OVA (ppm)	H_2O ▼	DEPTH (fbg)	SOIL / ROCK DESCRIPTION & CLASSIFICATION
0 - 4'	48"		0		1, 2, 3, 4	6" asphalt 8" of asphalt and medium to fine SAND mix (fill) Then fine to medium tan SAND No odor or staining Moist
*4 - 8'	36"	B - 11 (4-8) B-12 (4-8)	0	▼	5, 6, 7, 8	Wet at tip (8fbg) - lowtide Same as above Medium to course tan SAND, some gravel No odor or staining
					9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	EOB @ 8 fbg *GP B-11 (4-8') taken at 9:00 am *GP B-12 (4-8') taken at 9:15 am * soil sample collected for laboratory analysis

MONITOR WELL CONSTRUCTION SPECIFICATION
ENERGY AND ENVIROMENTAL ANALYSTS, INC.

JOB NUMBER : 03718

WELL IDENTIFICATION : GP MW-1



DATE: 11/12/03

HYDROGEOLOGIST: F. Islam

DRILLING CONTRACTOR : Tri-State Drilling Technologies

1.PROTECTIVE CASING (YES) NO

2. CONCRETE SEAL (YES) NO

3. RISER PIPE TYPE: PVC

LENGTH: 3.5 FT

DIAMETER: 2 inches

4. TYPE OF BACKFILL: #2 Morie gravel

HOW INSTALLED: Backfilled

5. TYPE OF LOWER SEAL: Bentonite Chips

6. SCREEN TYPE: PVC

SLOTTED LENGTH: 10FT

SLOT SIZE; 10 Slot

7. TYPE OF BACKFILL: #2 Morie Gravel

COMMENTS ;

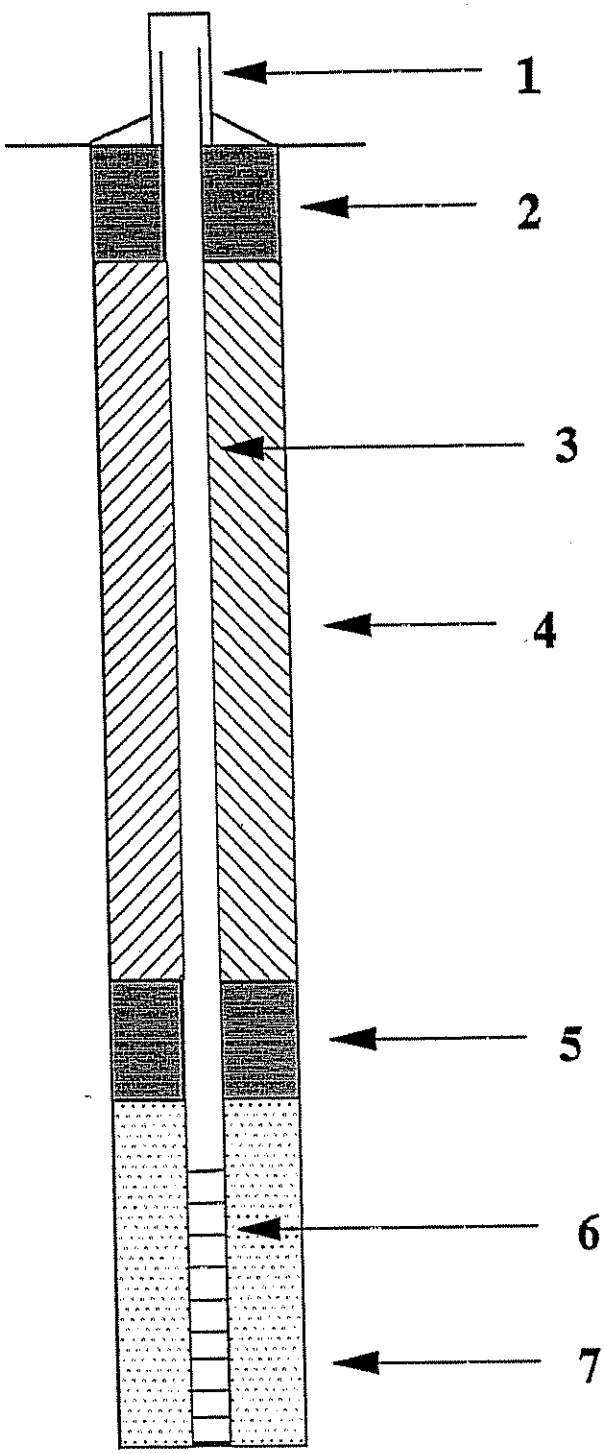
WATER LEVEL CHECKS :

DATE	DEPTH	REMARKS

MONITOR WELL CONSTRUCTION SPECIFICATION
ENERGY AND ENVIROMENTAL ANALYSTS, INC.

JOB NUMBER : 03718

WELL IDENTIFICATION : GP MW-2



DATE: 11/12/03

HYDROGEOLOGIST : F. Islam

DRILLING CONTRACTOR : Tri-State Drilling Technologies

1.PROTECTIVE CASING YES NO

2. CONCRETE SEAL YES NO

3. RISER PIPE TYPE : PVC

LENGTH : 4.5 FT

DIAMETER : 2 inches

4. TYPE OF BACKFILL : #2 Morie Gravel

HOW INSTALLED : Backfilled

5. TYPE OF LOWER SEAL : Bentonite Chips

6. SCREEN TYPE : PVC

SLOTTED LENGTH : 10 FT

SLOT SIZE ; 10 Slot

7. TYPE OF BACKFILL : #2 Morie Gravel

COMMENTS ;

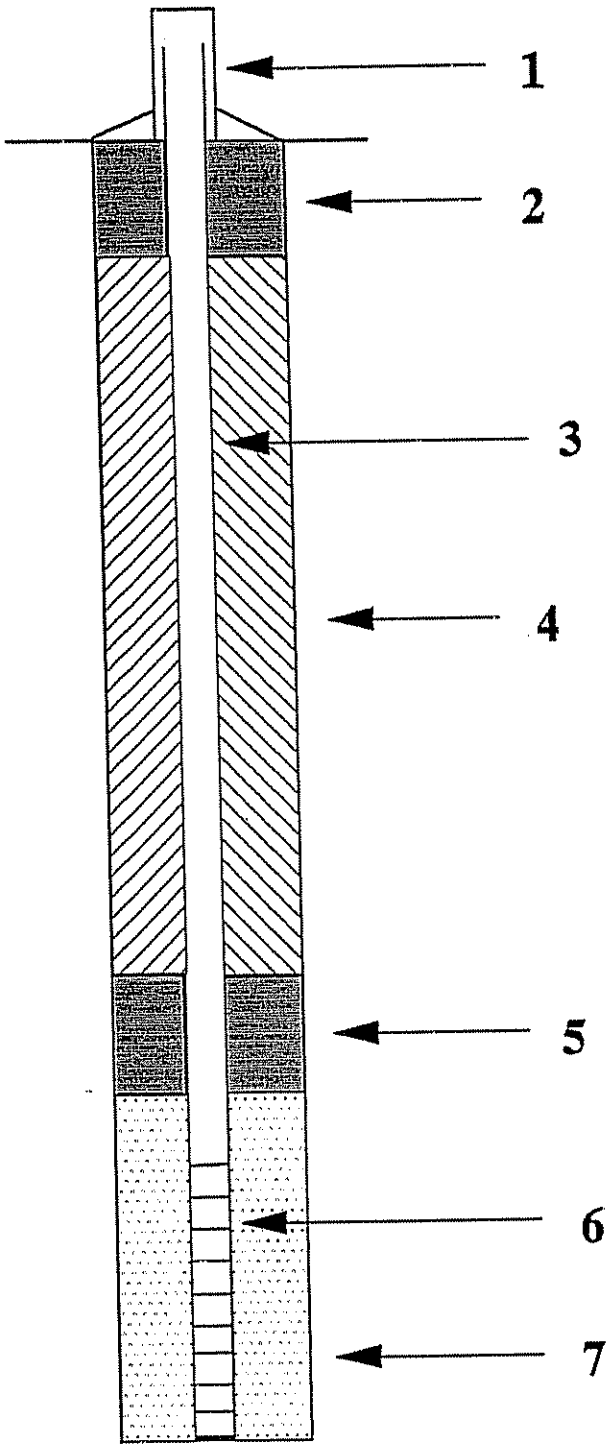
WATER LEVEL CHECKS :

DATE	DEPTH	REMARKS

MONITOR WELL CONSTRUCTION SPECIFICATION
ENERGY AND ENVIROMENTAL ANALYSTS, INC.

JOB NUMBER : 03718

WELL IDENTIFICATION : GP MW-3



DATE: 11/12/03

HYDROGEOLOGIST : F. Islam

DRILLING CONTRACTOR : Tri-State Drilling Technologies

1.PROTECTIVE CASING YES NO

2. CONCRETE SEAL YES NO

3. RISER PIPE TYPE : PVC

LENGTH : 9.5 FT

DIAMETER : 2 inches

4. TYPE OF BACKFILL : #2 Morie Gravel

HOW INSTALLED : Backfilled

5. TYPE OF LOWER SEAL : Bentonite Chips

6. SCREEN TYPE : PVC

SLOTTED LENGTH : 10 FT

SLOT SIZE ; 10 Slot

7. TYPE OF BACKFILL : #2 Morie Gravel

COMMENTS ;

WATER LEVEL CHECKS :

DATE	DEPTH	REMARKS

Appendix C

Laboratory Analytical Results with Chain-of-Custody

ANALYTICAL REPORT

JOB NUMBER: 205330

Prepared For:

Energy and Environmental Analysts, Inc.
55 Hilton Ave.
Garden City, NY 11530

Project: NYCDOS SWB INCINERAT

Attention: Jeff Shelkey

Date: 12/09/2003

Signature

Date 12/9/03

Name: Jill M. Pfister

Title: Project Manager

E-Mail: jpfister@stl-inc.com

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (107) Pages

SEVERN TRENT STL

STL Report : 205330
EEA. INC. – NYCDOS SWB INCINERATOR PLANT

Case Narrative

Sample Receipt – Samples received on 11/14/03 were in good condition and at the proper temperatures of 1.0°C, 0.9°C, 1.2°C, 1.9°C and 1.1°C. There was conflicting sample ID's between the bottle and COC for sample 205330-3. On 11/18/03, the laboratory was notified that the ID should read: GP B-3 (3-7'). At this time, the laboratory was also informed that only one set of QC needs to be run per SDG per analysis. The client assigned several sets of QC to the SDG and requested that the laboratory choose one sample for QC assignment.

Organic Extraction - Samples were extracted according to methods 3541/3550B. Samples for 8082 analysis were cleaned-up using procedures outlined in method 3665A (acid clean-up). Samples GP-B1(4-6), GP-B9(4-8), GP-B9(4-8)MS, GP-B9(4-8)MSD, GP-B4(0-4), GP-B5(4-8), GP-B7(5-7), GP-B7(5-7)MS, and GP-B7(5-7)MSD would not concentrate to 0.5 mls for 8270 analysis and were brought to a final volume of 1 ml. Samples GP-B9(4-8)MS and GP-B9(4-8)MSD appeared to not have been spiked with MS solution for 8082 analysis and were re-extracted within hold. Sample GP-B7(5-7) was re-extracted five days out of hold to confirm 8082 identification.

Metals – ICAP metals were determined using a JA61E trace ICAP; mercury was determined by cold vapor technique using a Perkin Elmer mercury analyzer; following guidance provided in SW846 according to methods: ICAP – 3050B/6010B; mercury-7471A.

Cadmium failed the controls for spike recovery analysis of sample 205330-5 resulting in one "N" flag.

Three "*" flags resulted from duplicate analysis of sample 205330-5 for arsenic, lead, and mercury.

No other problems occurred during analysis. All appropriate protocols were employed. All data appears to be consistent.

Volatile Organics – Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 5030B/8260B.

The spike compound percent recoveries were within the laboratory generated guidelines in the independent source quality control samples (LCS). 1,1,2,2-tetrachlorethane was out of criteria in the MS/MSD for samples "GP-B9(4-8)" and "GP-MSD(B-7)." Cis-1,3-dichloropropene was out of criteria in the MSB.

Sample "GP-B1(10-12)" was analyzed at a 1:2 dilution due to high non-target compound concentrations. Sample "GP-B10(8-12)" was analyzed twice due to surrogate recoveries and internal standard areas outside criteria. Matrix interference was confirmed and both runs are reported. Surrogate recoveries were also outside criteria for sample "GP-MSD(B-7)." The same high surrogate recoveries were present in the QC analyses on this sample, therefore matrix interference is confirmed here also.

Sample Calculation:

Sample ID-GP-B1(10-12)
Compound-Benzene

(429797)(125)(2)= 15.14 = 15 UG/L.
(1719879)(.987)(5)(.836)

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

The surrogate, Decachlorobiphenyl, was outside of QC limits due to coelution with sample matrix in samples GP-B1-(10-12), GP-B3-(3-7), GP-B9-(4-8)MS, GP-B9-(4-8)MSD, GP-B4-(0-4), GP-B6-(0-4) and GP-MSD(B-7)MSD on the DB-1701 column.

The surrogate, Decachlorobiphenyl, was lost in sample matrix in samples GP-B9-(4-8) and GP-B8-(0-4) on the DB-1701 column.

The surrogate, Decachlorobiphenyl, was lost in sample matrix in samples GP-B6-(0-4) and GP-MSD(B-7) on the RTX-35 column.

The surrogate, Decachlorobiphenyl, was outside of retention time windows due to coelution with sample matrix in samples GP-B1-(10-12), GP-B9(4-8), GP-B8-(0-4), GP-B9-(4-8)MS, GP-B9-(4-8)MSD, and GP-MSD(B-7)MSD on the RTX-35 column.

Surrogate recoveries for Decachlorobiphenyl were above QC limits in GP-B1-(4-6), GP-B1-(10-12), GP-B3-(3-7), GP-B10-(8-12), GP-B9-(4-8), GP-B9-(4-8)MS, GP-B9-(4-8)MSD, GP-B8-(0-4), GP-B5-(4-8), GP-MSD(B-7)MS and GP-MSD(B-7)MSD on the RTX-35 column.

Spike recoveries for gamma-BHC, Heptachlor, Endrin, Dieldrin were outside of QC limits in GP-B9-(4-8)MS/MSD and GP-MSD(B-7)MS/MSD.

The % RPD's for Heptachlor and Aldrin were outside of QC limits in GP-B9-(4-8)MS/MSD and GP-MSD(B-7)MS/MSD.

All samples required sulfur cleanup prior to analysis.

Results for 4,4'-DDT and Endrin aldehyde were reported from the DB-1701 column in sample 25408-2LCS due to partial coelution on the RTX-35 column.

Results for 4,4'-DDD and Endosulfan II were reported from the RTX-35 column in sample 25408-2LCS due to coelution on the DB-1701 column.

Results for alpha-Chlordane and Endosulfan I were reported from the DB-1701 column in sample 25408-2LCS due to coelution on the RTX-35 column.

Results for Heptachlor epoxide were reported from the DB-1701 column in samples GP-B1-(4-6), GP-B1-(10-12), GP-B3-(3-7), GP-B9-(4-8), GP-B8-(0-4), GP-B2-SURFACE, GP-B10-(8-12), and GP-B5-(4-8). There was less matrix interference with this compound on this column.

Results for Dieldrin were reported from the DB-1701 column in samples GP-B1-(4-6), GP-B8-(0-4), GP-B6-(0-4), GP-MSD(B-7) and GP-B5-(4-8). There was less matrix interference with this compound on this column.

Results for 4,4'-DDE and Endrin were reported from the DB-1701 column in sample GP-B1-(10-12). There was less matrix interference with this compound on this column.

The result for Methoxychlor was reported from the DB-1701 column in sample GP-B1-(10-12). There was less matrix interference with this compound on this column.

Results for 4,4'-DDE were reported from the DB-1701 column in samples GP-B3-(3-7), GP-B9-(4-8), GP-B8-(0-4) and GP-B4-(0-4). There was less matrix interference with this compound on this column.

Results for Endrin were reported from the DB-1701 column in samples GP-B8-(0-4) and GP-MSD(B-7). There was less matrix interference with this compound on this column.

The result for beta-BHC was reported from the DB-1701 column in sample GP-B10-(8-12). There was less matrix interference with this compound on this column.

The result for alpha-Chlordane was reported from the DB-1701 column in sample GP-B5-(4-8). There was less matrix interference with this compound on this column.

The result for Endrin aldehyde was reported from the RTX-35 column in samples GP-B1-(10-12), GP-B9-(4-8) and GP-B5-(4-8). There was less matrix interference with this compound on this column.

The result for Endrin was reported from the RTX-35 column in samples GP-B6-(0-4) and GP-B10-(8-12). There was less matrix interference with this compound on this column.

The % differences for the end standards failed to meet QC limits on the DB-1701 column. These were the end standards for all samples. Sample matrix was the suspected cause.

The % breakdown for 4,4'-DDT and the % differences for all compounds in the end standards did not meet QC criteria on the RTX-35 column. These were the end standards for all samples. Sample matrix was the suspected cause.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID – GP-B1-(10-12)
Compound – 4,4'-DDE

$$\frac{(32669307\text{area})(10000\text{ul})}{(997103726\text{area/ng})(30.5\text{g})(1\text{ul})(0.836)} = 13\text{ug/Kg}$$

Polychlorinated Biphenyls (PCB's) - PCB samples were analyzed by GC/ECD using guidance provided in Method 8082. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

All results were reported from the RTX-CLPesticidesII column. There was less matrix interference on this column.

Surrogate recoveries for Decachlorobiphenyl were above QC limits in samples GP-B1-(4-6), GP-B1-(10-12), GP-B3-(3-7), GP-B9-(4-8), GP-B6-(0-4), GP-MSD(B-7), GP-B9-(4-8)MS and GP-B9-(4-8)MSD on the RTX-CLPesticidesII column.

Surrogate recoveries for Decachlorobiphenyl were above QC limits in samples GP-B1-(4-6), GP-B10-(8-12), GP-B6-(0-4) on the RTX-CLPesticides column.

Both surrogates were outside of QC limits in GP-B9-(4-8) and GP-MSD(B-7) due to sample matrix on the RTX-CLPesticides column. All positive results were reported from the RTX-CLPesticideII column.

The % difference for Decachlorobiphenyl was below QC limits in the AR16603 standards analyzed at 00:12 on 11/23/03, at 21:48 on 11/24/03, and at 17:30 on 12/2/03 on the RTX-CLPesticidesII column. This was the end standard for all samples. Sample matrix was the suspected cause.

The % difference for Tetrachloro-m-xylene was below QC limits in the AR16603 standards analyzed at 00:31 on 11/23/03 and at 21:30 on 11/24/03 on the RTX-

CLPesticides column. This was the end standard for all samples. Sample matrix was the suspected cause.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID – GP-B1-(4-6)
Compound – Aroclor-1260 peak 9.78 on the RTX-CLPesticidesII column

$$\frac{(2412779\text{area})(10000\text{ul})}{(29835487.3\text{area/ng})(30.7\text{g})(0.915)(1\text{ul})} = 28.8 \text{ ug/Kg}$$

Semi-Volatile Organics - Semi-volatile organic samples were analyzed by capillary GC/MS according to NYSDEC Protocols using guidance provided in Method 8270C. The instrumentation used was a Hewlett-Packard Gas Chromatograph interfaced with a Mass Selective Detector.

A 2ul injection was used for all samples and standards. The instrument was calibrated at 10ng/ul (20 ng), 25 ng/ul(50 ng), 40ng/ul(80ng), 60ng/ul(120ng) and 80ng/ul(160ng). Internal standards were added to all samples and standards were at 20ng/ul(40ng).

The method blank run on 11/24/03 had one surrogate out of recovery criteria, but within laboratory sample acceptance criteria.

The following samples were analyzed at dilutions due to the presence of high levels of target compounds:

GP-B1-(10-12)	1:10
GP-B3-(3-7)	1:2
GP-B10-(8-12)	1:5
GP-B9-(4-8)/MS/MSD	1:5
GP-B8-(0-4)	1:2
GP-MSD(B-7)1:5/MS/MSD	1:5

Sample Calculation:

Sample ID – GP-B1-(4-6)
Compound - phenanthrene

$$\frac{(405593)(40)(1000)(1.0)}{(274595)(1.052)(2.0)(15.3)(.915)} = 2005 = 2000\text{ug/kg}$$

0000005

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

SAMPLE INFORMATION
Date: 12/09/2003

Job Number..: 205330
Customer....: Energy and Environmental Analysts, Inc.
Attn.......: Jeff Shelkey

Project Number.....: 20000963
Customer Project ID.....: NYCDOS SWB INCINERAT
Project Description.....: NYCDOS SWB Incinerator Plant

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
205330-1	GP-B1-(4-6)	Soil	11/12/2003	09:30	11/14/2003	18:50
205330-2	GP-B1-(10-12)	Soil	11/12/2003	10:15	11/14/2003	18:50
205330-3	GP-B3-(3-7)	Soil	11/12/2003	14:00	11/14/2003	18:50
205330-4	GP-B10-(8-12)	Soil	11/13/2003	09:15	11/14/2003	18:50
205330-5	GP-B9-(4-8)	Soil	11/13/2003	11:00	11/14/2003	18:50
205330-6	GP-B8-(0-4)	Soil	11/13/2003	12:00	11/14/2003	18:50
205330-7	GP-B4-(0-4)	Soil	11/13/2003	13:15	11/14/2003	18:50
205330-8	GP-B6-(0-4)	Soil	11/13/2003	13:20	11/14/2003	18:50
205330-9	GP-B11-(4-8)	Soil	11/14/2003	09:00	11/14/2003	18:50
205330-10	GP-B12-(4-8)	Soil	11/14/2003	09:15	11/14/2003	18:50
205330-11	GP-B2-SURFACE	Soil	11/14/2003	09:30	11/14/2003	18:50
205330-12	GP-B2-(4-8)	Soil	11/14/2003	09:30	11/14/2003	18:50
205330-13	GP-B5-(4-8)	Soil	11/14/2003	09:45	11/14/2003	18:50
205330-14	GP-MSD(B-7)	Soil	11/14/2003	09:45	11/14/2003	18:50
205330-15	TRIP BLANK	Water	11/14/2003	00:00	11/14/2003	18:50

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(4-6)
Date Sampled.....: 11/12/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-1
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Chloroethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Methylene chloride, Solid*	2	J	B	1	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Chloroform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Benzene, Solid*	0.8	J		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Toluene, Solid*	0.5	J		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(4-6)
Date Sampled.....: 11/12/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-1
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Tetrachloroethene, Solid*	0.6	J		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Bromoform, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	25676		11/18/03 1835	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(10-12)
Date Sampled.....: 11/12/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-2
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	83.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	16.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		2	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Vinyl chloride, Solid*	ND	U		0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Bromomethane, Solid*	ND	U		5	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Chloroethane, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	1,1-Dichloroethene, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Carbon disulfide, Solid*	3	J		0.4	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Acetone, Solid*	21	J		11	21	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Methylene chloride, Solid*	5	J	B	3	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	1,1-Dichloroethane, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Vinyl acetate, Solid*	ND	U		6	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	2-Butanone (MEK), Solid*	ND	U		6	21	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Chloroform, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Carbon tetrachloride, Solid*	ND	U		0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Benzene, Solid*	15			1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Trichloroethene, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Bromodichloromethane, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		6	21	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Toluene, Solid*	6	J		0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(10-12)
Date Sampled.....: 11/12/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-2
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Tetrachloroethene, Solid*	ND	U		0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	2-Hexanone, Solid*	ND	U		7	21	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Dibromochloromethane, Solid*	ND	U		0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Chlorobenzene, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Ethylbenzene, Solid*	100			0.9	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Styrene, Solid*	4	J		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Bromoform, Solid*	ND	U		1	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		2	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk
	Xylenes (total), Solid*	24			2	11	2.00000	ug/Kg	25677		11/20/03 2005	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B3-(3-7)
Date Sampled.....: 11/12/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-3
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	77.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	22.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Chloroethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Carbon disulfide, Solid*	ND	U		0.3	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Acetone, Solid*	20			7	13	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Methylene chloride, Solid*	2	J	B	2	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Vinyl acetate, Solid*	ND	U		4	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	2-Butanone (MEK), Solid*	ND	U		4	13	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Chloroform, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Benzene, Solid*	3	J		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		4	13	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Toluene, Solid*	1	J		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B3-(3-7)
Date Sampled.....: 11/12/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-3
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	2-Hexanone, Solid*	ND	U		4	13	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Ethylbenzene, Solid*	1	J		0.5	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Bromoform, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk
	Xylenes (total), Solid*	3	J		1	6	1.00000	ug/Kg	25676		11/18/03 1908	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B10-(8-12)
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-4
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	26.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Vinyl chloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Bromomethane, Solid*	ND	U		3	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Chloroethane, Solid*	ND	U		1	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Carbon disulfide, Solid*	ND	U		0.3	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Acetone, Solid*	ND	U		7	14	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Methylene chloride, Solid*	11		B	2	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Vinyl acetate, Solid*	ND	U		4	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	2-Butanone (MEK), Solid*	ND	U		4	14	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Chloroform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	1,1,1-Trichloroethane, Solid*	11			0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Benzene, Solid*	5	J		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Trichloroethene, Solid*	7	J		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Bromodichloromethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		4	14	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Toluene, Solid*	11			0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B10-(8-12)
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-4
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Tetrachloroethene, Solid*	16			0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	2-Hexanone, Solid*	ND	U		5	14	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Chlorobenzene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Ethylbenzene, Solid*	2	J		0.5	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Styrene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Bromoform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk
	Xylenes (total), Solid*	8			2	7	1.00000	ug/Kg	25676		11/18/03 1943	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B10-(8-12)
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-4
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		1	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Vinyl chloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Bromomethane, Solid*	ND	U		3	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Chloroethane, Solid*	ND	U		1	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Carbon disulfide, Solid*	ND	U		0.3	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Acetone, Solid*	ND	U		7	14	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Methylene chloride, Solid*	8		B	2	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Vinyl acetate, Solid*	ND	U		4	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	2-Butanone (MEK), Solid*	ND	U		4	14	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Chloroform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Benzene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Trichloroethene, Solid*	2	J		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Bromodichloromethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		4	14	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Toluene, Solid*	1	J		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	Tetrachloroethene, Solid*	4	J		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
	2-Hexanone, Solid*	ND	U		5	14	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B10-(8-12)
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-4
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260	Dibromochloromethane, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
8260	Chlorobenzene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
8260	Ethylbenzene, Solid*	ND	U		0.5	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
8260	Styrene, Solid*	ND	U		0.7	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
8260	Bromoform, Solid*	ND	U		0.8	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
8260	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk
8260	Xylenes (total), Solid*	ND	U		2	7	1.00000	ug/Kg	25515	RA	11/19/03 1537	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B9-(4-8)
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-5
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Vinyl chloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Carbon disulfide, Solid*	2	J		0.2	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Acetone, Solid*	18			6	11	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Methylene chloride, Solid*	2	J	B	1	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Carbon tetrachloride, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Benzene, Solid*	8			0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Toluene, Solid*	2	J		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B9-(4-8)
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-5
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Tetrachloroethene, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Dibromochloromethane, Solid*	ND	U		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Ethylbenzene, Solid*	1	J		0.5	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk
	Xylenes (total), Solid*	4	J		1	6	1.00000	ug/Kg	25676		11/18/03 2017	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B8-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-6
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Acetone, Solid*	ND	U		5	11	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Methylene chloride, Solid*	2	J	B	1	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B8-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-6
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	25676		11/18/03 2051	kjk

0000021

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B4-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-7
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	4.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Acetone, Solid*	ND	U		5	10	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Methylene chloride, Solid*	4	J	B	1	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	2-Butanone (MEK), Solid*	ND	U		3	10	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Benzene, Solid*	1	J		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	10	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Toluene, Solid*	2	J		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B4-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-7
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Tetrachloroethene, Solid*	0.6	J		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	2-Hexanone, Solid*	ND	U		4	10	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Ethylbenzene, Solid*	0.6	J		0.4	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk
	Xylenes (total), Solid*	2	J		1	5	1.00000	ug/Kg	25676		11/18/03 2126	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B6-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-8
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Acetone, Solid*	ND	U		5	11	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Methylene chloride, Solid*	3	J	B	1	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Benzene, Solid*	1	J		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Trichloroethene, Solid*	1	J		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Toluene, Solid*	3	J		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B6-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-8
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Tetrachloroethene, Solid*	1	J		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Ethylbenzene, Solid*	1	J		0.4	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk
	Xylenes (total), Solid*	3	J		1	5	1.00000	ug/Kg	25676		11/18/03 2200	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B11-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-9
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Acetone, Solid*	ND	U		5	10	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Methylene chloride, Solid*	2	J	B	1	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	2-Butanone (MEK), Solid*	ND	U		3	10	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	10	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B11-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-9
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	2-Hexanone, Solid*	ND	U		4	10	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	25676		11/18/03 2234	kjk

* In Description = Dry Wgt.

000027

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B12-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-10
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Acetone, Solid*	ND	U		5	10	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Methylene chloride, Solid*	3	J	B	1	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	2-Butanone (MEK), Solid*	ND	U		3	10	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	10	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B12-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-10
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	2-Hexanone, Solid*	ND	U		4	10	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	25515		11/19/03 1646	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-SURFACE
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-11
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	89.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Vinyl chloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Acetone, Solid*	ND	U		6	11	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Methylene chloride, Solid*	5	J	B	1	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Toluene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-SURFACE
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-11
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Ethylbenzene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk
	Xylenes (total), Solid*	2	J		1	6	1.00000	ug/Kg	25515		11/19/03 1733	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-12
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	97.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	2.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.8	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Vinyl chloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Bromomethane, Solid*	ND	U		3	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Chloroethane, Solid*	ND	U		0.7	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Carbon disulfide, Solid*	ND	U		0.2	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Acetone, Solid*	ND	U		5	10	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Methylene chloride, Solid*	3	J	B	1	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Vinyl acetate, Solid*	ND	U		3	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	2-Butanone (MEK), Solid*	ND	U		3	10	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Chloroform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Benzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Trichloroethene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Bromodichloromethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	10	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Toluene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-12
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	2-Hexanone, Solid*	ND	U		4	10	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Chlorobenzene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Ethylbenzene, Solid*	ND	U		0.4	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Styrene, Solid*	ND	U		0.5	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Bromoform, Solid*	ND	U		0.6	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		0.9	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk
	Xylenes (total), Solid*	ND	U		1	5	1.00000	ug/Kg	25515		11/19/03 1808	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B5-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-13
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	90.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	9.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Vinyl chloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Carbon disulfide, Solid*	ND	U		0.2	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Acetone, Solid*	11			6	11	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Methylene chloride, Solid*	6		B	1	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Benzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Toluene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk

* In Description = Dry Wgt.

00034

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B5-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-13
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Ethylbenzene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk
	Xylenes (total), Solid*	ND	U		1	6	1.00000	ug/Kg	25515		11/19/03 1842	kjk

* In Description = Dry Wgt.

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-MSD(B-7)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-14
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
8260B	Volatile Organics											
	Chloromethane, Solid*	ND	U		0.9	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Vinyl chloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Bromomethane, Solid*	ND	U		3	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Chloroethane, Solid*	ND	U		0.8	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	1,1-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Carbon disulfide, Solid*	6			0.2	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Acetone, Solid*	26			6	11	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Methylene chloride, Solid*	6		B	1	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	trans-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	1,1-Dichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Vinyl acetate, Solid*	ND	U		3	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	cis-1,2-Dichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	2-Butanone (MEK), Solid*	ND	U		3	11	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Chloroform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	1,1,1-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Carbon tetrachloride, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Benzene, Solid*	2	J		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	1,2-Dichloroethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Trichloroethene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	1,2-Dichloropropane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Bromodichloromethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	cis-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	4-Methyl-2-pentanone (MIBK), Solid*	ND	U		3	11	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Toluene, Solid*	2	J		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-MSD(B-7)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-14
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	trans-1,3-Dichloropropene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	1,1,2-Trichloroethane, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Tetrachloroethene, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	2-Hexanone, Solid*	ND	U		4	11	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Dibromochloromethane, Solid*	ND	U		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Chlorobenzene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Ethylbenzene, Solid*	0.5	J		0.4	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Styrene, Solid*	ND	U		0.6	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Bromoform, Solid*	ND	U		0.7	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	1,1,2,2-Tetrachloroethane, Solid*	ND	U		1	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk
	Xylenes (total), Solid*	3	J		1	6	1.00000	ug/Kg	25515		11/19/03 1612	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: TRIP BLANK
Date Sampled.....: 11/14/2003
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 205330-15
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Acetone	ND	U		2	10	1.00000	ug/L	25486		11/22/03 1408	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25486		11/22/03 1408	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25486		11/22/03 1408	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25486		11/22/03 1408	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: TRIP BLANK
Date Sampled.....: 11/14/2003
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 205330-15
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25486		11/22/03 1408	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25486		11/22/03 1408	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(4-6)
Date Sampled.....: 11/12/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-1
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		69	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	2-Methylnaphthalene, Solid*	ND	U		60	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Acenaphthylene, Solid*	160	J		24	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Acenaphthene, Solid*	130	J		32	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Fluorene, Solid*	86	J		43	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Phenanthrene, Solid*	2000			51	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Anthracene, Solid*	360	J		26	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Fluoranthene, Solid*	3500			47	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Pyrene, Solid*	2200			41	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Benzo(a)anthracene, Solid*	1200			32	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Chrysene, Solid*	1200			36	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Benzo(b)fluoranthene, Solid*	1100		H	81	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Benzo(k)fluoranthene, Solid*	1700			84	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Benzo(a)pyrene, Solid*	1200			34	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	250	J		39	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Dibenzo(a,h)anthracene, Solid*	130	J		39	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw
	Benzo(ghi)perylene, Solid*	250	J		36	710	1.00000	ug/Kg	25989		11/24/03 2130	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(10-12)
Date Sampled.....: 11/12/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-2
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	83.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	16.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	2500	J		370	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	2-Methylnaphthalene, Solid*	670	J		320	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Acenaphthylene, Solid*	5100			130	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Acenaphthene, Solid*	3000	J		170	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Fluorene, Solid*	2100	J		230	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Phenanthrene, Solid*	16000			280	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Anthracene, Solid*	5900			140	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Fluoranthene, Solid*	13000			250	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Pyrene, Solid*	17000			220	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Benzo(a)anthracene, Solid*	8000			170	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Chrysene, Solid*	8100			200	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Benzo(b)fluoranthene, Solid*	6300		M	440	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Benzo(k)fluoranthene, Solid*	7200		M	450	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Benzo(a)pyrene, Solid*	9300			190	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	4200			210	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Dibenzo(a,h)anthracene, Solid*	2400	J		210	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw
	Benzo(ghi)perylene, Solid*	4000			200	3800	10.00000	ug/Kg	25989		12/02/03 1633	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date: 12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B3-(3-7)
Date Sampled.....: 11/12/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-3
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	77.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	22.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	210	J		79	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	2-Methylnaphthalene, Solid*	81	J		69	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Acenaphthylene, Solid*	460	J		27	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Acenaphthene, Solid*	300	J		37	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Fluorene, Solid*	180	J		49	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Phenanthrene, Solid*	1600			59	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Anthracene, Solid*	780	J	M	30	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Fluoranthene, Solid*	3200			54	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Pyrene, Solid*	3800			47	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Benzo(a)anthracene, Solid*	1600			37	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Chrysene, Solid*	1600			42	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Benzo(b)fluoranthene, Solid*	1100		M	94	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Benzo(k)fluoranthene, Solid*	1300		M	96	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Benzo(a)pyrene, Solid*	1800			40	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	1100			45	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Dibenzo(a,h)anthracene, Solid*	550	J		45	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw
	Benzo(ghi)perylene, Solid*	1100			42	820	2.00000	ug/Kg	25989		12/03/03 1200	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B10-(8-12)
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-4
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	26.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	430	J		220	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	2-Methylnaphthalene, Solid*	240	J		190	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Acenaphthylene, Solid*	190	J		75	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Acenaphthene, Solid*	390	J		100	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Fluorene, Solid*	670	J		140	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Phenanthrene, Solid*	18000			160	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Anthracene, Solid*	4400			81	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Fluoranthene, Solid*	17000			150	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Pyrene, Solid*	14000			130	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Benzo(a)anthracene, Solid*	6200			100	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Chrysene, Solid*	6000		M	120	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Benzo(b)fluoranthene, Solid*	3100		M	260	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Benzo(k)fluoranthene, Solid*	4700		M	260	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Benzo(a)pyrene, Solid*	4700			110	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	2700			120	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Dibenzo(a,h)anthracene, Solid*	1300	J	M	120	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw
	Benzo(ghi)perylene, Solid*	2800		M	120	2200	5.00000	ug/Kg	25989		12/03/03 0850	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B9-(4-8)
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-5
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	2500	J		360	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	2-Methylnaphthalene, Solid*	1200	J		320	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Acenaphthylene, Solid*	2900	J		120	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Acenaphthene, Solid*	1900	J		170	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Fluorene, Solid*	2700	J		230	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Phenanthrene, Solid*	19000			270	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Anthracene, Solid*	4600			140	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Fluoranthene, Solid*	12000			250	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Pyrene, Solid*	17000			220	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Benzo(a)anthracene, Solid*	7300			170	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Chrysene, Solid*	7300		M	190	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Benzo(b)fluoranthene, Solid*	6100		M	430	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Benzo(k)fluoranthene, Solid*	6000		M	440	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Benzo(a)pyrene, Solid*	8800			180	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	6100			200	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Dibenzo(a,h)anthracene, Solid*	3400	J		200	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw
	Benzo(ghi)perylene, Solid*	6700			190	3700	5.00000	ug/Kg	25989		12/03/03 0918	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B8-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-6
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	160	J		66	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	2-Methylnaphthalene, Solid*	64	J		57	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Acenaphthylene, Solid*	300	J		23	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Acenaphthene, Solid*	130	J		31	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Fluorene, Solid*	150	J		41	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Phenanthrene, Solid*	1600			49	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Anthracene, Solid*	500	J		25	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Fluoranthene, Solid*	1900			45	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Pyrene, Solid*	2500			39	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Benzo(a)anthracene, Solid*	1100			31	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Chrysene, Solid*	1400			35	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Benzo(b)fluoranthene, Solid*	1200		M	78	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Benzo(k)fluoranthene, Solid*	1100		M	80	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Benzo(a)pyrene, Solid*	1200			33	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	350	J		37	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Dibenzo(a,h)anthracene, Solid*	210	J		37	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw
	Benzo(ghi)perylene, Solid*	350	J		35	680	2.00000	ug/Kg	25989		12/04/03 0526	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B4-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-7
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	4.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		66	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	2-Methylnaphthalene, Solid*	ND	U		58	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Acenaphthylene, Solid*	110	J	H	23	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Acenaphthene, Solid*	ND	U		31	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Fluorene, Solid*	ND	U		41	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Phenanthrene, Solid*	310	J		49	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Anthracene, Solid*	120	J		25	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Fluoranthene, Solid*	510	J		45	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Pyrene, Solid*	380	J		39	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Benzo(a)anthracene, Solid*	240	J		31	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Chrysene, Solid*	250	J		35	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Benzo(b)fluoranthene, Solid*	270	J		78	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Benzo(k)fluoranthene, Solid*	310	J		80	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Benzo(a)pyrene, Solid*	290	J		33	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	84	J		37	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U	H	37	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw
	Benzo(ghi)perylene, Solid*	ND	U		35	680	1.00000	ug/Kg	25989		11/24/03 1943	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B6-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-8
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	150	J		33	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	2-Methylnaphthalene, Solid*	57	J		29	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Acenaphthylene, Solid*	580			11	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Acenaphthene, Solid*	35	J		15	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Fluorene, Solid*	39	J	H	21	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Phenanthrene, Solid*	530			25	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Anthracene, Solid*	370			12	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Fluoranthene, Solid*	2500			23	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Pyrene, Solid*	1400			20	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Benzo(a)anthracene, Solid*	1300			15	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Chrysene, Solid*	1300			17	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Benzo(b)fluoranthene, Solid*	900		M	39	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Benzo(k)fluoranthene, Solid*	1400		M	40	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Benzo(a)pyrene, Solid*	1500			16	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	500			19	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Dibenzo(a,h)anthracene, Solid*	240	J		19	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw
	Benzo(ghi)perylene, Solid*	540			17	340	1.00000	ug/Kg	25989		11/24/03 1703	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B11-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-9
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		32	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	2-Methylnaphthalene, Solid*	ND	U		28	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Acenaphthylene, Solid*	ND	U		11	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Acenaphthene, Solid*	ND	U		15	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Fluorene, Solid*	ND	U		20	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Phenanthrene, Solid*	ND	U		24	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Anthracene, Solid*	ND	U		12	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Fluoranthene, Solid*	ND	U		22	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Pyrene, Solid*	ND	U		19	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Benzo(a)anthracene, Solid*	ND	U		15	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Chrysene, Solid*	ND	U		17	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Benzo(b)fluoranthene, Solid*	ND	U		37	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Benzo(k)fluoranthene, Solid*	ND	U		38	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Benzo(a)pyrene, Solid*	ND	U		16	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		18	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		18	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw
	Benzo(ghi)perylene, Solid*	ND	U		17	330	1.00000	ug/Kg	25989		11/24/03 1516	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B12-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-10
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		32	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	2-Methylnaphthalene, Solid*	ND	U		28	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Acenaphthylene, Solid*	ND	U		11	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Acenaphthene, Solid*	ND	U		15	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Fluorene, Solid*	ND	U		20	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Phenanthrene, Solid*	ND	U		24	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Anthracene, Solid*	ND	U		12	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Fluoranthene, Solid*	ND	U		22	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Pyrene, Solid*	ND	U		19	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Benzo(a)anthracene, Solid*	ND	U		15	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Chrysene, Solid*	ND	U		17	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Benzo(b)fluoranthene, Solid*	ND	U		38	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Benzo(k)fluoranthene, Solid*	ND	U		39	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Benzo(a)pyrene, Solid*	ND	U		16	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		18	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		18	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw
	Benzo(ghi)perylene, Solid*	ND	U		17	330	1.00000	ug/Kg	25989		11/24/03 1729	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-SURFACE
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-11
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	130	J		35	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	2-Methylnaphthalene, Solid*	48	J		30	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Acenaphthylene, Solid*	81	J		12	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Acenaphthene, Solid*	140	J		16	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Fluorene, Solid*	140	J		22	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Phenanthrene, Solid*	1200			26	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Anthracene, Solid*	390			13	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Fluoranthene, Solid*	2000			24	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Pyrene, Solid*	2100			21	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Benzo(a)anthracene, Solid*	800			16	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Chrysene, Solid*	740			18	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Benzo(b)fluoranthene, Solid*	660		M	41	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Benzo(k)fluoranthene, Solid*	620		M	42	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Benzo(a)pyrene, Solid*	760			17	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	510			19	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Dibenzo(a,h)anthracene, Solid*	240	J		19	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw
	Benzo(ghi)perylene, Solid*	560			18	360	1.00000	ug/Kg	25989		12/03/03 1106	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-12
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	97.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	2.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	ND	U		32	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	2-Methylnaphthalene, Solid*	ND	U		28	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Acenaphthylene, Solid*	ND	U		11	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Acenaphthene, Solid*	ND	U		15	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Fluorene, Solid*	ND	U		20	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Phenanthrene, Solid*	ND	U		24	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Anthracene, Solid*	ND	U		12	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Fluoranthene, Solid*	ND	U		22	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Pyrene, Solid*	ND	U		19	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Benzo(a)anthracene, Solid*	ND	U		15	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Chrysene, Solid*	ND	U		17	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Benzo(b)fluoranthene, Solid*	ND	U		39	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Benzo(k)fluoranthene, Solid*	ND	U		40	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Benzo(a)pyrene, Solid*	ND	U		16	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	ND	U		18	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Dibenzo(a,h)anthracene, Solid*	ND	U		18	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw
	Benzo(ghi)perylene, Solid*	ND	U		17	330	1.00000	ug/Kg	25989		11/24/03 1450	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B5-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-13
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	90.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	9.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	210	J		67	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	2-Methylnaphthalene, Solid*	100	J		59	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Acenaphthylene, Solid*	360	J		23	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Acenaphthene, Solid*	230	J		31	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Fluorene, Solid*	140	J		42	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Phenanthrene, Solid*	1100			50	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Anthracene, Solid*	450	J		25	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Fluoranthene, Solid*	1800			46	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Pyrene, Solid*	1700			40	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Benzo(a)anthracene, Solid*	910			31	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Chrysene, Solid*	930			36	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Benzo(b)fluoranthene, Solid*	610	J	M	80	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Benzo(k)fluoranthene, Solid*	960		M	82	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Benzo(a)pyrene, Solid*	920			34	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	380	J		38	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Dibenzo(a,h)anthracene, Solid*	220	J		38	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw
	Benzo(ghi)perylene, Solid*	370	J		36	690	1.00000	ug/Kg	25989		12/02/03 1942	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-MSD(B-7)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-14
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
8270C	Semivolatile Organics											
	Naphthalene, Solid*	1200	J		340	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	2-Methylnaphthalene, Solid*	640	J		300	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Acenaphthylene, Solid*	580	J		120	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Acenaphthene, Solid*	1800	J		160	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Fluorene, Solid*	2100	J		210	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Phenanthrene, Solid*	17000			260	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Anthracene, Solid*	4600			130	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Fluoranthene, Solid*	16000			240	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Pyrene, Solid*	15000			200	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Benzo(a)anthracene, Solid*	6700			160	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Chrysene, Solid*	6700			180	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Benzo(b)fluoranthene, Solid*	4100		M	410	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Benzo(k)fluoranthene, Solid*	4700		M	420	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Benzo(a)pyrene, Solid*	5800			170	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Indeno(1,2,3-cd)pyrene, Solid*	3200	J		190	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Dibenzo(a,h)anthracene, Solid*	1800	J		190	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw
	Benzo(ghi)perylene, Solid*	3300	J		180	3500	5.00000	ug/Kg	25989		12/03/03 1133	jdw

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(4-6)
Date Sampled.....: 11/12/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-1
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	beta-BHC, Solid*	1.4	J		0.29	1.8	1.00000	ug/Kg	25634		11/24/03 1844	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Aldrin, Solid*	ND	U		0.38	2.1	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Heptachlor epoxide, Solid*	1.3	J		0.12	1.8	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Dieldrin, Solid*	0.56	J		0.34	3.5	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	4,4'-DDE, Solid*	13			0.46	3.5	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Endrin, Solid*	ND	U		0.95	5.3	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	4,4'-DDD, Solid*	2.3	J		0.41	3.5	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.5	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	4,4'-DDT, Solid*	7.1			0.33	3.5	1.00000	ug/Kg	25634		11/24/03 1844	dmm
	Methoxychlor, Solid*	ND	U		2.3	18	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	gamma-Chlordane, Solid*	1.5	J		0.097	1.8	1.00000	ug/Kg	25634		11/24/03 1844	dmm
	Toxaphene, Solid*	ND	U		5.2	89	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Endrin aldehyde, Solid*	ND	U		0.34	3.5	1.00000	ug/Kg	25633		11/24/03 1646	dmm
	Endrin ketone, Solid*	11			0.15	3.5	1.00000	ug/Kg	25634		11/24/03 1844	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(10-12)
Date Sampled.....: 11/12/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-2
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	83.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	16.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	3.2			0.32	2.0	1.00000	ug/Kg	25634		11/24/03 1958	dmm
	beta-BHC, Solid*	ND	U		0.32	2.0	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	delta-BHC, Solid*	ND	U		0.12	2.0	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.18	2.0	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Heptachlor, Solid*	1.5	J		0.18	2.0	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Aldrin, Solid*	2.4			0.42	2.4	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Heptachlor epoxide, Solid*	6.3			0.13	2.0	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Endosulfan I, Solid*	ND	U		0.17	2.0	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Dieldrin, Solid*	ND	U		0.38	3.9	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	4,4'-DDE, Solid*	13			0.51	3.9	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Endrin, Solid*	19			1.0	5.9	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Endosulfan II, Solid*	ND	U		0.20	3.9	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	4,4'-DDD, Solid*	ND	U		0.45	3.9	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Endosulfan sulfate, Solid*	ND	U		0.20	3.9	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	4,4'-DDT, Solid*	ND	U		0.36	3.9	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Methoxychlor, Solid*	34			2.5	20	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	alpha-Chlordane, Solid*	ND	U		0.13	2.0	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	gamma-Chlordane, Solid*	4.1			0.11	2.0	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Toxaphene, Solid*	ND	U		5.7	98	1.00000	ug/Kg	25633		11/24/03 1750	dmm
	Endrin aldehyde, Solid*	3.2	J		0.38	3.9	1.00000	ug/Kg	25634		11/24/03 1958	dmm
	Endrin ketone, Solid*	ND	U		0.17	3.9	1.00000	ug/Kg	25633		11/24/03 1750	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B3-(3-7)
Date Sampled.....: 11/12/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-3
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	77.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	22.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.35	2.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	beta-BHC, Solid*	ND	U		0.34	2.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	delta-BHC, Solid*	ND	U		0.13	2.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.19	2.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Heptachlor, Solid*	ND	U		0.19	2.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Aldrin, Solid*	ND	U		0.46	2.6	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Heptachlor epoxide, Solid*	1.1	J		0.15	2.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Endosulfan I, Solid*	ND	U		0.19	2.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Dieldrin, Solid*	ND	U		0.41	4.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	4,4'-DDE, Solid*	4.1	J		0.56	4.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Endrin, Solid*	ND	U		1.1	6.4	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Endosulfan II, Solid*	ND	U		0.22	4.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	4,4'-DDD, Solid*	2.1	J		0.49	4.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Endosulfan sulfate, Solid*	ND	U		0.22	4.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	4,4'-DDT, Solid*	ND	U		0.40	4.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Methoxychlor, Solid*	ND	U		2.7	22	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	alpha-Chlordane, Solid*	ND	U		0.14	2.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	gamma-Chlordane, Solid*	0.67	J		0.12	2.2	1.00000	ug/Kg	25634		11/24/03 2034	dmm
	Toxaphene, Solid*	ND	U		6.2	110	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Endrin aldehyde, Solid*	ND	U		0.41	4.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm
	Endrin ketone, Solid*	ND	U		0.18	4.2	1.00000	ug/Kg	25633		11/24/03 1822	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B10-(8-12)
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-4
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	26.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.37	2.3	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	beta-BHC, Solid*	0.77	J		0.36	2.3	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	delta-BHC, Solid*	ND	U		0.14	2.3	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.20	2.3	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Heptachlor, Solid*	ND	U		0.20	2.3	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Aldrin, Solid*	ND	U		0.48	2.7	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Heptachlor epoxide, Solid*	1.2	J		0.15	2.3	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Endosulfan I, Solid*	ND	U		0.20	2.3	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Dieldrin, Solid*	ND	U		0.43	4.4	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	4,4'-DDE, Solid*	13			0.58	4.4	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Endrin, Solid*	5.8	J		1.2	6.7	1.00000	ug/Kg	25634		11/25/03 1728	dmm
	Endosulfan II, Solid*	ND	U		0.23	4.4	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	4,4'-DDD, Solid*	ND	U		0.51	4.4	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Endosulfan sulfate, Solid*	ND	U		0.23	4.4	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	4,4'-DDT, Solid*	5.0			0.42	4.4	1.00000	ug/Kg	25634		11/25/03 1728	dmm
	Methoxychlor, Solid*	ND	U		2.8	23	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	alpha-Chlordane, Solid*	ND	U		0.15	2.3	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	gamma-Chlordane, Solid*	ND	U		0.12	2.3	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Toxaphene, Solid*	ND	U		6.5	110	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Endrin aldehyde, Solid*	ND	U		0.43	4.4	1.00000	ug/Kg	25633		11/24/03 1853	dmm
	Endrin ketone, Solid*	ND	U		0.19	4.4	1.00000	ug/Kg	25633		11/24/03 1853	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B9-(4-8)
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-5
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	2.2			0.31	1.9	1.00000	ug/Kg	25634		11/24/03 2148	dmm
	beta-BHC, Solid*	ND	U		0.31	1.9	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	delta-BHC, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Heptachlor, Solid*	1.1	J		0.17	1.9	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Aldrin, Solid*	ND	U		0.41	2.3	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Heptachlor epoxide, Solid*	5.4			0.13	1.9	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Endosulfan I, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Dieldrin, Solid*	ND	U		0.37	3.8	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	4,4'-DDE, Solid*	18		M	0.50	3.8	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Endrin, Solid*	19			1.0	5.7	1.00000	ug/Kg	25634		11/24/03 2148	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.8	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	4,4'-DDD, Solid*	ND	U		0.44	3.8	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Endosulfan sulfate, Solid*	ND	U		0.20	3.8	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	4,4'-DDT, Solid*	ND	U		0.35	3.8	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Methoxychlor, Solid*	84			2.4	19	1.00000	ug/Kg	25634		11/24/03 2148	dmm
	alpha-Chlordane, Solid*	ND	U		0.13	1.9	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	gamma-Chlordane, Solid*	1.7	J		0.10	1.9	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Toxaphene, Solid*	ND	U		5.5	95	1.00000	ug/Kg	25633		11/24/03 1925	dmm
	Endrin aldehyde, Solid*	4.9			0.37	3.8	1.00000	ug/Kg	25634		11/24/03 2148	dmm
	Endrin ketone, Solid*	ND	U		0.16	3.8	1.00000	ug/Kg	25633		11/24/03 1925	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B8-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-6
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	2.4			0.28	1.8	1.00000	ug/Kg	25634		11/24/03 2224	dmm
	beta-BHC, Solid*	ND	U		0.28	1.8	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	gamma-BHC (Lindane), Solid*	17			0.16	1.8	1.00000	ug/Kg	25634		11/24/03 2224	dmm
	Heptachlor, Solid*	9.0			0.15	1.8	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	Aldrin, Solid*	11			0.37	2.1	1.00000	ug/Kg	25634		11/24/03 2224	dmm
	Heptachlor epoxide, Solid*	6.0			0.12	1.8	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.8	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	Dieldrin, Solid*	16			0.33	3.4	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	4,4'-DDE, Solid*	16		M	0.45	3.4	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	Endrin, Solid*	33		M	0.92	5.2	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	4,4'-DDD, Solid*	ND	U		0.39	3.4	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	4,4'-DDT, Solid*	18			0.32	3.4	1.00000	ug/Kg	25634		11/24/03 2224	dmm
	Methoxychlor, Solid*	65			2.2	18	1.00000	ug/Kg	25634		11/24/03 2224	dmm
	alpha-Chlordane, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	gamma-Chlordane, Solid*	2.6			0.094	1.8	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	Toxaphene, Solid*	ND	U		5.0	86	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	Endrin aldehyde, Solid*	ND	U		0.33	3.4	1.00000	ug/Kg	25633		11/24/03 1957	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.4	1.00000	ug/Kg	25633		11/24/03 1957	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B4-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-7
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	4.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.28	1.8	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	beta-BHC, Solid*	ND	U		0.28	1.8	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	Heptachlor, Solid*	0.36	J		0.15	1.8	1.00000	ug/Kg	25634		11/25/03 1842	dmm
	Aldrin, Solid*	ND	U		0.37	2.1	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.8	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.8	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	Dieldrin, Solid*	ND	U		0.33	3.4	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	4,4'-DDE, Solid*	2.3	J		0.45	3.4	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	Endrin, Solid*	ND	U		0.92	5.2	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	4,4'-DDD, Solid*	1.7	J		0.39	3.4	1.00000	ug/Kg	25634		11/25/03 1842	dmm.
	Endosulfan sulfate, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	4,4'-DDT, Solid*	2.1	J		0.32	3.4	1.00000	ug/Kg	25634		11/25/03 1842	dmm
	Methoxychlor, Solid*	ND	U		2.2	18	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	alpha-Chlordane, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	gamma-Chlordane, Solid*	ND	U		0.094	1.8	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	Toxaphene, Solid*	ND	U		5.0	86	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	Endrin aldehyde, Solid*	ND	U		0.33	3.4	1.00000	ug/Kg	25633		11/24/03 2029	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.4	1.00000	ug/Kg	25633		11/24/03 2029	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B6-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-8
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
-8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.29	1.8	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	beta-BHC, Solid*	ND	U		0.28	1.8	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	delta-BHC, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	Heptachlor, Solid*	ND	U		0.16	1.8	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	Aldrin, Solid*	ND	U		0.37	2.1	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	Heptachlor epoxide, Solid*	34			0.12	1.8	1.00000	ug/Kg	25634		11/25/03 0014	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.8	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	Dieldrin, Solid*	0.73	J		0.33	3.4	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	4,4'-DDE, Solid*	19			0.45	3.4	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	Endrin, Solid*	8.1			0.93	5.2	1.00000	ug/Kg	25634		11/25/03 0014	dmm
	Endosulfan II, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	4,4'-DDD, Solid*	ND	U		0.40	3.4	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.4	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	4,4'-DDT, Solid*	4.4			0.32	3.4	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	Methoxychlor, Solid*	46			2.2	18	1.00000	ug/Kg	25634		11/25/03 0014	dmm
	alpha-Chlordane, Solid*	ND	U		0.11	1.8	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	gamma-Chlordane, Solid*	1.5	J		0.095	1.8	1.00000	ug/Kg	25634		11/25/03 0014	dmm
	Toxaphene, Solid*	ND	U		5.0	87	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	Endrin aldehyde, Solid*	ND	U		0.34	3.4	1.00000	ug/Kg	25633		11/24/03 2133	dmm
	Endrin ketone, Solid*	10			0.15	3.4	1.00000	ug/Kg	25633		11/24/03 2133	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B11-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-9
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.28	1.7	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	beta-BHC, Solid*	ND	U		0.27	1.7	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	delta-BHC, Solid*	ND	U		0.10	1.7	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Heptachlor, Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Aldrin, Solid*	ND	U		0.36	2.0	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Heptachlor epoxide, Solid*	ND	U		0.11	1.7	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Dieldrin, Solid*	ND	U		0.32	3.3	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	4,4'-DDE, Solid*	ND	U		0.44	3.3	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Endrin, Solid*	ND	U		0.90	5.0	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Endosulfan II, Solid*	ND	U		0.17	3.3	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	4,4'-DDD, Solid*	ND	U		0.38	3.3	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Endosulfan sulfate, Solid*	ND	U		0.17	3.3	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	4,4'-DDT, Solid*	ND	U		0.31	3.3	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Methoxychlor, Solid*	ND	U		2.1	17	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	alpha-Chlordane, Solid*	0.68	J		0.11	1.7	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	gamma-Chlordane, Solid*	0.80	J		0.092	1.7	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Toxaphene, Solid*	ND	U		4.9	84	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Endrin aldehyde, Solid*	ND	U		0.32	3.3	1.00000	ug/Kg	25633		11/24/03 2205	dmm
	Endrin ketone, Solid*	ND	U		0.14	3.3	1.00000	ug/Kg	25633		11/24/03 2205	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B12-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-10
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.28	1.7	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	beta-BHC, Solid*	ND	U		0.27	1.7	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	delta-BHC, Solid*	ND	U		0.10	1.7	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Heptachlor, Solid*	0.60	J		0.15	1.7	1.00000	ug/Kg	25634		11/25/03 0128	dmm
	Aldrin, Solid*	ND	U		0.36	2.0	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Heptachlor epoxide, Solid*	ND	U		0.11	1.7	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Dieldrin, Solid*	ND	U		0.32	3.3	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	4,4'-DDE, Solid*	ND	U		0.43	3.3	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Endrin, Solid*	ND	U		0.89	5.0	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Endosulfan II, Solid*	ND	U		0.17	3.3	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	4,4'-DDD, Solid*	ND	U		0.38	3.3	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Endosulfan sulfate, Solid*	ND	U		0.17	3.3	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	4,4'-DDT, Solid*	ND	U		0.31	3.3	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Methoxychlor, Solid*	ND	U		2.1	17	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	alpha-Chlordane, Solid*	ND	U		0.11	1.7	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	gamma-Chlordane, Solid*	0.17	J		0.091	1.7	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Toxaphene, Solid*	ND	U		4.8	83	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Endrin aldehyde, Solid*	ND	U		0.32	3.3	1.00000	ug/Kg	25633		11/24/03 2308	dmm
	Endrin ketone, Solid*	ND	U		0.14	3.3	1.00000	ug/Kg	25633		11/24/03 2308	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-SURFACE
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-11
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	beta-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	delta-BHC, Solid*	ND	U		0.11	1.9	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Heptachlor, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Aldrin, Solid*	ND	U		0.39	2.2	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Heptachlor epoxide, Solid*	0.46	J		0.13	1.9	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.9	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Dieldrin, Solid*	3.1	J		0.35	3.6	1.00000	ug/Kg	25634		11/25/03 0204	dmm
	4,4'-DDE, Solid*	5.0			0.48	3.6	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Endrin, Solid*	ND	U		0.98	5.5	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.6	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	4,4'-DDD, Solid*	ND	U		0.42	3.6	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.6	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	4,4'-DDT, Solid*	0.56	J		0.34	3.6	1.00000	ug/Kg	25634		11/25/03 0204	dmm
	Methoxychlor, Solid*	ND	U		2.3	19	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	gamma-Chlordane, Solid*	ND	U		0.10	1.9	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Toxaphene, Solid*	ND	U		5.3	92	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Endrin aldehyde, Solid*	ND	U		0.36	3.6	1.00000	ug/Kg	25633		11/24/03 2340	dmm
	Endrin ketone, Solid*	3.3	J		0.16	3.6	1.00000	ug/Kg	25633		11/24/03 2340	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-12
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	97.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	2.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
-8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.28	1.7	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	beta-BHC, Solid*	ND	U		0.27	1.7	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	delta-BHC, Solid*	ND	U		0.10	1.7	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Heptachlor, Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Aldrin, Solid*	ND	U		0.36	2.0	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Heptachlor epoxide, Solid*	ND	U		0.12	1.7	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Endosulfan I, Solid*	ND	U		0.15	1.7	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Dieldrin, Solid*	ND	U		0.33	3.3	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	4,4'-DDE, Solid*	ND	U		0.44	3.3	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Endrin, Solid*	ND	U		0.90	5.1	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Endosulfan II, Solid*	ND	U		0.17	3.3	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	4,4'-DDD, Solid*	ND	U		0.39	3.3	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Endosulfan sulfate, Solid*	ND	U		0.18	3.3	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	4,4'-DDT, Solid*	ND	U		0.31	3.3	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Methoxychlor, Solid*	ND	U		2.1	17	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	alpha-Chlordane, Solid*	ND	U		0.11	1.7	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	gamma-Chlordane, Solid*	ND	U		0.092	1.7	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Toxaphene, Solid*	ND	U		4.9	84	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Endrin aldehyde, Solid*	ND	U		0.33	3.3	1.00000	ug/Kg	25633		11/25/03 0012	dmm
	Endrin ketone, Solid*	ND	U		0.15	3.3	1.00000	ug/Kg	25633		11/25/03 0012	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B5-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-13
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	90.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	9.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	beta-BHC, Solid*	0.86	J		0.30	1.9	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	delta-BHC, Solid*	ND	U		0.11	1.9	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Heptachlor, Solid*	1.2	J		0.16	1.9	1.00000	ug/Kg	25634		11/25/03 2108	dmm
	Aldrin, Solid*	ND	U		0.39	2.2	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Heptachlor epoxide, Solid*	1.3	J		0.13	1.9	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.9	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Dieldrin, Solid*	0.75	J		0.35	3.6	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	4,4'-DDE, Solid*	6.4			0.48	3.6	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Endrin, Solid*	ND	U		0.98	5.5	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.6	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	4,4'-DDD, Solid*	2.3	J		0.42	3.6	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.6	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	4,4'-DDT, Solid*	5.3			0.34	3.6	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Methoxychlor, Solid*	ND	U		2.3	19	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	alpha-Chlordane, Solid*	1.6	J		0.12	1.9	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	gamma-Chlordane, Solid*	1.4	J		0.10	1.9	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Toxaphene, Solid*	ND	U		5.3	91	1.00000	ug/Kg	25633		11/25/03 0044	dmm
	Endrin aldehyde, Solid*	0.98	J		0.35	3.6	1.00000	ug/Kg	25634		11/25/03 2108	dmm
	Endrin ketone, Solid*	ND	U		0.16	3.6	1.00000	ug/Kg	25633		11/25/03 0044	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/01/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-MSD(B-7)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-14
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	beta-BHC, Solid*	ND	U		0.30	1.9	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	delta-BHC, Solid*	ND	U		0.11	1.9	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	gamma-BHC (Lindane), Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Heptachlor, Solid*	ND	U		0.17	1.9	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Aldrin, Solid*	ND	U		0.39	2.2	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Heptachlor epoxide, Solid*	4.9			0.13	1.9	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Endosulfan I, Solid*	ND	U		0.16	1.9	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Dieldrin, Solid*	2.6	J		0.36	3.7	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	4,4'-DDE, Solid*	18			0.48	3.7	1.00000	ug/Kg	25634		11/25/03 0354	dmm
	Endrin, Solid*	12			0.99	5.5	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Endosulfan II, Solid*	ND	U		0.19	3.7	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	4,4'-DDD, Solid*	26			0.42	3.7	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Endosulfan sulfate, Solid*	ND	U		0.19	3.7	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	4,4'-DDT, Solid*	ND	U		0.34	3.7	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Methoxychlor, Solid*	ND	U		2.3	19	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	alpha-Chlordane, Solid*	ND	U		0.12	1.9	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	gamma-Chlordane, Solid*	2.5			0.10	1.9	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Toxaphene, Solid*	ND	U		5.4	92	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Endrin aldehyde, Solid*	ND	U		0.36	3.7	1.00000	ug/Kg	25633		11/25/03 0116	dmm
	Endrin ketone, Solid*	19			0.16	3.7	1.00000	ug/Kg	25634		11/25/03 0354	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(4-6)
Date Sampled.....: 11/12/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-1
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.0	18	1.00000	ug/Kg	25765		11/22/03 1956	dmm
	Aroclor 1221, Solid*	ND	U		1.6	35	1.00000	ug/Kg	25765		11/22/03 1956	dmm
	Aroclor 1232, Solid*	ND	U		2.0	18	1.00000	ug/Kg	25765		11/22/03 1956	dmm
	Aroclor 1242, Solid*	ND	U		3.2	18	1.00000	ug/Kg	25765		11/22/03 1956	dmm
	Aroclor 1248, Solid*	ND	U		2.9	18	1.00000	ug/Kg	25765		11/22/03 1956	dmm
	Aroclor 1254, Solid*	10	J	M	1.3	18	1.00000	ug/Kg	25765		11/22/03 1956	dmm
	Aroclor 1260, Solid*	32		M	4.3	18	1.00000	ug/Kg	25765		11/22/03 1956	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(10-12)
Date Sampled.....: 11/12/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-2
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	83.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	16.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.3	20	1.00000	ug/Kg	25765		11/24/03 1552	dmm
	Aroclor 1221, Solid*	ND	U		1.8	39	1.00000	ug/Kg	25765		11/24/03 1552	dmm
	Aroclor 1232, Solid*	ND	U		2.2	20	1.00000	ug/Kg	25765		11/24/03 1552	dmm
	Aroclor 1242, Solid*	ND	U		3.5	20	1.00000	ug/Kg	25765		11/24/03 1552	dmm
	Aroclor 1248, Solid*	ND	U		3.2	20	1.00000	ug/Kg	25765		11/24/03 1552	dmm
	Aroclor 1254, Solid*	ND	U		1.4	20	1.00000	ug/Kg	25765		11/24/03 1552	dmm
	Aroclor 1260, Solid*	ND	U		4.7	20	1.00000	ug/Kg	25765		11/24/03 1552	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B3-(3-7)
Date Sampled.....: 11/12/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-3
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	77.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	22.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.6	22	1.00000	ug/Kg	25765		11/22/03 2033	dmm
	Aroclor 1221, Solid*	ND	U		2.0	42	1.00000	ug/Kg	25765		11/22/03 2033	dmm
	Aroclor 1232, Solid*	ND	U		2.4	22	1.00000	ug/Kg	25765		11/22/03 2033	dmm
	Aroclor 1242, Solid*	ND	U		3.8	22	1.00000	ug/Kg	25765		11/22/03 2033	dmm
	Aroclor 1248, Solid*	ND	U		3.4	22	1.00000	ug/Kg	25765		11/22/03 2033	dmm
	Aroclor 1254, Solid*	ND	U		1.6	22	1.00000	ug/Kg	25765		11/22/03 2033	dmm
	Aroclor 1260, Solid*	18	J		5.1	22	1.00000	ug/Kg	25765		11/22/03 2033	dmm

* In Description = Dry Wgt.

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B10-(8-12)
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-4
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	26.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.8	23	1.00000	ug/Kg	25765		11/22/03 2051	dmm
	Aroclor 1221, Solid*	ND	U		2.1	44	1.00000	ug/Kg	25765		11/22/03 2051	dmm
	Aroclor 1232, Solid*	ND	U		2.5	23	1.00000	ug/Kg	25765		11/22/03 2051	dmm
	Aroclor 1242, Solid*	ND	U		4.0	23	1.00000	ug/Kg	25765		11/22/03 2051	dmm
	Aroclor 1248, Solid*	ND	U		3.6	23	1.00000	ug/Kg	25765		11/22/03 2051	dmm
	Aroclor 1254, Solid*	24			1.6	23	1.00000	ug/Kg	25765		11/22/03 2051	dmm
	Aroclor 1260, Solid*	33			5.4	23	1.00000	ug/Kg	25765		11/22/03 2051	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date: 12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B9-(4-8)
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-5
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.2	19	1.00000	ug/Kg	25765		11/22/03 2109	dmm
	Aroclor 1221, Solid*	ND	U		1.8	38	1.00000	ug/Kg	25765		11/22/03 2109	dmm
	Aroclor 1232, Solid*	ND	U		2.1	19	1.00000	ug/Kg	25765		11/22/03 2109	dmm
	Aroclor 1242, Solid*	ND	U		3.4	19	1.00000	ug/Kg	25765		11/22/03 2109	dmm
	Aroclor 1248, Solid*	ND	U		3.1	19	1.00000	ug/Kg	25765		11/22/03 2109	dmm
	Aroclor 1254, Solid*	ND	U		1.4	19	1.00000	ug/Kg	25765		11/22/03 2109	dmm
	Aroclor 1260, Solid*	ND	U		4.6	19	1.00000	ug/Kg	25765		11/22/03 2109	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B8-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-6
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	18	1.00000	ug/Kg	25765		11/22/03 2127	dmm
	Aroclor 1221, Solid*	ND	U		1.6	34	1.00000	ug/Kg	25765		11/22/03 2127	dmm
	Aroclor 1232, Solid*	ND	U		1.9	18	1.00000	ug/Kg	25765		11/22/03 2127	dmm
	Aroclor 1242, Solid*	ND	U		3.1	18	1.00000	ug/Kg	25765		11/22/03 2127	dmm
	Aroclor 1248, Solid*	ND	U		2.8	18	1.00000	ug/Kg	25765		11/22/03 2127	dmm
	Aroclor 1254, Solid*	ND	U		1.2	18	1.00000	ug/Kg	25765		11/22/03 2127	dmm
	Aroclor 1260, Solid*	17	J	M	4.1	18	1.00000	ug/Kg	25765		11/22/03 2127	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B4-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-7
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	4.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	18	1.00000	ug/Kg	25765		11/22/03 2146	dmm
	Aroclor 1221, Solid*	ND	U		1.6	34	1.00000	ug/Kg	25765		11/22/03 2146	dmm
	Aroclor 1232, Solid*	ND	U		1.9	18	1.00000	ug/Kg	25765		11/22/03 2146	dmm
	Aroclor 1242, Solid*	ND	U		3.1	18	1.00000	ug/Kg	25765		11/22/03 2146	dmm
	Aroclor 1248, Solid*	ND	U		2.8	18	1.00000	ug/Kg	25765		11/22/03 2146	dmm
	Aroclor 1254, Solid*	16	J		1.2	18	1.00000	ug/Kg	25765		11/22/03 2146	dmm
	Aroclor 1260, Solid*	16	J		4.1	18	1.00000	ug/Kg	25765		11/22/03 2146	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B6-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-8
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	18	1.00000	ug/Kg	25765		11/22/03 2204	dmm
	Aroclor 1221, Solid*	ND	U		1.6	34	1.00000	ug/Kg	25765		11/22/03 2204	dmm
	Aroclor 1232, Solid*	ND	U		1.9	18	1.00000	ug/Kg	25765		11/22/03 2204	dmm
	Aroclor 1242, Solid*	ND	U		3.1	18	1.00000	ug/Kg	25765		11/22/03 2204	dmm
	Aroclor 1248, Solid*	ND	U		2.8	18	1.00000	ug/Kg	25765		11/22/03 2204	dmm
	Aroclor 1254, Solid*	ND	U		1.3	18	1.00000	ug/Kg	25765		11/22/03 2204	dmm
	Aroclor 1260, Solid*	27			4.2	18	1.00000	ug/Kg	25765		11/22/03 2204	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B11-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-9
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.8	17	1.00000	ug/Kg	25765		11/22/03 2222	dmm
	Aroclor 1221, Solid*	ND	U		1.5	33	1.00000	ug/Kg	25765		11/22/03 2222	dmm
	Aroclor 1232, Solid*	ND	U		1.9	17	1.00000	ug/Kg	25765		11/22/03 2222	dmm
	Aroclor 1242, Solid*	ND	U		3.0	17	1.00000	ug/Kg	25765		11/22/03 2222	dmm
	Aroclor 1248, Solid*	ND	U		2.7	17	1.00000	ug/Kg	25765		11/22/03 2222	dmm
	Aroclor 1254, Solid*	ND	U		1.2	17	1.00000	ug/Kg	25765		11/22/03 2222	dmm
	Aroclor 1260, Solid*	ND	U		4.0	17	1.00000	ug/Kg	25765		11/22/03 2222	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B12-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-10
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.8	17	1.00000	ug/Kg	25765		11/22/03 2241	dmm
	Aroclor 1221, Solid*	ND	U		1.5	33	1.00000	ug/Kg	25765		11/22/03 2241	dmm
	Aroclor 1232, Solid*	ND	U		1.9	17	1.00000	ug/Kg	25765		11/22/03 2241	dmm
	Aroclor 1242, Solid*	ND	U		3.0	17	1.00000	ug/Kg	25765		11/22/03 2241	dmm
	Aroclor 1248, Solid*	ND	U		2.7	17	1.00000	ug/Kg	25765		11/22/03 2241	dmm
	Aroclor 1254, Solid*	ND	U		1.2	17	1.00000	ug/Kg	25765		11/22/03 2241	dmm
	Aroclor 1260, Solid*	ND	U		4.0	17	1.00000	ug/Kg	25765		11/22/03 2241	dmm

* in Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-SURFACE
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-11
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.1	19	1.00000	ug/Kg	25765		11/24/03 1610	dmm
	Aroclor 1221, Solid*	ND	U		1.7	36	1.00000	ug/Kg	25765		11/24/03 1610	dmm
	Aroclor 1232, Solid*	ND	U		2.1	19	1.00000	ug/Kg	25765		11/24/03 1610	dmm
	Aroclor 1242, Solid*	ND	U		3.3	19	1.00000	ug/Kg	25765		11/24/03 1610	dmm
	Aroclor 1248, Solid*	ND	U		3.0	19	1.00000	ug/Kg	25765		11/24/03 1610	dmm
	Aroclor 1254, Solid*	ND	U		1.3	19	1.00000	ug/Kg	25765		11/24/03 1610	dmm
	Aroclor 1260, Solid*	27		M	4.4	19	1.00000	ug/Kg	25765		11/24/03 1610	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-12
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	97.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	2.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		2.9	17	1.00000	ug/Kg	25765		11/22/03 2317	dmm
	Aroclor 1221, Solid*	ND	U		1.6	33	1.00000	ug/Kg	25765		11/22/03 2317	dmm
	Aroclor 1232, Solid*	ND	U		1.9	17	1.00000	ug/Kg	25765		11/22/03 2317	dmm
	Aroclor 1242, Solid*	ND	U		3.0	17	1.00000	ug/Kg	25765		11/22/03 2317	dmm
	Aroclor 1248, Solid*	ND	U		2.7	17	1.00000	ug/Kg	25765		11/22/03 2317	dmm
	Aroclor 1254, Solid*	ND	U		1.2	17	1.00000	ug/Kg	25765		11/22/03 2317	dmm
	Aroclor 1260, Solid*	ND	U		4.0	17	1.00000	ug/Kg	25765		11/22/03 2317	dmm

* In Description = Dry Wgt.

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B5-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-13
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	90.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	9.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.1	19	1.00000	ug/Kg	25765		11/24/03 1629	dmm
	Aroclor 1221, Solid*	ND	U		1.7	36	1.00000	ug/Kg	25765		11/24/03 1629	dmm
	Aroclor 1232, Solid*	ND	U		2.0	19	1.00000	ug/Kg	25765		11/24/03 1629	dmm
	Aroclor 1242, Solid*	ND	U		3.3	19	1.00000	ug/Kg	25765		11/24/03 1629	dmm
	Aroclor 1248, Solid*	ND	U		3.0	19	1.00000	ug/Kg	25765		11/24/03 1629	dmm
	Aroclor 1254, Solid*	ND	U		1.3	19	1.00000	ug/Kg	25765		11/24/03 1629	dmm
	Aroclor 1260, Solid*	13	J	M	4.4	19	1.00000	ug/Kg	25765		11/24/03 1629	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:12/03/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP-MSD(B-7)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-14
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
8082	PCB Analysis											
	Aroclor 1016, Solid*	ND	U		3.1	19	1.00000	ug/Kg	25765		11/24/03 1647	dmm
	Aroclor 1221, Solid*	ND	U		1.7	37	1.00000	ug/Kg	25765		11/24/03 1647	dmm
	Aroclor 1232, Solid*	ND	U		2.1	19	1.00000	ug/Kg	25765		11/24/03 1647	dmm
	Aroclor 1242, Solid*	ND	U		3.3	19	1.00000	ug/Kg	25765		11/24/03 1647	dmm
	Aroclor 1248, Solid*	ND	U		3.0	19	1.00000	ug/Kg	25765		11/24/03 1647	dmm
	Aroclor 1254, Solid*	ND	U		1.3	19	1.00000	ug/Kg	25765		11/24/03 1647	dmm
	Aroclor 1260, Solid*	170			4.4	19	1.00000	ug/Kg	25765		11/24/03 1647	dmm

* In Description = Dry Wgt.

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(4-6)
Date Sampled.....: 11/12/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-1
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	8.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.18	B	*	0.050	2.0	1.0000	mg/Kg	25588		11/24/03 1541	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	5.7	B	*	1.3	10.0	5	mg/Kg	25590		11/24/03 1202	nnp
	Barium, Solid*	140			0.38	2.5	5	mg/Kg	25590		11/24/03 1202	nnp
	Cadmium, Solid*	1.7	B	N	1.3	3.8	5	mg/Kg	25590		11/24/03 1202	nnp
	Chromium, Solid*	18.9			0.63	3.8	5	mg/Kg	25590		11/24/03 1202	nnp
	Lead, Solid*	216		*	1.3	11.3	5	mg/Kg	25590		11/24/03 1202	nnp
	Selenium, Solid*	ND	U		2.0	20.1	5	mg/Kg	25590		11/24/03 1202	nnp
	Silver, Solid*	ND	U		0.38	3.8	5	mg/Kg	25590		11/24/03 1202	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B1-(10-12)
Date Sampled.....: 11/12/2003
Time Sampled.....: 10:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-2
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	83.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	16.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.78	B	*	0.058	2.3	1.0000	mg/Kg	25588		11/24/03 1542	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	8.0	B	*	1.5	11.6	5	mg/Kg	25590		11/24/03 1208	nnp
	Barium, Solid*	2800			0.44	2.9	5	mg/Kg	25590		11/24/03 1208	nnp
	Cadmium, Solid*	ND	U	N	1.5	4.4	5	mg/Kg	25590		11/24/03 1208	nnp
	Chromium, Solid*	16.2			0.73	4.4	5	mg/Kg	25590		11/24/03 1208	nnp
	Lead, Solid*	916		*	1.5	13.1	5	mg/Kg	25590		11/24/03 1208	nnp
	Selenium, Solid*	ND	U		2.3	23.2	5	mg/Kg	25590		11/24/03 1208	nnp
	Silver, Solid*	ND	U		0.44	4.4	5	mg/Kg	25590		11/24/03 1208	nnp

* In Description = Dry Wgt.

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B3-(3-7)
Date Sampled.....: 11/12/2003
Time Sampled.....: 14:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-3
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	77.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	22.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.23	B	*	0.058	2.3	1.0000	mg/Kg	25588		11/24/03 1544	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	4.9	B	*	1.4	11.0	5	mg/Kg	25590		11/24/03 1214	nnp
	Barium, Solid*	144			0.41	2.7	5	mg/Kg	25590		11/24/03 1214	nnp
	Cadmium, Solid*	ND	U	N	1.4	4.1	5	mg/Kg	25590		11/24/03 1214	nnp
	Chromium, Solid*	18.3			0.69	4.1	5	mg/Kg	25590		11/24/03 1214	nnp
	Lead, Solid*	151		*	1.4	12.4	5	mg/Kg	25590		11/24/03 1214	nnp
	Selenium, Solid*	ND	U		2.2	22.0	5	mg/Kg	25590		11/24/03 1214	nnp
	Silver, Solid*	ND	U		0.41	4.1	5	mg/Kg	25590		11/24/03 1214	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B10-(8-12)
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-4
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	73.2			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	26.8			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.31	B	*	0.050	2.0	1.0000	mg/Kg	25588		11/24/03 1545	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	19.1		*	1.6	12.4	5	mg/Kg	25590		11/24/03 1220	nnp
	Barium, Solid*	49.6			0.47	3.1	5	mg/Kg	25590		11/24/03 1220	nnp
	Cadmium, Solid*	ND	U	N	1.6	4.7	5	mg/Kg	25590		11/24/03 1220	nnp
	Chromium, Solid*	10.9			0.78	4.7	5	mg/Kg	25590		11/24/03 1220	nnp
	Lead, Solid*	68.7		*	1.6	14.0	5	mg/Kg	25590		11/24/03 1220	nnp
	Selenium, Solid*	ND	U		2.5	24.8	5	mg/Kg	25590		11/24/03 1220	nnp
	Silver, Solid*	ND	U		0.47	4.7	5	mg/Kg	25590		11/24/03 1220	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B9-(4-8)
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-5
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	87.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	12.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.49	B	*	0.044	1.8	1.0000	mg/Kg	25588		11/24/03 1546	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	9.8	B	*	1.3	10.7	5	mg/Kg	25590		11/24/03 1227	nnp
	Barium, Solid*	442			0.40	2.7	5	mg/Kg	25590		11/24/03 1227	nnp
	Cadmium, Solid*	ND	U	N	1.3	4.0	5	mg/Kg	25590		11/24/03 1227	nnp
	Chromium, Solid*	14.5			0.67	4.0	5	mg/Kg	25590		11/24/03 1227	nnp
	Lead, Solid*	468		*	1.3	12.1	5	mg/Kg	25590		11/24/03 1227	nnp
	Selenium, Solid*	ND	U		2.1	21.5	5	mg/Kg	25590		11/24/03 1227	nnp
	Silver, Solid*	ND	U		0.40	4.0	5	mg/Kg	25590		11/24/03 1227	nnp

* In Description = Dry Wgt.

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B8-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-6
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.0			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.20	B	*	0.040	1.6	1.0000	mg/Kg	25588		11/24/03 1550	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	3.9	B	*	1.3	10.4	5	mg/Kg	25590		11/24/03 1309	nnp
	Barium, Solid*	73.1			0.39	2.6	5	mg/Kg	25590		11/24/03 1309	nnp
	Cadmium, Solid*	ND	U	N	1.3	3.9	5	mg/Kg	25590		11/24/03 1309	nnp
	Chromium, Solid*	9.2			0.65	3.9	5	mg/Kg	25590		11/24/03 1309	nnp
	Lead, Solid*	193		*	1.3	11.7	5	mg/Kg	25590		11/24/03 1309	nnp
	Selenium, Solid*	ND	U		2.1	20.8	5	mg/Kg	25590		11/24/03 1309	nnp
	Silver, Solid*	ND	U		0.39	3.9	5	mg/Kg	25590		11/24/03 1309	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B4-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-7
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	95.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	4.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.15	B	*	0.046	1.9	1.0000	mg/Kg	25588		11/24/03 1554	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	2.7	B	*	1.3	10.2	5	mg/Kg	25590		11/24/03 1315	nnp
	Barium, Solid*	39.3			0.38	2.5	5	mg/Kg	25590		11/24/03 1315	nnp
	Cadmium, Solid*	4.2		N	1.3	3.8	5	mg/Kg	25590		11/24/03 1315	nnp
	Chromium, Solid*	8.4			0.64	3.8	5	mg/Kg	25590		11/24/03 1315	nnp
	Lead, Solid*	144		*	1.3	11.5	5	mg/Kg	25590		11/24/03 1315	nnp
	Selenium, Solid*	ND	U		2.0	20.4	5	mg/Kg	25590		11/24/03 1315	nnp
	Silver, Solid*	ND	U		0.38	3.8	5	mg/Kg	25590		11/24/03 1315	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B6-(0-4)
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-8
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	94.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	5.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.32	B	*	0.045	1.8	1.0000	mg/Kg	25588		11/24/03 1555	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	5.4	B	*	1.3	10.1	5	mg/Kg	25590		11/24/03 1321	nnp
	Barium, Solid*	118			0.38	2.5	5	mg/Kg	25590		11/24/03 1321	nnp
	Cadmium, Solid*	ND	U	N	1.3	3.8	5	mg/Kg	25590		11/24/03 1321	nnp
	Chromium, Solid*	12.8			0.63	3.8	5	mg/Kg	25590		11/24/03 1321	nnp
	Lead, Solid*	159		*	1.3	11.3	5	mg/Kg	25590		11/24/03 1321	nnp
	Selenium, Solid*	ND	U		2.0	20.1	5	mg/Kg	25590		11/24/03 1321	nnp
	Silver, Solid*	ND	U		0.38	3.8	5	mg/Kg	25590		11/24/03 1321	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B11-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:00
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-9
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	ND	U	*	0.042	1.7	1.0000	mg/Kg	25588		11/24/03 1557	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	ND	U	*	1.2	9.9	5	mg/Kg	25590		11/24/03 1327	nnp
	Barium, Solid*	5.5			0.37	2.5	5	mg/Kg	25590		11/24/03 1327	nnp
	Cadmium, Solid*	ND	U	N	1.2	3.7	5	mg/Kg	25590		11/24/03 1327	nnp
	Chromium, Solid*	5.9			0.62	3.7	5	mg/Kg	25590		11/24/03 1327	nnp
	Lead, Solid*	2.0	B	*	1.2	11.1	5	mg/Kg	25590		11/24/03 1327	nnp
	Selenium, Solid*	ND	U		2.0	19.8	5	mg/Kg	25590		11/24/03 1327	nnp
	Silver, Solid*	ND	U		0.37	3.7	5	mg/Kg	25590		11/24/03 1327	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B12-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:15
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-10
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	98.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	1.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	ND	U	*	0.038	1.5	1.0000	mg/Kg	25588		11/24/03 1558	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	ND	U	*	1.2	9.9	5	mg/Kg	25590		11/24/03 1333	nnp
	Barium, Solid*	8.0			0.37	2.5	5	mg/Kg	25590		11/24/03 1333	nnp
	Cadmium, Solid*	ND	U	N	1.2	3.7	5	mg/Kg	25590		11/24/03 1333	nnp
	Chromium, Solid*	7.0			0.62	3.7	5	mg/Kg	25590		11/24/03 1333	nnp
	Lead, Solid*	6.7	B	*	1.2	11.2	5	mg/Kg	25590		11/24/03 1333	nnp
	Selenium, Solid*	ND	U		2.0	19.9	5	mg/Kg	25590		11/24/03 1333	nnp
	Silver, Solid*	ND	U		0.37	3.7	5	mg/Kg	25590		11/24/03 1333	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-SURFACE
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-11
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	89.6			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.4			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.097	B	*	0.052	2.1	1.0000	mg/Kg	25588		11/24/03 1558	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	2.1	B	*	1.2	9.7	5	mg/Kg	25590		11/24/03 1339	nnp
	Barium, Solid*	198			0.36	2.4	5	mg/Kg	25590		11/24/03 1339	nnp
	Cadmium, Solid*	3.3	B	N	1.2	3.6	5	mg/Kg	25590		11/24/03 1339	nnp
	Chromium, Solid*	19.7			0.61	3.6	5	mg/Kg	25590		11/24/03 1339	nnp
	Lead, Solid*	1420		*	1.2	10.9	5	mg/Kg	25590		11/24/03 1339	nnp
	Selenium, Solid*	ND	U		1.9	19.4	5	mg/Kg	25590		11/24/03 1339	nnp
	Silver, Solid*	ND	U		0.36	3.6	5	mg/Kg	25590		11/24/03 1339	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B2-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:30
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-12
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	97.3			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	2.7			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	ND	U	*	0.046	1.8	1.0000	mg/Kg	25588		11/24/03 1600	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	ND	U	*	1.2	9.3	5	mg/Kg	25590		11/24/03 1345	nnp
	Barium, Solid*	4.4			0.35	2.3	5	mg/Kg	25590		11/24/03 1345	nnp
	Cadmium, Solid*	ND	U	N	1.2	3.5	5	mg/Kg	25590		11/24/03 1345	nnp
	Chromium, Solid*	1.7	B		0.58	3.5	5	mg/Kg	25590		11/24/03 1345	nnp
	Lead, Solid*	1.4	B	*	1.2	10.5	5	mg/Kg	25590		11/24/03 1345	nnp
	Selenium, Solid*	ND	U		1.9	18.7	5	mg/Kg	25590		11/24/03 1345	nnp
	Silver, Solid*	ND	U		0.35	3.5	5	mg/Kg	25590		11/24/03 1345	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-B5-(4-8)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-13
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	90.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	9.5			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.30	B	*	0.053	2.1	1.0000	mg/Kg	25588		11/24/03 1601	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	4.4	B	*	1.2	9.4	5	mg/Kg	25590		11/24/03 1351	nnp
	Barium, Solid*	85.8			0.35	2.4	5	mg/Kg	25590		11/24/03 1351	nnp
	Cadmium, Solid*	ND	U	N	1.2	3.5	5	mg/Kg	25590		11/24/03 1351	nnp
	Chromium, Solid*	28.1			0.59	3.5	5	mg/Kg	25590		11/24/03 1351	nnp
	Lead, Solid*	90.6		*	1.2	10.6	5	mg/Kg	25590		11/24/03 1351	nnp
	Selenium, Solid*	ND	U		1.9	18.9	5	mg/Kg	25590		11/24/03 1351	nnp
	Silver, Solid*	ND	U		0.35	3.5	5	mg/Kg	25590		11/24/03 1351	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205330

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP-MSD(B-7)
Date Sampled.....: 11/14/2003
Time Sampled.....: 09:45
Sample Matrix.....: Soil

Laboratory Sample ID: 205330-14
Date Received.....: 11/14/2003
Time Received.....: 18:50

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216	% Solids, Solid	89.9			0.10	0.10	1	%	25342		11/21/03 0000	epm
	% Moisture, Solid	10.1			0.10	0.10	1	%	25342		11/21/03 0000	epm
7471A	Mercury (CVAA) Solids											
	Mercury, Solid*	0.95	B	*	0.053	2.1	1.0000	mg/Kg	25588		11/24/03 1602	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic, Solid*	6.3	B	*	1.3	10.0	5	mg/Kg	25590		11/24/03 1404	nnp
	Barium, Solid*	195			0.38	2.5	5	mg/Kg	25590		11/24/03 1404	nnp
	Cadmium, Solid*	1.3	B	N	1.3	3.8	5	mg/Kg	25590		11/24/03 1404	nnp
	Chromium, Solid*	23.3			0.63	3.8	5	mg/Kg	25590		11/24/03 1404	nnp
	Lead, Solid*	270		*	1.3	11.3	5	mg/Kg	25590		11/24/03 1404	nnp
	Selenium, Solid*	ND	U		2.0	20.0	5	mg/Kg	25590		11/24/03 1404	nnp
	Silver, Solid*	ND	U		0.38	3.8	5	mg/Kg	25590		11/24/03 1404	nnp

* In Description = Dry Wgt.

L A B O R A T O R Y C H R O N I C L E

Job Number: 205330 Date: 12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205330-1 Client ID: GP-B1-(4-6) Date Recvd: 11/14/2003 Sample Date: 11/12/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25412				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1541	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1202	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	1646	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/24/2003	1844	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	1646	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/24/2003	1844	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	1956	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	1956	1.00000
8270C	Semivolatile Organics	1	25989	25423	11/24/2003	2130	1.00000
8260B	Volatile Organics	1	25676	25412	11/18/2003	1835	1.00000

Lab ID: 205330-2 Client ID: GP-B1-(10-12) Date Recvd: 11/14/2003 Sample Date: 11/12/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25577				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1542	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1208	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	1750	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/24/2003	1958	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	1750	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/24/2003	1958	1.00000
8082	PCB Analysis	1	25765	25408	11/24/2003	1552	1.00000
8270C	Semivolatile Organics	1	25989	25423	12/02/2003	1633	10.0000
8260B	Volatile Organics	1	25677	25577	11/20/2003	2005	2.00000

Lab ID: 205330-3 Client ID: GP-B3-(3-7) Date Recvd: 11/14/2003 Sample Date: 11/12/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25412				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1544	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1214	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	1822	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/24/2003	2034	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	1822	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/24/2003	2034	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	2033	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	2033	1.00000
8270C	Semivolatile Organics	1	25989	25423	12/03/2003	1200	2.00000
8260B	Volatile Organics	1	25676	25412	11/18/2003	1908	1.00000

Lab ID: 205330-4 Client ID: GP-B10-(8-12) Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	

L A B O R A T O R Y C H R O N I C L E

Job Number: 205330

Date: 12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205330-4 Client ID: GP-B10-(8-12) Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 Soil(5g)Prep	1	25412				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1545	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1220	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	1853	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/25/2003	1728	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	1853	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/25/2003	1728	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	2051	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	2051	1.00000
8270C	Semivolatile Organics	1	25989	25423	12/03/2003	0850	5.00000
8260B	Volatile Organics	1	25676	25412	11/18/2003	1943	1.00000
8260B	Volatile Organics	2	25515	25413	11/19/2003	1537	1.00000

Lab ID: 205330-5 Client ID: GP-B9-(4-8) Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25412				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1546	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1227	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	1925	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/24/2003	2148	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	1925	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/24/2003	2148	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	2109	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	2109	1.00000
8270C	Semivolatile Organics	1	25989	25423	12/03/2003	0918	5.00000
8260B	Volatile Organics	1	25676	25412	11/18/2003	2017	1.00000

Lab ID: 205330-6 Client ID: GP-B8-(0-4) Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25412				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1550	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1309	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	1957	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/24/2003	2224	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	1957	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/24/2003	2224	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	2127	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	2127	1.00000
8270C	Semivolatile Organics	1	25989	25423	12/04/2003	0526	2.00000
8260B	Volatile Organics	1	25676	25412	11/18/2003	2051	1.00000

Lab ID: 205330-7 Client ID: GP-B4-(0-4) Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	

L A B O R A T O R Y C H R O N I C L E

Job Number: 205330 Date: 12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205330-7 Client ID: GP-B4-(0-4) Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 Soil(5g)Prep	1	25412				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1554	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1315	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	2029	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/25/2003	1842	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	2029	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/25/2003	1842	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	2146	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	2146	1.00000
8270C	Semivolatile Organics	1	25989	25423	11/24/2003	1943	1.00000
8260B	Volatile Organics	1	25676	25412	11/18/2003	2126	1.00000

Lab ID: 205330-8 Client ID: GP-B6-(0-4) Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25412				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1555	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1321	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	2133	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/25/2003	0014	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	2133	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/25/2003	0014	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	2204	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	2204	1.00000
8270C	Semivolatile Organics	1	25989	25423	11/24/2003	1703	1.00000
8260B	Volatile Organics	1	25676	25412	11/18/2003	2200	1.00000

Lab ID: 205330-9 Client ID: GP-B11-(4-8) Date Recvd: 11/14/2003 Sample Date: 11/14/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25412				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1557	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1327	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	2205	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/25/2003	1955	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	2222	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	2222	1.00000
8270C	Semivolatile Organics	1	25989	25423	11/24/2003	1516	1.00000
8260B	Volatile Organics	1	25676	25412	11/18/2003	2234	1.00000

Lab ID: 205330-10 Client ID: GP-B12-(4-8) Date Recvd: 11/14/2003 Sample Date: 11/14/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	

L A B O R A T O R Y C H R O N I C L E

Job Number: 205330 Date: 12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shalkey

Lab ID: 205330-10 Client ID: GP-B12-(4-8) Date Recvd: 11/14/2003 Sample Date: 11/14/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 Soil(5g)Prep	1	25413				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1558	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1333	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	2308	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/25/2003	0128	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	2308	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/25/2003	0128	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	2241	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	2241	1.00000
8270C	Semivolatile Organics	1	25989	25423	11/24/2003	1729	1.00000
8260B	Volatile Organics	1	25515	25413	11/19/2003	1646	1.00000

Lab ID: 205330-11 Client ID: GP-B2-SURFACE Date Recvd: 11/14/2003 Sample Date: 11/14/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25413				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1558	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1339	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/24/2003	2340	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/25/2003	0204	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/24/2003	2340	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/25/2003	0204	1.00000
8082	PCB Analysis	1	25765	25408	11/24/2003	1610	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/24/2003	1610	1.00000
8270C	Semivolatile Organics	1	25989	25423	12/03/2003	1106	1.00000
8260B	Volatile Organics	1	25515	25413	11/19/2003	1733	1.00000

Lab ID: 205330-12 Client ID: GP-B2-(4-8) Date Recvd: 11/14/2003 Sample Date: 11/14/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25413				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1600	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1345	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/25/2003	0012	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/25/2003	0241	1.00000
8082	PCB Analysis	1	25765	25408	11/22/2003	2317	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/22/2003	2317	1.00000
8270C	Semivolatile Organics	1	25989	25423	11/24/2003	1450	1.00000
8260B	Volatile Organics	1	25515	25413	11/19/2003	1808	1.00000

Lab ID: 205330-13 Client ID: GP-B5-(4-8) Date Recvd: 11/14/2003 Sample Date: 11/14/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	

LABORATORY CHRONICLE

Job Number: 205330 Date: 12/09/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205330-13 Client ID: GP-B5-(4-8) Date Recvd: 11/14/2003 Sample Date: 11/14/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 Soil(5g)Prep	1	25413				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1601	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1351	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/25/2003	0044	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/25/2003	2108	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/25/2003	0044	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/25/2003	2108	1.00000
8082	PCB Analysis	1	25765	25408	11/24/2003	1629	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/24/2003	1629	1.00000
8270C	Semivolatile Organics	1	25989	25423	12/02/2003	1942	1.00000
8260B	Volatile Organics	1	25515	25413	11/19/2003	1842	1.00000

Lab ID: 205330-14 Client ID: GP-MSD(B-7) Date Recvd: 11/14/2003 Sample Date: 11/14/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
ASTM D-2216		1	25342		11/21/2003	0000	
5030A	5030 Soil(5g)Prep	1	25413				
7470/7471	74706 Digestion (Hg)	1	25416		11/23/2003	0000	
3050B	Acid Digestion: Solids (ICAP)	1	25336		11/21/2003	0000	
3541	Extraction Soxhlet (SVOC)	1	25423		11/20/2003	0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	25408		11/21/2003	0000	
7471A	Mercury (CVAA) Solids	1	25588	25416	11/24/2003	1602	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25590	25336	11/24/2003	1404	5
8081A	Organochlorine Pesticide Analysis	1	25633	25408	11/25/2003	0116	1.00000
8081A	Organochlorine Pesticide Analysis	1	25634	25408	11/25/2003	0354	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25633	25408	11/25/2003	0116	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25634	25408	11/25/2003	0354	1.00000
8082	PCB Analysis	1	25765	25408	11/24/2003	1647	1.00000
8082	PCB Analysis, Confirmation	1	25767	25408	11/24/2003	1647	1.00000
8270C	Semivolatile Organics	1	25989	25423	12/03/2003	1133	5.00000
8260B	Volatile Organics	1	25515	25413	11/19/2003	1612	1.00000

Lab ID: 205330-15 Client ID: TRIP BLANK Date Recvd: 11/14/2003 Sample Date: 11/14/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25474				
8260B	Volatile Organics (5mL Purge)	1	25486	25474	11/22/2003	1408	1.00000

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.

3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 10604
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviation

Inorganic Qualifiers (Q-Column)

U Analyte was not detected at or above the reporting limit.
< Not detected at or above the reporting limit.
J Result is less than the RL, but greater than or equal to the method detection limit.
B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S Result was determined by the Method of Standard Additions.

Inorganic Flags (Flag Column)

^ ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed th upper or lower control limits.
* LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+ MSA correlation coefficient is less than 0.995.
4 MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E SD: Serial dilution exceeds the control limits.
H MB, EB: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N MS, MSD: Spike recovery exceeds the upper or lower control limits.
W PS: Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U Analyte was not detected at or above the reporting limit.
ND Compound not detected.
J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q Result was qualitatively confirmed, but not quantified.
C Pesticide identification was confirmed by GC/MS.
Y The chromatographic response resembles a typical fuel pattern.
Z The chromatographic response does not resemble a typical fuel pattern.
E Result exceeded calibration range, secondary dilution required.

Organic Flags (Flags Column)

^ MB,EB, MLE: Batch QC is greater than reporting limit.
* LCS, LCD, CCV, MS, MSD, Surrogate, RS:Batch QC exceeds the upper or lower control limits.
A Concentration exceeds the instrument calibration range or below the reporting limit.
B Compound was found in the blank and sample.
D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H Alternate peak selection upon analytical review
I Indicates the presence of an interfence, recovery is not calculated.
M Manually integrated compound.
P The lower of the two values is reported when the % difference between the results of two GC columns is greater than 25%.

Abbreviations

Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation Analysis
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
Dil Fac	Dilution Factor
DL	Secondary dilution and analysis
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB	Extraction Blank
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A
ISB	Interference Check Sample B
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
Lab ID	An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PACK	Packed Column
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PS	Post Spike
PSD	Post Spike Duplicate
RA	Re-analysis
RE	Re-extraction and analysis
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RS	Reference Standard
RT	Retention Time
RTW	Retention Time Window
SampleID	A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution
UCB	Unseeded Control Blank

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.

STL-Connecticut
Certification Summary (as of September 2003)

The laboratory identification numbers for the STL-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

State	Responsible Agency	Certification	Expiration Date	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	12/31/04	PH-0497
Maine	Department of Health and Environmental Services	Drinking Water, Wastewater/Solid, Hazardous Waste	04/18/04	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	06/30/04	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	08/29/04	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	06/30/03	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste **NELAC**	04/01/04	10602
North Carolina	Division of Environmental Management	Wastewater	12/31/03	388
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	12/30/03	A43
Utah	Department of Health	RCRA	05/31/02	2032614458

00 10 18

ProScience Analytical Services, Inc

Jill Pfister
Severn Trent Services (STL-CT)
128 Long Hill Cross Road
Shelton, CT 06484

November 24, 2003

Dear Jill Pfister,

The enclosed analytical results have been obtained using the EPA/600/R-93/116 method. However the sample preparation technique used was in accordance with the US EPA office of Environmental Evaluation and Measurement -Region 1 requirements. This technique implies the elimination of interfering particles trough several steps which include the homogenization of the sample, separation of different fractions and mandatory examination under the stereomicroscope. Asbestos content less then 1% is recorded on the report as "TR"(Trace).

The quality control data related to the samples analyzed is available upon client's written request. ProScience Analytical Services Inc., assumes no responsibility for potential sample contamination that may have occurred during the sample collection process or erroneous data provided by the client.

The enclosed results may not be used under any circumstances as product endorsement by any US government agency including NIST/NVLAP.

All Laboratory records are retained for at least three years unless otherwise directed in writing by the client. The actual samples are retained for a period of three months and written request is necessary in order to be retained for a longer period of time. All analytical results and records are considered strictly confidential and will not be released under any circumstances to anyone except the actual client. The analytical results included in this report apply only to the items tested.

If you have any questions please contact the Laboratory Manager or the Laboratory Director.

Sincerely,

Valerica Stanca

Valerica Stanca, Optical Asbestos Manager
Adrian Stanca, Laboratory Director

Enclosure:
LAB BATCH ID: S 23135 CLIENT PROJECT ID: 205330
Client #: 885
NVLAP ID# 200090-0; CT ID# PH-0209; MA ID# AA000156; ME ID# LB-055; ME ID# LA-056; AIHA ID# 102754; VT ID# AL016876; PH ID# 218(TEM,PLM); ELAP ID# 11632; RI ID# 186.

22 Cummings Park • Woburn, Massachusetts • 01801 • Phone (781)935-3212 • Fax (781)932-4857

ProScience Analytical Services, Inc

Client #: 885
Client Project: 205330
Client Reference: N/A
Client Name: Severn Trent Services (STL-CT)
Method: EPA/600/R-93/116; ENV.EVAL. and MEAS.- REGION 1 Requirements

Batch: 3 23135
Date Sampled: N/A
Date Received: 11/18/2003
Date Analyzed: 11/24/2003
Date of Report: 11/24/2003

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221170	205330-1	Brown	0	0	0	0	0	0	0	0	2	0	0	0	98

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221171	205330-2	Brown	2	0	0	0	0	0	0	0	3	0	0	0	95

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221172	205330-3	Brown	TR	0	0	0	0	0	0	0	TR	0	0	0	100

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221173	205330-4	Brown	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221174	205330-5	Brown	0	0	0	0	0	0	0	0	2	0	0	0	98

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221175	205330-6	Brown	0	0	0	0	0	0	0	0	2	0	0	0	98

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

0000105

ProScience Analytical Services, Inc

Client #: 885
Client Project: 205330
Client Reference: N/A
Client Name: Severn Trent Services (STL-CT)
Method: EPA/600/R-93/116; ENV.EVAL. and MEAS.- REGION 1 Requirements

Batch: S 23135
Date Sampled: N/A
Date Received: 11/18/2003
Date Analyzed: 11/24/2003
Date of Report: 11/24/2003

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221176	205330-7	Brown	0	0	0	0	0	0	0	0	3	0	0	0	97

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221177	205330-8	Brown	0	0	0	0	0	0	0	0	2	0	0	0	98

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221178	205330-9	Brown	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221179	205330-10	Brown	0	0	0	0	0	0	0	0	0	0	0	0	100

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221180	205330-11	Brown	0	0	0	0	0	0	0	0	TR	0	0	0	100

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221181	205330-12	Brown	0	0	0	0	0	0	0	0	2	0	0	0	98

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

0000106

ProScience Analytical Services, Inc

Client #: 885
Client Project: 205330
Client Reference: N/A
Client Name: Severn Trent Services (STL-CT)
Method: EPA/600/R-93/116; ENV.EVAL. and MEAS.- REGION 1 Requirements

Batch: 3 23135
Date Sampled: N/A
Date Received: 11/18/2003
Date Analyzed: 11/24/2003
Date of Report: 11/24/2003

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221182	205330-13	Brown	0	0	0	0	0	0	0	0	TR	0	0	0	100

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

LAB ID	Field ID	Color	ASBESTOS						NON-ASBESTOS						
			CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
S221183	205330-14	Brown	0	0	0	0	0	0	0	0	3	0	0	0	97

Description: Soil
Location: N/A
Comments:
Analyzed: Yes

Asbestos Codes: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite

Non-Asbestos Codes: FBG = Fiberglass MNW = Mineral Wool CEL = Cellulose HAR = Hair SYN = Synthetic OTH = Other NON = Non-Fibrous Minerals

* All results are in percentage.

Michael Manning, Analyst

0000107

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

PAGE 1 OF 3 | NO.

STL JOB #:

CLIENT: EEA INC

PROJECT ID: 03718

STL PROJECT MGR: J. Pfister

RUSH ☐ YES ☐ NO | DUE DATE

TESTS								GENERAL REMARKS
PAH method 8270	VOC method 8260	pest/PCB 8081/082	RCRA metals	Asbestos				Category B Deliverables
BOTTLE TYPE AND PRESERVATION								
8oz	3-4oz 2oz	8oz	8oz	4oz				

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED - CIRCLE Y or N								SAMPLE REMARKS
						Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
3	GP-B1-(4-6')	12 NOV 03 0930	S			✓	✓	✓	✓	✓				
3	GP-B-1 (10-12')	12 NOV 03 1015	S			✓	✓	✓	✓	✓				
3	GP B-3 (3-7') (AA)	12 NOV 03 1100	S			✓	✓	✓	✓	✓				
3	GP B-V8(+1) (AA)	13 Nov 03 0115	S			✓	✓	✓	✓	✓				
3	GP B-9 (BL-1 8) (AA)	13 Nov 03 1100	S			✓	✓	✓	✓	✓				
3	GP MS(GP B-9)	13 Nov 03 1100	S			✓	✓	✓	✓	✓ (AA)				
3	GP B-8 (~~B~~ MW-4')	13 Nov 03 1200	S			✓	✓	✓	✓	✓				
3	GP B-4 (~~B~~ MW-4')	13 Nov 03 1315	S			✓	✓	✓	✓	✓				
3	GP B-6 (0-4')	13 Nov 03 1320	S			✓	✓	✓	✓	✓				
3	GP B-11 (4-8')	14 Nov 03 900	S			✓	✓	✓	✓	✓				

MATRIX CODES

A	AIR	S	SOIL
AQ	AQUEOUS	SL	SLUDGE
C	COMPLEX	W	WIPE
D	DRUM WASTE	O	OTHER
OI	OIL	FB	FIELD BLANK
		TB	TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
Farina Islam	11/14/03	RICHARD L FORD	11/14/03
SIGNATURE: Farina Islam	1040	SIGNATURE: Richard L Ford	1040
SAMPLES COLLECTED BY	DATE/TIME	RECEIVED IN LAB BY	DATE/TIME
SIGNATURE		SIGNATURE	

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

STL-8122

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

NO.

STL JOB #:

CLIENT: EEA Inc.

PROJECT ID: 03718

STL PROJECT MGR: J Pfister

RUSH ☐ YES ☐ NO DUE DATE

TESTS								GENERAL REMARKS
PAH Method 8270	VOC Method 8260	Pest/PCB 608/8082	RCRA Metals	Asbestos				Category B - Deliverables
BOTTLE TYPE AND PRESERVATION								
8oz	2oz	8oz	8oz	4oz				

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED - CIRCLE Y OR N								SAMPLE REMARKS
						Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
3	GP B-12 (4-8')	14 Nov 03 915	S			✓	✓	✓	✓	✓				
3	GP B-2 Surface	14 Nov 03 930	S			✓	✓	✓	✓	✓				
3	GP B-2 (4-8')	14 Nov 03 930	S			✓	✓	✓	✓	✓				
3	GP B-5 (4-8')	14 Nov 03 915	S			✓	✓	✓	✓	✓				
3	GP MSD (B-7) (B-1)	14 Nov 03 915	S			✓	✓	✓	✓	~~✓~~ OMIT (A)				
3	GP (~~B-7~~) (B-1)													
	mw													

MATRIX CODES

A - AIR
AQ - AQUEOUS
C - COMPLEX
D - DRUM WASTE
OI - OIL
S - SOIL
SL - SLUDGE
W - WIPE
O - OTHER
FB - FIELD BLANK
TB - TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
Farihal Islam	11/14/03	RICHARD L FORD	11/14/03
SIGNATURE: Farihal Islam	1040	SIGNATURE: Richard L Ford	1040
SAMPLES COLLECTED BY	DATE/TIME	RECEIVED IN LAB BY	DATE/TIME
SIGNATURE		SIGNATURE	

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

ANALYTICAL REPORT

JOB NUMBER: 205326

Prepared For:

Energy and Environmental Analysts, Inc.
55 Hilton Ave.
Garden City, NY 11530

Project: NYCDOS SWB INCINERAT

Attention: Jeff Shelkey

Date: 11/26/2003

Signature

Name: Jill M. Pfister

Title: Project Manager

E-Mail: jpfister@stl-inc.com

Date 12/1/03

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (54) Pages

SEVERN TRENT STL

STL Report : 205326
EEA, INC. – NYCDOS SWB INCENETAROR PLANT

Case Narrative

Sample Receipt – Samples received on 11/14/03 were in good condition and at the proper temperatures of 1.0°C, 0.9°C, 1.2°C, 1.9°C and 1.1°C.

Organic Extraction - Samples were extracted according to method 3510C. No problems were encountered.

Volatile Organics – Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 5030B/8260B.

The spike compound percent recoveries were within the laboratory generated guidelines in the independent source quality control samples.

Sample Calculation:

Sample ID- GP MW-2
Compound- Acetone

$$\frac{(45881)(125)(1)}{(469686)(0.169)(5)} = 14.45 = 14 \text{ ug/L}$$

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Samples GP B-6 GW and 25195-SBLK were sulfur cleaned up.

The recovery of the surrogate, Decachlorobiphenyl, was below QC limits in GP MW-2 on the DB-1701 column.

The spike compounds Endosulfan I and alpha Chlordane were reported from the DB-1701 column in 25195-2LCS. These compounds coelute on the RTX-35 column.

The spike compounds Endosulfan II and 4,4'-DDD were reported from the RTX-35 column in 25195-2LCS. These compounds coelute on the DB-1701 column.

The delta-BHC detected in samples GP MW-3, GP MW-1, GP MW-4, GP MW-2, and GP B-6 GW was reported from the RTX-35 column. There was less interference present on this column with this compound.

The Heptachlor epoxide detected in samples GP MW-3, GP MW-1, GP MW-2, and GP B-6 GW was reported from the DB-1701 column. There was less interference present on this column with this compound.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID –GP MW-1MS
Compound – gamma-BHC
(56673698area)(10000ul) = .399ug/L
(1494588477area/ng)(950ml)(1ul)

Polychlorinated Biphenyls (PCB's) - PCB samples were analyzed by GC/ECD using guidance -provided in Method 8082. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Surrogate recovery for Tetrachloro-m-xylene was below QC limits in 25195-1MB.

Surrogate recovery for Decachlorobiphenyl was below QC limits in GP MW-3 and GP MW-2.

The spike recovery for Aroclor-1260 was below QC limits in GP MW-1MS/MSD.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID – GP-MW-1MS
Compound – Aroclor-1260 peak 9.36

(5033676area)(10000ul) = 0.97 ug/L
(54363876.8area/ng)(950ml)(1ul)

Semi-Volatile Organics - Semi-volatile organic samples were analyzed by capillary GC/MS according to NYSDEC Protocols using guidance provided in Method 8270C. The instrumentation used was a Hewlett-Packard Gas Chromatograph interfaced with a Mass Selective Detector.

The LCS associated with extraction batch 25159 had the compound 2-methylnaphthalene slightly below acceptance criteria.

Sample GP MW-3MS had the compounds Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene slightly above recovery limits, and sample GP MW-3MSD had the compound Dibenzo(a,h)anthracene slightly above recovery limits.

Sample GP MW-1 was run at a 1x2 dilution because of the presence of high levels of target compounds.

Sample Calculation:

Sample ID – GP MW-3
Compound - Naphthalene

$$\frac{(97183)(40)(1000)}{(143641)(1.121)(2)(1000)} = 12.07 = 12 \text{ ug/l}$$

Metals – ICAP metals were determined using a JA61E trace ICAP; mercury was determined by cold vapor technique using a Perkin Elmer mercury analyzer; following guidance provided in SW846 according to methods: ICAP – 3010A/6010B; mercury-7470A.

No problems occurred during analysis. All appropriate protocols were employed. All data appears to be consistent.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

SAMPLE INFORMATION
Date: 11/26/2003

Job Number..: 205326
Customer....: Energy and Environmental Analysts, Inc.
Attn.....: Jeff Shelkey

Project Number.....: 20000963
Customer Project ID....: NYCDOS SWB INCINERAT
Project Description....: NYCDOS SWB Incinerator Plant

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
205326-1	GP B-10 GW	Water	11/13/2003	09:15	11/14/2003	18:00
205326-2	GP EB-1	Water	11/13/2003	09:00	11/14/2003	18:00
205326-3	GP MW-3	Water	11/13/2003	09:30	11/14/2003	18:00
205326-4	GP MW-1	Water	11/13/2003	10:00	11/14/2003	18:00
205326-5	GP MW-4	Water	11/13/2003	11:00	11/14/2003	18:00
205326-6	GP MW-2	Water	11/13/2003	13:30	11/14/2003	18:00
205326-7	GP B-6 GW	Water	11/13/2003	14:30	11/14/2003	18:00
205326-8	TRIP BLANK	Water	11/13/2003	00:00	11/14/2003	18:00

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP B-10 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Water

Laboratory Sample ID: 205326-1
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Acetone	3	J		2	10	1.00000	ug/L	25470		11/22/03 0119	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0119	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25470		11/22/03 0119	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0119	kjk

000005

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP B-10 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Water

Laboratory Sample ID: 205326-1
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0119	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0119	kjk

000006

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP EB-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-2
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Acetone	3	J		2	10	1.00000	ug/L	25470		11/22/03 0149	kjk
	Methylene chloride	0.5	J	B	0.4	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0149	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25470		11/22/03 0149	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0149	kjk

0000007

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP EB-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-2
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0149	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0149	kjk

00000008

* In Description = Dry Wgt.

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-3
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-3
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Acetone	11		H	2	10	1.00000	ug/L	25470		11/22/03 0219	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0219	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Benzene	2	J		0.4	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25470		11/22/03 0219	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0219	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-3
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-3
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
0100010	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0219	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0219	kjk

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP MW-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-4
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Acetone	5	J	H	2	10	1.00000	ug/L	25470		11/21/03 2152	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25470		11/21/03 2152	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Benzene	4	J		0.4	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25470		11/21/03 2152	kjk
	Toluene	0.7	J		0.3	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25470		11/21/03 2152	kjk

* In Description = Dry Wgt.

000011

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP MW-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-4
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Ethylbenzene	5			0.3	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25470		11/21/03 2152	kjk
	Xylenes (total)	2	J		1	5	1.00000	ug/L	25470		11/21/03 2152	kjk

00000012

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-4
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-5
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Acetone	4	J		2	10	1.00000	ug/L	25470		11/22/03 0248	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0248	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Benzene	1	J		0.4	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25470		11/22/03 0248	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0248	kjk

000013

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-4
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-5
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Ethylbenzene	1	J	H	0.3	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0248	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0248	kjk

000014

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP MW-2
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-6
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Acetone	14			2	10	1.00000	ug/L	25470		11/22/03 0318	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0318	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Benzene	3	J		0.4	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25470		11/22/03 0318	kjk
	Toluene	0.4	J		0.3	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0318	kjk

000015

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-2
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-6
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Ethylbenzene	0.4	J		0.3	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0318	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0318	kjk

00000019

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP B-6 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-7
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Acetone	5	J		2	10	1.00000	ug/L	25470		11/22/03 0348	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0348	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Benzene	1	J		0.4	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25470		11/22/03 0348	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0348	kjk

000017

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP B-6 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-7
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Chlorobenzene	0.5	J		0.2	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0348	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0348	kjk

0000018

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: TRIP BLANK
Date Sampled.....: 11/13/2003
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-8
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics (5mL Purge)											
	Chloromethane	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Vinyl chloride	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Bromomethane	ND	U		3	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Chloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	1,1-Dichloroethene	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Carbon disulfide	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Acetone	ND	U		2	10	1.00000	ug/L	25470		11/22/03 0417	kjk
	Methylene chloride	ND	U	B	0.4	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	trans-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	1,1-Dichloroethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Vinyl acetate	ND	U		2	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	cis-1,2-Dichloroethene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	2-Butanone (MEK)	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0417	kjk
	Chloroform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	1,1,1-Trichloroethane	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Carbon tetrachloride	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Benzene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	1,2-Dichloroethane	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Trichloroethene	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	1,2-Dichloropropane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Bromodichloromethane	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	cis-1,3-Dichloropropene	ND	U		0.6	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	4-Methyl-2-pentanone (MIBK)	ND	U		0.5	10	1.00000	ug/L	25470		11/22/03 0417	kjk
	Toluene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	trans-1,3-Dichloropropene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	1,1,2-Trichloroethane	ND	U		0.8	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Tetrachloroethene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	2-Hexanone	ND	U		1	10	1.00000	ug/L	25470		11/22/03 0417	kjk

0000019

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: TRIP BLANK
Date Sampled.....: 11/13/2003
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-8
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
0000020	Dibromochloromethane	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Chlorobenzene	ND	U		0.2	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Ethylbenzene	ND	U		0.3	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Styrene	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Bromoform	ND	U		0.4	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	1,1,2,2-Tetrachloroethane	ND	U		0.7	5	1.00000	ug/L	25470		11/22/03 0417	kjk
	Xylenes (total)	ND	U		1	5	1.00000	ug/L	25470		11/22/03 0417	kjk

* In Description = Dry Wgt.

Job Number: 205326

LABORATORY TEST RESULTS

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP B-10 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Water

Laboratory Sample ID: 205326-1
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Fluorene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Chrysene	ND	U		0.6	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 1944	dmm
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 1944	dmm

00000021

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP EB-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-2
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	2-Methylnaphthalene	ND	U		0.3	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Acenaphthene	ND	U		0.3	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Fluorene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Phenanthrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Fluoranthene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Chrysene	ND	U		0.6	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 2011	dmm
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2011	dmm

000022

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-3
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-3
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	12			0.4	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	2-Methylnaphthalene	1	J		0.3	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Acenaphthene	3	J		0.3	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Fluorene	2	J		0.4	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Phenanthrene	4	J		0.4	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Anthracene	1	J		0.5	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Fluoranthene	0.8	J		0.4	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Chrysene	ND	U		0.6	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 2037	dmm
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2037	dmm

0000023

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP MW-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-4
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	71			0.8	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	2-Methylnaphthalene	3	J		0.6	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Acenaphthylene	7	J		0.8	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Acenaphthene	13	J		0.6	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Fluorene	5	J		0.8	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Phenanthrene	12	J		0.8	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Anthracene	2	J		1	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Fluoranthene	2	J		0.8	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Pyrene	4	J		0.8	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Benzo(a)anthracene	ND	U		1	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Chrysene	ND	U		1	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Benzo(b)fluoranthene	ND	U		2	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Benzo(k)fluoranthene	ND	U		0.6	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Benzo(a)pyrene	ND	U		0.8	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Indeno(1,2,3-cd)pyrene	ND	U		0.8	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Dibenzo(a,h)anthracene	ND	U		1	20	2.00000	ug/L	25581		11/24/03 2234	dmm
	Benzo(ghi)perylene	ND	U		0.8	20	2.00000	ug/L	25581		11/24/03 2234	dmm

00000024

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-4
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-5
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	53			0.4	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	2-Methylnaphthalene	3	J		0.3	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Acenaphthylene	3	J		0.4	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Acenaphthene	11			0.3	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Fluorene	6	J		0.4	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Phenanthrene	8	J		0.4	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Anthracene	2	J		0.5	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Fluoranthene	2	J		0.4	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Pyrene	3	J		0.4	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Benzo(a)anthracene	0.5	J		0.5	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Chrysene	ND	U	M	0.6	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 2224	dmm
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2224	dmm

0000025

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-2
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-6
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	7	J		0.4	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	2-Methylnaphthalene	1	J		0.3	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Acenaphthylene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Acenaphthene	3	J		0.3	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Fluorene	0.8	J		0.4	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Phenanthrene	2	J		0.4	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Anthracene	1	J		0.5	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Fluoranthene	1	J		0.4	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Benzo(a)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Chrysene	ND	U		0.6	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Benzo(b)fluoranthene	ND	U		1	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Benzo(k)fluoranthene	ND	U		0.3	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Benzo(a)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Indeno(1,2,3-cd)pyrene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 2250	dmm
	Benzo(ghi)perylene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2250	dmm

0000029

* In Description = Dry Wgt.

Job Number: 205326

LABORATORY TEST RESULTS

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP B-6 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-7
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8270C	Semivolatile Organics											
	Naphthalene	ND	U		0.4	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	2-Methylnaphthalene	1	J		0.3	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Acenaphthylene	0.9	J		0.4	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Acenaphthene	8	J		0.3	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Fluorene	2	J		0.4	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Phenanthrene	4	J		0.4	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Anthracene	2	J		0.5	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Fluoranthene	5	J		0.4	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Pyrene	5	J		0.4	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Benzo(a)anthracene	2	J		0.5	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Chrysene	2	J		0.6	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Benzo(b)fluoranthene	1	J		1	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Benzo(k)fluoranthene	1	J		0.3	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Benzo(a)pyrene	2	J		0.4	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Indeno(1,2,3-cd)pyrene	0.7	J		0.4	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Dibenzo(a,h)anthracene	ND	U		0.5	10	1.00000	ug/L	25581		11/21/03 2317	dmm
	Benzo(ghi)perylene	1	J		0.4	10	1.00000	ug/L	25581		11/21/03 2317	dmm

0000027

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/21/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP B-10 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Water

Laboratory Sample ID: 205326-1
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25337		11/19/03 1853	dmm
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25337		11/19/03 1853	dmm
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25337		11/19/03 1853	dmm
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25337		11/19/03 1853	dmm
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25337		11/19/03 1853	dmm
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25337		11/19/03 1853	dmm
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25337		11/19/03 1853	dmm

0000028

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/21/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP EB-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-2
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25337		11/19/03 1911	dmm
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25337		11/19/03 1911	dmm
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25337		11/19/03 1911	dmm
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25337		11/19/03 1911	dmm
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25337		11/19/03 1911	dmm
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25337		11/19/03 1911	dmm
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25337		11/19/03 1911	dmm

0000029

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/21/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP MW-3
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-3
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.062	0.54	1.00000	ug/L	25337		11/19/03 1929	dmm
	Aroclor 1221	ND	U		0.12	1.1	1.00000	ug/L	25337		11/19/03 1929	dmm
	Aroclor 1232	ND	U		0.088	0.54	1.00000	ug/L	25337		11/19/03 1929	dmm
	Aroclor 1242	ND	U		0.078	0.54	1.00000	ug/L	25337		11/19/03 1929	dmm
	Aroclor 1248	ND	U		0.065	0.54	1.00000	ug/L	25337		11/19/03 1929	dmm
	Aroclor 1254	ND	U		0.10	0.54	1.00000	ug/L	25337		11/19/03 1929	dmm
	Aroclor 1260	ND	U		0.089	0.54	1.00000	ug/L	25337		11/19/03 1929	dmm

000030

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/21/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP MW-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-4
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25337		11/19/03 1948	dmm
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25337		11/19/03 1948	dmm
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25337		11/19/03 1948	dmm
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25337		11/19/03 1948	dmm
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25337		11/19/03 1948	dmm
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25337		11/19/03 1948	dmm
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25337		11/19/03 1948	dmm

0000031

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/21/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-4
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-5
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25337		11/19/03 2043	dmm
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25337		11/19/03 2043	dmm
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25337		11/19/03 2043	dmm
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25337		11/19/03 2043	dmm
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25337		11/19/03 2043	dmm
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25337		11/19/03 2043	dmm
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25337		11/19/03 2043	dmm

0000032

* in Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/21/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-2
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-6
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25337		11/19/03 2101	dmm
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25337		11/19/03 2101	dmm
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25337		11/19/03 2101	dmm
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25337		11/19/03 2101	dmm
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25337		11/19/03 2101	dmm
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25337		11/19/03 2101	dmm
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25337		11/19/03 2101	dmm

000033

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/21/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Customer Sample ID: GP B-6 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-7
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8082	PCB Analysis											
	Aroclor 1016	ND	U		0.057	0.50	1.00000	ug/L	25337		11/19/03 2119	dmm
	Aroclor 1221	ND	U		0.11	1.0	1.00000	ug/L	25337		11/19/03 2119	dmm
	Aroclor 1232	ND	U		0.081	0.50	1.00000	ug/L	25337		11/19/03 2119	dmm
	Aroclor 1242	ND	U		0.072	0.50	1.00000	ug/L	25337		11/19/03 2119	dmm
	Aroclor 1248	ND	U		0.060	0.50	1.00000	ug/L	25337		11/19/03 2119	dmm
	Aroclor 1254	ND	U		0.094	0.50	1.00000	ug/L	25337		11/19/03 2119	dmm
	Aroclor 1260	ND	U		0.082	0.50	1.00000	ug/L	25337		11/19/03 2119	dmm

0000034

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/24/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP B-10 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Water

Laboratory Sample ID: 205326-1
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25426		11/20/03 0447	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0447	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	25426		11/20/03 0447	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0447	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25426		11/20/03 0447	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0447	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25426		11/20/03 0447	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25426		11/20/03 0447	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25426		11/20/03 0447	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25426		11/20/03 0447	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0447	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0447	kam

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/24/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP EB-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-2
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	delta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25426		11/20/03 0519	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0519	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	25426		11/20/03 0519	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0519	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25426		11/20/03 0519	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0519	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25426		11/20/03 0519	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25426		11/20/03 0519	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25426		11/20/03 0519	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25426		11/20/03 0519	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0519	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0519	kam

0000039

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-3
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-3
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0074	0.054	1.00000	ug/L	25426		11/20/03 0551	kam
	beta-BHC	ND	U		0.0078	0.054	1.00000	ug/L	25426		11/20/03 0551	kam
	delta-BHC	0.0064	J		0.0050	0.054	1.00000	ug/L	25439		11/21/03 0631	kam
	gamma-BHC (Lindane)	ND	U		0.0036	0.054	1.00000	ug/L	25426		11/20/03 0551	kam
	Heptachlor	ND	U		0.0059	0.054	1.00000	ug/L	25426		11/20/03 0551	kam
	Aldrin	ND	U		0.0045	0.054	1.00000	ug/L	25426		11/20/03 0551	kam
	Heptachlor epoxide	0.0068	J		0.0061	0.054	1.00000	ug/L	25426		11/20/03 0551	kam
	Endosulfan I	ND	U		0.0045	0.054	1.00000	ug/L	25426		11/20/03 0551	kam
	Dieldrin	ND	U		0.0086	0.11	1.00000	ug/L	25426		11/20/03 0551	kam
	4,4'-DDE	0.018	J		0.013	0.11	1.00000	ug/L	25439		11/21/03 0631	kam
	Endrin	ND	U		0.0092	0.11	1.00000	ug/L	25426		11/20/03 0551	kam
	Endosulfan II	ND	U		0.012	0.11	1.00000	ug/L	25426		11/20/03 0551	kam
	4,4'-DDD	ND	U		0.029	0.16	1.00000	ug/L	25426		11/20/03 0551	kam
	Endosulfan sulfate	ND	U		0.013	0.11	1.00000	ug/L	25426		11/20/03 0551	kam
	4,4'-DDT	ND	U		0.014	0.11	1.00000	ug/L	25426		11/20/03 0551	kam
	Methoxychlor	ND	U		0.068	0.54	1.00000	ug/L	25426		11/20/03 0551	kam
	alpha-Chlordane	ND	U		0.0062	0.054	1.00000	ug/L	25426		11/20/03 0551	kam
	gamma-Chlordane	ND	U		0.0065	0.054	1.00000	ug/L	25426		11/20/03 0551	kam
	Toxaphene	ND	U		0.12	2.7	1.00000	ug/L	25426		11/20/03 0551	kam
	Endrin aldehyde	ND	U		0.012	0.11	1.00000	ug/L	25426		11/20/03 0551	kam
	Endrin ketone	ND	U		0.013	0.11	1.00000	ug/L	25426		11/20/03 0551	kam

* In Description = Dry Wgt.

0000037

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205326

Date:11/24/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-4
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	0.024	J		0.0068	0.050	1.00000	ug/L	25426		11/20/03 0623	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25426		11/20/03 0623	kam
	delta-BHC	0.017	J		0.0046	0.050	1.00000	ug/L	25439		11/21/03 0708	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25426		11/20/03 0623	kam
	Heptachlor	0.032	J		0.0054	0.050	1.00000	ug/L	25426		11/20/03 0623	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	25426		11/20/03 0623	kam
	Heptachlor epoxide	0.012	J		0.0056	0.050	1.00000	ug/L	25426		11/20/03 0623	kam
	Endosulfan I	0.031	J		0.0041	0.050	1.00000	ug/L	25426		11/20/03 0623	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25426		11/20/03 0623	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0623	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	25426		11/20/03 0623	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0623	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25426		11/20/03 0623	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0623	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25426		11/20/03 0623	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25426		11/20/03 0623	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25426		11/20/03 0623	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25426		11/20/03 0623	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25426		11/20/03 0623	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0623	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0623	kam

0000038

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-4
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-5
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25426		11/20/03 0759	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25426		11/20/03 0759	kam
	delta-BHC	0.024	J		0.0046	0.050	1.00000	ug/L	25439		11/21/03 0857	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25426		11/20/03 0759	kam
	Heptachlor	0.022	J		0.0054	0.050	1.00000	ug/L	25426		11/20/03 0759	kam
	Aldrin	0.0064	J		0.0041	0.050	1.00000	ug/L	25426		11/20/03 0759	kam
	Heptachlor epoxide	0.0098	J		0.0056	0.050	1.00000	ug/L	25426		11/20/03 0759	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25426		11/20/03 0759	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25426		11/20/03 0759	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0759	kam
	Endrin	0.032	J		0.0085	0.10	1.00000	ug/L	25439		11/21/03 0857	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0759	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25426		11/20/03 0759	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0759	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25426		11/20/03 0759	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25426		11/20/03 0759	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25426		11/20/03 0759	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25439		11/21/03 0857	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25426		11/20/03 0759	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0759	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0759	kam

* In Description = Dry Wgt.

0000039

L A B O R A T O R Y T E S T R E S U L T S

Job Number: 205326

Date:11/24/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-2
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-6
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25426		11/20/03 0831	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25426		11/20/03 0831	kam
	delta-BHC	0.026	J		0.0046	0.050	1.00000	ug/L	25439		11/21/03 0934	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25426		11/20/03 0831	kam
	Heptachlor	ND	U		0.0054	0.050	1.00000	ug/L	25426		11/20/03 0831	kam
	Aldrin	0.0050	J		0.0041	0.050	1.00000	ug/L	25439		11/21/03 0934	kam
	Heptachlor epoxide	ND	U		0.0056	0.050	1.00000	ug/L	25426		11/20/03 0831	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25426		11/20/03 0831	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25426		11/20/03 0831	kam
	4,4'-DDE	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0831	kam
	Endrin	0.016	J		0.0085	0.10	1.00000	ug/L	25439		11/21/03 0934	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0831	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25426		11/20/03 0831	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0831	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25426		11/20/03 0831	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25426		11/20/03 0831	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25426		11/20/03 0831	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25426		11/20/03 0831	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25426		11/20/03 0831	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 0831	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 0831	kam

* In Description = Dry Wgt.

000040

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/24/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP B-6 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-7
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND	U		0.0068	0.050	1.00000	ug/L	25426		11/20/03 1659	kam
	beta-BHC	ND	U		0.0072	0.050	1.00000	ug/L	25426		11/20/03 1659	kam
	delta-BHC	0.0050	J		0.0046	0.050	1.00000	ug/L	25439		11/21/03 1047	kam
	gamma-BHC (Lindane)	ND	U		0.0033	0.050	1.00000	ug/L	25426		11/20/03 1659	kam
	Heptachlor	0.0077	J		0.0054	0.050	1.00000	ug/L	25439		11/21/03 1047	kam
	Aldrin	ND	U		0.0041	0.050	1.00000	ug/L	25426		11/20/03 1659	kam
	Heptachlor epoxide	0.0094	J		0.0056	0.050	1.00000	ug/L	25426		11/20/03 1659	kam
	Endosulfan I	ND	U		0.0041	0.050	1.00000	ug/L	25426		11/20/03 1659	kam
	Dieldrin	ND	U		0.0079	0.10	1.00000	ug/L	25426		11/20/03 1659	kam
	4,4'-DDE	0.020	J		0.012	0.10	1.00000	ug/L	25439		11/21/03 1047	kam
	Endrin	ND	U		0.0085	0.10	1.00000	ug/L	25426		11/20/03 1659	kam
	Endosulfan II	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 1659	kam
	4,4'-DDD	ND	U		0.026	0.15	1.00000	ug/L	25426		11/20/03 1659	kam
	Endosulfan sulfate	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 1659	kam
	4,4'-DDT	ND	U		0.013	0.10	1.00000	ug/L	25426		11/20/03 1659	kam
	Methoxychlor	ND	U		0.062	0.50	1.00000	ug/L	25426		11/20/03 1659	kam
	alpha-Chlordane	ND	U		0.0057	0.050	1.00000	ug/L	25426		11/20/03 1659	kam
	gamma-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	25426		11/20/03 1659	kam
	Toxaphene	ND	U		0.11	2.5	1.00000	ug/L	25426		11/20/03 1659	kam
	Endrin aldehyde	ND	U		0.011	0.10	1.00000	ug/L	25426		11/20/03 1659	kam
	Endrin ketone	ND	U		0.012	0.10	1.00000	ug/L	25426		11/20/03 1659	kam

* In Description = Dry Wgt.

000041

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP B-10 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:15
Sample Matrix.....: Water

Laboratory Sample ID: 205326-1
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	3.9			0.18	0.20	1.0000	ug/L	25548		11/21/03 1400	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	404			17.5	200	5	ug/L	25563		11/24/03 1445	nnp
	Barium	411			4.3	25.0	5	ug/L	25563		11/24/03 1445	nnp
	Cadmium	5.7	B		4.7	50.0	5	ug/L	25563		11/24/03 1445	nnp
	Chromium	401			7.0	50.0	5	ug/L	25563		11/24/03 1445	nnp
	Lead	492			18.0	50.0	5	ug/L	25563		11/24/03 1445	nnp
	Selenium	37.6	B		25.0	150	5	ug/L	25563		11/24/03 1445	nnp
	Silver	12.0	B		4.6	30.0	5	ug/L	25563		11/24/03 1445	nnp

* in Description = Dry Wgt.

000042

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP EB-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-2
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	ND	U		0.18	0.20	1.0000	ug/L	25548		11/21/03 1403	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	ND	U		3.5	40.0	1	ug/L	25563		11/24/03 1451	nnp
	Barium	1.4	B		0.86	5.0	1	ug/L	25563		11/24/03 1451	nnp
	Cadmium	ND	U		0.94	10.0	1	ug/L	25563		11/24/03 1451	nnp
	Chromium	ND	U		1.4	10.0	1	ug/L	25563		11/24/03 1451	nnp
	Lead	ND	U		3.6	10.0	1	ug/L	25563		11/24/03 1451	nnp
	Selenium	ND	U		5.0	30.0	1	ug/L	25563		11/24/03 1451	nnp
	Silver	ND	U		0.93	6.0	1	ug/L	25563		11/24/03 1451	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-3
Date Sampled.....: 11/13/2003
Time Sampled.....: 09:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-3
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	6.0			0.18	0.20	1.0000	ug/L	25548		11/21/03 1404	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	93.9	B		17.5	200	5	ug/L	25563		11/24/03 1457	nnp
	Barium	8210			4.3	25.0	5	ug/L	25563		11/24/03 1457	nnp
	Cadmium	13.4	B		4.7	50.0	5	ug/L	25563		11/24/03 1457	nnp
	Chromium	198			7.0	50.0	5	ug/L	25563		11/24/03 1457	nnp
	Lead	13800			18.0	50.0	5	ug/L	25563		11/24/03 1457	nnp
	Selenium	ND	U		25.0	150	5	ug/L	25563		11/24/03 1457	nnp
	Silver	7.6	B		4.6	30.0	5	ug/L	25563		11/24/03 1457	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-1
Date Sampled.....: 11/13/2003
Time Sampled.....: 10:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-4
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	3.1			0.18	0.20	1.0000	ug/L	25548		11/21/03 1408	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	36.5	B		17.5	200	5	ug/L	25563		11/24/03 1503	nnp
	Barium	1330			4.3	25.0	5	ug/L	25563		11/24/03 1503	nnp
	Cadmium	ND	U		4.7	50.0	5	ug/L	25563		11/24/03 1503	nnp
	Chromium	73.5			7.0	50.0	5	ug/L	25563		11/24/03 1503	nnp
	Lead	1600			18.0	50.0	5	ug/L	25563		11/24/03 1503	nnp
	Selenium	ND	U		25.0	150	5	ug/L	25563		11/24/03 1503	nnp
	Silver	ND	U		4.6	30.0	5	ug/L	25563		11/24/03 1503	nnp

0000045

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-4
Date Sampled.....: 11/13/2003
Time Sampled.....: 11:00
Sample Matrix.....: Water

Laboratory Sample ID: 205326-5
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	1.0			0.18	0.20	1.0000	ug/L	25548		11/21/03 1412	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	ND	U		17.5	200	5	ug/L	25563		11/24/03 1527	nnp
	Barium	773			4.3	25.0	5	ug/L	25563		11/24/03 1527	nnp
	Cadmium	ND	U		4.7	50.0	5	ug/L	25563		11/24/03 1527	nnp
	Chromium	29.9	B		7.0	50.0	5	ug/L	25563		11/24/03 1527	nnp
	Lead	613			18.0	50.0	5	ug/L	25563		11/24/03 1527	nnp
	Selenium	ND	U		25.0	150	5	ug/L	25563		11/24/03 1527	nnp
	Silver	ND	U		4.6	30.0	5	ug/L	25563		11/24/03 1527	nnp

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP MW-2
Date Sampled.....: 11/13/2003
Time Sampled.....: 13:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-6
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	22.3			0.18	0.20	1.0000	ug/L	25548		11/21/03 1413	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	172	B		17.5	200	5	ug/L	25563		11/24/03 1545	nnp
	Barium	6510			4.3	25.0	5	ug/L	25563		11/24/03 1545	nnp
	Cadmium	16.9	B		4.7	50.0	5	ug/L	25563		11/24/03 1545	nnp
	Chromium	337			7.0	50.0	5	ug/L	25563		11/24/03 1545	nnp
	Lead	12000			18.0	50.0	5	ug/L	25563		11/24/03 1545	nnp
	Selenium	ND	U		25.0	150	5	ug/L	25563		11/24/03 1545	nnp
	Silver	19.3	B		4.6	30.0	5	ug/L	25563		11/24/03 1545	nnp

* In Description = Dry Wgt.

000047

LABORATORY TEST RESULTS

Job Number: 205326

Date:11/25/2003

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP B-6 GW
Date Sampled.....: 11/13/2003
Time Sampled.....: 14:30
Sample Matrix.....: Water

Laboratory Sample ID: 205326-7
Date Received.....: 11/14/2003
Time Received.....: 18:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Mercury (CVAA)											
	Mercury	6.2			0.18	0.20	1.0000	ug/L	25548		11/21/03 1415	nnp
6010B	Metals Analysis (ICAP Trace)											
	Arsenic	194	B		17.5	200	5	ug/L	25563		11/24/03 1551	nnp
	Barium	2100			4.3	25.0	5	ug/L	25563		11/24/03 1551	nnp
	Cadmium	11.2	B		4.7	50.0	5	ug/L	25563		11/24/03 1551	nnp
	Chromium	728			7.0	50.0	5	ug/L	25563		11/24/03 1551	nnp
	Lead	3800			18.0	50.0	5	ug/L	25563		11/24/03 1551	nnp
	Selenium	ND	U		25.0	150	5	ug/L	25563		11/24/03 1551	nnp
	Silver	8.8	B		4.6	30.0	5	ug/L	25563		11/24/03 1551	nnp

0000048

* In Description = Dry Wgt.

L A B O R A T O R Y C H R O N I C L E

Job Number: 205326 Date: 11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOS SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205326-1 Client ID: GP B-10 GW Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25468				
7470/7471	74706 Digestion (Hg)	1	25325		11/20/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25195		11/18/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25159		11/16/2003	0000	
7470A	Mercury (CVAA)	1	25548	25325	11/21/2003	1400	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25563	25327	11/24/2003	1445	5
8081A	Organochlorine Pesticide Analysis	1	25426	25195	11/20/2003	0447	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25439	25195	11/21/2003	0518	1.00000
8082	PCB Analysis	1	25337	25195	11/19/2003	1853	1.00000
8270C	Semivolatile Organics	1	25581	25159	11/21/2003	1944	1.00000
8260B	Volatile Organics (5mL Purge)	1	25470	25468	11/22/2003	0119	1.00000

Lab ID: 205326-2 Client ID: GP EB-1 Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25468				
7470/7471	74706 Digestion (Hg)	1	25325		11/20/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25195		11/18/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25159		11/16/2003	0000	
7470A	Mercury (CVAA)	1	25548	25325	11/21/2003	1403	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25563	25327	11/24/2003	1451	
8081A	Organochlorine Pesticide Analysis	1	25426	25195	11/20/2003	0519	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25439	25195	11/21/2003	0554	1.00000
8082	PCB Analysis	1	25337	25195	11/19/2003	1911	1.00000
8270C	Semivolatile Organics	1	25581	25159	11/21/2003	2011	1.00000
8260B	Volatile Organics (5mL Purge)	1	25470	25468	11/22/2003	0149	1.00000

Lab ID: 205326-3 Client ID: GP MW-3 Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25468				
7470/7471	74706 Digestion (Hg)	1	25325		11/20/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25195		11/18/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25159		11/16/2003	0000	
7470A	Mercury (CVAA)	1	25548	25325	11/21/2003	1404	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25563	25327	11/24/2003	1457	5
8081A	Organochlorine Pesticide Analysis	1	25426	25195	11/20/2003	0551	1.00000
8081A	Organochlorine Pesticide Analysis	1	25439	25195	11/21/2003	0631	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25426	25195	11/20/2003	0551	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25439	25195	11/21/2003	0631	1.00000
8082	PCB Analysis	1	25337	25195	11/19/2003	1929	1.00000
8270C	Semivolatile Organics	1	25581	25159	11/21/2003	2037	1.00000
8260B	Volatile Organics (5mL Purge)	1	25470	25468	11/22/2003	0219	1.00000

Lab ID: 205326-4 Client ID: GP MW-1 Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25468				
7470/7471	74706 Digestion (Hg)	1	25325		11/20/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25195		11/18/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25159		11/16/2003	0000	
7470A	Mercury (CVAA)	1	25548	25325	11/21/2003	1408	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25563	25327	11/24/2003	1503	5
8081A	Organochlorine Pesticide Analysis	1	25426	25195	11/20/2003	0623	1.00000

L A B O R A T O R Y C H R O N I C L E

Job Number: 205326 | Date: 11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. | PROJECT: NYCDOS SWB INCINERAT | ATTN: Jeff Shelkey

Lab ID: 205326-4 Client ID: GP MW-1 Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8081A	Organochlorine Pesticide Analysis	1	25439	25195	11/21/2003	0708	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25426	25195	11/20/2003	0623	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25439	25195	11/21/2003	0708	1.00000
8082	PCB Analysis	1	25337	25195	11/19/2003	1948	1.00000
8270C	Semivolatile Organics	1	25581	25159	11/24/2003	2234	2.00000
8260B	Volatile Organics (5mL Purge)	1	25470	25468	11/21/2003	2152	1.00000

Lab ID: 205326-5 Client ID: GP MW-4 Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25468				
7470/7471	74706 Digestion (Hg)	1	25325		11/20/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25195		11/18/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25159		11/16/2003	0000	
7470A	Mercury (CVAA)	1	25548	25325	11/21/2003	1412	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25563	25327	11/24/2003	1527	5
8081A	Organochlorine Pesticide Analysis	1	25426	25195	11/20/2003	0759	1.00000
8081A	Organochlorine Pesticide Analysis	1	25439	25195	11/21/2003	0857	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25426	25195	11/20/2003	0759	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25439	25195	11/21/2003	0857	1.00000
8082	PCB Analysis	1	25337	25195	11/19/2003	2043	1.00000
8270C	Semivolatile Organics	1	25581	25159	11/21/2003	2224	1.00000
8260B	Volatile Organics (5mL Purge)	1	25470	25468	11/22/2003	0248	1.00000

Lab ID: 205326-6 Client ID: GP MW-2 Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25468				
7470/7471	74706 Digestion (Hg)	1	25325		11/20/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25195		11/18/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25159		11/16/2003	0000	
7470A	Mercury (CVAA)	1	25548	25325	11/21/2003	1413	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25563	25327	11/24/2003	1545	5
8081A	Organochlorine Pesticide Analysis	1	25426	25195	11/20/2003	0831	1.00000
8081A	Organochlorine Pesticide Analysis	1	25439	25195	11/21/2003	0934	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25426	25195	11/20/2003	0831	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25439	25195	11/21/2003	0934	1.00000
8082	PCB Analysis	1	25337	25195	11/19/2003	2101	1.00000
8270C	Semivolatile Organics	1	25581	25159	11/21/2003	2250	1.00000
8260B	Volatile Organics (5mL Purge)	1	25470	25468	11/22/2003	0318	1.00000

Lab ID: 205326-7 Client ID: GP B-6 GW Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25468				
7470/7471	74706 Digestion (Hg)	1	25325		11/20/2003	0000	
3010A	Acid Digestion (ICAP)	1	25327		11/20/2003	0000	
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	25195		11/18/2003	0000	
3510C	Extraction Sep. Funnel (SVOC)	1	25159		11/16/2003	0000	
7470A	Mercury (CVAA)	1	25548	25325	11/21/2003	1415	1.0000
6010B	Metals Analysis (ICAP Trace)	1	25563	25327	11/24/2003	1551	5
8081A	Organochlorine Pesticide Analysis	1	25426	25195	11/20/2003	1659	1.00000
8081A	Organochlorine Pesticide Analysis	1	25439	25195	11/21/2003	1047	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25426	25195	11/20/2003	1659	1.00000
8081A	Organochlorine Pesticide Confirmation	1	25439	25195	11/21/2003	1047	1.00000
8082	PCB Analysis	1	25337	25195	11/19/2003	2119	1.00000

L A B O R A T O R Y C H R O N I C L E

Job Number: 205326 Date: 11/26/2003

CUSTOMER: Energy and Environmental Analysts, Inc. PROJECT: NYCDOB SWB INCINERAT ATTN: Jeff Shelkey

Lab ID: 205326-7 Client ID: GP B-6 GW Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8270C	Semivolatile Organics	1	25581	25159	11/21/2003	2317	1.00000
8260B	Volatile Organics (5mL Purge)	1	25470	25468	11/22/2003	0348	1.00000

Lab ID: 205326-8 Client ID: TRIP BLANK Date Recvd: 11/14/2003 Sample Date: 11/13/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030A	5030 5 mL Purge Prep	1	25468				
8260B	Volatile Organics (5mL Purge)	1	25470	25468	11/22/2003	0417	1.00000

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.

3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 10604
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviation

Inorganic Qualifiers (Q-Column)

U Analyte was not detected at or above the reporting limit.
< Not detected at or above the reporting limit.
J Result is less than the RL, but greater than or equal to the method detection limit.
B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S Result was determined by the Method of Standard Additions.

Inorganic Flags (Flag Column)

- ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed th upper or lower control limits.
* LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+ MSA correlation coefficient is less than 0.995.
4 MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E SD: Serial dilution exceeds the control limits.
H MB, EB: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N MS, MSD: Spike recovery exceeds the upper or lower control limits.
W PS: Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U Analyte was not detected at or above the reporting limit.
ND Compound not detected.
J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q Result was qualitatively confirmed, but not quantified.
C Pesticide identification was confirmed by GC/MS.
Y The chromatographic response resembles a typical fuel pattern.
Z The chromatographic response does not resemble a typical fuel pattern.
E Result exceeded calibration range, secondary dilution required.

Organic Flags (Flags Column)

- MB,EB, MLE: Batch QC is greater than reporting limit.
* LCS, LCD, CCV, MS, MSD, Surrogate, RS:Batch QC exceeds the upper or lower control limits.
A Concentration exceeds the instrument calibration range or below the reporting limit.
B Compound was found in the blank and sample.
D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H Alternate peak selection upon analytical review
I Indicates the presence of an interfence, recovery is not calculated.
M Manually integrated compound.
P The lower of the two values is reported when the % difference between the results of two GC columns is greater than 25%.

Abbreviations

Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation Analysis
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
Dil Fac	Dilution Factor
DL	Secondary dilution and analysis
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB	Extraction Blank
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A
ISB	Interference Check Sample B
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
Lab ID	An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PACK	Packed Column
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PS	Post Spike
PSD	Post Spike Duplicate
RA	Re-analysis
RE	Re-extraction and analysis
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RS	Reference Standard
RT	Retention Time
RTW	Retention Time Window
SampleID	A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution
UCB	Unseeded Control Blank

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.

STL-Connecticut
Certification Summary (as of September 2003)

The laboratory identification numbers for the STL-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

State	Responsible Agency	Certification	Expiration Date	Lab Number
Connecticut	Department of Health Services	Drinking Water, Wastewater	12/31/04	PH-0497
Maine	Department of Health and Environmental Services	Drinking Water, Wastewater/Solid, Hazardous Waste	04/18/04	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	06/30/04	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	08/29/04	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	06/30/03	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste NELAC	04/01/04	10602
North Carolina	Division of Environmental Management	Wastewater	12/31/03	388
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	12/30/03	A43
Utah	Department of Health	RCRA	05/31/02	2032614458

0000054

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

PAGE 3 OF

NO.

STL JOB #:

CLIENT: EEA, Inc

PROJECT ID: 03718

STL PROJECT MGR: J. Pfister

RUSH ☐ YES ☐ NO DUE DATE

TESTS								GENERAL REMARKS
PAH method 8270	VOC method 8260	pest/pcb 8081/8082	RCRA metals					Category B deliverables
BOTTLE TYPE AND PRESERVATION								
2-32 oz	3-40mL	3-32 oz	500mL					

BOTTLE SET #	CLIENT SAMPLE ID	DATE/TIME SAMPLED	MATRIX	LAB ID	QC Y/N	FIELD FILTERED - CIRCLE Y OR N								SAMPLE REMARKS
						Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	
~~3~~	~~GP B-10~~ (8-12)	~~11/13/03 9:15~~	~~soil~~ A			✓		✓	✓					
9	GP B-10 (8-12) GW	11/13/03 9:15	gw			✓	✓	✓	✓					
9	GP EB-1	11/13/03 9:00	gw			✓		✓	✓					
9	GP MW-3	11/13/03 9:30	gw			✓		✓	✓					
9	GP MS (MW-1) A+	11/13/03 10:15	gw			✓	✓	✓	✓					
9	GP MSD (MW-1) A+	11/13/03 10:30	gw			✓	✓	✓	✓					
9	GP MW-1	11/13/03 10:00	gw			✓	✓	✓	✓					
9	~~GP MW-4~~	~~11/13/03 11:00~~	~~gw~~			✓	✓	✓	✓					
9	~~GP MW-2~~	~~11/13/03 1:30~~	~~gw~~			✓	✓	✓	✓					
9	GP B-6 GW	11/13/03 2:20	gw			✓	✓	✓	✓					

MATRIX CODES

A - AIR	S - SOIL
AQ - AQUEOUS	SL - SLUDGE
C - COMPLEX	W - WIPE
D - DRUM WASTE	O - OTHER
OI - OIL	FB - FIELD BLANK
	TB - TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
Jennifer Sutton-Polsky	1040 11/14/03	RICHARD L FORD	11/14/03
SIGNATURE		SIGNATURE	
		Richard L Ford	1040
SAMPLES COLLECTED BY	DATE/TIME	RECEIVED IN LAB BY	DATE/TIME
SIGNATURE		SIGNATURE	

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

STL-812

ANALYTICAL REPORT

JOB NUMBER: 206852

Prepared For:

Energy and Environmental Analysts, Inc.
55 Hilton Ave.
Garden City, NY 11530

Project: NYCDOS SWB INCINERAT

Attention: Jeff Shelkey

Date: 06/28/2004

Signature

Date 6/28/04

Name: Jill M. Pfister

Title: Project Manager

E-Mail: jpfister@stl-inc.com

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (267) Pages

STL

STL Report : 206852

ENERGY AND ENVIRONMENTAL ANALYSTS, INC.

Case Narrative

Sample Receipt – All samples were received in good condition and at the proper temperature.

Metals – ICAP metals were determined using a JA61E trace ICAP following guidance provided in SW846 according to methods 3010A, 3050B/6010B.

No problems occurred during analysis. All appropriate protocols were employed. All data appears to be consistent.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

SAMPLE INFORMATION

Date: 06/28/2004

Job Number.: 206852
Customer...: Energy and Environmental Analysts, Inc.
Attn.....: Jeff Shelkey

Project Number.....: 20000963
Customer Project ID....: NYCDOS SWB INCINERAT
Project Description....: NYCDOS SWB Incinerator Plant

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
206852-1	HA B-6(1-3)	Soil	06/10/2004	09:00	06/15/2004	10:15
206852-2	HA B-5(4-8)	Soil	06/10/2004	09:30	06/15/2004	10:15
206852-3	HA B-1(5-7)	Soil	06/10/2004	09:45	06/15/2004	10:15
206852-4	HA B-3S(0-2)	Soil	06/10/2004	10:00	06/15/2004	10:15
206852-5	HA B-3(4-8)	Soil	06/10/2004	10:15	06/15/2004	10:15
206852-6	HA B-7(4-8)	Soil	06/10/2004	10:30	06/15/2004	10:15
206852-8	GP B-9(4)	Soil	06/10/2004	12:15	06/15/2004	10:15
206852-9	GP B2S(0-2)	Soil	06/10/2004	13:00	06/15/2004	10:15
206852-10	GP B-1(10-12)	Soil	06/10/2004	13:30	06/15/2004	10:15

LABORATORY TEST RESULTS

Job Number: 206852

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP 8-9(4)
Date Sampled.....: 06/10/2004
Time Sampled.....: 12:15
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-8
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	91.2			0.10	0.10	1	%	33891		06/15/04 0000	sbw
	% Moisture, Solid	8.8			0.10	0.10	1	%	33891		06/15/04 0000	sbw
60108	Metals Analysis (ICAP Trace)											
	Lead, Solid*	403000			983	11600	1	ug/Kg	34037		06/17/04 1539	dwh
	Lead, TCLP	765			15.0	50.0	1	ug/L	34009		06/17/04 1617	dwh

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 206852

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP B2S(0-2)
Date Sampled.....: 06/10/2004
Time Sampled.....: 13:00
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-9
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	88.6			0.10	0.10	1	%	33891		06/15/04 0000	sbw
	% Moisture, Solid	11.4			0.10	0.10	1	%	33891		06/15/04 0000	sbw
6010B	Metals Analysis (ICAP Trace)											
	Lead, Solid*	244000			851	10100	1	ug/Kg	34037		06/17/04 1545	dwh
	Lead, TCLP	487			15.0	50.0	1	ug/L	34009		06/17/04 1623	dwh

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 206852

Date:06/24/2004

CUSTOMER: Energy and Environmental Analysts, Inc.

PROJECT: NYCDOS SWB INCINERAT

ATTN: Jeff Shelkey

Customer Sample ID: GP B-1(10-12)
Date Sampled.....: 06/10/2004
Time Sampled.....: 13:30
Sample Matrix.....: Soil

Laboratory Sample ID: 206852-10
Date Received.....: 06/15/2004
Time Received.....: 10:15

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
ASTM D-2216												
	% Solids, Solid	78.5			0.10	0.10	1	%	33891		06/15/04 0000	sbw
	% Moisture, Solid	21.5			0.10	0.10	1	%	33891		06/15/04 0000	sbw
6010B	Metals Analysis (ICAP Trace)											
	Lead, Solid*	2190	B		1140	13500	1	ug/Kg	34037		06/17/04 1551	dwh
	Lead, TCLP	ND	U		15.0	50.0	1	ug/L	34009		06/17/04 1629	dwh

* In Description = Dry Wgt.

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2 | NO.

STL JOB #:

CLIENT: EEA INC

PROJECT ID: NYC DOS INCINERATOR

STL PROJECT MGR: Jill Pfister

RUSH ☑ YES ☐ NO | DUE DATE

206852 06/27/2004

ENERGY AND ENVIRONMENTAL ANALYSTS, INC.
JEFF SHELKEY
NYCDOS SWB INCINERATOR PLANT

72-96 HR TAT All samples

						TOTAL + TCLP LEAD	FULL TCLP + RCRA CHRS								
						40N #15	4-4oz 1-2oz JCA								
SEQ	SAMPLE DESCRIPTION	DATE/TIME	MATRIX	SAMPLE NO.		Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N		
1	HA B-6 (1-3')	6/10/04 / 0900	S	(01)		X									Cat B Del
1	HA B-5 (4-8')	6/10/04 / 0930	S	(02)		X									" "
1	HA B-1 (5-7')	6/10/04 / 0945	S	(03)		X									" "
1	HA B-3S (0-2")	6/10/04 / 1000	S	(04)		X									" "
1	HA B-3 (4-8')	6/10/04 / 1015	S	(05)		X									" "
1	HA B-7 (4-8')	6/10/04 / 1030	S	(06)		X									" "
5	HA D-1	6/10/04	SD	(07)			✓							OC	NO CAT B Req
1	GP B-9 (4-8')	6/10/04 / 1215	S	(08)		X							23.5		Cat B Del
1	GP B-2S (0-2")	6/10/04 / 1300	S	(09)		X									" "
1	GP B-1 (10-12')	6/10/04 / 1330	S	(10)		X									" "

"PASSED RAD SCREEN"

MATRIX CODES

A - AIR
AQ - AQUEOUS
C - COMPLEX
D - DRUM WASTE
OI - OIL
S - SOIL
SL - SLUDGE
W - WIPE
O - OTHER
FB - FIELD BLANK
TB - TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
SIGNATURE		SIGNATURE	
SAMPLES COLLECTED BY: J B Shelkey	DATE/TIME: 10 June 04	RECEIVED IN LAB BY: Mike Cosh	DATE/TIME: 06/10/04
SIGNATURE: Jeffrey B Shelkey		SIGNATURE:	10:15

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

STL-8122

SEVERN TRENT **STL**

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel: (203) 929-8140
Fax: (203) 929-8142

CHAIN OF CUSTODY RECORD

NO.

STL JOB #:

CLIENT: EEA INC

PROJECT ID: NYC DOS INCINERATORS

STL PROJECT MGR: J. Pfister

RUSH ☑ YES ☐ NO DUE DATE

BOTTLE SET	CLIENT SAMPLE ID	DATE	TIME	MATRIX	FIELD FILTERED (CIRCLE)	TESTS: FULL TCLP + LIC RCRA CHAR								BOTTLE TYPE AND PRESERVATION	REMARKS
					Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N		
3	GPD-1	10 June 04		SD	✓										NO CATB Required

72-96 hr TAT

206852 06/27/2004
ENERGY AND ENVIRONMENTAL ANALYSTS, INC.
JEFF SHELKEY
NYCDOS SWB INCINERATOR PLANT

23.5°C

"PASSED RAD SCREEN"

MATRIX CODES

A - AIR	S - SOIL
AQ - AQUEOUS	SL - SLUDGE
C - COMPLEX	W - WIPE
D - DRUM WASTE	O - OTHER
OI - OIL	FB - FIELD BLANK
	TB - TRIP BLANK

BOTTLES PREPARED BY	DATE/TIME	BOTTLES REC'D BY	DATE/TIME
SIGNATURE		SIGNATURE	
SAMPLES COLLECTED BY: J. B. Shelkey	DATE/TIME: 10 June 04	RECEIVED IN LAB BY: [illegible]	DATE/TIME: 06/15/04
SIGNATURE: [illegible]		SIGNATURE: [illegible]	10:15

REMARKS ON SAMPLE RECEIPT

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

STL-8122

THE NEW SOLID WASTE MANAGEMENT PLAN
DEIS PUBLIC HEARING
FOR THE PROPOSED EAST 91ST STREET
MARINE TRANSFER STATION
HELD AT: 310 East 67th Street
New York, New York
December 20th, 2004, 5:52 p.m.

Reported by:
MARC RUSSO
Job#: 167373

A p p e a r a n c e s:

HARRY SZARPANKSI, P.E., Assistant Commissioner, DEPARTMENT OF SANITATION, 44 Beaver Street, 12th floor, New York, New York 10004

WALTER CZWARTACKY, DEPARTMENT OF SANITATION

VAUGHAN F. ARNOLD, DEPARTMENT OF SANITATION

SARAH DOLINAR, DEPARTMENT OF SANITATION

BRIJ SHRIVASTAVA, DEPARTMENT OF SANITATION

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MR. SZARPANSKI: Good evening everybody. My name is Harry Szarpanski, I'm the Assistant Commissioner for the Bureau of Long Term Export with the Department of Sanitation. I welcome the opportunity to appear before you tonight.

With me are also Sarah Dolinar, Walter Czwartacky, Vaughan Arnold and Brij Shrivastava from the Department of Sanitation. We also have Joyce Mariani, Susan Raila and Dan Harkins with the firm of Henningson, Durham and Richardson, HDR. HDR is the firm responsible for conducting the environmental review.

We also have representatives from the firm of Ecology and Environment who helped us organize this meeting tonight.

As you may know, in October of 2004, the Department of

Sanitation issued the New York City comprehensive solid waste management plan for the next 20 years. As required, the new SWMP, as we refer to it, has been submitted as a draft to the City Council. The new SWMP is proposed to replace the current SWMP and must be approved by the City Council before it can be submitted to the New York State Department of Environmental Conservation.

The new SWMP plans for the management of all of the solid waste generated in the City over the next 20 years and is supported by a draft environmental impact statement or draft EIS on which we will take comments this evening.

My comments tonight will be brief. I will make a short power point presentation before the public portion of the meeting begins. Copies of my statement and

the presentation will be available as you leave.

Because the real focus of this public hearing will be your comments, if you plan to make a statement for the record, please take a moment to fill out the speaker sign up sheet and submit it to the individuals sitting at the front table. You will be assigned a number and I will call your name when it is your turn to speak.

Spanish translation assistance is available if you require it. Also note that elected officials, who may be attending many meetings on behalf of their constituents on any given night, will have an opportunity to speak first.

We are interested to make a complete record of your comments. Please state your name clearly and slowly for the stenographer. And

so that we can hear everyone who wants to speak, we ask that you keep your statements to three minutes. A digital display and slides are provided to help you keep track of the time.

If you do not wish to speak but would like to provide us with written comments, please complete a comment card that has been provided for you use. Thank you for coming and I'll now begin my short power point presentation.

If there are empty seats next to someone in the audience, could you just raise your hand; there are people standing in the back (audience complies.)

Those who are standing, if you'd like to find a seat, please come down. Okay, thank you.

(Showing slides) this is a public hearing on the DEIS for the draft comprehensive solid waste

management plan. Both the SWMP and the DEIS were issued by the Department of Sanitation.

The draft EIS also supports the State solid waste, air and marine permits that are required for the construction and operation of the converted marine transfer stations. Both these documents are available on the Department's website and in six public repositories in Manhattan. The State permit application for the converted MTSs are also available at these public repositories.

We understand that the City Council plans to hold hearings on the new SWMP, one in each of the boroughs in January.

The draft new SWMP has three major broad categories: It covers recycling, it covers Department-managed waste and commercial waste.

With respect to the recycling, the goals are to hold down the cost of recycling and expand barge transport of recyclables; to meet a 25 percent recycling goal for the Department Curbside Program by 2007 and by that same date, meet a 35 percent recycling goal for all Department-managed waste.

The specific initiatives in the area of recycling include entering into a 20-year contract for metal, glass and plastic processing and marketing, and for a new recycling processing facility at the South Brooklyn Marine Terminal; to enhance composting and waste prevention programs; develop an electronics recycling program; establish a recycling education center and recycling acceptance facility at the Gansevoort Peninsula or an alternative site in

Manhattan.

The Gansevoort Peninsula is on the West Side of Manhattan just below 14th Street.

And in July of 2004, weekly collection of metal, glass and plastic and paper was restored City-wide.

With respect to Department-managed waste, our goals are: To end the use of long-haul trucks for waste transport and export more waste by barge or rail; stabilize waste export cost; distribute waste transfer facilities throughout the City and containerize waste to get more transport and disposal options.

With respect to the long term export program, we're proposing to build four new marine transfer stations at existing MTS sites, the East 91st Street, North Shore, Hamilton Avenue and the

Southeast Brooklyn site and those are the four.

Enter into a long term contract for the disposal of a portion of Manhattan's waste at the Essex County Resource Recovery Facility in Newark, New Jersey; use private transfer stations for barge and rail export of containerized waste from the Bronx and for the Brooklyn and Queens communities once served by Greenpoint and the South Bronx Marine Transfer Stations.

And complete the construction of the Staten Island Transfer Station and begin export of Staten Island waste by rail.

With respect to commercial waste, we're looking to limit new or expanded transfer stations in communities where they are already concentrated; establish new operational regulations to reduce

noise, odor and dust at private waste transfer stations; study how to lessen waste transport on truck routes through residential areas; expand barge and rail export of commercial waste from Department-contracted transfer stations; export some commercial waste through the converted marine transfer stations and offer the West 59th Street Marine Transfer Station for export of commercial waste.

The draft DEIS evaluates environmental consequences of sites and facilities that are or may be part of the proposed new action. It evaluates alternative sites and facilities. It identifies the things that the City would do to avoid potential significant impacts, and meets City and State environmental review and permit requirements.

This is a map showing various wastesheds throughout the City. It shows the locations of the four proposed converted marine transfer stations and those private sites where we're proposing to contract with private companies.

Specifically for the wasteshed formerly served by the East 91st Street MTS, we're looking to develop a City-owned marine transfer station on the same site where waste will be placed into containers and exported by barge.

The expected average daily throughput is about 720 tons per day of Department-managed waste, and potentially 781 tons of commercial waste.

Now, with respect to truck queuing, the facility would accommodate six collection vehicles inside, and up to 19 on the ramp. And based on the estimated peak

hour arrival rates, the space in the facility and on the ramp is more than adequate.

On-street queuing will not be needed and will not be allowed. If necessary, collection vehicles will be diverted to the garage. And a Department employee will be stationed at the ramp entrance to ensure pedestrian safety.

With respect to commercial waste at this facility, it will only be accepted during the nighttime hours between 8:00 p.m. and 8:00 a.m.

Only putrescible commercial waste will be accepted, not construction and demolition debris or film material, and no more than about 780 tons of commercial waste will be delivered during the nighttime to avoid adverse noise impacts.

Based on the environmental

review, there will be no significant adverse on-site noise, traffic or air quality impacts.

This is a map showing the various wastesheds in Manhattan. The area in gold is the East 91st Street converted MTS wasteshed.

The summary of the findings of the draft EIS with respect to traffic show no significant adverse traffic impacts with traffic signal changes.

With respect to air quality, no significant adverse on-site or off-sight impacts. The environmental review also showed no significant adverse odor impacts.

With respect to noise, the facility will not exceed the noise code at the property boundary and the Department will limit the number of commercial waste trucks accepted to 14 during the three a.m. to four a.m. hour to avoid

noise impacts.

With respect to permits and approvals, the converted MTS will require State, Federal and Local permits and approvals. It's subject to the Uniform Land Use Review Procedure ULURP, as a site selection for a capital project.

The converted MTS ULURP application was certified on November 15th and the ULURP process is ongoing. Manhattan Community Board 8 is expected to hold a meeting or hearing to consider and vote on the ULURP application.

The converted MTS State Environmental Permit Application including solid waste, air and marine permits was submitted in November to the New York State DEC. DEC will hold a hearing and establish a public comment period on the converted MTS permit application as

part of its permit review process.
And if you want to submit comments you can provide them verbally tonight or fill out a comment sheet; submit a written statement or mail comments to me at the address above or to our consultant. And we ask that we receive comments no later than January 24, '05.
We'll now call upon speakers, and we'll ask elected officials to speak first.
Our first speaker is Liz Krueger.
MS. LIZ KRUEGER: Good evening. Thank you, good evening, ladies and gentleman. (Adjusting mic) thank you very much.
Well, you heard some of the response from my community already.
What garage? I have to ask, what kind of garage are we talking about? Are we building a garage to

put the trucks in? I suppose this is not an open question and answer, but it wasn't part of my testimony but it becomes it when I don't understand what garage we might put surplus trucks into.
My name is Liz Krueger, I'm the State Senator for the 26th District consisting of Midtown Manhattan and the East Side. And I'd like to thank you for holding this hearing. And frankly, we'll need more of them.
I was alarmed when initially notified of DSNY's intention to resume operations at the 91st Street Marine Transfer Station and I testified in June in this room to express my dismay.
The draft DEIS does not appear to have regarded my concern or that of many community leaders and residents as legitimate, because many of the reasonable

questions that were originally posed remain inadequately addressed or ignored today. And while I do support incorporating marine transfer stations into the City's waste disposal solution and believe that we must be responsible for our own garbage, placing an MTS at the proposed site still seems irresponsible and myopic.
There must be (applause) -- thanks. I only have three minutes.
There has to be a better site for this facility and yet this community keeps asking what kind of analysis has been done about alternative sites or what measures were used to determine why this sight is better than the other nondisclosed sites.
The residential character of the surrounding neighborhood and the presence of Asphalt Green-- a unique city resource-- adjacent to

the MTS makes 91st Street an inappropriate location.
Furthermore, the DEIS sets inadequate parameters for an environmental impact statement that, as of now, will neglect both the full capacity of the MTS site and subsequently, a comprehensive examination of the impact and required mitigation for the community. To be blunt, an MTS located at 91st Street will absolutely have deleterious effects on area traffic, odor, noise, air quality, public health, the character of the neighborhood and the vitality of Asphalt Green and the surrounding park area.
This DEIS severely neglects the maximum operational capacity of the converted MTS as forecasted.
Again, the frustration you heard from the community when you submitted your slides, reflects the

fact that people like myself don't understand how you can claim that you'll only be using the site for 1,700 tons of trash per day despite having the capacity to accommodate 4,290 tons.

I know that the City -- (applause) thank you. I know that the City is currently grappling with a financial shortfall as is the State, and therefore, I have to assume that the City would not waste its money by erecting a facility it didn't -- that it -- excuse me, I have to assume the City would not waste money by erecting a facility that it intends to underutilize. We have to assume that if you're building a facility of 4300 tons, that you expect to use it for 4300 tons which gives rise to this community's assumption, and I think it's a reasonable one, that the numbers

that you were siting in your charts are not valid (applause.)

Now, when you talk -- thank you, I know I'm going to go over three minutes so I'm going to ask people not to applaud just so I can get this done and everybody else can have a chance to speak.

4300 tons of trash from four community boards would operate six days a week and receive trucks throughout the day and night. And on peak collection days, under a 4300-ton scenario, the MTS would receive 469 vehicles, not the 130 projected.

On off-peak days, the site would still need to accommodate, given a conservative assumption of a 15 percent less traffic pattern, 398 trucks or 17 per hour.

All trucks would be driving straight through Asphalt Green. In order to go through the site,

unload its contents into nonspill containers, turn around, and then exit, each truck would require more than three-and-one-half-minutes average that the current plan would allow for.

Reconfiguring a few intersections or altering some traffic light patterns seem like hopeless remedies for this potential plague on the community.

As trucks take longer to unload their cargo, those that arrive later will begin to line up along the delivery routes, the narrow streets running east and west and on congested York Avenue, a thoroughfare that already barely accommodates two bus routes, the FDR Drive access and a high volume of cars.

While idling, waiting to unload the waste that they carry, the trucks would be sitting with

their motors running, releasing carbon, nitrogen and sulfur-based pollutants, emitting pungent odors and creating a din.

This situation would cause problems for which there is no adequate mitigation plan. And if you think that driving on York Avenue is already frustrating, wait until there are standing trucks constantly clogging the road. And if you currently enjoy a restful evening of sleep, remember it fondly as diesel engines roar throughout the night.

Beyond the environmental and quality of life problems that the MTS would cause at this location, there would also be a significant health risk to public health. With dozens of schools sending thousands of children to Asphalt Green everyday, permitting heavy polluters like diesel fuel trucks

to constantly idle near the site and imperil a population particularly susceptible to respiratory aliments is not only unsafe, but negligent.

Unfortunately, this DEIS neglects the realistic scenario, instead relying upon a series of complex measurements to justify a plan that seems to have been chosen long before the impact statement study was even undertaken.

If the City of New York is serious about its need to reduce waste and find better ways to accommodate it, there are a number of alternatives that should be included in the solid waste management plan.

It could start by supporting State-level efforts like my "bottle bill," that was carried by Peter Grannis in the Assembly to expand recycling programs, increase bottle deposits and cover more types of

beverage containers.

This would create a dedicated revenue stream that could preserve and promote City recycling, insulating it from the often senseless budgeting process.

New York could also work to decrease its waste stream by cutting back on the distribution of unwanted direct mail and catalogues, often known as junk mail. Managing bulk waste would also behoove the City in implementing a system to redistribute items likes computers, bicycles and furniture could potentially result in a 15 percent reduction in the waste stream.

We can also talk about City agencies adopting a waste prevention incentive program because these arms of government and other major institutions get free collection services.

There are more options to explore, both in decreasing our waste stream which we all know we want to support and I know that the City does as well. And also reevaluating the decisions that were made to get us here tonight where the only option you're looking at at the East Side of Manhattan, which is 91st Street which is never going to be an acceptable site for this plan.

Thank you very much for your time (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Assemblyman Jonathan Bing (applause.)

MR. JONATHAN BING: Good evening. I'm Assemblyman Jonathan Bing and I'm here today to speak on behalf of the residents of Holmes Towers-Stanley Isaacs Housing Development located in my district

near the site of the East 91st Street Marine Transfer Station.

Although I am not the representative for the WTS, I believe that the residents of the Holmes and Isaacs Development will be directly and negatively impacted by the activation of the waste transfer station and I urge the Department of Sanitation to thoroughly and exhaustively examine alternate sites.

Bordering on the neighborhoods of Yorkville and East Harlem, the Holmes-Isaacs complex is home to a diverse population that truly reflects the many walks of life found in New York City.

Approximately 2,278 people live in the Holmes-Isaacs complex in five residential towers located between First Avenue and the East River, from 92nd street to 96th Street.

Senior citizens and children make up the majority of the population of Homes-Isaacs with approximately 40 percent of the population over the age of 60 and approximately 25 percent under the age of 18.

I'm extremely concerned about the City's plan to reactivate the 91st Street waste transfer station and its effect on Holmes-Isaacs. This residential complex is located within the primary study area for the City's DEIS. By situating a huge garbage dump less than one block away from so many children and senior residents, I believe that the proposed location is a danger to the health and safety of my constituents at Holmes-Isaacs and it will negatively (applause) impact the community facilities and services, pedestrian traffic, open

space, health and aesthetic value of this vibrant community.

Further, the Holmes-Isaacs Development is home to a number of social programs serving the residents of the complex and the surrounding communities of Yorkville and East Harlem.

The Stanley Isaacs Neighborhood Center, located on the grounds of the complex, is the administrator of these programs and it's a neighborhood center in its truest sense. The center serves roughly 6,000 community residents per year.

I'm concerned that the reactivation of the 91st Street transfer station will negatively impact the operation of programs at the Isaacs Center. The increased traffic, noise and odor will discourage participants from using the open space available on the

grounds of the complex and could discourage people from traveling to take part in services altogether.

The southern boundary of the complex is 92nd Street, an eastbound street that will serve as an access route for the huge garbage trucks carting refuse to the station via York Avenue. These huge trucks will rumble their way directly past the open space of the Holmes-Isaacs complex on its southern side, posing a safety hazard to pedestrians.

The traffic congestion along 92nd Street between First and York Avenues is already a risk to pedestrians, particularly using a much utilized bus stop at 92nd and York Avenue. Introducing hundreds of truck trips per day to the neighborhood, will deteriorate the situation further to the point of being extremely dangerous. How can

the City expect to introduce a traffic increase of this magnitude along a residential street and not foresee tragic accidents in the making? (Applause.)

The residential towers of the complex are surrounded by significant open space along 92nd Street. Currently residents frequently enjoy the open space by walking, playing games and congregating on the green grass of the complex grounds. Benches allow residents to rest and enjoy leisure time activities.

If the 91st Street site is reactivated, the pungent odors, the noise and the ugly sight of the trash trucks will certainly make for an unpleasant stroll along the grounds of Holmes-Isaacs. This is not merely conjecture based on the guess about the future, because the residents of the complex remember

the last time the 91st Street site was operational (applause.) They remember the trucks hauling traffic past their homes. They remember the rats, the noise, the smell, particularly in the warm summer months. This time, if the site is reactivated, all of these factors will be worse, due to the increased capacity of the station, as all the signs back here says, "This plan stinks." (applause).

The City must also anticipate increased health dangers from the reactivation of this site. Increased emissions will lead to decreased air quality and an increased risk of asthma for more than 500 children living at Holmes-Isaacs.

In conclusion, I strongly urge the City to reexamine the need for the reactivation of the 91st Street waste transfer station.

The mixture of heavy trash trucks plus a dense population of children and seniors is a dangerous and unacceptable equation. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Assembly member Scott Stringer.

MR. SCOTT STRINGER: Good evening. I serve in the State Assembly and I represent the West Side and Clinton community on the other side of town and I'm here to speak to you because my community recognizes how important it is for neighborhoods to build coalitions when other communities are threatened; their air, their life, their quality of life and their health. So on behalf of my constituents, we're here (applause.)

And I thank all of you because we're dealing with a small

project on the West Side called "the stadium" so we're going to need you too.

But we're here today, but I'm here today because I believe that siting such a facility is a process ripe with difficulty.

While we acknowledge the need for such a station, no one desires a waste transfer station in their backyard. They're right, it does not belong in this backyard but it also doesn't belong in anyone's backyard. Be it Harlem, the Upper East Side, in residential neighborhoods, (applause) in residential neighborhoods.

We can all agree on one thing, waste transfer stations do not belong and they don't belong for a litany of reasons. They do not belong in residential neighborhoods for health reasons. The Melman School of Public Health

at Columbia found a link between diesel exhaust and asthma rates. Higher rates of diesel fumes were emitted from large trucks found at bus stations and waste transfer stations.

Adjacent to the proposed site on 91st Street is Asphalt Green Park, a recreational space used for swimming, basketball, soccer and other sports by more than 42 schools and 12,000 children each year. Why would we put at risk 12,000 children? It's not worth it and we shouldn't do it (applause.)

Now, these facilities don't belong in the neighborhood, in local neighborhoods for traffic reasons. Residents who live here when the station was opened, Assembly Bing says we'll tell you about the long line of trucks outside the facility, he'll tell

you about the havoc the trucks cause on the roads in and around the neighborhood. They will tell you that there is far less heavy traffic in the neighborhood today because the station is in the past. And we're here today to ensure that the station stays that way, in the past.

The Department of Sanitation and the Mayor must reverse course and furthermore, the proposed station should go to a commercially zoned location.

Now, I would urge you to come up with a real master plan, not just for this community, but for the entire City. We're frustrated as neighborhood people because we think that the resources that the City brings to bear in terms of planning and development is about a patch of land on the West Side, it's about a stadium

that shouldn't belong and if we took our energy and resources and worked with communities like this and the local elected officials to come up with a way to dispose of our waste, we would all be healthier, we would all be safer, and we would be a better City because of it.

So on behalf of the West Side, we come here today to ask you to change your mind, do the right thing and we're going to work with this community and other communities Uptown and Downtown to have a reasonable, sane policy as regards to our waste. Thank you all very much (applause.)

MR. SZARPANSKI: Thank you.

THE AUDIENCE: Do the right thing.

THE AUDIENCE: He doesn't know how.

MR. SZARPANSKI: Our next

speaker is Assembly member Pete Grannis.

MR. PETE GRANNIS: Good evening Commissioner, I have a longer statement which I've submitted and ask that you include in the record and I just want to highlight a few points that I make in my statement and I won't read it to you.

We've obviously looked at the generic impact statement very carefully and I've come up with a number of conclusions which I set out in my statement that I think that there are major deficiencies.

I've been in office a long time, as many people in this room may know and I've seen a number of projects in which there have been these very rosy statements about no significant impact. In fact, the draft impact statement here claims that this project will have no

significant adverse impact on the community.

I find that very troubling, because my experience over the last 30 years has been those rosy projections inevitably turn out to be wrong when the project is finally in place.

Whether it was converting the 31 bus line to go all the way across town because we were going to take care of all the traffic, it was going to be faster and easier, or any of the projects, that projections tend to be far more optimistic on paper then they turn out to be and the impacts tend to be far worse.

The number of MTSs, marine transfer stations as originally planned to be converted was eight and now we're down to four and I suspect that a number of those others, that they're no longer on

the list, were kept put off the list because of their proximity to residential communities. And I think that that clearly is the case here.

We are not going to sit by and allow this residential community that has no buffer zone, no commercial buffer zone around this project to serve as, to let the Asphalt Green, DeKovats Park, Stanley-Isaacs and the Holmes Towers and the 15 or 20,000 people who live in this community, the immediate impact study area or along York Avenue where these buses and trucks are lined up to serve as the human impacts for this project. And that's just a prediction of where we're going.

We certainly understand the need for taking care of the garbage and that no one community should have to take everybody else's

garbage, it's a tremendous problem and I think we recognize that we have an obligation; we generate probably more garbage than almost anybody else in the world. And it has to be taken care of and it's not an easy task, that's why you're paid the big bucks to come up with the plans and we can come and give you the free suggestions.

Unfortunately in this case, as my colleagues have mentioned, we don't have an easy suggestion. But I am troubled by the impact statements failure to address waste reduction strategies.

Liz Krueger mentioned several. There was support for an expanded bottle bill, support for doing away with excess packaging, an issue that has been around. It's a much an issue in Germany and Europe where they do away with excess packaging and cut down on

the amount of garbage that has to be picked up.

Nowhere is that on this Mayor's agenda and it hasn't been on the prior Mayor's agenda either, but I think it ought to be certainly a factor in the environmental impact statement.

Garbage disposal: These garbage grinders, long time banned in the City, now no longer banned, as you've upgraded the sewer treatment plants. It seems to me there ought to be a much more aggressive effort to try to bring about the use of garbage grinders to cut down on solid waste.

My family (applause) -- my family grew up, I lived and grew up in the Mid West and we had a garbage grinder early on and I just noticed that huge reduction in garbage that comes about because of the availability of these

predictions, these gadgets.

But finally, I just want to mention again, the idea of having these trucks line up, there is no way in the world that I can accept or not, I think the DEIS does not properly reflect the fact that these trucks are not going to be accommodated in this new facility or on the ramp, whether you've covered it or not, which I think is particularly a bad idea just for the aesthetics of the community to cover over the ramp, which I gather is one proposal, but the idea that these trucks are not going to end up lining up along York Avenue cutting off the sidewalks, cutting off the views, taking up a lane of traffic during rush hour where it's already a traffic jam both leaving the City, people getting on the FDR Drive and coming in on the evening; there are four bus routes that go

along the York Avenue part of this drive. They terminate at 90th Street and 91st Street and 92nd Street, that's a turn-around. It is already a traffic jam and to add hundreds of hundreds of trucks per day during rush hour, during school hours, during the work hours and even on the weekend on Saturdays I think is unacceptable and I really sincerely doubt that the environmental impact statement review properly took that into account.

So we call on you obviously to look at other alternatives. We pledge to work with you; it's easy for us to say don't do it here, we understand that but I think each one of us stands with you in trying to be available and work with you to try and find an alterative site. This is not the site for a marine transfer station.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Council Member Eva Moskowitz (applause.)

MS. EVA MOSKOWITZ: Good evening and thank you for this opportunity to testify. I'll be very brief.

This is a bad idea. My colleagues have enumerated all of the reasons, health, safety, noise, I can go on but I won't. I think it's very, very clear to those of us who represent and live in this neighborhood that this is the wrong location.

And as my colleague Pete Grannis said, we understand that garbage is a City-wide problem and that we have not -- that we need to find collective solution to the problem of disposing of waste.

But as my colleagues have also mentioned, many alternatives

in terms of waste reduction have not been fully studied and examined and to sort of parachute this marine transfer station into this densely-packed neighborhood, is a very, very, poor idea and I just want to thank everyone who has come out tonight, this is a very, very important battle and I know all of you have very, very busy lives, but it's important to fight this fight because this a bad idea.

And I would just say that I'm beginning to feel, I got in office five and a half years ago and every time I see a draft environmental impact study, it is always a rather inadequate document.

This document does not, it's almost as if (applause) the -- it's almost as if this is a sort of constitutionally or structurally a document which doesn't take into

account what everybody knows to be the basic reality of neighborhood life. And I've seen so many of these that you almost feel like you're being set up.

I would urge you to go back and recount the amount of garbage that you're anticipating, the number of trucks, the amount of pollution; I didn't see very much in here that I can agree with as an accurate description. It seems awfully rosy and disingenuous.

I thank you for your time and consideration (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Jessica Lappin representing Speaker Gifford Miller.

MS. JESSICA MILLER: "Good evening. And I'm submitting this testimony tonight delivered by my District Chief of Staff, Ms. Jessica Lappin, to reiterate my

1
2 opposition to reopening the East
3 91st Street Marine Transfer Station
4 and to address the draft
5 environmental impact statement for
6 the solid waste management plan.
7 As I have stated in the
8 past, I am a proponent of using
9 marine transfer stations for waste
10 removal in New York City. In
11 general, I believe that the City
12 should be moving away from
13 land-based transfer stations.
14 However, I also believe that zoning
15 in the City should matter, and that
16 the residential character of a
17 proposed neighborhood should
18 matter. As a result, I am opposed
19 to the Mayor's plan to reopen any
20 marine transfer station in the
21 heart of a densely populated
22 residential neighborhood.
23 I was opposed to reopening
24 the facility at 135th Street for
25 that reason, which is no longer

1
2 part of the plan and I remain
3 opposed to the Mayor's plan to
4 reopen the 91st Street MTS and
5 wreak environmental and economic
6 havoc on our community.
7 In terms of the DEIS, I
8 would like to raise the following
9 points. When the marine transfer
10 station at 91st Street was
11 previously in operation, it
12 received approximately 900 tons per
13 day of residential trash during
14 peak times. This meant that it was
15 only in operation from 8 a.m. to 8
16 p.m. This new facility is expected
17 to accommodate both residential and
18 commercial waste and receive at
19 least twice the tonnage it
20 previously did, if not four times
21 as much. According to the DEIS,
22 that means the facility will
23 operate from 8 a.m. to 8 a.m.
24 How can the Department of
25 Sanitation argue that doubling the

1
2 usage and running the facility 24
3 hours a day, six days a week
4 creates no adverse environmental
5 impact? It's ridiculous, it's
6 incomprehensible and it's
7 unacceptable.
8 In addition (applause) the
9 resulting impact on traffic caused
10 by nearly 800 truck trips to the
11 neighborhood a day, all day and all
12 night apparently, will not only
13 make York Avenue impassable and
14 potentially unsafe, but contribute
15 to a significant increase in noise
16 and air pollution in the area. No
17 realistic and enforceable solution
18 is discussed or presented in the
19 draft EIS.
20 The DEIS also fails to
21 address the negative impact this
22 facility will have on our local
23 parks. Carl Schurz Park and
24 Asphalt Green, as they were in the
25 scoping document, are getting

1
2 cursory mention and are practically
3 ignored. As I have mentioned
4 before, Asphalt Green employees 250
5 people, sees 675,000 visits a year
6 and donates free services to 12,000
7 individuals a year and many of them
8 are children from 47 different
9 public schools throughout the City.
10 Carl Schurz is the largest
11 park exclusively located on the
12 Upper East Side. And obviously
13 odors, air pollution, truck
14 traffic, these are all going to
15 impact upon these heavily used
16 public spaces.
17 In closing, I believe that
18 spending a hundred million dollars
19 to build an MTS at 91st Street is
20 bad policy, and that more
21 appropriate and sensible
22 alternatives exist to deal with
23 Manhattan's trash.
24 I appreciate the opportunity
25 to submit this testimony and

respectfully request that the content of these comments be reflected in the final EIS.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Micah Kellner speaking on behalf of Congresswoman Carolyn Maloney (applause.)

MR. MICAH KELLNER: I'm here on behalf of Congresswoman Carolyn Maloney who represents --

THE AUDIENCE: Can't hear you, speak into the mic.

MR. MICAH KELLNER: Hi, I'm here on behalf of Congresswoman Carolyn Maloney who represents New York's 14th Congressional District which is the proposed site of the East 91st Street marine transfer station.

This is the only MTS planned for a heavily residential neighborhood. Not only will the

stench foul the air of this community, but we're located near a park that serves tens of thousands of children from around the City.

The Congresswoman holds severe reservations about the draft environmental impact statement on the proposed East 91st Street marine transfer station which she believes contains significant flaws that reflect the quote, both heavy deference to political, rather than policy concerns (applause.)

First, the DEIS clearly does not reflect the realities of operating a marine transfer station in a densely populated residential community such as the Gracie Square and Yorkville neighborhoods. Specifically the impact of the proposed site on the local air quality, traffic patterns, pediatric health, neighborhood open space and public health, are

examined in cursory detail, if at all.

Consider the site is located within blocks of Community Board 11 where the rates of asthma and other respiratory ailments are among the very highest of any neighborhood anywhere in the United States.

These impacts must be studied extensively before such a massive and I’m assuming permanent facility is located at this site (applause.)

When the original marine transfer station located at the site was first built in 1940, the neighborhood was very different. This was still a manufacturing district. Since that time, the residential population has increased exponentially, manufacturing ended and Asphalt Green has become a park.

Indeed, under the current

Department of Sanitation siting rules, a private transfer station would not be permitted within 400 feet of a park. It is wrong to set aside those rules to allow a massive public marine transfer station at the East 91st Street location adjacent to the Asphalt Green building, the Asphalt Green building and playing fields.

Reopening the MTS at the East 91st Street site is not a question of merely flipping a switch or starting up the previous MTS or even simply retrofitting, the City wants to completely demolish the current MTS and create a new facility that would handle more than four times the solid waste that can be managed by the station's current capacity.

The Department of Sanitation has given no justification for why the site is suitable for a massive

brand new marine transfer station. And if the City proceeds with the new MTS, it should make every concerted effort to examine exhaustively, the possibility of retrofitting at waterfront sites in nonresidential neighborhoods (applause.)

This DEIS fails to examine many factors that would have a major impact on the surrounding community and most significantly, the proposed facility would be built to process 4000 tons of garbage per day. The DEIS however, only considers the environmental impact of 17 to 18 tons of garbage per day, therefore violating the State Environmental Quality Review Act which mandates analyses at full capacity.

It strains credibility to assume that City Hall (applause) -- it strains credibility to assume

that City Hall will really use less then all of its capacity.

The DEIS also ignores the possible negative impacts on air quality and vehicular traffic caused by the proposed demolition and construction of the current MTS. Similarly, it fails to address specifically how the siting of this massive new facility would affect the public uses of Asphalt Green recreational facilities. To say that there will be no effect on activities taking place at Asphalt Green while construction is under way is disingenuous or naive (applause.)

In addition, the DEIS fails to analyze the possible odor pollution inflicted by the proposed MTS on recreational faculties and vital open spaces such as Asphalt Green, Carl Schurz Park and the John Jay Finley Walk on the East

River Esplanade, all of which abut the proposed site.

The DEIS presents only vague descriptions of the dimensions and appearance of the new MTS and goes so far to suggest that it is said to be twice the height of its predecessor facility and it will serve no visual impact on the community. The blank ignorance of these factors lend itself to the conclusion that the DEIS was drafted to fit a preordained conclusion in a manner reminiscent of the trial court in Alice in Wonderland (applause.)

The Congresswoman understands that New York City faces unique problems in dealing with the problems of waste management disposal. We live in one of the largest and most highly developed regions in the country, yet somehow we must find a way to

dispose of thousands of tons of waste generated each day by New York's residents, institutions and businesses.

Given the current situation, I'm glad this Mayor is taking on the task of devising a solid waste management plan for the entire City, but in striving for fairness by having a marine transfer station in each borough, he's created a nightmare for this residential community and as a result, this is distinctly unfair.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Rick Muller representing Manhattan Borough President C. Virginia Fields.

MR. RICK MULLER: "Good evening officials of the Department of Sanitation, ladies and gentlemen.

I'm Rick Muller, and I'm pleased to deliver the comments of Manhattan Borough President C. Virginia Fields on the draft environmental impact statement of the new solid waste management plan of New York City.

While comments on all aspects of the SWMP DEIS have been solicited, the obvious focus of this meeting is the evaluation of impacts from the proposed demolition, rebuilding and operation of a new expanded marine transfer station at 91st Street on the East River.

While Borough President Fields has supported the use of barge and rail as environmentally responsible ways of transporting our City's solid waste, she opposed the expansion of this and the other facilities when the administration released its plan because of

concerns about local impacts.

The DEIS does not allay these concerns and Borough President Fields remains opposed to the reopening of this facility based on the densely residential character of this neighborhood and the access ramp that cuts through Asphalt Green.

Though the 91st Street marine transfer station is proposed to be built with a capacity of 4,290 tons per day, the DEIS bases its analysis on less than half of that at 1700 to 1800 tpd. If this is the maximum amount proposed to be processed at this location, why is such a large facility necessary? It is hard to avoid the conclusion, in spite of assertions to the contrary, that capacity in excess of the residential stream will be taken up by commercial waste. The analysis of processing 4290 tpd of

proportionally attributed residential and commercial waste should be performed to comply with the reasonable worst-case requirement. Absent this analysis, it is impossible to judge the acceptability of a facility that will operate day and night, six days of every week.

Borough President Fields has consistently objected to the fact that access to the MTS cuts through Asphalt Green and the DEIS does not address that issue beyond the assertion that there will be some form of noise barriers erected. Moreover, there are no drawings, illustrations or simulations that would allow a reader to get an idea of what the actual visual impact of the MTS will be on users of Asphalt Green, not to mention on residents in nearby buildings.

Whether or not it will be

possible to actually avoid queuing of trucks on the nearby streets, it is also a matter of great concern to Borough President Fields that private commercial waste hauler trucks are incredibly polluting, so that is it of crucial importance to analyze the air quality and noise impacts of these vehicles on the surrounding neighborhood in a reasonably worst-case scenario.

With regard to alternatives, the DEIS should disclose precisely the technical, legal and other parameters that have lead the Department of Sanitation to plan on using East 91st Street and not West 135th Street. In addition, the Manhattan Citizens' Solid Waste Advisory Board has used Department of Sanitation criteria to identify potential sites over and above the sites already evaluated. It appears the Department has

determined that none of the four additional sites evaluated in the commercial waste study are suitable for export. However, the existing MTSs would also not be suitable were Department of Sanitation to apply the same criteria used to disqualify the other four.

The DEIS should include an analysis of the feasibility of using the sites identified by the Manhattan SWAB as well as a more complete investigation of the four in the commercial waste study. The DEIS should have disclosed the technical, legal and other obstacles to their use in order for the public to be able to fully evaluate the various alternatives.

Borough President Fields believes that a more thorough and accurate analysis of the potential impacts of building an MTS for containerization of residential and

commercial waste at East 91st Street would lead to the conclusion that there would be too many unmitigatable impacts for its construction to be considered acceptable.

Thank you for the opportunity to comment (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Jackie Ludorf, Community Board Eight (applause.)

MS. JACKIE LUDORF: I'm Jackie Ludorf, Chair of the Environmental and Sanitation Committee of Community Board Eight, and as such, I am delivering this resolution as presented and as proposed on the December 15, 2004 full board meeting of Community Board Eight.

This resolution was adopted by a vote of 25 in favor, zero opposed and zero abstentions.

"Whereas, the City of New York has presented the comprehensive solid waste management plan draft environmental impact statement, and specifically the draft environmental impact statement for the reopening of the marine transfer station at 91st Street, be it resolved Community Board 8 has the following comments to make to the draft EIS: The MTS at 91st Street will be built with a capacity of 4,290 tons per day of waste. Yet the DEIS only analyzes the environmental impact of 1700 to 1800 tons per day. Why would the City build a bigger site than necessary? And if the expanded site will be used to capacity, none of the analysis in the DEIS will be accurate. All things studied, traffic, noise, odor and health will have a greater impact than what is studied in the DEIS.

There has never been a sufficient alternative analysis. The marine transfer station at 91st Street is being reopened only because it already exists. Other alternatives were denied because they were sited close to a park whereas, the 91st Street MTS cuts through Asphalt Green, a park and is near Carl Schurz Park (applause.)

There does not seem to be a comprehensive cost/benefit analysis. There is mention of our fees being solicited to determine cost and mention of revenues for permitting fees, but there are no revenue expense projections for the whole project or the MTS at 91st Street. There is no mention of construction cost, operating cost; will the 60 people who work there be new-hires? None of these questions are answered. They're

important questions to the taxpayers of the City of New York.

Mention is made of traffic studies done in a model using 2003 data. Does this model consider the construction of the Second Avenue Subway? The articulated buses which often come two together and take up a whole block? What about an actual simulation of Sanitation trucks running during the three peak periods rather than just a model?

Several residents complained about the length -- several residents already complained about the length of time it takes to travel in our neighborhood on any given day. Surely the Sanitation trucks will make it worse.

The draft EIS also mentions that things in the Vinegar Factory would not be impacted as many customers walk. What about

delivery trucks? How will Sanitation crates and trucks pass them as they are making deliveries?

There is mention of the potential for odor; Sanitation trucks are not kept neat and don't allow for spillage. Is there a clean Sanitation truck in operation? They all will smell, all 800 of them. A DEIS should say if garbage trucks are kept clean and neat, there will be no odor.

There have been several discussions of fair share and why this concept demands a marine transfer station at 91st Street. In terms of commercial waste, what about the restaurants and places of businesses and entertainment that are used by people from all over the City and the world? Yes, the garbage is in the CB8 area, but not all created by us.

There will be more noise

than currently exists. Even if the noise falls within EPA guidelines, that is not the issue. The issue is that this is one of the quietest neighborhoods in the City and the MTS with its cranes, front-end loaders and waste delivery systems will have to create more noise, especially at night.

Noise mitigation measures includes such things as noise reduction at residential property lines, the installation of replacement windows and air conditioning units. The mere suggestion of such things guarantees noise much greater than currently occurs.

The 20-page plan has been -- the 20-year plan has been lauded by some as taking diesel trucks off the road and using waterways to transport garage. Does the 91st Street MTS have to take the

residential waste and commercial waste from CDs 5, 6, 8 and 11, will we not have just as many diesel garbage trucks transporting garbage to Lower Manhattan up to 91st Street? Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Philip Opher.

MR. PHILIP OPHER: Good evening, I'm Philip Opher.

MR. SZARPANSKI: Wait, we'll fix your microphone.

MR. PHILIP OPHER: I'm Philip Opher. PHD in Economics and retired vice president, vice president in the Parsons Engineering concern, working internationally and for the City of New York.

First of all, I would like to wish you happy holiday because this hearing on the 20th of December is organized six days before

Christmas. In the former hearing on the 28th of June, was organized six days before 4th of July (applause.)

As they say, "once by chance, twice by design."

The thing that most of the matters I wanted to speak was well covered by other speakers up to now, makes me to just pinpoint several items that I am concerned about.

One of the items is the new siting rules issued by the Department of Sanitation which are approved or are not approved yet, you cannot understand from the text that you received, we received from Sanitation.

The items in this siting regulations that notify me, are first a change of the definition of the 400 feet buffer zone between the station and residential school,

hospital areas. They want to change this rules by having the middle starting at the building and not at the property line, not at the property boarder.

In order to accommodate the 91st Street station situation in which an alley or the lane and the ramp are coming into the station from York Avenue, and the front of this alley is facing York Avenue, is highly residential content and also is bordering on both sides, park, so it's not 400 feet, it's one feet between boundary and the park (applause.)

The other item in the zoning is that you cannot understand which zoning resolution is going to be utilized. In the beginning of our -- we say here, when we started speaking with the Department of Sanitation, the zoning regulation in court was that of May 2004.

Now, in the new documents I see something very unclearly expressed that we are expected to abide by the zoning regulations of the build year; the build year being 2006.

It is true, is it a fantasy, I don't know. How can you build on the basis of a zoning resolution of the future? (applause.)

In general, the attention that the Sanitation Department give to the testimonies of the public was very poor. At the meeting on June 28th, 240 people either spoke or presented letters to the Department. The Department -- out of this 240, there are over 20 positions and over ten lawyers. The Department promised to help out statements of testimonies presented and shown, we understood to the public, to the media, to the public officials. No, this was not done.

For four months our

statements were hidden. At the end of October, it is the first we started to see of them in a indirect manner as follows: The testimonies were gathered in a CD ROM, that CD ROM and the letters were photographed in the CD ROM. They were not distributed to the public together with your documents on October, but they were kept in the CD ROM and you could obtain the CD ROM if requested.

By the way, I send a request, a written request of which I have a proof on the website to the Department of Sanitation, there was no answer (applause.)

The statements of the 240 people were summarized the way they knew, and presented as a table, which in itself is an attachment to the documents presented in October. I tabulated that table. I found that there were 31 comments in

regard to the 91st Street station, very few of which, only one was accepted and 30 were rejected. Of the ones that were rejected, many were misunderstood.

The level of comprehension of the people that work for you is under question. I can give an example of understanding. Somebody asked what about ambulances. The answer was, the trucks will give priority to the ambulance. The person that give this answer did not understand that York Avenue is an avenue of ambulances. We are serving seven major hospitals of the area. And to think that you are going to block this with garbage trucks is going to create a lot of problems. It could create, could generate or could be the cause of death from many people brought by the ambulance to a hospital (applause.)

In general, I would say that the program of the City based on constructing transfer stations is inferior to the way garbage is transferred today. It looks like low technology, but is actually much more efficient.

Queuing in itself is one of the most uneconomical or inefficient effects. Chain is as good as its weakest link and the queue is as good as the poorest or the worst truck.

If you have hundreds of independents, of independent trucks moving around the City, if one of them breaks down, this doesn't bring to a halt an entire facility.

Thank you very much (applause.)

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Marjorie McClachlan.

MS. MARJORIE MACLACHLAN: We know each other by now. It's Marjorie Flanagin Maclachlan.

Gosh, what do you have to do to kill a project in this town, I don't know. I can't believe we're here. I can't believe that you dismissed the comments of the hundreds and hundreds of people that spoke at the last hearing. Every elected official (applause) that represents this neighborhood except Mayor Bloomberg.

The New York Times, both the papers from the West and East Side, I can't believe you hired a firm, a great firm I am sure, to say we want to hear from you and then went on to solicit comments on only a residential trash plan that claims it's just going to be what it was in the past. You know that's not true, it's 4000 tons of trash, more than half of which is commercial.

That's not fair, that's not right.

Have you no sense of civic responsibility? Do you really believe it's appropriate to hold a hearing when the document that forms the premise of that hearing is incorrect in its representation of what the environmental impact will be of the new marine transfer station?

There is no way it can be appropriate to have chosen a site that is going through a playground in the middle of one of the most density populated residential neighborhoods of New York City. Why choose this site? Well, in the words of a recent author, "Because you could or you thought you could" because 60 years ago, someone set up a marine transfer station here when the neighborhood was extraordinarily different. Did not have in any sense, the same number

of residents, wasn't even residential, it was probably lightly commercial.

When you look at the choice of this site, I really want to get a reporter interested in this. Where's the due diligence? Where's the search for alternative sites? Why pick this, just because it was there? Just because the process for approval might be easier? There have to have been other sites. If you'd really done the due diligence, and I'm sure that the orders go way up, I don't just blame you, but if due diligence was really done to find an appropriate site, I don't think that we would be here today (applause.)

To add insult to injury, the proposal has been built as a way to make the haves deal with problems that the have-nots have suffered from for years. Have not what?

Have not asthma? We have an asthma clinic on 96st Street and First Avenue. And asthma, despite what other people have said, it's not just the diesel fumes, it's rats and cockroaches and allergens as well.

So you'll be putting an asthma-causer at the southern part of East Harlem as well as the northern waste site.

Have not odor. Have not vermin. Have not pollution. Have not noise. No one should suffer these assaults. No one should have them at their doorstep, in their playgrounds, in their parks, no one. Is it an economic issue? What a sliding scale that is in today's world.

And also it ignores who in fact is the (bell rings) population that you're directing this insult on. I'm sorry if I'm out of time.

THE AUDIENCE: Take your

time. Take your time.

MR. SZARPANSKI: Please wrap it up, there are many, many more people.

MS. MARJORIE MACLACHLAN: As others will address and as my written comments have addressed, this plan pits 800 trucks of trash against school children, 600 plus city buses and our handicapped citizens, every citizen imaginable.

We have elected officials to represent our best interest, it is their legal and moral obligation to do so. Every elected representative from this neighborhood except Mayor Bloomberg is against the opening of the marine transfer station (applause.)

Are you not obligated to act in the public interest as well? How can this plan, which threatens a vital, beautiful, thriving part of our City, Gracie Mansion,

Asphalt Green, Carl Schurz Park, the waterfront on 225th Street, countless residents, be approved? Step up, do the right thing, please we know you can and we're here to help if we can do anything (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Elaine Friedman.

MS. ELAINE FRIEDMAN: Good evening. My name is Elaine Friedman, this is my daughter Halley (indicating) age three. This is my son Grant, age six.

These are two of the 12,000 children who will not be able to sleep because you're trucking commercial garbage all night or breathe because you're trucking in residential garbage everyday, 24 hours a day, seven days a week (applause.)

My family and I live in

Gracie Point, the neighborhood surrounding the East 92st Street transfer station. My husband Gary and I are attorneys as well as concerned parents. I'm a member of the board of directors at Gracie Gardens, a neighborhood apartment complex.

My family uses the neighborhood's parks and recreational spaces extensively. Both children take numerous classes at Asphalt Green. We bike along the greenway and go sledding in the wintertime in Carl Schurz Park. Our children love having play dates outside with their friends in the playgrounds at Asphalt Green and Carl Schurz.

The Sanitation Department, the mayor and environmentalists favoring the reopening of the transfer station argue that every borough should process its own

waste. This is a laudable goal but it is nonsense to conclude that environmental fairness mandates that a monster garbage dump must be located in a densely populated residential neighborhood, home to tens of thousands of children and elderly people.

Even a child can grasp that supposed barriers and trees planted alongside the facility and a purported sophisticated odor control system will not mitigate in the slightest, the serious health consequences from pollution, filth and vermin associated with transfer station operations.

Significant public green spaces namely Asphalt Green and Carl Schurz, will be seriously compromised should this transfer station reopen. The DEIS is wholly inadequate in addressing the effects of this proposed ten-story

monstrosity on the neighborhoods residents, traffic patterns and parks.

Garbage dumps clearly do not belong in any neighborhoods where children live and play. The health and well being of our children and other vulnerable residents by far outweigh the political gamesmanship on this issue. Solving the City's garbage crisis should not place children at risk and cost upwards of 85 million dollars borne by us, the City taxpayers, to satisfy a highly politicized and suspect concept of fairness.

In closing, I'm going to read to you from a letter that will be submitted to you by Grant, who is a little shy about speaking.

And he says, "Dear Mr. Szarpanski, I am six years old, if that garbage dump is reopened, there will be no place to play or

ride bikes in my neighborhood because it will smell so bad.

I play at Asphalt Green and Carl Schurz Park all the time and I love those places. One garbage truck smells bad and pollutes the air, (bell rings) what will it be like with many, many garbage trucks lined up on the streets?

Once I passsed some garbage on the street and it smelled so bad I wanted to throw up. That's what it will be like all the time if you open up that garage dump. Please don't do it. Thank you."

(applause)

MR. SZARPANSKI: Thank you.

Our next speaker is Greg Costello.

MR. GREG COSTELLO: Okay, if I do this will it work?

There really isn't -- by the way, I am a resident, Greg Costello resident, just a guy.

The Department of Sanitation's siting rules really are not confusing. They stipulate that a garbage dump or a marine transfer station is prohibited from being built within 400 feet of a park or a residence.

Now, the East 91st Street marine transfer station, as you all know and as the slide presentation showed, is within 400 feet of parks and residences.

This is just flat out cheating. It's not about changing (applause) the rules that, those are the Department's siting rules now. And so they're going to build the place anyway, it's cheating.

Now, below 14th Street, these trucks are going to take garbage and go directly to New Jersey to incineration. Above 125th Street, these trucks are going to go directly to New Jersey

for incineration. Between 14th Street and 125th Street, these trucks ought to go directly to New Jersey for incineration (applause.) But that's not what the plan is. Instead, these trucks are going to work their way between 14th and 125th to the opposite way from New Jersey, they're going to go to the East Side of Manhattan Island and north to one spot. That one spot is where 60,000 of us people live. And then, they're going to move it around and repack it and they're going to send it back all the way back around Manhattan Island. Then it turns the corners and then it's going to go to New Jersey for incineration. So that brings to light four facts.

Fact number one: This is a violation of the Department's own siting rules (applause.)

Fact number two, this is a

violation of the lives of 60,000 of us good people.

Fact number three, this is a perfect example of government using excessive power against the will of the people that are affected (applause.)

Fact number 4, and I'm happy to be the one to get to say this, what this really is, if you're wondering why the garbage doesn't go straight to New Jersey for incineration (bell rings), it's because this is a political power play by the Mayor's office designed for one purpose only, and that is to undermine his chief political foe next year, a guy by the name of Gifford Miller. That's what this is about (applause.) And so and I'm done, let's stop this madness, stop this silliness, the garbage between 14th and 125th needs to go directly to New Jersey for

incineration like the rest of it is going. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is City Council Member Gale Brewer. (applause.)

MS. GALE BREWER: Thank you very much. I obviously represent the West Side of Manhattan from 54th Street to 96th Street and that is all the way from Hudson over to Central Park. So I'm a bit of an interloper and I need a passport to come over to the East Side.

But I'm here because on 59th Street and the Hudson River there is, of course, a marine transfer station which now a couple days a week takes paper to New Jersey. There aren't many residents there unlike here. It is however, soon to have residences there and there's a building that Mr. Durst is putting up called the Helena which

will have many, many residents.
And of course the Trump site will
be developed just to the north.
And I met today with the developer
who's building in the area.
So there will be a great
many residents and this is our
concern: Not only do I support
much of what has been discussed
here because there's been a great
deal of change in terms of the
plan. On the West Side for
instance, there was to be
residential. It's now to be all
commercial in Manhattan, although
of course, there's some discussion.
But on the East Side here there
will be residential and commercial.
And the fact of the matter is there
isn't any clarity or transparency.
And I have listened extensively to
what Eva said, to what Gifford
Miller had said about the need for
more fair share. I'm very aware, I'm

the least limited person anybody
can imagine, I think many of you in
the audience know that, but the
fact of the matter is none of us,
without trucks that are 100 percent
alternative fuel, without the
opportunity to think of every kind
of technology possible, to keep the
waste at its surface. And even the
Helena, which is one of the most
environmentally sensitive buildings
with the Baxter Building, they are
working hard to keep the waste in
either some kind of recycling or
figure out a way that it doesn't
end up in any kind of sewer system.
The fact of the matter is is that's
not being done and we asked about
the commercial trucks on the West
Side and were not told that there
will be alternative fuel.
So I'm here to support you
to say that we don't want all of
the commercial or all of the

residential waste in one place in
Manhattan, we want our fair share
but we don't want all of it. And
there are many opportunities to
think differently about this entire
project.
Thank you very much and I
look forward to continue East and
West and all of Manhattan working
together (applause.)
MR. SZARPANSKI: Thank you.
Our next speaker is Tony
Ard.
MR. TONY ARD:
Mr. Szarpanski, again, thank you
for hosting this effort on the part
of people to speak their minds.
I'm sorry that our comments
before seemed to have fallen on
deaf ears. That probably explains
why many of us are speaking louder
tonight.
I'm the President of the
Gracie Point Community Council,

it's an association of residents,
owners, institutions, businesses,
and providers of goods and services
on the Upper East Side.
One of the things that I
would like to say on behalf of the
community here is that the people
in this community have not, do not,
and will not advocate that other
communities accept Manhattan's
waste. Indeed, our residential
waste is not now going to those
communities.
The way in which the
Department on behalf of the City
has gone about its planning, has
pitted, rather cynically in my
opinion, neighborhoods against each
other.
The health and safety of a
child in one neighborhood is no
more or no less important than the
health and safety of the child in
another neighborhood (applause.)

We are pleading, we are demanding that the Department use the resources of this City that are available; a lot of studies have been done at Columbia University, for example, in identifying alternatives that are less destructive and less disruptive and now is the time to start (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Carroll Tweedy.

MS. CAROL TWEEDY: Thank you. My name is Carol Tweedy and I'm the Executive Director of Asphalt Green. I thank you for this opportunity to comment and I also want to thank all of our friends who come out on this very freezing evening so inconveniently right before Christmas to express their support for Asphalt Green (applause.)

In previous testimony, I have described the role of Asphalt Green and for the purposes of brevity tonight, I will give just a few brief facts.

We serve over 42,000 people every year and to clarify some of the mistreatments that have been made by others, 80 percent of those who use us are children. So that means over 30,000 children use us every year.

Over 12,000 of those receive totally free services from us as part of our mission to bring sports and fitness for a lifetime. We're not just a neighborhood facility, we're a City-wide facility. Last year, 124 different institutions from all around the City used our highly used campus.

Our tag line-- sports and fitness for a lifetime, says it all. We're concerned with providing

lifetime health through sport and fitness and affecting 70 billion dollars that's spent additionally in this country and health care costs that could be avoided with people who were physically active.

No one is affected more than the Asphalt Green should this plan for a ten story, 100-foot high garbage dock be implemented.

I think if I were part of the administration or a politician, I could understand what is happening better, but since I am not, I'm totally befuddled by the inclusion of the 91st Street garbage dock in the solid waste management plan.

Asphalt Green has been a partner with the City. The City owns the land and the buildings in which we operate. The City has invested ten million dollars in capital rehabilitation projects on

the campus. This City has benefited from the additional 30 million that has been raised privately. So this is the City's own asset which it is choosing to devalue.

Between 1999, when the marine transfer station closed and today, Asphalt Green has grown 33 percent. We believe that this would not have happened had the marine transfer station been operating. And I am surprised that our comments in the previous hearing about the analysis of the economic impacts at Asphalt Green continue to be ignored in the current DEIS.

We all know that when these opened previously, the smells were so awful that parents withdrew their children from day camp. And a current review of our operations and some preliminary focus

interviews suggest that our users will go away with increased traffic, smells and dirt from a newly built garbage dock (applause.)

This economic impact will affect the 250 people who work at Asphalt Green, who come from all over the City, every single borough.

The siting issues have been mentioned. The City chooses to ignore the rule of siting a facility such as this in the middle of a park, right in the middle of Asphalt Green.

If fails to do an analysis of traffic on Saturdays, failure to recognize that the biggest traffic day for, at Asphalt Green is Saturday and minimizes general traffic situation acknowledging that as many as four school buses an hour and 63 public buses, 50

percent of which are articulated, are there and how the presence of these buses is being ignored (bell rings.)

There's no analysis of odors and the mitigation talked was about in terms of high prison-like walls erected on a ramp, 12 to 15 feet high, which will contain these odors. But those fumes will rise and go somewhere, right into the vents of our HVAC system and on to the field (applause, bell rings.)

And, well, the construction on the ramp is particularly problematic. It cannot be done without closing our entrance and invading the fields.

At a policy level, this is incomprehensible. 43 percent of public school children are overweight or obese. Asphalt Green is one of the few institutions that addresses this issue. The damaging

impact of garbage docked on our operations will limit our ability to address this problem.

So I believe the plan is flawed from a technical point of view, I believe it's flawed from a policy point of view, and that it fails to look at the role of Asphalt Green and the context of the health of the City's children. And so from my point of view, this plan doesn't make any sense, but as I said, I'm not part of the administration and I'm not a politician (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Richard Leland.

MR. RICHARD LELAND: Good evening. My name is Richard Leland, I'm the attorney for Gracie Point Community Council and a member of Kramer, Levin, Naftalis and Frankel.

I appear tonight to present a synopsis of my client's comments to the draft EIS that the Department of Sanitation prepared in connection with what is lovingly referred to as the SWMP.

Detailed written comments by the Gracie point Community Council's Environmental and Planning Consultants firm, Dino and Associates and VHB, Inc., will be submitted to the DOS and other involved agencies on or before your deadline of January 24th.

And because there are so many members of the community who came out on this bitter cold night to have their comments heard, I will limit my comments to the highlights or to use a more accurate phrase, the most glaring and egregious deficiencies in the DEIS.

My first comment speaks

generally to the quality of the DEIS. Much of my practice involves the representation of private developers and nonprofit institutions that require government approvals to build their projects and which must be in compliance with SEQRA. I also represent public authorities when they act as SEQRA lead agencies.

Based on my experience, I believe I'm qualified to observe that the DEIS prepared for the 20-year City-wide SWMP is of a quality that if submitted by a private developer or nonprofit, would never have been accepted as complete by responsible lead agencies (applause.)

This DEIS is replete with conclusory statements masquerading as facts and assumptions that are completely unsupported.

Its analysis are internally

inconsistent and the document does not provide even the most basic description of what each facility will look like and how it will operate.

In fact, the graphic that you had up here earlier tonight, is one that isn't anywhere in the EIS. In fact, your little fact sheet that you gave out today and the statement that you made of controls and operations, doesn't appear anywhere in the EIS either.

Moreover, while the DEIS's stated goal in spending 320 million dollars to build four new sites, is to have facilities that are capable of containerizing waste, but neither the SWMP or the DEIS provide any concrete information as to what will happen to the containerized waste once it leaves the MTS. It's going to get in the barge and we don't know where it's

going to go.

Clearly, the transport and ultimate disposal of the containers are essential elements of your plan and your failure to address those elements in the draft EIS is a classic example of segmentation which is absolutely prohibited under SEQRA.

Again, this is something a private developer could never get away with, or that a responsible lead agency would tolerate, let alone certify as quote, complete and accurate for public review as the statute requires.

Without any concrete information about the method of transporting disposal of the containers, your Department cannot possibly know the costs associated with that aspect of the plan, which is likely to be at least as much as the 320 million dollar price tag

for four new MTSs.

Perhaps this explains why the DEIS still doesn't contain a benefit, a cost/benefit analysis to support the conclusion stated in it, that the containerization plan is preferable to the current plan.

There's no evidence in this DEIS that the plan to construct new MTSs makes any economic sense, all there is is a series of conclusions hailing the plan as economical and efficient (bell rings.)

The most glaring and egregious flaws with respect to the East 91st Street MTS as well as the other ones, is its analysis of an artificially and arbitrarily limited amount of throughput which results in a substantial and significant underestimation of the true impacts that will result from the facility's operation.

The DEIS only analyzes the

1
2 environmental impacts resulting
3 from the processing of 1700 to 1800
4 tons per day. Yet, according to
5 the DEIS, the facility's capacity
6 will be 4290 tons per day. As a
7 matter of fact, a number that's not
8 in the EIS is the number in your
9 application to the DEC under part
10 360, and that says that you're
11 going to build, you want a permit
12 to build a facility that would be
13 capable of processing 5,280 tons
14 per day.
15 This shockingly larger
16 number, as I said, is not in the
17 DEIS, it's not in the draft SWMP
18 plan, it's not in your press
19 releases and it's not in any of
20 your public relations pieces.
21 SEQRA requires analysis of
22 the reasonable worst case. That
23 means the full impact of the
24 proposed plan. Here, where you
25 have used a misleadingly low

1
2 throughput estimate as a starting
3 point leading us to an extreme
4 underestimation of the facilities
5 potential impacts in traffic, air
6 quality, neighborhood character,
7 open space, noise and odor.
8 On the other hand, and I'll
9 try to wrap up, I understand we
10 have a lot -- we don't have a lot
11 of time.
12 If you're only going to use
13 the facility for 1800 tons per day,
14 why the heck are you spending 80
15 million dollars to build one that
16 holds 4300 tons a day or 5200 tons?
17 (applause.)
18 I'll give you an analogy:
19 If a private developer proposed to
20 build a 400-unit apartment
21 building, but sought to study the
22 impacts of renting out only 200 of
23 those units, no responsible lead
24 agency would accept and certify the
25 DEIS. If the lead agency were to

1
2 do so, the courts would call it
3 arbitrary and capricious.
4 When a City agency purposely
5 cooks the books by understating the
6 impact of a 5,280 ton-per-day
7 facility by falsely describing it
8 as a 4,290 ton-per-day facility,
9 and then by arbitrarily limiting
10 the analysis to 1800 tons per day,
11 it's not only arbitrary and
12 capricious, it's disgraceful and
13 its bordering on fraudulent
14 (applause.)
15 Our written comments will
16 demonstrate other examples
17 throughout the DEIS of how we
18 believe that the Department of
19 Sanitation has cooked the books to
20 get its desired results.
21 I won't burden you with them
22 tonight as time is running short.
23 I will just wrap up and state it,
24 when I get to it.
25 Did you ever hear of a

1
2 lawyer being brief?
3 As we have mentioned
4 throughout the testimony, the DEIS
5 suggests that your department
6 believes that a government, as a
7 government agency and not a private
8 developer, it is somehow exempt
9 from full and proper compliance
10 with SEQRA. This view is not
11 shared by the Gracie Point
12 Community Council. It is certainly
13 not shared by the courts, which do
14 not view the SEQRA requirement as
15 variable depending on who may be
16 the project's best sponsors. And
17 if that's where the Gracie Point
18 Community Council needs to go to
19 force compliance with SEQRA, we
20 will not hesitate to do so.
21 Thank you and good evening
22 (applause.)
23 MR. SZARPANSKI: Thank you.
24 Our next speaker is Dr. E.
25 Arthur Livingston.

MR. E. ARTHUR LIVINGSTON: Thank you. I wonder whether you got this date from the Farmers' Almanac but the cold weather and the snow and the ice and what have you, it doesn't seem to pertain to anything else.

My comments will be very limited because of the length of other testimonies.

We're all aware of Attorney General Spitzer's work in Albany in the insurance business, the financial business, the banks, security analyst, it's just appalling what has come out. And I think the analogy here is that we're now looking at whether the DS cooked the books and whether it has got somebody to do a DEIS in conjunction with their, what they're planned to do the way they've done it on Wall Street.

When an analyst goes down to

a company, he meets with the CEO or the CFO and he's told what to put in his report and he goes back to his banker and/or his brokerage and they put that in the bank. So I don't think we can look at the plans, the so-called plan here as well as the DEIS and the scoping as something that is really objective, and I'm sorry to have to say this.

In the past when I was growing up in Queens, we used solid waste to build the '39 World's Fair. We built LaGuardia Airport, now we're going to put an MTS in a thriving community and we're going to destroy it. It makes no sense to me. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Kathryn Edmunds (applause.)

MS. KATHRYN EDMUNDS: Hi, I'm speaking as a concerned resident. And I wanted to talk

about how densely populated our neighborhood is.

Many people have said tonight that we live in a densely populated neighborhood and I want, I've been looking at census information and I want to go into more detail about that.

Greg Costello, and maybe some others, have referred to a 60,000 figure for the population. And that 60,000 people probably refers to the secondary study area as opposed to the primary study area.

For those of you who don't know what I'm talking about, the secondary study area is this half mile radius from the site boundaries of the MTS, quarter mile study area is the, well, the primary study area is the quarter mile radius. Both are obviously important. The 60,000 is more

important 'cause it's more people. But the CEQRA guidelines are for population studies to be the quarter mile.

Okay, there are 13,400 people in the quarter mile area around the East 91st Street MTS. For other City sites described, the next largest population is 4300 people. Stated differently, our area is three times as crowded as the next most populated study area (applause.)

The current EIS describes 11 study areas. The population at these study areas ranges from 60 people to 4300 people until you get outside of the site which is 13,400 people. Okay, for those of you who like math, the -- for 11 sites the average size is 29,800, the median is 1442. And our site with 13,400 is a clear outlier.

Okay, these numbers are just

to emphasize that our study area really is densely populated. It's not to say that our garbage has to go to another City-owned MTS.

All right, the second point I want to make is that the demographic information presented almost entirely in terms of percentages can be terribly misleading. Many data in the scope and in DEIS are given as percentages whether pertaining to poverty rates or to asthma prevalence. When a population is as disproportionately large as is ours, is it essential to consider the actual numbers of people. A particularly clear example will illustrate what I mean.

According to the year 2000 census, the study area at 91st Street has a poverty rate of 11.4 percent. The poverty rate of another primary study area for a

different MTS that I'm choosing for comparison, is 15 percent. 15 percent is obviously higher than 11.4 percent. But the raw number of people below the poverty level at East 91st Street is over 1500. While the 15 percent at the other site is fewer than ten people (applause.) So focusing on percentages masks the real disparity and actual numbers.

All right, I want to say more about the 13,400 people in our area.

Over 1800 of us are kids, over 1600 of us are seniors. These 1800 kids and 1600 seniors, adds up the 3400 people which is larger than the entire population at seven of the other sites, and roughly 80 percent of the entire population of each of the other three sites.

I isolate these groups, kids and seniors because they are

generally a more vulnerable population compared to the general population (bell rings.)

Kids are more likely to develop asthma or other respiratory illnesses while seniors are more likely than the general population to die of asthma.

There are 3500 minorities, and as I said before, there are over 1500 of us who are below the poverty threshold.

The distribution of minorities creates a section within our quarter mile study area where on the basis of raw numbers, extended genuine outreach efforts are appropriate.

Okay, so the number should show that both were densely populated areas and they were not a uniformly privileged population that many people associate with the Upper East Side.

In conclusion though, I want to make sure that people understand, particularly you people, that we do not consider the 13,400 people near East 91st Street any more important than the 4400 or fewer people near the other sites. I'm simply saying that our site is far too populated to accommodate safely the proposed MTS and the associated truck traffic. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Kendall Christiansen.

MR. KENDALL CHRISTIANSEN: Good evening Commissioner Szarpanski and colleagues, for a change of pace I want to talk a little bit about food waste.

My name is Kendall Christiansen and my comments are offered on behalf of Insinkerator, a company represented by the firm

of Geto and deMilly
which I am vice President.
My comments are focused on
the failure of both the DEIS and
the SWMP to address proven methods
for diverting food waste from
sanitation collection trucks,
transfer stations and distant
landfills instead of capturing food
waste as a raw material that can be
composted and converted into
fertilizer and in a cost effective
manner.
Food waste is the second
largest component of the solid
waste stream after waste paper and
by far the most expensive and
problematic component in terms of
environmental impacts.
Twice in the past two years,
I have petitioned the Department of
Sanitation to examine options for
managing both commercial and
residential food waste.

In the first instance, I
suggested looking at food waste as
a distinct component of the
Department's study of commercial
waste.
In the second, I suggested
that this DIS, DEIS do the same.
In both cases I suggested the
comprehensive review, fairly
examining all known methods for
diverting and managing food waste
as a critical component of a
municipal waste stream.
An attachment to the final
scoping document for the DEIS notes
that it will be addressed by the
SWMP. However, the SWMP is
essentially silent on the question
of managing food waste.
Others will make the broader
legal points about what the State
requires of a SWMP and whether the
draft plan currently as proposed
meets that standard. But I want to

talk about why food waste is
important and what should the DEIS
say about it.
First, as I said, it's the
most problematic component of solid
waste. It only comprises 15
percent of the City's residential
waste, but it creates environmental
damage at every step along the way.
Food waste smells, it leaks in
homes, buildings and trucks; it
attracts vermin and rodents; it
creates leaching and methane gas at
landfills. And because food waste
is heavy, being mostly water, it's
very expensive to collect, transfer
and ship.
Secondly, food waste should
not be dismissed as just garbage.
As an organic material, food waste
is totally unlike inert materials
like glass, metals, wood and
plastic, many of which we have
learned to treat as recyclable. In

fact, food waste is much more like
human waste, both are about 70
percent waster and contain basic
chemicals that enable it to be
composted without much difficulty.
Third, residential and
commercial food waste management
efforts are being aggressively
developed in other cities. Most
notably, San Francisco, Toronto and
Seattle. Yet the New York proposed
SWMP doesn't even propose to study
any such effort to divert food
waste, effectively ignoring what
might be learned from those cities.
Finally, food waste in New
York is twice the national average
as a percentage of residential
waste. Why? Because a simple
device known as a food waste
disposer is a standard appliance
elsewhere in the U.S.
Installed in more than one
half of U.S. homes and in 85

1
2 percent of the new homes and
3 increasingly common in restaurants,
4 hospitals and school cafeterias and
5 food markets.
6 In simple terms, a disposer
7 makes food waste disappear. It
8 goes away immediately from the
9 place where it's generated. The
10 disposer involves a grinding
11 chamber that pulverizes food waste
12 into liquid form, sends it through
13 the sewer where it's combined with
14 human waste, it's treated at the
15 waste water treatment plants and
16 processed into fertilizer and known
17 as both solid and is composted. In
18 fact (bell rings) a 100 percent of
19 what we generate as biosolids in
20 the City is regarded as class A or
21 not all Class A, but most of it's
22 class A for land application.
23 For more than 50 years ago
24 with 50 million in daily use and five
25 million solid annually in the U.S.,

1
2 disposers have been studied
3 exhaustively. The municipalities
4 have decided that the public
5 benefit of their wide-scale use are
6 preferable to collecting food waste
7 and garbage for disposal in
8 landfills or incinerators. We
9 therefore, have adopted public
10 policies that allow and promote
11 their use. But since residential
12 disposers only became fully legal
13 in New York several years ago,
14 they're not yet common and haven't
15 yet achieved critical mass. But in
16 fact, residential developers and
17 building managers tell me that the
18 City's practice of providing free
19 garbage collection to residential
20 buildings has actually slowed their
21 installation here.
22 For commercial food
23 establishments, the Council's now
24 considering how best to test them
25 despite the reluctance of the

1
2 Department of Environmental
3 Protection. But we encountered no
4 resistance existence in Philadelphia which
5 requires commercial establishments
6 to use disposers rather than put
7 food waste in the dumpsters.
8 Now, I will comment at the
9 SWMP public hearings specifically
10 about what the City might do to
11 encourage their use. But to
12 conclude, for better, for worse,
13 the City needs an honest,
14 challenging discussion about
15 getting food waste out of our
16 garbage and back where it belongs,
17 on to our land as fertilizer from
18 once it came.
19 Thank you for your
20 consideration (applause.)
21 MR. SZARPANSKI: Thank you.
22 Our next speaker is Evan
23 Firestone.
24 MR. EVAN FIRESTONE: My name
25 is Evan Firestone, I'm here to

1
2 represent my three children and my
3 neighbors who will be negatively
4 affected by this plan.
5 First I want to thank the
6 Department for its time in holding
7 these hearings and discussing this
8 issue with the public.
9 This discussion should not
10 be a political issue, it should not
11 pit one community against another.
12 The City has a problem, garbage
13 disposal and the solution should
14 not burden any densely populated
15 residential neighborhood.
16 I applaud the Department's
17 decision not to reopen the 135th
18 Street station. I attended the
19 hearing for the 135th Street
20 station in June and many in that
21 audience were from this
22 neighborhood as well showing their
23 support for that community.
24 How densely populated is our
25 community? Well, as Kathryn

mentioned, your document mentions two census tracks containing 13,000 people. But that follows only the technical requirements of CEQR, but dramatically understates the affected community.

Eight census tracks are within a quarter mile of the site or will suffer increased truck traffic representing more than 50,000 people.

Asphalt Green, in addition as Carrol Tweedy mentioned, serves kids and adults from diverse communities which would bring that number far above the 50,000 people.

I want to review the current status of residential waste disposal in Manhattan for a minute.

According to the DEIS, existing residential waste in Manhattan is trucked directly to New Jersey. No other borough or community is affected by

Manhattan's disposal needs. The fair share argument is therefore incorrect. However, reopening the 91st Street station would subject our community to truck traffic, emissions and odors.

To quote from Mayor Bloomberg's comments at a press conference announcing the SWMP, quote, It puts serious strains on the quality of life in neighborhoods where transfer stations are located."

It seems to me that reopening the transfer station on 91st Street is moving in the wrong direction.

Those are my comments (applause.)

My objections to the plan can be grouped as follows: Health, safety, traffic quality of life, commercial waste and alternatives. I have others but I

only have three minutes tonight.

Health and safety effects include emission, vermin, odors, truck traffic. The DEIS says that all of this can be mitigated or simulation models predict it will not be a problem. Well, we have real life data from the time the facility was open. The odors and emissions during the summer, as Carrol Tweedy mentioned, caused parents to pull their kids from summer programs on Asphalt Green. The residents themselves can tell you stories of their experiences of the time of not being able to go outside during the summer because the odors were so bad.

The DEIS wishes that all a way. Traffic conditions at that time also were horrendous as trucks queued up for blocks on York Avenue.

The planned capacity of the

refurbished station is four times the current capacity during this period. How can the situation not be worse than it was than if the new station is estimated to be four times the capacity at that point in time, which will negatively affect the quality of life.

As far as other traffic effects, the plan proposes to widen the ramp that goes through Asphalt Green. How? The Aqua Center is on one side, Asphalt Green Field is on the other side. Are the children going to share the field with a new ramp? Are you going to close the ramp during the construction? It says that the only way according to the plan, it says the only way to allow the truck traffic to not be backed up (bell rings) is to have traffic going two ways which is to widen the ramp, but there's no practical way to accomplish that.

At the hearing in June I discussed the narrow streets from 87th to 91st Street and warned of gridlock on the entire Upper East Side. Now, this plan calls for trucks to go east on 90th Street, but does not discuss the width of 90th Street. Well, I measured 90th street, it's 30 feet wide. If you add up the cars parked on both sides, that accounts for 13 feet, leaving 17 feet. A garbage truck is over nine feet wide, I measured that as well. Leaving less than eight feet remaining and that's not including any space between all of these vehicles. Well, a small moving van is eight feet wide. There is a no practical way to have garbage trucks go down 90th Street without causing gridlock on 90th Street and any other east/west streets in that neighborhood (applause.)

So two more quick comments.

This plan is designed to include commercial waste without adequate study of the impacts of commercial waste. You say just refer to the commercial plan which was not adequately vetted either at this meeting in June or in your comments in the DEIS.

Commercial haulers will not be subject to Department regulations for emissions, odors, and noise. It cannot be predicted how disruptive commercial waste will be as part of this plan.

Finally, alternatives. Local Law 20 required the City to disclose City-owned or City-leased waterfront properties. Here's the list: There's 300 properties on this list that are waterfront properties in Manhattan alone. The Department wants a waterfront site and there are alternatives to the

91st Street station. And as other members that have spoken to you before, we are more than willing to work with you to find another adequate location for this, but the 91st Street transfer station is not the right location.

Thank you very much (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Neal Flomenbaum, M.D.

MR. NEAL FLOMENBAUM: Thank you. My name is Neal Flomenbaum, I'm the Director of an emergency department, a Professor of clinical medicine, the Medical Director of an emergency medical service system of basic and advanced ambulances and a medical toxicologist and coauthor of a reference textbook on poisons and overdoses.

I am not here this evening to represent any organization nor

am I a paid consultant, the views expressed are my own.

I've come this evening to express my concerns over the serious adverse health effects that the DSNY SWMP will have on the health and safety of the many children and adults who live, work and play in the vicinity of the proposed construction of a new, new marine transfer station on East 91st Street.

I'm sorry, I find that the DSNY DEIS is a seriously flawed document characterized by inadequate studies, false statements and harmful erroneous conclusions.

Then the new 100-foot high supersized MTS proposed for a site once occupied by a smaller MTS, now abandoned and scheduled for demolition, is a brand new structure, not a converted MTS, the

term used repeatedly in the DEIS to mislead City and State legislators.

It is a health hazard to be shoehorned into the midst into one of the most densely populated neighborhoods in the country and immediately surrounded by a recreational facility that serves the needs of thousands of school children daily. It also encroaches on a registered New York City and national landmark, casting a shadow up to five hours a day on the adjacent recreational area.

For lack of any possible way to justify the ill-conceived construction of such a significant health hazard in such an overcrowded neighborhood, DSNY repeatedly concludes in their DEIS that the new ten-story MTS poses quote, no unmitigatable significant adverse environmental impacts, unquote.

Such a self-serving, misleading statement is equivalent to saying that the toxic waste disposal at Love Canal and the operation of the Chernobyl Nuclear Plant, presented no unmitigatable significant adverse environmental impacts (applause.)

In fact, statistically, the East 91st Street new MTS poses a greater damage to health than would a well-run nuclear reactor constructed at Times Square. No specific mention is made in the DSNY DEIS East 91st Street site proposal of the known associated expected incidences of new cases and exacerbations of asthma, chronic obstructive pulmonary disease and potential serious or fatal trauma inflicted on innocent pedestrians by large trucks.

Have you ever seen a child die of an asthma attack despite a

dozen doctors and nurses' best efforts to save them? I have. Have you ever seen a person crushed under the wheels of a large truck? I have. Have you ever been in the back of a stationary ambulance, lights flashing and sirens screaming trying desperately to get to a hospital with a dying patient while the Sanitation crew continues to load trash bags of garbage from a large apartment house on the truck before moving on? I have. (Bell rings) Known health hazards do not belong in anyone's backyard. To deliberately place children and adults in harms way and to sacrifice the future health and lives of the children of this City for a bad solution to a problem and a lack of imagination and ingenuity to solve it, is to demonstrate an unacceptable and indifference to human life. To do so for political

expediency is to commit an act of political cowardice. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Benjamin Miller.

MR. BENJAMIN MILLER: My name is Benjamin Miller, I'm a research associate at Columbia University School of Engineering Center and I'm providing these comments on behalf of the center.

There's nothing in the solid waste management plan that deserves applause. To save time, I won't list such with the few moments now, other than to say that dispersing transfer stations by these new facilities such as the 91st Street MTS and the waste generated in this part of Manhattan will bring a significant environmental and economic benefit by reducing the number of truck miles traveled.

The most important element missing from the plan is that for the most part, it fails to address the zoning for disposing of that waste, that it will not be feasible to handle through prevention, recycling or composting.

Without a plan to develop or acquire disposal capacity, the City will be forever dependent on the private landfill market. The greatest problem with this is that it will mean a constant escalation of prices.

The second problem is that a landfill will not only be the most expensive waste disposal alternative, it is also the most damaging to the environment and to public health.

Since Fresh Kills closed, landfill prices have increased dramatically. They're projected to increase another 60 percent by

2010. The average price that New Yorkers pay to export its waste has increased by a third since FY'98 and the private sectors cost increased 50 percent.

For next year, the Sanitation Department has accepted bids to dispose of Manhattan's waste, four bids. The highest of these is 73 percent higher than the City's first contract bid in 1997. The lowest which is only 44 percent higher, is the Essex County Incinerator.

In 2002, Pennsylvania imposed a tax on every ton of waste disposed of in the state. Last year, an additional fee was proposed. Such levies are only one means that the State can have for restricting the amount of waste they accept from other states.

Michigan's law prohibited imported waste so it's separated to

its own standard, went into effect last month. Landfills in Rhode Island and Delaware have closed to out-of-state waste because these states have taken the prudent step of creating state-wide waste management authorities.

South Carolina regulations imposed limits on the amount of waste that can be imported. National legislation to restrict waste shipments is a distinct future possibility.

Cumulatively, all these measures will have the effect of raising even further, the price New Yorkers will pay. Since we always need some landfill capacity, we must develop means to control its cost.

There are only two ways to do this, one is to develop or acquire landfill capacity either alone or in cooperation with some

larger governmental entity. The other is to obtain access to a long term lease of air space. Given the dynamics of the interstate transport situation, the fact that New York encompasses within its boundaries, as much area potentially suitable for landfill and as any other state does, it clearly would be prudent and appropriate to begin at once to develop or acquire such capacity within New York.

While this process is underway, since that will take time, we should acquire long term access to landfill capacity anywhere it can be obtained most quickly at the least overall cost.

Developing public control over landfill capacity is one thing we should do to minimize the impacts of our waste management system on the City's economy. But

to reduce those impacts further as well as to reduce the environment and public health impacts posed by exporting our waste, we need to do more.

We need to process waste that cannot be feasibly prevented, composted or recycled to reduce the volumes that require land filling. (Bell rings) And the future of other technologies may be available that are present. Only waste-to-energy is the most widely established and widely used.

While landfill costs will continue to increase rapidly, waste to energy costs will rise more slowly. The cost in New Jersey is already the same, waste to energy is likely to be less expensive throughout the East in the near future.

From an environmental perspective as well, waste to energy is clearly preferable, it produces

a net reduction in green house gas by the equivalent of 1.3 tons of carbon monoxide per ton burned. These are among the reasons for the Europeans Union’s Directive that landfilling and combustible materials are seen through in the decade.

Unlike a landfill, a waste energy facility could be developed within New York City, but it needn't be Just as we must procure landfill capacity outside the City limits, we could also procure additional waste to energy capacity.

I focused on just one of the elements missing, one of the most important elements missing in the plan, my written testimony contains recommendations on a broader range of issues. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Charles Emma (applause.)

MR. CHARLES EMMA: My name is Charles Emma, and I live opposite the Asphalt Green.

I have in my hand notes that I had prepared for comments that I made at the last meeting regarding the proposed rebuilding of the 90th Street MTS building. I did not however, see any reference to those comments in the final scoping document regarding a possible MTS site on Randalls Island.

Since one of the Mayor's main requirements were that no garbage was to be transferred to another borough, I wish to point out how eminently suitable the proposed site would be in that regard. The garbage would be removed from Manhattan but still not dumped into another borough.

Any additional benefit that would be practically, that would practically be possible to -- it

would be practically impossible to outgrow any facility that would be built on Randalls Island.

Of course, a whole list of additional benefits, you heard them all this evening, would accrue that you hadn't made here regarding the attempt to reuse the existing MTS site.

I urge that serious consideration be given to thinking outside the box in the matter that is suggested here.

MR. SZARPANSKI: Thank you.

I've been asked to announce that there will be a bus leaving in about five minutes back to Asphalt Green. Thank you.

Our next speaker is Judith Rich.

Richard Marlin?

MR. RICHARD MARLIN: Good evening and thank you for the opportunity to be heard this

evening.
I am the President of 535 East 86th Street, a building with 135 tenants, approximately a quarter of a mile from the proposed site.
I don't want to repeat what some of the other people have been saying, but I'd like to express to you the impact that we had as members of this community even though a quarter mile away from the previous, now closed site. And I want to urge you to re-consider the plan to build a new and much, much larger facility at that site.
Many, many of our 135 members now participate in the Asphalt Green programs and many of our members have children who are also at school in the neighborhood.
All of our people are aware of what happened when the trucks that were destined to the old

former site, now closed, couldn't get into the site and stood idling and emitting exhaust fumes on York Avenue. And many of us remember the way traffic was interfered with and halted because of the traffic congestion that those trucks caused.
We are convinced that the same kind of problems will affect us even though we're a quarter of a mile away. And we're representing that we believe that and everyone else in this community and urge you to reconsider this ill-conceived plan. Thank you (applause.)
MR. SZARPANSKI: Thank you.
Clifford Bleustein?
MR. CLIFFORD BLEUSTEIN: It's Dr. Bluestein.
The ramp to the MTS runs, obviously has been said between the Asphalt Green Center and the outdoor field. It is

unconscionable that the Department of Sanitation would allow garbage trucks to go where our children play.
The health risks cannot be ignored. The environmental impact is clearly flawed. If it underwent review by any legitimate medical journal, it would be rejected. Not only would it be rejected, but the authors would be shunned from any academic community. Not only is this facility a major risk to our children and community, it opens the door to liability.
When credible epidemiological research is performed and the ill effects are clearly demonstrated, the City and the Department of Sanitation will be liable for the adverse effects not only to the children, but to the community as well. The MTS cannot be allowed to reopen.

I wish that our comments were, would matter here tonight, but unfortunately I feel that they're falling on deaf ears (applause.)
MR. SZARPANSKI: Thank you.
Our next speaker is Mary Fliegier.
MS. MARY FLIEGIER: My name is Mary Flieger and I'm a trustee of the Gillen Brewer School and I'm here this evening on behalf the 90 special needs children who will be moving into 410 East 92nd street in September of 2005.
Six months ago we contracted to purchase two floors of the community facility building presently under construction and connected to what will be a Marriott Hotel going up on the corner of 92nd Street and First Avenue.
We had been looking for a

permanent home for almost three years. The church we are renting space from offered to renew our lease at double the rent, and since we cannot accommodate twice the number of children, we knew we would have to relocate.

We began our search on the Upper West Side and worked our way through DeWitt Clinton, Chelsea, Tribeca, the Meat Packing District and the Lower East Side. When the opportunity to acquire a long term home in this neighborhood arose, we pursued it. And why? Because of its location. Access to a clean, walkable neighborhood; access to nearby athletic facilities and parks; access to friendly neighborhood merchants and businesses.

You should know who these special needs children are. They are children of two years and seven

months of age through ten years of age. They come to us with developmental, language and emotional disabilities. Many are medically fragile.

Here are a few examples: We have children with tuberis sclerosis, cerebral palsy and seizure disorders including epilepsy. We have a child with both cancer in remission and a major heart problem. We have failure-to-thrive children and children with asthma and allergies.

30 percent of our children are on the autistic spectrum and have compromised immune systems.

Where do these children come from? From all over the City. 75 percent of them do not live in this neighborhood. They come from Riverdale, the Bronx, Harlem, the Upper West Side, Downtown, Long Island City and other neighborhoods

in Queens and Brooklyn.

They are African American, Hispanic, white, Indian and Asian.

Gillen Brewer is the New York State approved public school for, its children's educational mandates are determined by the New York City Board of Education and his tuition is paid for by the State.

The City relies on institutions such as ours to meet the needs of the children they cannot serve in the New York City Public School System.

I'd like to return for a moment to the walkability factor of this neighborhood and what that means to our children.

More than 50 percent of our children are sensory-impaired and receive a kind of therapeutic treatment known as sensory integration. This means that our

children are particularly sensitive to sound, noise and touch and they react (bell rings) to these stimuli in atypical ways.

In the design of our space, we have incorporated soundproofing materials to reduce ordinary internal noise and thus distractibility. Our ceilings will be fitted with a special acoustical tile known as Ecophon. Our classroom, gym and therapy office will be double sheet rocked.

Please don't tell us that this will all be for naught as an endless stream of garbage trucks endlessly circle our block.

Part of our program literally requires our children to be out in the neighborhood, interacting with the sites and sounds of the City that is already challenging and overwhelming to them. We teach them street safety,

how to read the traffic light and cross safely. We go into stores and teach them how to interact with sale clerks and manage money. Life skills is a big part of what we do.

If this transfer station project is implemented, there is no doubt that this will make a misery of what is supposed to be a wonderful aspect of our program.

We are a small school but we have a huge impact and we beg you to continue to research a more suitable location for this transfer station and allow us to do the job that New York City and New York State so overwhelmingly endorses. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Alice Konorezov.

MS. ALICE KONOREZOV: No, excuse me, my name like any other name is an American name but it's

Konorezov, K-O-N-O-R-E-Z-O-V.

Thank you, I'd like a little respect for names.

Since I appear to be, since I appear to be a little older than most of you on the panel, I'd like to refresh memories of other members in the community here.

I mentioned this at the last meeting in June, please be aware that accidents will happen. There's so many trucks today now then there were many fewer trucks in approximately '88, '89, I don't remember the date exactly, but I remember, perhaps other people can back me up, brakes failed on a truck going down the ramp. It crushed the leg of a ten-year-old boy coming and going from school. His leg was crushed. I don't know anymore if he survived. But it was a big news item at the time, people came, they demonstrated, they

picketed, apparently it took more than ten years for the plant to close down.

The other thing is because I have, I'm a resident of this community for 36 years, I live in the same building on East End Avenue so I could attest, number one, to the terrible odor.

I didn't realize the odor was coming from the Sanitation plant until it closed down. Before I thought it was just odors from the river, humidity, et cetera.

The other thing I'd like to point out, the route of buses going up York Avenue and turning right on 88th Street, excuse me, on First Avenue to make right on to York, the route is 88th Street. One of the things I want to point out, there's a church there, there's Holy Trinity Church right on 88th Street. It's very big and many

people go and take their children to that day care center. There are also senior citizens programs there during the day. They serve lunch, they have all kinds of programs.

Next thing is Asphalt Green. Are you aware that it's just not a recreational facility? Senior citizens, the disabled are brought in trucks, all right, in small ambulettes. Drivers stop, try to park the car and they help the people get off the truck on wheelchairs, onto the sidewalk, okay.

Now, how in the world with all that traffic congestion, with trucks coming down the ramp, with congestion on that very congested corner right now on 91st Street, how are you going to get to the facility? This is not recreation for them, this is physical therapy. The Asphalt Green has a warm

weather facility so that's one thing.

I'll try to be brief because people have said so many -- everything that has been said better than I can say it.

I'll tell you -- oh, yes, oh, yes, this is very important and we haven't addressed this enough. Navigation on the river, okay.

I know, I remember before when barges used to go with open garbage with the American Flag standing right on it and seagulls flying all over the place, okay, very picturesque. Please gentlemen, I know you're employees or this is a project assigned to you. I feel like some of us feel that it's always, this just falling on deaf ears. This is something you're assigned to do, it's a job, you come here and, I don't think you can really relate to us as

people, just real everyday people who live, and this is a community, please don't misunderstand, this is a community. So try to give an impression at least that you relate to us at least in a human way, okay.

And last point, navigation. Increased traffic on the river is a hazard. It will increase the risk of accidents. I am witness to one accident, I don't remember the year. I remember was it was capsized, it crashed into the embankment of the FDR Drive right underneath our building on 82nd Street. Okay, the stench was terrible, all that. It took one week to haul away the tanker.

This doesn't mean it would happen again, but the risk will happen again. But the point is, if that one tanker is blocking navigation or preventing more

navigation to go through, what will happen if those containerized units that you're proposing to do, how do they get down the river and will it not block up the new waste that is brought in. Can you please explain, does anyone take that (bell rings) into consideration?

Sorry, I talked more than I expected to, but I think I've made my point (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Heleen Brody.

MS. HELEEN BRODY: Hello. Good evening, my name is Heleen Brody and I am the Vice President of 180 East End Tenants Association. 180 East End is located on East End Avenue between 88th and 89th Street, within a quarter mile of the proposed MTS site.

We have approximately 150

family-size apartments with a commensurate number of registered New York City voters.

As the representative of 150 families who will be directly affected by the establishment of the proposed MTS, I am here to speak against the proposed marine transfer station site.

Please understand that this is not a position that the board of 180 East End reached lightly. We acknowledge the elephant in the room. The value of our homes will likely decline if the MTS as proposed is built. But that for us is a fact of life and not the reason for our intense opposition.

Our committed opposition is due to the following facts:

One, the Department of Sanitation is ignoring its own siting rules which would unconditionally prohibit a transfer

station within 400 feet of a park or residence. If a private waste transfer station is not appropriate, why is this one appropriate? How does the Department of Sanitation justify this? To date, no explanation has been provided (applause.)

It is disingenuous to build a site with a capacity to process nearly 4300 tons per day and then analyze the affect as though only 1800 tons per day, less than half that capacity will be processed.

Either we're meant to assume that more than half the capacity built will be excess, or we're meant to accept an analysis that's patently incorrect. Neither of those is acceptable, know what we expect from our public officials.

The fact that the analysis of the odors emanating from the facility did not include the nearby

parks, what an amazing omission.

The analyses looks at the difference, I'm sorry, the analysis looks at the effect of nearby residences such as my own, but omits completely an assessment of the effect on Asphalt Green, the esplanade and Carl Schurz Park, facilities that my own children use, facilities that all our children use.

These are facilities that are used by people including school children from all over the City. Asphalt Green alone serves 42,000 people, including city school children. Many schools use the Asphalt Green facilities as virtual extensions of their physical education facilities.

The three-minute limitation does not permit me to detail the other elements that form the basis of our opposition. And in fact,

those have been clearly articulated by the many eloquent speakers who preceded me. It is however, important that the Department of Sanitation and the Mayor realize that 180 East End Avenue as part of the Gracie Point Community, completely understands the need for the fair sharing of all burdens and that each borough must take responsibility for its own garbage.

We do not advocate sending Manhattan's garbage and our garbage into other boroughs. What we oppose is an incomplete analysis that supports siting such a facility in any residential neighborhood including our own. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Timothy Logan.

MR. TIMOTHY LOGAN: Hi, Timothy Logan. I'm here tonight

speaking on behalf of Consumers Union. Part of my spokes issues will deal with waste diversion alternatives that will also be on behalf of the New York City Zero Waste Campaign. And issues dealing with the marine transfer station issues will be also on behalf of the Organization of Waterfront Neighborhoods.

When the speaker voted, the Speaker of the City Council, Miller voted in favor of utilizing East 91st Street marine transfer station as it had operated in November of 2000, he did so for all the right reasons, he was looking for equity.

When the Speaker reiterated his support for the retrofit of the East 91st Street Marine Transfer station and marine transfer stations throughout the City in a published Newsday article in the Spring of 2002, it was the Speaker

who supported and pushed for containerizing at East 91st Street, what's now planned.

The wealthy and connected here tonight who have been speaking, an overwhelmingly white constituency, disapproval at this late date without even a suggestion of alternative sites in this vicinity is unconscionable.

The currently indefensible attack on low-income communities of color, both within and beyond the City's borders, must be addressed.

I've heard a number of people say that each borough should take their fair share and yet nobody has suggested where it's going to go in Manhattan.

THE AUDIENCE: That's not true.

MR. TIMOTHY LOGAN: I've heard people say let's send it to New Jersey where we can incinerate

it as if that won't be a low-income community of color there. That's where it's currently going, that's what everybody has been advocating for that has even suggested an alternative here tonight.

THE AUDIENCE: Well, why don't you come up with one?

MR. TIMOTHY LOGAN: I have suggestions and they're right here.

MR. SZARPANSKI: Please let the speaker speak.

THE AUDIENCE: Democracy, let him speak.

MR. TIMOTHY LOGAN: What I would like to see and what I'm here to speak for today, is that the best available environmental control technologies be utilized for all of the marine transfer stations in this City when they do the design and development.

This should also include the routing of trucks. There's no need

whatsoever for any queuing and idling to be taking place during this day and age given the geographic systems we have that you're able to know exactly where any truck is at any given point.

Planned closure of truck-based facilities need to done in conjunction with the reopening of marine transfer stations. A number of folks tonight have been concerned about where is the actual decrease or where is the benefit from these issues. The benefit is that we're doing less traveling to get to your transfer facility, we have more transfer facilities and we're avoiding all of the long-haul trucks that are all diesel-operated throughout the City. They don't need to be here, they would be eliminated with barge and rail export.

Community mitigation

programs further need to be included in an equitable manner. I heard presentations on mitigation programs for the Gansevoort marine transfer facility which has been proposed for recycling and I've heard similar comments from folks like the Borough President of Brooklyn who has been supportive of these types of community mitigation programs that find opportunities to offer benefits and mitigation opportunities within the local vicinity where the facility is taking place. And most importantly, we need to address our waste here in New York City. It's disingenuous for the people in this community and throughout New York City to suggest that they don't create waste. In fact, this community, being the wealthiest community in the nation, creates more waste than most. Communities

tend --
THE AUDIENCE: You don't know what you're talking about.
MR. TIMOTHY LOGAN: Communities tend to create more waste based upon the economic status --
THE AUDIENCE: Time's up.
MR. SZARPANSKI: Excuse me, let him finish up, please.
MR. TIMOTHY LOGAN: The economic status of the individuals --
THE AUDIENCE: Ring the bell.
MR. TIMOTHY LOGAN: What I would suggest is that we would rather embrace our opportunity for zero waste, it's a concept (bell rings) that encompasses waste prevention, reuse, recycling and composting. These are ideas that your very own elected officials did mention earlier and many of you

have not mentioned it since.
I know they mentioned it because they read the information that we researched over the past decade. I don't know what this community was doing at that time. The magic wand approach and sending it to New Jersey ideas are simply fantasy, they're not reality. Thank you.
MR. SZARPANSKI: Thank you.
Our next speaker is Daniel Perez.
THE AUDIENCE: He left.
MR. SZARPANSKI: Okay. Marjorie Clark. Is Marjorie Clarke still here?
MR. TIMOTHY LOGAN: She's still here, she stepped out to go to the bathroom I think.
MR. SZARPANSKI: Okay.
THE AUDIENCE: Can I take her turn and switch places?
MR. SZARPANSKI: Okay. Ah,

Marjorie, you're up.
MS. MARJORIE CLARKE. Sorry about that. Okay, I'm Dr. Majorie Clarke, I'm giving comments for both the Manhattan SWAB and the Waste Prevention Coalition of New York City and we're going to be having written comments as well and I'll pass along my own written comments today.
Regarding the proposed East 91st Street MTS, since we're here in that neighborhood, the protests are partly because of the queuing of idling trucks and partly because of the increased air pollution associated with the more truck trips to the facility.
The Asphalt Green Park would be bisected, but picture an alternative vision, that bisecting this park is not a road, but a beautifully landscapeded ridge, shaped to look natural with a

solar-powered waterfall cascading down the sides, flowering trees, flowering perennial plants, evergreen groundcovers and stairs made out of natural stone climbing over the ridge. I have something like this in my community garden up in Inwood.
Picture that inside this bridge is actually a road, vented through a biofilter to the river where garbage trucks move unnoticed to a new facility, with a tree windbreak hiding it from view. This would cost very little and at the same time could provide the community with a lovely amenity. Give it some thought.
It's important for DSNY to evaluate the feasibility of a number of small sites for barging recyclables and garbage rather than on asking communities to accept truck traffic from several

1
2 districts many miles away.
3 It may interest people here
4 to know that the trucks from this
5 area are garaged at 215th Street
6 which is my neighborhood which we
7 enjoy all the truck traffic coming
8 up and down Broadway, and because
9 the building of the local garage
10 around here is on the back burner.
11 And this needs to be remediated so
12 that you house your own trucks
13 right around here.
14 Queuing of trucks, one of
15 the chief complaints of residents
16 against MTSs is the long queues of
17 idling garbage trucks waiting to
18 enter. If there were no queues it
19 would reduce complaints, traffic
20 congestion and air pollution. But
21 we recommend that DSNY plan to
22 eliminate the queuing of garbage
23 trucks at MTSs by staggering shifts
24 of truck deployment. Just because
25 you're going to be queuing trucks

1
2 inside a facility doesn't mean that
3 there is no air pollution from the
4 queuing of the trucks inside the
5 facility. You want to prevent the
6 queuing to begin with.
7 So if trucks go out on a
8 more continuous basis, it's logical
9 to assume that they would arrive at
10 the MTS at different times.
11 We recognize that there may
12 be union issues involved with
13 changing the times of shifts.
14 However, there were union issues
15 involved with DSNY personnel
16 picking up recyclables in the first
17 place and productivity issues, but
18 these have all been solved. And I
19 know that this could be solved
20 because this is just simply
21 changing the time that people come
22 to work and leave from work.
23 We recommend that to reduce
24 emissions from trucks, that new
25 trucks are purchased, that as new

1
2 trucks are purchased, DSNY should
3 specify capability for burning
4 alternative fuels, biodiesel
5 natural gas, et cetera, that
6 produce less pollution and more
7 fuel efficient vehicles which will
8 result in less pollution as well.
9 With the objective of
10 minimizing truck traffic and
11 emissions, we recommend that the
12 EIS associated with the SWMP,
13 delineate cumulative emissions in
14 all parts of New York from the no
15 action alternative that DSNY
16 proposed (bell rings) alternatives
17 and an additional scheme whereby
18 truck queuing and idling is
19 minimized.
20 Think small, decentralize,
21 minibarge sites and garages all
22 over the place and you minimize
23 truck miles and emissions.
24 Facilities are smaller and easier
25 to site.

1
2 Finally, the New York City
3 Waste Prevention Coalition approves
4 the following: We commend DSNY for
5 establishing a goal of 70 percent
6 diversion from waste export in ten
7 years and we commend the 20-year
8 contract for a program in Brooklyn
9 for our recyclables, but other than
10 this in the SWMP, DSNY's only
11 milestones for 20 years of programs
12 in recycling, waste prevention,
13 reuse and composting are only about
14 a dozen measures. We recommend
15 that the Sanitation Department
16 resolve to strive towards zero
17 waste in 20 years as a first step
18 in planning for a time when the
19 City no longer disposes of its
20 products, packaging and materials
21 but instead, it chooses to prevent,
22 repair, reuse, recycle and compost
23 them.
24 The Coalition of
25 Organizations of which I'm a part,

issued a zero waste plan for the long term which details, it's about an inch thick and 'cause I was rushing down here, I didn't bring it here, but we hope the Sanitation Department will familiarize itself with this document. Here we go (being handed a document) all right. Very thick document which a number of environmental organizations have put together over the last year and a half and we hope that this will be included in the SWMP in its entirety to address the lack of basically of your plan, of your vision for waste prevention, recycling, composting and reuse. Because we had a lot of detail in here that has been thoroughly researched and we'd like to talk with you about it.

For those of you in here, we can look at this at www.whywastenyc.org; that's why,

W-H-Y wastenyc.org. You can see this whole thing.

It's very easy to get to zero waste, there are only four steps.

The first one we're already done, is targeting 50 percent of the waste as recyclables, but we only recycle 17 percent. So we have to work hard to get everyone to recycle all the time. I've been doing research on that as a Professor at Hunter College.

The second next thing is to target food and yard waste for composting, not for insinkerators, that's an additional 26 percent potential diversion. Target textiles and more plastics, this should be in your 20-year plan.

Implement, reuse complexes, put all the reuse business together in a number of different parts of the boroughs.

Schedule pickups for these things. And then a new concept called the PERF, the product and evaluation and repair facility so that you can take all of these TVs and furniture and electronics and appliances off the curbside to a facility where they can be evaluated to see if they work. If not, repair them, if not salvage from them, if not recycle them.

MR. SZARPANSKI: I need to ask you to wrap up.

MS. MARJORIE CLARKE: I'm all done.

MR. SZARPANSKI: Thank you.

Our next speaker is Elizabeth Dobell.

MS. ELIZABETH DOBELL: My name is Elizabeth Dobell and I'm on the Board of the Carl Schurz Park Association.

The Association strongly opposes the 91st Street MTS for the

reasons already stated here tonight. Additionally, we're lucky to have in our community not only the fabulous Asphalt Green, but also Carl Schurz Park, a beautiful park that serves and benefits everyone, young and old, residents and visitors.

In particular, the same children who use Asphalt Green are playing in and growing up in Carl Schurz Park right next door and we believe that it's simply defies common sense to endanger such a vital community resource and those who use it by setting up the proposed facility. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Louis Magnani. Not here? Judith Toby. Is Judith Toby here?

Laurie Edelstein.

MS. LAURIE EDELSTEIN:

Hello, Laurie Edelestein, a resident.

I read the entire final scoping document that was sent to me, and after I read it it seemed even more unacceptable for the East 91st Street and for two reasons that I found.

One were the zoning issues. Within all of the 11 sites that were named, every single one of them was M-3 heavy industrial. Our site was the only one that wasn't sited that way and when that question was in fact asked, it said, "Though manufacturing zones do not typically possess sensitive visual resources or for example, a residential historic district may, a waterfront site or other unique setting an industrial zoned."

This is the kind of information that's throughout the entire paper. It says since most

of the converted MTSs would be situated in inaccessible, nonsensitive manufacturing zones. We don't live in a heavy industrial area (applause.)

I mean, why isn't this even acknowledged, that every single -- 11, look at your paper, there isn't one that is in an M-3 zone. I don't even know what I'm talking about because I'm a resident, but I'm reciting back your information.

The other part of the zoning issue is what the -- was asked to you and you answered. It's asked and answered here. It says, and I'm concerned about this rubber stamping of the zoning issue. The comment again from your own paper, page 15 of 37. The comment number 4G", "New zoning in the vicinity of the MTS East 91st is in the M-1, in the M-11 zone, not the M22 zone, as stated in the draft scope."

The response, number 4G: "The East 91st Street site is in the M-14 zone, list of proposed projects and proposed zoning codes scheduled to be in place by the 2006 project, build year will be compiled and based on the consultation of NYCDCP and analyzed in the EIS."

This is troubling to me that we're talking about something in 2006 in which they've already rezoned our area and it's stated here that I, as if it's a fact, you know, the way it's in place for 2006.

So I think we're entitled to a better answer than this about the zoning.

Also personally, I did ask several questions that were not answered. One was about West Nile Virus and mosquitoes. I didn't get a response. I mean, things happen

and we know that there's, one of the response was that weekly you're going to look at the facility and what are you going do to, you're going to have pesticides, you're going to -- everything's going to accelerate and that's not really the answer we want, is that you're going to have weekly examinations and have pesticides and do appropriate things.

Also, in your own report I have your words back to you, because this floors me. It says on my -- when you read it, it's according to your report, it says on the East 92nd Street it says, "Most of the Asphalt Green Recreational Center. Beyond the site on all sides are high density residential zoning districts that allows for dense high-rise development. There is one historic district, 13 historic properties

and not to mention Gracie Mansion."
Now, this is your own words. What would make it -- I can't imagine in your own words something that would make something less unacceptable.
The other thing is (applause) that, one last point. We've all spoken about the Asphalt Green. I feel emotional about it because my child actually, you know, was brought up on those swings and whatever, I just, something no one has mentioned, to the left of what you're going to have the ramp is a baby park that isn't for grown-up children, that is for children until, and it's actually the swings and everything is for babies. It's till you are four or five years old. Not beyond, you're not allowed to go in there beyond.
So look at what you're

doing, you're putting a garbage dump next to a baby park. Thank you (applause.)
MR. SZARPANSKI: Thank you.
Our next speaker is Shannon Stone. Not here? Oh, sorry.
MS. SHANNON STONE: My name is Shannon Stone and I'm speaking tonight as the co-chair of the New York City Sierra Club's Solid Waste Committee and as Recording Secretary of New York City Waste Prevention Coalition.
I'd just like to thank everyone for sticking around late enough to hear everyone speak.
A lot of people here tonight are probably not aware that 22 percent of their property taxes goes towards handling our waste. DSNY's budget has swelled to over a billion dollars annually because of the cost to export waste has risen 91 percent since the year 2000.

The City is so preoccupied with exporting their garbage, they are not focused on where they will be exporting it to in 20 years. People in communities outside New York City and in New York State are like you in that they don't want garbage in their backyard and they will not accept it at any price, and hence the cost of landfilling will continue to rise.
Fortunately, there are many opportunities to reduce the size of our garbage problem. We can reach zero export and landfilling of waste-- or zero waste-- in 20 years through aggressive waste prevention, re-use, recycling and composting. Already 44 percent of our waste is targeted through DSNY's paper and metal/glass/plastic collection.
More than a quarter of our waste is made up of organic

materials that can be collected separately and composted into valuable soil amendments rather than simply dumping it in a landfill or overburdening the sewer system as some people have advocated here tonight.
The remainder of our waste can be dealt with through reuse infrastructure, such as bulky goods collection and reuse performance and evaluation centers, and the rest can be dealt with through waste prevention education and legislation, such as extended producer responsibility. After all, think of how your waste was created in the first place, it was producers who designed waste into their products. Ask yourself whether if you really want all that cadmium and lead in your television or computer. And why should your taxes pay for its burial or

burning?
The idea of zero waste is not new. Cities such as San Francisco and Toronto are working towards zero waste. Last fall, a coalition of over 40 local organizations got together and put a 200-page book together describing in fine detail how New York City can reach zero waste in 20 years through aggressive waste prevention, reuse, recycling and composting.
You can find a copy of it at www.whywastenyc.org. Please join the zero waste campaign in demanding an end to all this waste. There is also a chapter devoted to transportation issues.
People concerned about DSNY's trucks should join me in my demand that DSNY phase out its diesel trucks with cleaner fueled vehicles. Thank you (applause.)

MR. SZARPANSKI: Thank you.
Our next speaker is T. Gorman Reilly.
MR. T. GORMAN REILLY: Good evening, I'm Gorman Reilly President of CIVITAS Citizens, Inc. CIVITAS was founded in 1982, it's a not-for-profit organization concerned with quality of life issues in the Upper East Side and East Harlem.
CIVITAS commends the Department of Sanitation for developing a City-wide solid waste management plan that's comprehensive, long range and responsible. We agree that the disposal of solid waste generated by the City's eight million residents and many businesses is one of the fundamental obligations of municipal government.
We admire the plan's strong emphasis on recycling, something from which

the Mayor in the early days of his administration retreated.
A second positive component is the plan's commitment to long range planning as opposed to dealing with a series of crises as they arise, with the implementation of ever-changing remedies.
By emphasizing barge and rail transport of solid waste and minimizing dependency on truck transport, the plan promises a steep reduction in traffic congestion and air pollution.
Well, having accepted the logic and the benefits of the City-wide plan, how does the proposed reopening of the East Side, of the East 91st Street marine transfer station fit into the overall scheme?
Well, history provides some answer. Proponents of the plan focus with some justification on

the fact that the MTS operated continuously at East 91st Street for 50 years or more until the late '90s when the Staten Island Landfill shut down and it is still licensed to do so. However, when the MTS was built, the surrounding area was zoned for manufacturing as the historic Asphalt plant structure now adapted to recreational use, so dramatically documents.
Over the past 50 years, we've had a change in that neighborhood. The neighborhood is substantially different from the time when the MTS was built, although only incrementally different from when the MTS suspended operations some five years ago.
Secondly, we should consider that other areas of Manhattan are being impacted by the plan. The

1
2 proposed MTS for recycling to be
3 built on the Hudson River at
4 Gansevoort Street for example, sits
5 at the edge of a quite residential
6 area of the West Village and
7 intersects with the Hudson River
8 Park.
9 We heard from Council member
10 Brewer tonight about the West 59th
11 Street plan, that it is not far
12 from residential siting and that
13 there will be more residential
14 development in that area as well.
15 As to 135th Street, the
16 decision not to go forward there we
17 understand was dictated by
18 considerations of fair share and
19 environmental justice, specifically
20 the presence in Upper Manhattan or
21 the North River Sewage Treatment
22 Plant and multiple garages for MTA
23 buses.
24 Now, third, there does not
25 appear to be an obvious, in any

1
2 event, available practicable
3 alternative at least in Manhattan
4 to the East 91st Street site. No
5 other location of any significance
6 has surfaced to become part of the
7 public debate. That may be a fault
8 on the Sanitation side, it may be a
9 fault on those who are petitioning
10 against any particular site, but in
11 point of fact, nothing has come to,
12 no one has come forward to suggest
13 that here is the logical site that
14 you've completely overlooked.
15 This being said, ladies and
16 gentleman, the East 91st Street MTS
17 should not be rebuilt until the
18 legitimate concerns of the
19 surrounding neighborhood have been
20 taken into account and I would like
21 to address five of those.
22 First and foremost is
23 traffic. We've heard an awful lot
24 about that. The Department of
25 Sanitation's promise of no queuing

1
2 on the street (bell rings) that's a
3 promise, must be guaranteed and
4 enforced. Measures outlined by the
5 administration to prevent that
6 queuing, don't strike us as very
7 sufficient.
8 For example, the width of
9 the proposed ramp does not allow
10 for two-way traffic, thus at peak
11 periods, a bottleneck is sure to
12 form at the most critical juncture,
13 York Avenue and 91st Street.
14 It seems prudent to widen
15 that ramp even though it might take
16 some small amount of parkway or
17 parkland away.
18 During periods of heavy
19 usage, they'll have to be not only
20 a Sanitation Department employee to
21 keep order, there should be a
22 policeman as well because they'll
23 be many elements on the street that
24 need to be ordered.
25 And finally, and it's been

1
2 mentioned before, serious
3 consideration has to be given
4 during labor negotiations to
5 implementation of staggered work
6 shifts so that all of these loaded
7 trucks don't arrive at the same
8 time.
9 There are four other
10 considerations, I'll just name
11 them.
12 The second is that there
13 must be protection of the
14 surrounding neighborhood from
15 deleterious impacts of noise, odors
16 and toxic emissions.
17 Third, the visual impact of
18 the surrounding area must be
19 addressed.
20 Fourth, the plans program
21 for handling commercial waste at
22 this site must be closely examined.
23 The idea of having commercial
24 trucks which don't have the same
25 standards of ultra-low sulfur fuel

as the Sanitation Department trucks, is a real danger to this distinctly residential area. The idea of them going well into the morning, three and 4:00 in the morning is just really unacceptable. So we think there should be limits as to the total number of trucks, commercial trucks, the total number of trucks per hour and also (bell rings) finally a limit. The place should be closed down from 11:00 in the evening until 7:00.

Accountability and we suggest finally that accountability would be achieved by making available to an organization such as the Gracie Point Community or Council, weekly figures as to how many trucks are there, how much waste is being processed, what type of tests are being done. And that there should be funding by way of

mitigation or otherwise for an expert to be made available to the Council so that they can evaluate properly what's going on.

Just as a civilized society will take the necessary steps effectively to dispose of its accumulated solid waste, so too that civilized society will ensure that its residents will be able to enjoy a suitable quality of life. Thank you for allowing me to speak (applause.)

MR. SZARPANSKI: Thank you. Our next speaker is Judy Schneider.

MS. JUDY SCHNEIDER: I cede my time; my comments were made.

MR. SZARPANSKI: Thank you. Sal Forzano? (Cede time to Roy Geronemus)

MR. ROY GERONEMUS: What number are you up to?

MR. SZARPANSKI: Number 35.

MR. ROY GERONEMUS: So I'm

number 42 and I would like to give that 42 to Dr. Andrew Racine who will speak later.

My name is Dr. Roy Geronemus, I'm a Clinical Professor at the New York University Medical Center.

I speak to you as a physician and before I get to my prepared remarks, I just want to comment that I have learned as a physician, that medical issues do not discriminate based on one's socioeconomic status despite the inference of one of the previous speakers (applause.)

Nevertheless, nevertheless, the socioeconomic status or socioeconomic environment within this community is diverse. You do have the John Holmes Community, you also have the Stanley-Isaacs Community as well as the Upper East Side, the Gracie Square area and

the Asphalt Green does service the entire New York City area, bring in those people, many of whom are on scholarship to take advantage of programs that I personally and many others contribute to so these children can come into our community and gain access to this wonderful facility and programs that will benefit them significantly.

I've reviewed the issues related to the marine transfer stations regarding its expansion and I have multiple concerns as it relates to the health and welfare of the residents and the visitors of this community.

Simply stated, the City of New York solid waste management plan can, and probably will create a public health crisis.

Let me explain who will be affected by the plan to reopen and

1
2 expand the marine transfer station.
3 These include children,
4 adults, particularly geriatric
5 adults and very young children and
6 let's not forget pregnant women and
7 their unborn children who visit the
8 parks that were mentioned earlier
9 by the previous speakers
10 (applause.)
11 As I'm sure you are aware,
12 this densely populated residential
13 area includes a broad cross section
14 of the populace including families
15 and geriatric adults. Multiple
16 families live within this community
17 and an even a greater number visit
18 the athletic facilities involving
19 the Asphalt Green from not only
20 this residential area but from
21 other parts of the City including
22 other boroughs, because of the
23 unique services provided by Asphalt
24 Green such as programs like Learn
25 To Swim and other programs for

1
2 handicapped individuals. There are
3 also geriatric communities within
4 the Stanley-Isaacs and John Holmes
5 Centers.
6 While the marine transfer
7 station may have made sense when
8 this facility was built decades
9 ago, the present community is
10 significantly different with a much
11 larger populace and a widely-used
12 athletic complex that did not exist
13 within the facility was first
14 built. Consequently, the impact of
15 the proposed reopening and
16 significant expansion of this
17 facility will have a much greater
18 impact upon this community than it
19 would of had upon the community
20 that existed several years ago when
21 this facility was first built.
22 The categories of
23 susceptible and endangered
24 residents and visitors to this
25 community will be based upon

1
2 multiple concerns. I would like to
3 run through this list.
4 One, the diesel exhaust that
5 will emanate from the dramatic
6 increase in the number
7 diesel-emitting trucks in this
8 community.
9 Secondly, allergens from the
10 vermin that will populate this
11 marine transfer station.
12 Thirdly, poisons from the
13 insecticides that will be required
14 to control the vermin.
15 Fourthly, bacteria from deep
16 water grit.
17 Fifthly, effective odor
18 neutralizing agents will cause a
19 problem.
20 And lastly, the concern
21 regarding access to ambulances to
22 and from this community,
23 particularly when there are larger
24 numbers of geriatric residents that
25 have not been recognized in any

1
2 reports that I have read regarding
3 this particular location.
4 The effect of diesel exhaust
5 upon the development of pulmonary
6 diseases including asthma and
7 emphysema, as well as the potential
8 for miscarriage amongst pregnant
9 women, has been well-documented in
10 medical literature and I suggest
11 you review those articles prior to
12 making your final decision.
13 In fact, the Department of
14 Public Health at Columbia
15 University has published
16 extensively on the environmental
17 impact of diesel exhaust and has
18 even demonstrated that there are
19 certain areas of Manhattan where
20 the incidence (bell rings) of
21 asthma is significantly higher than
22 areas where exposure to diesel
23 exhaust does not exist.
24 It is noted that there are
25 areas of New York where diesel

exhaust is the highest, there's a 25 percent incidence of asthma. This is 500 percent greater than the national average, this is a significant problem and we're going to see that in this community with the plan that you have made.

There's also, there's an associated increase of asthma with higher hospitalization rates in these areas where the incidence of asthma is so high. There are in fact five studies that have been published showing that children who live or attend school near highways with high truck and auto traffic are significantly more likely to have symptoms of asthma and diminished lung capacity.

It is also of importance to note that in these studies, it is found that within diesel exhaust, there are particles that make our immune systems more susceptible to

inhaled allergens like pollen and mold. These studies have also shown high levels of exposure to polycyclic aromatic hydrocarbons which one finds in diesel and gas exhaust and actually present in the blood of children and their mothers. These toxins are associated with low birth weights (bell rings) lower birth weights and an increased incidence of miscarriage.

It has been suggested that in fact the garbage trucks will not queue and the ramps and the holding facilities are large enough that the effect of diesel exhaust will be minimized. But let me remind you, this is not Star Trek, these trucks are not going to be beamed or vaporized on to the marine transfer station, they will have to travel, sit in traffic like you and I and stop at lights.

The impact of allergens from vermin that will populate the marine transfer station have also been demonstrated in studies from a reputable institution known as Johns Hopkins Medical Center.

MR. SZARPANSKI: Can I ask you to wrap it up, please.

MR. ROY GERONEMUS: I will, I'll take the amount of time given to other people.

And these, it should be stated that this particular study noted that the these particular individuals exposed to vermin and the allergens from vermin have exacerbated pulmonary diseases as well.

Other factors that will contribute to the health of the community will include the impact of other neutralizing agents, the bacteria and the allergens that disseminate from the bacteria that

occur from deep water grit.

All of these factors together, not to mention the impact of noise within this community, present a public health concern to the residents and businesses in this community.

In addition to one final comment, I would like your office to review the Workers' Compensation claims as it related to emphysema, asthma and other lung diseases amongst those Sanitation workers in New York City is information that you have failed to release.

While adult males are not the most susceptible to pulmonary diseases, this information will be very revealing as a potential health impact upon this particular community.

I also want to conclude with a comment of environmental justice. Environmental justice is a concept

designed to protect the health of the community based upon the impacts of issues relating to transportation which would clearly be applicable here.

The Stanley-Isaacs and John Holmes Communities fulfill criteria for environmental justice consideration. And this is not just about protecting the health and the rights amongst the racial and ethnic minorities, even though many racial and ethnic minorities visit the Asphalt Green, the concept of environmental justice should be egalitarian and that the health of those visiting the 91st Street area should be considered no less valuable than the health of those other communities that the Department has chosen not to open marine transfer stations.

Considering the indisputable facts regarding the impact of

diesel exhaust and the toxins, why would you want to put a facility such as this in the middle of a residential community right directly in the middle of a well-utilized athletic complex where children and pregnant women congregate and place this community at significant risk? Please reconsider (applause.)

MR. SZARPANSKI: Thank you.

Barry Schneider. This is number 36, yes.

MR. BARRY SCHNEIDER: Good evening, ladies and gentleman, Commissioner and members of the Department of Sanitation, my name is Barry Schneider, and I'm a member of Community Board Eight. And when the ULURP item comes before the community board later, early next year, I shall vote against the application and I would urge my fellow board members to

vote against the application.

I would urge (applause) -- I will urge the Borough President who also has a vote in the ULURP process to vote against it and I will urge our council members Gifford and Eva to vote against it.

One, two other comments, very quickly. Your Procrustean DEIS needs a lot of work. You've tailored the DEIS to a preconceived conclusion. Now that you've heard all this testimony -- I'll wait until you finish. No, I'll wait until you finish. I don't want to be rude.

Thank you, sir I mean, that's rude, there's no cause for that. I've been waiting here for all this time and all these people are waiting. Do us the honor and the courtesy of listening to us when we talk in the microphone.

MR. SZARPANSKI: I'm sorry, I was just asked by the people

running this center that we end this session at 9:00.

MR. BARRY SCHNEIDER: I'll be done by 9:00, I promise you.

MR. SZARPANSKI: But I'm asking them to extend it to 9:30 so please continue and try to be brief.

MR. BARRY SCHNEIDER: I'm aware of the time and thank you for your consideration.

Anyway, you made the DEIS to fit your 91st Street location. Now that you've heard all the testimony, go back and do it right and do a DEIS that reflects all the concerns you've heard here tonight, let the DEIS address all of the issues, not just the cases of the one you think you might be able to get away with, but just all these and come back with an FEIS that the community can live with.

THE AUDIENCE: It's a fraud.

1
2 We all know it's a fraud. If you
3 were in the private sector you'd be
4 sued and you'd have your own
5 network at risk.
6 MR. SZARPANSKI: Would you
7 like to speak?
8 MR. BARRY SCHNEIDER: There
9 is no end to rudeness, is there?
10 One other thing, lest you
11 think my comments are NIMBY, let me
12 assure you they are not. They are
13 not in our front yard. Not in our
14 parks, not in our playgrounds, and
15 not in our lives. Thank you
16 (applause.)
17 MR. SZARPANSKI: Thank you.
18 I'm not sure I can read it,
19 is it Mort Gerard? Thank you.
20 MR. MORT GERARD: Hi, I'm
21 Mort Gerard, I'm a member of the
22 Board at 445 East 86th, a building
23 of 160 families.
24 I reviewed your final
25 scoping document and I guess I got

1
2 away a little confused. Because I
3 just wanted to read to you what you
4 say is a criteria, and then wonder
5 why we're even here. Because
6 starting with page 56, community
7 facilities and services. It says,
8 "The proposed actions and
9 alternatives are significant impact
10 to these facilities could occur if
11 the proposed action and
12 alternatives were to displace a
13 facility, substantially disrupt
14 delivery of a service currently
15 available to the community will
16 result in a new demand for such
17 services."
18 Well, you know it's quite
19 obvious from listening to this it's
20 going to happen to the Asphalt
21 Green, type of situation. Then we
22 go on to page 80 and the title
23 there is the local waterfront
24 revitalization policies and
25 subpolicies and their

1
2 applicability.
3 And then under policy ten,
4 one of the things you are striving
5 for and it says always, "Is to
6 retain and preserve designated
7 historic resources and enhance
8 resources significant to the
9 coastal culture of New York City."
10 Well, you recognized back in
11 the document that we have
12 historical areas around that whole
13 project. Yet here it is, retain
14 and preserve, so you're going to
15 ruin them by the way it's going.
16 And finally, the thing that
17 frightened me the most, I will
18 admit based on what's going on,
19 goes to page 20. The title,
20 "public review process." And it
21 says, "Action is one that minimizes
22 or avoids significant adverse
23 environmental effects to the
24 maximum extent practicable." Then
25 it goes on to say, "In addition,

1
2 any potential significant adverse
3 effects disclosed would be
4 minimized or avoided by
5 incorporating mitigated measures
6 that are identified practicable."
7 Just a few weeks ago,
8 another member of our government
9 said that just talking about this,
10 a similar response when we were
11 advised that supplying armor to our
12 troops abroad was, would have been
13 nice if it were practicable.
14 However, you know, like it wasn't
15 practicable. So a bunch of body
16 bags are. Practicable? I mean,
17 that's a never-ending open
18 document, practicable? By whose
19 definition? Just doesn't make
20 sense. Thank you (applause.)
21 MR. SZARPANSKI: Thank you.
22 I was just handed a note by
23 the blood center saying that their
24 blood delivery is coming in and
25 they cannot allow us to stay beyond

9:00.
So I apologize. We'll take two more speakers and make it brief, please.
Our next speaker is Babette Bandler.
MS. BABETTE BANDLER: I'm Babette Bandler, I hope that all these magnificent speakers, all their papers are being put into the record.
I was not here at the June meeting but I feel the frustration of the people here who feel that everything that was said, and if it was as eloquently said then as it is tonight, it is a crime that it was not paid attention to.
I think (applause) that the firm that did, and I don't know the firm, it's not personal, if the firm and our taxpayer money went to a firm who did this impact statement and came out with the

conclusion that there's no impact, they should be fired and we should get somebody else (applause) because it is impossible, absolutely impossible.
Now, I'm going to give you a personal thing. When those trucks were queued up in order to get in, let me just give you a visual, because I saw on that board, your thing of the play yard, you didn't see any buildings, you didn't see any sidewalks, it was just like an open thing that you showed before.
I park my car on 88th Street. I tried to get out of my garage on York Avenue, I couldn't, because all the garbage trucks were queued up. Then you walk two blocks down, our area has been deprived of a subway system for many, many years. Because we do not have a subway system, we have to rely on buses. Those buses, you

have York Avenue, York Avenue you have two lanes here, going this way (indicating) and two lanes going that way. You have some cars parked along the way. If you take the parked cars and you take the garbage trucks, okay, you are leaving York Avenue with one lane to go up. That lane has to take all of the York Avenue buses, it's the only place people can travel to and from, north and south. Those buses and many of them are double 'cause there's so much traffic, has to turn on, I believe 91st Street or 90th Street. If the truck, if the garbage trucks are in this lane and this huge bus has to make a turn, that's the end of all the traffic.
Where is this York Avenue going to? It happens to be a major entry to the FDR Drive northbound and to the southbound traffic.

Now, if you sit there and say to me that there is no impact, that there is no queuing, how on -- oh, oh, wait a second. Now you go up a few more blocks, and I don't care if these buses turn, but you have 42,000 people coming to this aqua center, all these wonderful people of all backgrounds coming to the aqua center in school buses (bell rings) in buses, and what happens? They can't get off. So when you take traffic, just nothing else but traffic, you have not in any way addressed the problem, you have no way mitigated it and saying that you're not going to queue these trucks, is absolute insanity.
I consider this report that was given to us an insult to our intelligence (applause.)
MR. SZARPANSKI: Thank you.
Our final speaker.
MS. BABETTE BANDLER: One

more remark, I'm sorry.
It's very important. I believe that if we don't hear a real concern of what's being expressed at the June meeting and this meeting, that we all should get together, let's get 60 Minutes, let's get TV involved. Let them start pushing that drive. We're getting nowhere this way.
MR. SZARPANSKI: Thank you.
Our final speaker is S.M. Roth. Okay, Evelyn Malina. And I think Dr. Roy Geronemus ceded his time to somebody else.
You will be the final speaker. I urge all of you to submit your comments in writing By January 24th.
MR. ANDREW RACINE: I've been asked by one of the other participants to let the record reflect the other speakers who didn't get to speak tonight. I

don't know what that means, but if we can do that, that would be great.
Okay, thanks. I'm going to try to be brief. I'm one of those rich white folks that Mr. Logan was referring to before. And on the other hand, I've spent the last 20 years of my life working in poor communities of color.
Right now I'm the Clinical Professor of Pediatrics at the Albert Einstein College of Medicine and I work as the Director of the Division of General Pediatrics at the Children's Hospital at Montefiore which is in Bronx.
I came to talk about three, just to make three points, and this has to do with my particular concern which is the health of the children who live and visit the area.
First point has to do with

the emissions that are out of diesel fuel and these are that important to understand what they are.
The second has to do with the fact that the pulmonary physiology of children, infants and children is different than adults, which leads to the third point and that is that the draft impact statement has nothing to say about that.
The first point about diesel emissions everyone knows, but the two things that are of particular importance are particulate matter of 2.5 microns and ten microns. These are things that have a predilection for lodging deep in lung tissue and may stay there for a long time period of time.
Second issue about the physiology of infants and children is that they are different then we

are. I mean, you may notice they live close to the ground, close to the ground there the density of these toxicants that are emitted by trucks is higher than it is where we live, higher up. And so for example, in the draft impact statement uses 1.8 meters for their receptors to see what the level concentration of these pollutants is, it doesn't take into account the people that are in strollers or little ones walking around.
So the first thing is they live in a different place relative to where the exhaust pipes are.
Second thing is that their per minute ventilation is higher. They breathe faster, as a consequence, they entrain greater quantities of these pollutants per body surface area then adults do.
Third thing is that they spend more time out of doors and

they spend more time physically active and so their exposure to these pollutants is higher.

And the fourth thing which is probably the most important is that they are growing lungs, that is you don't finish growing your lungs until you're ten years of age so between zero and ten you're adding alveoli, air sacks. Any damage that is created to those developing lungs has a permanent effect on that lung function going into adulthood. And this is the problem with the draft impact statement. It's 154 pages just about chapter six alone for the 91st station. There is a talk about fin fish, there's talk about the culture of the City, there's talk about all kinds of things, there's not a single statement, not one statement about the physiology of children, about what it will do

to being exposed to these pollutants.

The fact that the epidemiology that is sited in chapter 33, you know, discounts some of the findings because they're cross sectional findings, also doesn't take into account some more recent information.

So I've included in my statement to you, a policy statement from the American Academy of Pediatrics Committee on Environmental Health that came out this December, this month. And another article from the New England Journal Of Medicine. I would suggest that you read it because it talks about the permanent damage that will done to children's lungs by being exposed to pollutants that we're talking about. Thanks very much (applause).

MR. SZARPANSKI: Thank you.

Let the record show that there were other people who signed up and did not have an opportunity to speak because we are being asked to leave the room.

I urge you also to please write to us. The deadline for submitting written material is January 24th.

Thank you all for coming.

(Time noted: 9:05 p.m.)

C E R T I F I C A T E

STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

I, Marc Russo, a Notary Public within and for the State of New York, do hereby certify that the within is a true and accurate transcript of the proceedings taken on December 20th, 2004. I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 30th day of December, 2004.

_____

MARC RUSSO

THE NEW SOLID WASTE MANAGEMENT PLAN
DEIS PUBLIC HEARING
FOR THE GREENPOINT MARINE TRANSFER STATION
HELD AT: 211 Ainslie Street
Brooklyn, New York
December 2, 2004, 6:03 p.m.

Reported by:
MARC RUSSO
Job#: 167211

A p p e a r a n c e s:

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ALSO PRESENT: JORGE FREIRE, HOWARD FREIRE, Spanish Interpreters

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MR. SZARPANSKI: Good evening everybody. My name is Harry Szarpanski. I'm the Assistant Commissioner for the Bureau of Long Term Export at the New York City Department of Sanitation. I welcome the opportunity to be here before you tonight.

With me are Sarah Dolinar, Vaughan Arnold and Walter Czwartacky of the Department of Sanitation. Also here tonight are Dan Harkins and Susan Raila of the firm of Henningson, Durham & Richardson, HDR. HDR is responsible for preparing the draft EIS which is the subject of tonight's meeting.

We also have representatives here from the firm of Ecology and Environment who helped organize this meeting.

As you know, in October of

2004, the Department of Sanitation issued a New York City Comprehensive Solid Waste Management Plan for the next 20 years. As required, the new SWMP, as we refer to it, has been submitted as a draft to the City Council.

The New SWMP is proposed to replace the current SWMP and must be approved by the City Council before it can be submitted to the New York State Department of Environmental Conservation for final approval.

The new SWMP plans for the management of all of the solid waste generated in the City over the next 20 years and is supported by a draft environmental impact statement or draft EIS on which we will take comments this evening.

My comments tonight will be brief. I will make a short power

point presentation before the public portion of the meeting begins. Copies of my statement and presentation will be available at the end of the meeting.

Should you require the assistance of a Spanish interpreter, please let the individuals at the front table know.

Because the real focus of this public hearing will be your comments, if you plan to make a statement for the record, please take a moment to fill out the speaker sign up sheet and submit it to the individuals sitting at the table you passed on your way in. You will then be assigned a number and I will call your name when it is your turn to speak.

Note that elected officials, who may be attending many meetings on behalf of their constituents on

any given night, will have an opportunity to speak first.

We are interested to make a complete record of your comments. Please state your name clearly and slowly for the stenographer.

So that we can hear everyone who wants to speak, we ask that you keep your statement to three minutes. If you do not wish to speak, but would like to provide us with written comments, please complete a comment card which we provided for your use.

Thank you for coming and I'll begin my power point presentation.

(Showing slides) This is a public hearing on the City's DEIS for the draft comprehensive solid waste management plan or, as we call it the SWMP. Both the new SWMP and the DEIS were issued by the City Department of Sanitation.

A copy of all the documents are available on the Department's website and in six public repositories in Brooklyn for your review. It's also available in other boroughs.

The City Council expects to hold hearings on the SWMP probably in January.

There are three broad categories that the SWMP is organized into: There's the recycling portion, the Department of Sanitation DSNY-managed waste and the commercial waste.

With respect to recycling, our goals are to hold down the cost of recycling and expand barge transport of recyclables. Meet a 25 percent recycling goal for the DSNY Curbside Program by 2007 and by the same date, meet a 35 percent recycling goal for all Department-managed waste.

The specific initiatives for recycling are to enter into a 20-year contract for metal, glass and plastic processing and marketing, and for a new recycling processing facility at the South Brooklyn Marine Terminal and that's on 30th Street.

Enhance composting and waste prevention programs; develop an electronics recycling program and establish a recycling education center and acceptance facility at the Gansevoort Peninsula or an alternate Manhattan site.

The Gansevoort site is a site that is in Lower Manhattan just below 14th Street where we once used to operate a marine transfer station.

With respect to Brooklyn recycling, in July of this year we resumed weekly Brooklyn recycling collections. Hugo Neu is the

company that will develop a processing center on City-owned land at 30th Street in the Brooklyn Marine Terminal. And composting began again in the fall of this year at Canarsie Park.

Full funding was given to the Brooklyn Botanical Gardens for composting information programs.

With respect to Department-managed waste, our goals are to end the use of long-haul trucks for waste transport and export and export more waste by barge or rail; to stabilize the waste export costs; to distribute waste transfer facilities throughout the City and containerize waste to get more transport and disposal options.

Our long term export program specifically calls for the use of private transfer stations for barge and rail export of containerized

waste from the Bronx and from Brooklyn and Queens communities that was once served by the Greenpoint and South Bronx MTSs; complete the construction of the Staten Island Transfer Station and begin export of Staten Island waste by rail. And to enter into a long term contract for the disposal of a portion of Manhattan's waste at the Essex County Resource Recovery Facility and that's in Newark, New Jersey. And build four new marine transfer stations at existing sites. And those include the East 91st Street site in Manhattan, the North Shore site in Queens and the Hamilton Avenue and Southwest Brooklyn sites in Brooklyn.

And I just need to point out to people that we are not planning to convert the Greenpoint Marine Transfer Station as part of this plan.

On the commercial waste side, we're looking to limit new or expanded transfer stations in communities where they are already concentrated. We're looking to establish new operational regulations to reduce noise, odor and dust at private waste transfer stations. We will study how to lessen waste truck transport on truck routes through residential areas.

Expand barge/rail export of commercial waste from DSNY-contracted transfer stations. Export some of the commercial waste through converted marine transfer stations and offer the 59th Street Marine Transfer Station for export of commercial waste.

The draft environmental impact statement evaluates the environmental consequences of sites and facilities that are or may be

part of the proposed action in the SWMP. It also evaluates the alternative sites and facilities. It identifies the things that the City would do to avoid potential significant impacts and meets City and State environmental review requirements.

This is just a map showing where the four converted MTSs are going to be and where there are private facilities that we're looking to negotiate for waste export services.

For this community specifically, we're looking to enter into a long-term contract with one or two private waste companies for truck-to-rail or truck-to-barge disposals of the Brooklyn waste that formerly went to the Greenpoint Marine Transfer Station. There are two specific facilities that we're looking at

and negotiating with.
One is the Allied Waste Services facility at 72 Scott/598 Scholes Street. And the other one is the Waste Management facility at 485 Scott Avenue.
The Allied facility is a proposed expansion of waste processing capacity, however, the proposed expansion will be offset by eliminating waste and recyclables processing at three existing facilities in Brooklyn Community District 1.
A new permit is required for the truck-to-rail facility and for the waste expansion.
On the Waste Management facility, there's no proposed expansion, but there will be a need for permit modification for a truck-to-barge facility.
And I just want to make a few comments deviating from this

presentation, specifically about what appeared to be some misunderstandings on these two particular projects.
We issued a request for proposals where we asked companies to propose based on having to provide us offsets on a ton-per-ton basis if they were looking to expand in this community so that proposing vendors were specifically required to include in their proposals, a plan to eliminate the equivalent tons per day of permitted capacity at one or more transfer stations in Community District 1.
A request for proposals also mandated that if the Department awarded a contract to either of these companies, that commercial waste that went to these two facilities, not just Department-managed waste, would

also have to go out by barge or rail and that would further reduce the number of long-haul trucks that come through the facility, that come through the community everyday.
And thirdly, if the Department chooses to award contracts to both vendors, then the benefit of doing so is that we can divide up the 950 tons a day that's generated by the Brooklyn wasteshed between the two facilities, we will, through our contract requirements, be able to force both facilities to export Department and commercial waste out by rail or barge. And again, this would have an impact in reducing the long-haul transfer truck traffic that is now being experienced.
This is just a map showing the various Brooklyn wastesheds. The green area is the area that

we're talking about for contracting with either one or both of the companies.
Just a summary of what the draft environmental impact concluded with respect to traffic and air quality.
With signal timing change at Gardner and Metropolitan Avenues, there are no significant impacts that were found.
Commercial waste accepted would have to be containerized and go out by rail. No significant off-site air quality impacts were shown.
And with respect to odor and noise, no detectable odor is shown at off-site sensitive receptors and off-site noise analysis showed no significant impacts.
With respect to traffic, air quality and odor, this is for the Scott Avenue truck-to-barge

facility, the environmental review found no significant traffic, air quality, odor or noise impacts. And modifications to a truck-to-barge facility would reduce the outbound transfer trailer traffic. Commercial waste accepted would have to go out in containers by barge.

Let's go back a slide, please.

If you're looking to provide comments to us on the DEIS, there are several ways you can do that. You can provide comments to us verbally tonight. You can submit, fill out a comment sheet and then I'll call on you. You can submit written comments here or in the future and those comments could be mailed either to myself or to our consultant. I ask that we receive those comments by January 24th.

And I'll open it up to

comments from you. And the first speaker I'm going to call is Alison Hirsch representing Assemblyman Vito J. Lopez.

MS. ALISON HIRSCH: Good evening everybody. My name is Alison Hirsch and I am here representing Assemblyman Vito Lopez who had another meeting tonight so he couldn't be here. He stopped by earlier himself.

The Assemblyman, I just submitted written comments on behalf of the Assemblyman and I'm not going to read the written comments. I'm going to extrapolate some of the most key points I think from the comments.

The Assemblyman has represented Williamsburg now for 20 years. In those 20 years, he has witnessed, and in the time that I've worked for him, I've witnessed the growth of the waste processing

industry in the Williamsburg community and the impacts of that industry on the quality of life and the infrastructure of this neighborhood.

And that being said, he wants to begin, where I need to begin the testimony by congratulating the Bloomberg Administration on making some real steps forward with this SWMP.

First of all, it is a real move towards borough self-sufficiency. The plan to open up the marine transfer stations in Manhattan and in other boroughs, in Queens, et cetera, is a really positive step and we commend the administration for working towards that goal and we hope that you will work hard to make sure that those marine transfer stations happen and that communities can support their waste that they produce.

That being said, there are a number of concerns that we have after having read the environmental impact statement. The first being the alternative to the Greenpoint Marine Transfer Station.

It would be unacceptable for both of those sites to remain open processing the waste that they are planning on processing according to the DEIS.

One site maybe, if the proper traffic and truck mitigation measures are taken into account, et cetera, but if both the Scott Avenue and the Scholes Street site and the Scott Avenue truck-to-barge site remain open, the impact on this community will be unbelievable.

We already have such horrendous truck traffic going through our residential streets and if both of those sites in these

communities are allowed to be open, particularly with the proposed permit capacity expansions that one of the sites is suggesting, it would be incredibly problematic, particularly because the SWMP does not even discuss the closure of the commercial waste sites, the sites that are already processing 40 percent of this City's waste stream, 70 percent of that I believe is commercial waste.

The other concern I have is you talk about those two sites will be processing the waste that the Greenpoint MTS is processing. The Greenpoint MTS has not been in operation for a good five years so to say that it's just sort of shifting the waste burden is a little bit misguided and so that is another issue.

With that said, we have a couple of sort of suggestions

because we can only give two suggestions to how to move forward and the best ways to forward.

First of all, as I already said, opening both of those sites, both the Scott Avenue truck-to-barge and the Scholes Street truck-to-rail, having both of them would be totally unacceptable.

If either of those alternatives are chosen, there would have to be some clear mitigation measures. We urge the Department of Sanitation to work closely with the New York City Department of Transportation as well as the New York State Department of Transportation to figure out whether there are any ways to create designated off ramps or truck routes separate from those that already exist so that the waste trucks can go directly from

the BQE, directly from the highway, from the Metropolitan Bridge, et cetera, straight to those sites. Because right now, sure, there are truck routes, but they are so crowded and exits as they are so unmanageable that truck drivers, everyday, hundreds of trucks go through our residential streets, and they have an effect on asthma, on public health and on the infrastructure; you should see some of the houses on Ainslie Street in this district that are, the walls are cracking from the truck traffic.

The other recommendation, and this is incredibly important and it covers all the subsidiary issues. We urge the Department of Sanitation to work with the community board, work with elected officials in the area, work with community leaders, work with St.

Nick's, OUTRAGE, et cetera, to create a Community Advisory Board. And I urge that board to go into effect, you now, as soon as possible, maybe even before the final environmental impact statement is approved. And this advisory board can work with the Department of Sanitation and Department of Transportation on truck routes; can work with whichever site is selected to handle the waste on mitigation measures to ensure that the operational standards are of the highest and strictest environmental requirements; to work on -- if any of those sites, the alternative land-based transfer stations are going to be permanent for this, to work with those sites to ensure that as part of the permit regulations and the part of the permitting process, there is

consolidation of waste, there is redistribution and there are closures of some of the other existing sites that process this waste.

The worst thing that can happen in this community is to have one or both of those sites opened and none of the other sites closed, because all that would do would add to the burden in this community and it would be a real disaster.

So, that all being said, there are many more details that you can read about in the written testimony. If anybody would like a copy of the written testimony, I have that with me.

Thank you very much for the opportunity to testify tonight and good luck to everybody in this process (applause.)

MR. SZARPANSKI: I see we're joined by Senator Lentol and

Council Member Diana Reina.

Senator Lentol.

MR. LENTOL: (Applause) Good evening, Mr. Czwartacky, Mr. Arnold, Mr. Szarpanski, Ms. Dolinar. Thank you very much for listening to us tonight.

Ladies and gentlemen, I have a few things that I want to say. I'll try not to be as exhaustive, although I probably won't be as good as Alison was, I'll try to be very brief and reach what I think are the salient points, because I believe I've given this speech before. So I have a question though, are you listening?

Let's talk about the City waste, solid waste management plan circulated prior to the plan's actual release.

I was pleased to hear that the proposal would include the opening of the marine transfer

stations in neighborhoods other than those within Community Board 1. I thought that we would finally begin to see fairness, fair share initiatives implemented in solid waste plans in the City. And that process seems to have started, but is by far not complete.

I remain opposed to the opening of any private marine or rail-based transfer stations in this community. The only way to equalize past injustices on our communities is to bypass siting new facilities in our areas. You cannot keep the current land-based operations open and add numerous marine or rail-based operations on top of that, it's just not fair and your plan neglects to deal with this obvious unfairness.

Furthermore, the proposal before us does not implement an environmental quality review

process for solid waste transfer stations that tells the truth. And I've been asking for that for years.

We need a system of review that meets CEQR guidelines, that goes beyond that by looking at facilities as they cumulatively affect our neighborhoods.

This has never been done and, therefore, the review we get never tells the truth about how these facilities affect us.

Now, you know that our alcohol beverage control laws in our state have very specific mandates regarding neighborhood establishments being too close to one another or within a certain feet of a school or a church and the reason is because the quality of life destruction can be significant. Therefore, the number of establishments must be

controlled. And this is the type of siting requirements that I want to see and review that transfer stations should undergo.

We know the harm they cause a community. Restrict their numbers by evaluating real factors. Tell the truth about these facilities and our City will still be able to have a solid waste plan, one that will be fairer, but perhaps not as easy.

I believe that because of our experience with solid waste transfer stations, this community, our community, the one we live in, is home to some of the Cities' most experienced activists, they are knowledgeable and I know you know as well. And Alison mentioned some of them, OUTRAGE, for example. And I urge you to listen to them and listen to us tonight, take our suggestions back with you and incorporate them into this plan.

It may make it a little harder to do, but it's the right thing to do, it's the fair thing to do and that's what will be best for us and for the entire City as a whole.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Council member Diana Reina (applause.)

MS. DIANA REINA: Good evening to everyone. I want to wish everyone, first of all, a happy holiday and a safe one; I hope that our upcoming year brings many more fruitful and better things to our community as well as to each of your loved ones.

I want to thank you for the opportunity to testify on such an important issue, a matter that we've dealt with for over three decades.

The issue of waste management is one of the most pressing issues facing the globe.

It is that important because it affects our quality of life, our environment and ultimately the health of our people.

Here in New York City approximately 45,882 tons of waste is produced per day. In my community we have 16 waste transfer stations that process 40 percent of the City's waste. These facilities generate 4,000 truck trips in and out of our community on a daily basis.

New York Lawyers for The Public Interest of 2003 cited this. Imagine that, imagine living in a community where the backdrop is traffic, air and noise pollution, respiratory illnesses and oppressive odors. Yet the real truth is that these hazardous conditions only seem to take place in low-income communities of color.

Please, let's think about

the underlying message being placed here. The concentrations of waste transfer stations in Williamsburg and Greenpoint and the South Bronx is discriminatory and must be addressed by the Department of Sanitation and its solid waste management Plan.

Let me make one point very clear tonight: Neither the community or I will stand for any plan that does not include the reduction of the number of land-based sites, a reduction of truck traffic and the reduction of putrescible waste (applause.)

I continue to believe in the opening of all marine transfer stations in the City of New York. We are gathered tonight to hear the Department of Sanitation's environmental impact statement on proposed solid waste management plan.

Let us not forget that the key feature of an environmental impact statement is the objective detailed analysis of any action that will significantly affect the quality of the environment, but also the improvement of that environment.

Environment in a broader sense, encompasses the quality of our air, the impact the sites will have on our schools, parks, homes and most importantly, the health of our community.

Solid waste and the proper handling of it is an issue that pays tribute to bigger societal things. Thus, we must work together to improve the quality of our environment by reinvesting in our green space and park lands.

For the purposes of this hearing, it is critical that the environmental impact statement

proposed take into account the true environmental impacts of these sites and not just the geographic proximity taken into account in the previous commercial waste study.

I will not stop fighting until an equitable Sanitation plan is adopted, one that takes into account the burden of my community, one that it has had to bear for so long.

I applaud the Department of Sanitation's commitment to transparency. I believe the department has come a long way by involving the community in the issue of the waste transfer stations and in the consideration of the solid waste management plan.

It is of paramount concern to me that continued community involvement take place especially in the crucial last stages of implementing the solid waste

management plan.

I think that the amount of people in this room is an indication of just how important this issue is for the community and although it's not packed yet, I'm sure we will continue to see more people come in and out revolving through the Swinging '60s Senior Center doors.

I want to thank those who are here present tonight, our advocates that have taken their time to attend this hearing. It is through partnerships that a true force lies.

Thank you and have a good night (applause.)

MR. SZARPANSKI: Thank you very much.

We will now hear from Ana Zak representing Senator Dilan.

MS. ANA ZAK: Hello. Good evening everyone. My name is Ana

Zak and I'm representing State Senator Martin Dilan who unfortunately could not be here, he's attending another meeting with Assemblyman Lopez.

And I think Assemblyman Lentol and Ms. Diana Reina and Alison covered all of the details and points that are included in the Senator's speech and I know that we have many speakers to speak tonight, so I will just briefly say that the Senator is not going to support this plan unless there's going to be a great reduction of waste in our community.

It is unfair that our community has to take care of 40 percent of the City's waste and 70 of which is commercial waste. We have thousands of trucks going through our streets. Our houses are cracking, there's noise pollution and odors and we don't

want deal with that anymore.
Our residents are moving out because of the fact that the community is being so affected by the waste transfer stations. And we think that it's unfair for our community to have two marine transfer stations opened within our community when there are so many other marine waste transfer stations that could be opened in other parts of the City.
And we are already handling so much of the City's waste and we demand a reduction. And that is what I'm going to say for the Senator tonight.
And I'm submitting a statement with detailed comments from him and I also have enough copies for all of the people that are interested in reading it.
Thank you so much and thank you for listening to my testimony

(applause.)
MR. SZARPANSKI: Thank you.
We have Judd Schechtman representing Borough President Marty Markowitz.
MR. JUDD SCHECHTMAN: Good evening. As well, Marty regrets that he could not make it tonight and he asked me to read his comments for the record and for everyone in the room here as well.
"Brooklyn has been shouldering the burden of waste transfer stations and the City's garbage infrastructure for years and this neighborhood, Greenpoint/Williamsburg has been by far the most significantly impacted in Brooklyn.
Today, of course, as we all know, it handles over 40 percent of the waste throughput of the entire City. And Marty regrets that it looks like Brooklyn will continue

to be the centerpiece of the City's proposed waste system in the new solid waste management plan as well, as we are destined for three proposed marine transfer stations and the facility to handle all of City's recyclables.
We all agree and we have been working together to make sure that this new solid waste management plan is better for the environment, better for residents and quality of life and better for the City.
The promise of marine transfer stations in Manhattan and in Brooklyn is a vast improvement over the disastrous hodgepodge Brooklynites live with everyday right now and for that we are thankful, but we need to ensure that the remedies to the injustices that have plagued Williamsburg and Greenpoint for years are effective

and meaningful, and that Brooklyn residents are given the respect that they deserve.
That is why we will accept nothing less than absolute certainly that Manhattan transfer stations open above the din of protest both at West 59th Street and East 92nd Street, and that this community sees a real decline in the throughput of Manhattan's putrescible waste.
I have also heard that the City is looking at using excess capacity at the marine transfer stations for Brooklyn commercial waste. The marine transfer station should be able to handle all of the commercial waste generated from Brooklyn, once recycling is improved and waste prevention and recycling guidelines are implemented.
Whether by franchise,

1
2 financial incentives or some other
3 means, the City should coax
4 commercial carters to use the
5 marine transfer stations.
6 With Manhattan commercial
7 waste handled in Manhattan and
8 Brooklyn commercial waste handled
9 at marine transfer stations, the
10 need for new and existing
11 putrescible waste to land-based
12 transfer stations should be
13 eliminated and should allow the
14 City to begin the phased shut down
15 of the land-based transfer system.
16 In the meantime, the City
17 should be vigorously enforcing the
18 operational regulations at the
19 existing facilities, ensuring with
20 absolute precision they do not
21 violate the law.
22 Enforcing the regulations if
23 they are meaningful needs a fine to
24 be effective. They should be set
25 to escalate with each violation and

1
2 should accrue for each day if the
3 violation is remedied. The new
4 rule should also provide for the
5 termination of a permit if the
6 facility does not come with
7 compliance within 30 days of
8 issuance of a violation.
9 We must have guarantees that
10 the transfer stations that
11 continually disobey operational
12 health and safety regulations will
13 be fined and closed. We must have
14 guarantees that the Sanitation
15 Department's own facility in the
16 new marine transfer stations will
17 also follow the same stringent
18 standards we expect at a private
19 facilities. The
20 community must have recourse
21 in the form of citizens supervision
22 if they don't. And this should
23 also apply for other violations of
24 the law such as violating the truck
25 routes. We must have guarantees

1
2 that it will all be followed and
3 that the violators will be fined.
4 I am prepared to support
5 this community in accepting a
6 law-abiding marine or rail transfer
7 facility to handle its fair share
8 of waste generated here, but it
9 should be absolutely clear that
10 means only one facility, not two,
11 as the DEIS discusses. And it
12 should also be absolutely clear
13 that means that not additional
14 capacity, but rather replacement
15 capacity to a land-based transfer
16 station which was closed under the
17 implementation of the plan.
18 This community has endured
19 too much rumbling, toxic leaching
20 and putrid smells for too long. It
21 is time that Greenpoint and
22 Williamsburg residents and
23 residents of all of Brooklyn be
24 given the respect that they
25 deserve. Thank you" (applause.)

1
2 MR. SZARPANSKI: Thank you.
3 Are there any other elected
4 officials or their representatives
5 who wish to speak tonight?
6 Our next speaker is Ray
7 Kairys.
8 MR. RAY KAIRYS: Good
9 evening everyone and thank you for
10 coming out, especially OUTRAGE
11 members and members of the
12 community.
13 My name is Ray Kairys, I am
14 the Chairman of OUTRAGE,
15 Williamsburg and Greenpoint
16 Organization United for Trash
17 Reduction and Garbage Equity, that
18 is OUTRAGE.
19 We are a coalition of more
20 than two dozen communities and
21 civic groups which formed in 1999
22 to address the growth of the waste
23 industry in East Williamsburg and
24 Greenpoint.
25 Our community is home to a

disproportionate share of the City's private waste transfer stations with 16 waste transfer stations processing over a third of the entire City's waste.

As you know, our community is overburdened by the current land-based waste transfer station system. Residents continue to be overwhelmed by thousands of garbage trucks on our neighborhood streets. The results are traffic, air pollution, horrible odors and noise pollution.

Over the last five years, OUTRAGE has worked with our local public officials and community board, our neighbors and our colleagues in OWN, the Organization of Waterfront Neighborhoods, the City Council and the administration to develop a more equitable solid waste policy that will reduce impacts on our members and in

neighborhoods that our neighbors experience everyday.

We are submitting our comments this evening on the draft environmental impact statement of the solid waste management plan, conditioned on the fact that the SWMP must significantly and prudently reduce the amount and impact of solid waste processing in our community.

I am presenting testimony this evening on behalf of OUTRAGE and you can see that many of our members and supporters are here in the audience. We do appreciate this opportunity to comment on the proposed plan.

The new SWMP must be linked to an overall plan that will permanently and significantly reduce both commercial and residential waste processed in our neighborhood. It states in the

executive summary of the draft comprehensive SWMP that the new plan intends to treat each borough fairly, which is what OUTRAGE has been working for for the past five years.

This principle is crucial to reducing the burdens largely borne by Williamsburg/Greenpoint and the South Bronx.

The new garbage plan must include the opening of the MTSs and the private marine and rail-based alternatives, including Manhattan's East 91st Street MTS and West 59th Street MTS. Manhattan must handle both the residential and commercial garbage that it produces in order to reduce the amount of waste coming into our neighborhood.

Without Manhattan handling its own infrastructure, Williamsburg/Greenpoint will continue to be overburdened by

garbage.

Part of the strategy must also include closing a significant number of the private land-based transfer stations currently operating in Williamsburg/Greenpoint as the MTSs and alternatives are opened.

As we stated in the scoping hearings, the SWMP environmental impact statement must include ways to close the land-based transfer stations at the same time as it develops plans for the opening of the MTSs and the alternatives; a plan which would schedule the opening of the Brooklyn MTSs prior to the opening of the alternatives so as to reduce the amount of residential waste currently being processed in Greenpoint/Williamsburg as rapidly as possible. And because commercial waste accounts for the

majority of the waste handled by Williamsburg/Greenpoint, it is important that all of the MTSs handle commercial putrescible waste. This will help take thousands of trucks off the roads each year.

While we support the shift to marine transfer stations and marine or rail-based alternatives, we are opposed to the opening of two private marine and/or rail-based alternatives in Williamsburg/Greenpoint.

We are especially concerned that the City is entertaining the idea of entering into a 20-year contract with two private facilities given the following: Williamsburg and Greenpoint are already overburdened with 16 waste transfer stations that process over ten thousand tons of waste per day. On top of that, East Williamsburg

is soon to be home to two large sanitation garages which will only increase the harmful overburdening in this part of the neighborhood.

The City must not choose both private alternatives to handle Brooklyn's residential waste. This would further maintain the concentration of waste processing in East Williamsburg and Southern Greenpoint and this is entirely unacceptable.

OUTRAGE is also opposed to any expansion of capacity for the private marine and/or rail-based alternatives unless the alternatives receive an offset based on actual throughput of the same waste used by a facility in the community district.

At the same time as the City selects a facility to handle the residential waste, there must be a commitment for closure of

land-based stations in Williamsburg/Greenpoint and redistribution of waste capacity citywide. This must be incorporated into any agreement with the selected transfer stations.

There must be dedicated ingress and egress from local highways to the selected facility to reduce the impacts of truck traffic on local residential streets.

Related to this point is the traffic impacts from the Kosciusko Bridge Project and other traffic projects must be considered.

Lastly, we urge the Department of Sanitation to create a Community Advisory Group and a timeline with milestones to develop and implement the redistribution of waste capacity throughout the City.

The draft SWMP includes creating a special advisory group

to work on a traffic study of Metropolitan Avenue. In the same manner, we encourage the Department to create a group composed of community members, elected officials, the Department of Sanitation and the administration to make sure that the new SWMP is implemented in a manner most effective to this community.

Thank you for this opportunity to submit the testimony. We will submit more detailed comments within the next month.

Should you have any further questions, please contact the OUTRAGE office at 718-388-5454, extension 170. Thank you very much (applause.)

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Deborah Masters.

MS. DEBORAH MASTERS: Good evening, my name is Deborah Masters. I'm the Chair of the CB1 Environmental Committee.

"Thank you for adopting most of the people's SWMP which was developed over many years by OWN, Organization of Waterfront Neighborhoods, a coalition of neighborhoods which are host to the predominance of transfer stations in New York City.

The MTS system, the operational and performance standards are mostly excellent. My concerns have to do with the specifics of Greenpoint/Williamsburg which has been overburdened by the transfer station industry since its inception.

We presently handle roughly 45 percent of all the City's waste. OWN's review of the DSNY commercial

waste study demonstrated that the health and land use impacts from the overburdening result in serious health concerns to the community because of the clustering of facilities.

It is my concern that reductions of overall waste will be too long in coming because of the retrofit of the MTSs outside of our district and that the reductions will not be adequate.

There are many questions about how this process will work. How will the City make a privately-owned business close? What will replace their present transfer station business? Will the same companies own and operate? What will come next? What is the timetable for these closures?

Our two alternatives, BFI and WMI, have mentioned in conversations with the community

board, that they are aware of the promises made to our community in the SWMP, but neither of them have heard of other transfer stations making preparations for closure. What will the Greenpoint MTS have?

It is very important that a more toxic use than the MTS or the Greenpoint Incinerator not be operated at these two DOS sites.

How will DOS interact with the community during the choice of the alternative? It is very important to this community that we be included in this decision, which is one that must be made with serious consideration for the huge impact the present truck traffic has on our neighborhoods.

Many other projects of great magnitude are occurring within this district right now, such as the upgrade of Newtown Creek, the

largest sewage treatment plant on the East Coast. The rebuild of the Kosciusko Bridge, the possible Cross Harbor Rail system which will bring every major truck distribution system for the City through Maspeth and Greenpoint. The construction associated with the rezoning and the reconstruction of many CB1 truck routes.

We would like there to be a Community Advisory Committee that regularly meets with DOS to consider these issues in choosing the alternative and identifying the redistribution and reduction commitments that are incorporated into the final SWMP. The committee should also have regular meetings with the chosen alternative after build-out and during, following operations.

Health issues are of equal importance in a district that faces

the City's third highest and growing rate of asthma. The permit applications must include an analysis of the impacts of PM2.5 and H2S that is separate from what is required by NYSDEC and the New York State DEC in the air permits.

The analysis should reflect background levels. The PM2.5 analysis must include all vehicular emissions, on-site equipment and trucks idling adjacent to this site. Particulate matter/dust migration controls must be installed in putrescible C&D and clean fill operations.

All of the above should be housed within closed buildings given the existing PM levels within this community. PM should be filtered through a baghouse or similar device and putrescible transfer stations, additional activated carbon filtration should

filter the air exchanges as an odor capture system along with the negative pressure gradient.

Odor neutralizing systems which are designed to mask odors, but do not remove hazardous chemicals, should be eliminated along with the now less frequently used perfumes. Neutralizers and perfumes can add to a resident's breathing problems while carbon filtration will remove that risk.

Community monitoring should be employed to give accurate readings of particulate matter levels. Odor monitoring should demonstrate compliance.

The truck issues have long been one of the most pressing problems in Greenpoint/Williamsburg. Diesel particulate, vehicle speed and accidents, trucks traveling off-route are issues that must be

solved in the new SWMP program.

The main solution must be the redesign of transfer station ingress and egress ramps from the BQE. These might be existing ramps, widened or redesigned with dedicated lanes for transfer station trucks; new exits and entrances might be needed to the East Williamsburg Industrial Park.

The exit at Humboldt Street is rarely used because it is practically impassable. There are too many traffic lights after the exit; it is clogged with car traffic.

There should be money available for reconstruction work on the BQE from the money that is available from the savings on the retrofit of the Greenpoint MTS. There is also money available from the New York State DOT from the Kosciusko Bridge rebuild.

DOS should also do a traffic survey as part of the EIS to analyze our traffic nightmare. Metropolitan Avenue cannot be the transfer station truck thoroughfare.

Truck routes must have the least possible impact on the community. Resurfacing of existing roads would alleviate the nighttime noise of empty trucks harshly clanging in and out of potholes that wakens the nearby population every single time a truck passes. Widening the Metropolitan Avenue Bridge might ease the terrible congestion in East Williamsburg.

The impact of major local projects was not considered in either EIS for Greenpoint/Williamsburg.

DOS issues: A DOS truck must stagger their deliveries in order to alleviate truck queuing in

the communities. The simultaneous arrival of dozens of trucks leaves residential streets clogged and impassable unnecessarily.

For the receiving facility, the sudden arrival of dozens of trucks can force workplace accidents and the lack of good housekeeping. Truck staggering will also minimize air quality impacts. A staggered schedule would be the single largest contribution to a smooth operation at either BFI or Waste Management.

In our recent visit to Waste Management, we asked about the rebuild of the Kosciusko Bridge and its effect on their operation. Waste Management said DOS had mentioned the Kosciusko Bridge reconstruction, but had provided no details or timetables. New York State DOT complained that DOS had never attended one of their

meetings, despite frequent invitations.

In addition, Waste Management might have to dredge Newtown Creek for their barging operation. How long would the dredging take and what are the NYSDEC and Army Corps of Engineers' attitude towards the dredging? Would there be a health danger to residents two blocks from this facility from airborne bacteria and VOCs from the dredge soil? Would the dredge soil be stored on shore or would it be immediately removed?

The community is lacking information to guide its alternatives choice.

If BFI is chosen as the alternative and employs CSX Rail Transport, what is DOS' plan for minimizing congestion in the Harlem River Rail Yards?

Redundancy: Redundancy is

the Achilles Heal of the alternatives choice. What is the transportation breakdown plan for each of the alternatives? Waste Management has space to store several days' worth of containers at its site, but there is no option other than trucking for removing them. BFI has no option other than trucking if there is a train strike or a problem at the Harlem River Rail Yards.

My greatest anxiety is that there is no solution to this problem other than trucking or keeping both alternatives to allow for redundancy. Will we eventually be host to both of the alternatives?

With the Community Advisory Committee, let's work to resolve the contingencies without choosing both alternatives.

Other performance standards:

The tipping floor should be washed with hot water and soap during the half hour daily cleaning. There must be on-site decontamination system at the exit from the facility to remove all residue from trucks, tires and truck under-bodies. The decontamination system must be an automated system, one that turns on and off without the intervention of an operator and must have an enclosed drainage system. The decontamination system must be designed to remove dust, garbage residue and odors from the vehicle.

An automatic log must be kept confirming that each vehicle leaving the facility has been decontaminated. Additionally, the facility should operate its own street cleaner in a ten-block area surrounding the facility twice daily.

I may actually not read the rest since I appear to be losing my voice, except for the last paragraph. But if you could enter the rest of my testimony.

The implementation of the new SWMP is doomed to failure within Greenpoint/Williamsburg if the MTS retrofits are not concluded in a timely manner; if the Manhattan infrastructure does not handle its own waste; if the DOS commitment for redistribution/consolidation of land-based private transfer stations in Williamsburg is not done at the time of the selection of the alternative facility and incorporated into any agreement and permit with the selected company; if the widening, resurfacing and rebuilding of new roads within Greenpoint/Williamsburg is not a DOS commitment; if the Community

Advisory Committee is not part of the alternatives selection and part of the process for identifying least impacting reuse of land-based closures.

If these commitments are not made, overburdened communities such as Williamsburg are likely to continue to be overburdened.

Thank you for hearing my comments (applause.)

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Sister Veronica Hammond.

MS. VERONICA HAMMOND: I'm Sister Veronica Hammond and I have lived for 22 years in the Williamsburg area.

I have a behavioral psychology background and I have been watching the trucks very, very carefully. I stood on Bushwick Avenue and Metropolitan Avenue

watching 30 trucks, one behind the other as the children were going into 132 and as they were traveling to the school on Metropolitan Avenue.

It is a total injustice. I have worked in hospitals and I know that asthma is very high with our children. Therefore, what the City of New York has done to our children is a total injustice. It is such an injustice that we shouldn't even have waste stations here in order to clean up the air pollution that is within our area (applause.)

As I watched the trucks go down, I waited on that corner for about 30 minutes watching one truck behind the another. At another time, because of my behavioral psychology background, as I watched the trucks, there was a truck on the street with two particular

trucks and they were speeding.

We already lost one person from the bread place on Graham Avenue by a truck hitting her and killing her. These two particular trucks were speeding down Metropolitan Avenue past 132 and it was at time when children were getting out of school.

This is another grave injustice. And these injustices we are not going to tolerate because I will go strictly into the media with my medical background and with my behavioral psychology background (applause.)

I have also studied environmental conditions in California so I completely agree with you and I agree with all of the politicians in what they have said.

Secondly, what I picked up from my behavioral psychology

background, when you look at 70 percent of commercial waste coming from Manhattan, that is a political stance of politicians wanting to get the vote, therefore, not putting in stations in their area. This is a total injustice in our Government and I really firmly believe that our Government has done a great harm to our children and to our adults.

We have many, many adults carrying these (indicating) in their pocketbooks because of what was happening with the pollution in the air and with the trucks going down Metropolitan Avenue, okay. And these are what many people have to hold and carry because of what has happened to them with the pollution.

Therefore, it is time for all of us to make sure that we get a reprieve now. If there's gonna

be any station, there should be no more than one station because an injustice has been done to our people, even to the point of one person killed by those trucks. Therefore, it is about time that our government agencies and the City of New York begin to recognize that Williamsburg and Greenpoint needs a reprieve.

We do not need to tolerate the pollution, children getting asthma and adults having to carry one of these in their pockets in order to be able to breathe properly as they go to work.

Therefore, I'm talking from a medical perspective. That medical perspective, if the politicians from Manhattan want to get the votes and don't think of what they're doing to children, then that is a terrible, terrible injustice because we should not

have been getting 70 percent of the commercial waste from Manhattan in the past. Therefore, Manhattan has to handle their own and there should be no more than one station in Williamsburg and Greenpoint because of the injustice that has been done to this community for years.

I really want to say that there are many trucks going down Metropolitan Avenue all the time. It does not stop. When I go to teach the children in my Convent of Mercy it takes me eight minutes on the expressway from Kent Avenue. It takes me 45 minutes to travel from the expressway down Metropolitan Avenue to turn on Catharine Street. That is unacceptable behavior. We are here to protect our children. We are here to protect our adults. We are also here to protect the

environment of the birds, of the trees, of the flowers, of the parks. And without that protection, then the City of New York is responsible for the sickness of anybody within our community. And when people get sick, I intend to go public.

Thank you (applause.)

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Delia Lopez.

MS. DELIA LOPEZ: Good evening, my name is Delia Lopez. I lived in Brooklyn, Williamsburg since 1949. My mother moved to America a single parent with four children and she raised us, she raised us to work very hard. She had three jobs in order to support us. She didn't go on no Welfare, or food stamps or anything like that, because she was a very proud

woman. And she raised me and my siblings the same way.

You know that I'm the only one left in New York from all of us because my brother, he moved to Pennsylvania. My sister after many years of living in New York and my other brother have decided to go to Puerto Rico and they keep telling me why don't you? I say, no, I'm a real New Yorker. I love my -- I really, really love New York. I raised my children the same way and already one son went to Florida because of the smell.

I own a house on White Street and sometimes I cannot open my windows because of the smell that comes through. And sometimes even with the smell, I keep -- with the windows closed that odor comes through the air conditioner when we have it.

And it's very, very unfair

and I'm not gonna say what you already heard from all these nice people because I have years of living this way, but believe me, believe me, these people have told you exactly how it is and how we in Greenpoint and Williamsburg exist.

Thank you very much (applause.)

MR. SZARPANSKI: Thank you. Shannon Stone? Is Shannon Stone here?

MS. SHANNON STONE: The predominant topic of conversation here tonight is about the marine transfer stations and the export of New York City's waste. Why any of this waste will not be exported in the 20 years is not being addressed. The solution to the export problems begins with aggressive advancement of waste prevention, reuse and recycling.

The Department of Sanitation

has just released a 20-year solid waste draft solid waste management plan, with the admirable goal of reaching 70 percent diversion of both commercial and DOS-managed waste by 2015.

However, the draft comprehensive SWMP is anything but comprehensive when it comes to laying out in detail how DOS intends on reaching that goal.

The New York City Waste Prevention Coalition, a coalition of 25 organizations dedicated to community waste prevention, is the most responsible, environmentally sound and cost effective form of waste management, has come together to augment the existing waste prevention portion of the draft SWMP and write a new section which is currently missing in its entirety.

Although I have given you a

copy of our detailed waste prevention reuse program, I will only outline a few points as time allows.

The most disappointing omission from the draft SWMP is the waste prevention coordinators programs.

During the creation of the City's comprehensive solid waste management plan modification in 2000, the New York City Waste Prevention Coalition proposed a five-year waste prevention action plan.

From that plan, the City Council adopted a program for community-based waste prevention coordinators with one year's funding.

Eight community-based organizations each received contracts for 90,000 and together diverted nearly 200 tons of waste

from the landfill.
The new solid waste prevention, reuse and recycling programs take time to establish. Unfortunately the program was cut short when this dropped in the budget and the waste prevention and community-based organizations prevention and implementation ceased.
We recommend that DOS reestablish and expand the residential waste prevention coordinator program to include one waste prevention coordinator in every community district. The coordinator's primary responsibility will be to increase waste prevention in the residential sector.
They will be able to promote backyard composting and leave-it-on-the-lawn activities; educate households about where, how

and where they can donate or buy reusable materials, organize waste prevention block leaders, advertise waste prevention shopping campaigns and coordinate collection of electronics and hazardous materials.
The most glaring omission from the draft SWMP's chapter two is in the title. Please put reuse back into the SWMP so that section two is entitled, "waste prevention reuse and recycling."
The omission seems to convey a lack of understanding about the waste management hierarchy and the differences between waste prevention, reuse and recycling.
The lack of reuse initiatives in the draft comprehensive solid waste management plan could begin to be addressed with the inclusion of a community reuse complex

corresponding with the redevelopment of the waste prevention coordinators program. The success of both depends on the other.
The community leaves complex would be a one-stop shopping center that is arranged by the tenants, City-subsidized reuse organizations similarly to the Hunt's Point Redistribution Center.
Beginning with one community reuse complex with a 100,000 square feet of retail viable space and later expanding to one per borough, the reuse organization whose handling and presence under one roof, will be easier for community use. It's kind of like a mini mall, you drop one thing off, you pick another.
The Waste Prevention Coalition is excited about the waste characterization study

because examining the content of the City's waste is vital to evaluating how well the City's moving towards its diversion goals and how best to design future programs to reach its goals. However, only the current waste characterization study is outlined in the draft 20-year SWMP. We believe that a waste characterization study should be conducted every five years and that the categories of materials are separated into, should revolve around durables or reusables such as appliances and clothing, nondurable goods such as plastic and paper disposals and packaging categories such as plastic bags and Sheet Rock.
The Waste Prevention Coalition is also glad to see that the marketing research to better educate the public was mentioned in

the draft SWMP. However, much more can be done over a 20-year time frame. The market research should address an understanding, motivation and attitude of self-reporting and have no barriers to the three R's, reduce, reuse and recycle.

Not only do we need to educate the general public about waste prevention reuse (bell rings) but we also need to instill life-long habits and respect for the environment in our children.

While the expansion of the Global Apple Program is a step in the right direction, the DOS Administration should work with the City Administration with the education program and literature. Our City agencies like schools, have little motivation to prevent waste and recycling because they receive free pickups and

sometimes are not allowed to reuse.

The Waste Prevention Coalition recommends instituting 12 waste prevention coordinators by 2009 and would like to receive money for them to complete their mission of waste prevention and reuse projects and consider charging City institutions for the waste they produce while offering waste incentives.

The WPC applauds DOS' effort to institute an annual household hazardous waste collection day. However, we recommend some items for collection with a higher capture rate of hazardous materials. Also, electronic waste should be included in pick-ups, subsidized by the industries that design the waste into the product to grants, until extended producer's responsibility legislation is passed, otherwise

electronic waste is only addressed in the draft 20-year SWMP with the 2004 electronic drop-off event and is already past.

Since the City only supports federal EPR legislation, the City could show meaningful support initiative by hosting, for example, a national EPR roundtable for USA East.

Through adoption, funding and implementation of Waste Prevention Coalition's recommendations, DOS can more readily achieve the goal and accept the word solid and divert more garbage from marine-based transfer stations that are going to Greenpoint/Williamsburg. It is not only about waste prevention reuse, there has to be a more cost effective form of waste management as land filling or other unsustainable forms of waste

management and the costs there, but also that waste prevention and especially reuse even more than recycling, creates jobs and earns revenues in the City, rather than solely burying tax dollars in out-of-state landfills.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Guido Cianciotta.

MR. GUIDO CIANCIOTTA: My name is Guido Cianciotta. I'm the President of the Concerned Citizens of Whithers Street that's been in existence for 25 years. We fought many battles in this area and it seems to reach a deaf ear because I see what's happening right here and they look to put a 20-year, they make it sound so great that they gonna give you more garbage.

I told you something and I'll tell you again, because I have

the experience being with Sanitation with the union.

I tell you the way to solve 80 -- 90 percent is to open all MTSs including the one at 91st Street that Miller don't want (applause.) The people should have their say because every time you turn around, this community gets dumped on. For some reason they don't look to the right or the left. We're sick and tired.

The plan that the Mayor has, we're not for it. Sixteen transfer stations, put them up someplace else. Split them up, we don't want sixteen, two, two, two.

It reminds me of 20 years ago when me and all the people in this community, when Mayor Koch didn't know where to put the homeless, he says, "Greenpoint Hospital just closed, give everybody 200, give them 1,200."

We had 1,200 and I was in the middle of the street with a bullhorn for 18 years before he straightened that out. And if I have to go with a bullhorn on Metropolitan Avenue and any other place, I will be there because an injustice is being done here.

You're not looking out for the people right here. The woman right here told you the environmental problem that we have. I'm on Metropolitan Avenue, you can't even cross, you gotta wait 30 minutes after the light changes.

Now, is somebody Downtown, 125 Worth blind, don't they see what they're trying to shove everything in this area (applause.) And I want you to know, and I'm a little more handsome than the other guy, Metropolitan Avenue divides Greenpoint/Williamsburg so a lot of people get a little confused. We

won that argument at the City Council.

Now, if you're gonna keep putting this on us, we want all incinerators -- you said not Greenpoint, not, I live in Greenpoint, I want that open too if it relieves the 16 transfer stations down here, because these people down here can't even breath.

I see the old people beg to cross the street. "Please, will you hold my arm?" There's a million trucks piled up. Go up Metropolitan and Green, go down Metropolitan, see you got children that can't cross. Have a heart. When you go back, tell the Commissioner this is not a good idea to put everything in Greenpoint/Williamsburg.

And now I heard you's wanna open two marine transfer stations and a couple of garages in the same

area, on Varick. Either there's something wrong upstairs or you better get with it because there's other areas that we can go. Believe me, I'm here a long time. You's are on the wrong track. If we gotta fight you, we'll go into court, we'll do anything we could, but don't keep dumping on us because you got a fight on your hands.

Thank you (applause.)

MR. SZARPANSKI: Thank you. Theresa Cianciotta.

MS. THERESA CIANCIOTTA: I don't know how I'm going to follow that one. Okay.

Well, my name is Theresa Cianciotta. I represent the Concerned Citizens of Whithers Street and the Area Block Association. We have been involved in working for the betterment of the quality of life in our

1
2 community of
3 Greenpoint/Williamsburg for 25
4 years. We are also members of
5 OUTRAGE for the past five years.
6 We are concerned about the
7 environmental unsafe air quality,
8 excessive truck traffic, the noise
9 and the rats and everything else
10 that's terrible in our community
11 due to all of these trucks on
12 Metropolitan Avenue, due to 16
13 waste transfer stations in our
14 community.
15 40 percent of the City's
16 garbage goes through
17 Williamsburg/Greenpoint. That's
18 ten thousand tons per day. 70
19 percent commercial waste, mostly
20 from Manhattan, everything comes
21 here from Manhattan.
22 Four thousand garage trucks
23 rumble down our streets each day
24 and often on residential streets,
25 blocks which people don't

1
2 recognize. A lot of times these
3 trucks aren't even covered properly
4 and they're in areas where they're
5 not supposed to be.
6 At some point we're trying
7 to get the police here, they have
8 been actively ticketing and
9 summonsing these trucks. So we have
10 it on the record with the different
11 police precincts as well as through
12 Assemblymen Lentol's office and
13 Lopez who has been active at the
14 various truck stops.
15 Now, we don't support the
16 alternative plan to the former
17 Greenpoint Marine Transfer Station
18 and I keep asking, why did the
19 Mayor change his plans from opening
20 up all the existing marine transfer
21 stations, okay? The Mayor changed
22 the plan that will now impact on
23 our community. Now we will have to
24 shoulder the weight of two private
25 marine transfer stations, maybe on

1
2 485 Scott Avenue or 72 Scott
3 Avenue, but that's an over
4 development, an over abundance of
5 garbage coming into our area. Two
6 marine transfer stations, people
7 don't realize the impact. They
8 haven't seen the structure, it's
9 tremendous, humongous and it's
10 really something that we shouldn't
11 have to shoulder in our community.
12 Now, this is wrong. Two
13 marine transfer stations in
14 Greenpoint/Williamsburg, this is
15 absolutely wrong. Whatever
16 happened to the original plan we'll
17 never know, but we are being
18 treated unfairly and dumped on.
19 Open up all the original
20 marine transfer stations. What I
21 think happened was that a lot of
22 people that have a lot more clout
23 than our people in our community
24 and they were able to swing things
25 around and that's wrong, because as

1
2 my husband said, we are always
3 being dumped on.
4 We've seen an overabundance
5 of methadone centers in our
6 community, we had the shelter, as
7 my husband spoke about and we've
8 lost a lot in our community. The
9 old 87th Precinct, we've lost a
10 firehouse, recently the Engine
11 Company 212 and our hospital which
12 was everything we needed in our
13 community. And that was lost and
14 to try to get a nursing home back,
15 we've worked for 20 years. We have
16 worked diligently, we never give up
17 and that's on the brink of failing.
18 So what happens? We get all
19 the dumping and everything comes to
20 us. Now, we don't agree with the
21 alternative plans and we really, I
22 feel that in the next 20 years, I
23 don't know if I'm going to be here
24 and I don't want to see that
25 humongous marine transfer station

in our community. It's against all that we have worked for all our years working for the betterment of the community. I want the best for my community.

And then consider the garages at Varick Avenue that are going to be newly built, the Sanitation trucks. They're going to be rumbling through our community. That's gonna be an excess of trucks, plus they'll be the Kosciusko Bridge that's gonna to be possibly a new bridge, that will be demolished. We're gonna have havoc in our community with all of what's happening. People are not really aware of what all this will be shouldered on us.

So that's everything that I'm talking about is a tremendous burden and the residents are against this plan and as my husband said, the 59th Street, the people

at the 59th Street, East 91st Street, they're fighting. They don't want the marine transfer stations so does that mean that we're going to be stuck with the marine stations? As the Borough President said, all marine transfer stations in Brooklyn? Don't dump on Brooklyn.

You know, I'm sorry, it seems to be everybody dumps on Brooklyn and I'm with the Borough President, Marty Markowitz and I stand strong with this, with my statement that we want the best for our community. And consider what I have said because as other people have said, we have a lot of environmental issues. We live near the East Williamsburg Industrial. There are so many trucks in and out of that facility there because it's an area where there are a lot of companies that have toxic chemicals

that are released in the air.

I mean, we have to be concerned about our health. Luckily we're still alive, but I'm worried about the children. I'm worried about everybody. And to add more that's going to be environmentally unsound, we are against it.

So please take consideration of my concerns as well as there should be maybe a committee. But at this point, it looks like a done deal. I don't know if anybody's gonna pay attention to what we're saying, because it looks like the Mayor has proposed the plan and that's going to be it and we're not happy with it (applause.)

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Rebecca White.

MS. REBECCA WHITE: Hi, good evening. My name is Rebecca White. I'm here with the North Brooklyn Greens. We have over 1,200 enrollees in the neighborhood and before I get into what I want to say, you know, people are leaving because they have families to get to. And I really want to point that out, we really hope that you're listening to what everyone in this room has to say, because each person in here represents a family and a building. Each person is here not because they're getting paid, but because they're here concerned about their families and their buildings and this community.

We don't have a lot of things that we need to be doing other than being at a Sanitation hearing, but we're here because we care.

And when someone said you

1
2 know, we have a really high asthma
3 rate, it's not just a statistic,
4 that's a lot of mothers and a lot
5 of fathers taking their children to
6 the hospital routinely. And when
7 someone pulls up that respirator
8 (indicating) they have to carry
9 that for life and it's not just an
10 inconvenience, it's a health risk.
11 So I just really want it to
12 sink in that this isn't lip service
13 and this isn't a NIMBY
14 neighborhood. We are a very
15 strong, resilient neighborhood that
16 really had a lot blows thrown our
17 way.
18 We deal with a lot of
19 different issues. We deal with a
20 lot of different toxins thrown at
21 us. This is not a NIMBY
22 neighborhood, this is a working
23 neighborhood and a proud
24 neighborhood and we are standing up
25 because not that we don't adhere to

1
2 New York City's fair share policy,
3 but we only want a little bit, we
4 don't want it all (applause.)
5 As far as the North Brooklyn
6 Greens are concerned, we do support
7 barge and rail options in dealing
8 with solid waste, but only if the
9 existing commercial waste stations
10 are closed.
11 The number one goal in the
12 neighborhood is a significant and
13 permanent reduction in waste
14 handling capacity.
15 Now, 80 percent of our
16 commercial waste is coming from Manhattan,
17 80 percent of the waste that we
18 will be handling is coming from
19 Lower Manhattan and is predominantly
20 commercial waste. Nowhere on that
21 map was there a marine transfer
22 station in Lower Manhattan. We've
23 got so much construction going on
24 with the Lower Manhattan
25 Development Corporation, why can't

1
2 we have a marine transfer station
3 that takes Lower Manhattan's
4 garbage to the waterfront there so
5 that it doesn't have to cross the
6 bridge and come into Brooklyn?
7 (Applause.)
8 Now I agree with our
9 colleagues that the New York State
10 Department of Transportation and
11 the City Department of
12 Transportation have a lot of
13 different projects going on that we
14 need to examine every possible
15 out-of-the-box solution to have
16 ways that trucks can get to
17 transfer stations without hitting
18 our residential streets. And when
19 you look at, you know, they did the
20 whole truck study in this
21 neighborhood and most of us were
22 there and they're saying that we're
23 running out of capacity. So we
24 can't afford to have any more
25 trucks on the streets.

1
2 One of the problems with the
3 DEIS and its sister document from
4 the commercial waste study is that
5 it's wholly erroneous in saying
6 that there are no negative health
7 impacts on the waste transfer
8 stations in our neighborhood.
9 Now, I don't know what other
10 study would be able to take the
11 idealized situation and use that as
12 their benchmark, but when someone
13 like Nissan tests a car, they can't
14 just take the idealized crash, they
15 have to actually crash a car. So
16 when we're doing an environmental
17 impact statement, we need to
18 actually be out there measuring
19 toxin levels. We need to actually
20 be out there measuring smells. We
21 need to be out there measuring
22 asthma rates, we need to be out
23 there looking at how many cars or
24 trucks are idling when they are in
25 the a queue and how many trucks,

especially when the cold weather hits, are idling overnight with the -- sleeping in their trucks with their engines on because it's cold. And I'm sympathetic to truck drivers, my father was a truck driver, but that breaks the regulations, that's not good for the neighborhood and it's not an appropriate way to be running a waste business.

Now, I'm really, really happy that the Chairman from the New York City Waste Coalition came because one of things that this plan does not address is that waste prevention is the number one key.

We have to deal with garbage and we have to deal with it now and that's pragmatic, but New York City is not committed to waste prevention. New York City needs to be committed to aggressive waste prevention not only on City

agencies, but in promoting it because we have eight million people and we're not getting any smaller. We need to figure out how to reduce our waste overall and there is not a serious commitment to waste prevention in this plan and there is no commitment to green garbage trucks.

One of the things that would help out greatly is, if when the garbage trucks go out of commission, a green energy garbage truck is purchased to replace it. As long as we're having garbage trucks going throughout streets, we need to reduce their emission.

And there are really simple things that we can be doing to reduce the overall waste burden, not only on this neighborhood, but on the City and on the City's pocketbook. And we need to see a serious commitment from the SWMP on

that. So thank you very much (applause.)

MR. SZARPANSKI: Thank you. Our next speaker is Laura Hoffman (applause.)

MS. LAURA HOFFMAN: I am Laura Hoffman of the Barge Park Pals. I am glad to see that the Department of Sanitation solid waste management plan will implement marine transfer of solid waste. However, community organizations and residents such as myself, remain concerned about achieving a net reduction of solid waste handling in our community.

The New York City Department of Sanitation must achieve a significant reduction of solid waste handling in this community.

I had the opportunity to tour the Waste Management facility and the BFI facility with the CB1 Environmental Committee which, by

the way, I support every word of Deborah Master's testimony. It was very, very to the point.

It is clear that the City must choose only one major marine/rail facility. It would be environmentally unjust to force both on one community.

Clearly, the Waste Management facility is managed far better than BFI. However, BFI states that it would commit to a consolidation resulting in less facilities and consolidation is important to the community.

If BFI is chosen to take on this major operation, DOS must make certain that its operation is brought up to a state-of-the-art status.

Presently the facility looks like it's held together with sticks and string, resembling arts and crafts status. The marine transfer

station in Manhattan must be brought on line. Manhattan must begin to handle some of its own waste and stop dumping on this community (applause.)

As it is, this community handles most of the City's waste water, enough is enough. The Greenpoint Marine Transfer Station must not go into operation or be expanded as part of the SWMP package. That site neighbors the largest sewage treatment facility in the City. The community surrounding the sewage treatment facility cannot handle the cumulative effect, nor can it handle the truck traffic; particularly since North Greenpoint will be severely impacted with high residential towers and a massive increase in population impacts due to the Greenpoint/Williamsburg rezoning.

The Department of Sanitation must work with the community to address what the former Greenpoint MTS will be used for. Presently, there is construction going on at that site, despite dioxin contaminated soils.

The community has been unable to find out what the structure will be used for or how the property remediation is being handled, having formerly housed the Greenpoint incinerator.

This lack of communication with the community is unacceptable and it must stop. DOS must not rely on odor controls such as misters. DOS should choose much more reliable odor treatments such as carbon filtration.

The City must provide the communities affected by the SWMP with amenities for handling borough and City solid waste loads. The

community deserves it.

Wherever there is solid waste handling, there should always be associated tree plantings and open space improvements to help filter the horrid air in the affected areas.

I'm in the position to have read the SWMP DEIS, the Williamsburg/Greenpoint rezoning DEIS and the Cross Harbor Project DEIS. The SWMP EIS must consider the major truck traffic impacts that the Cross Harbor DEIS proposes. The Cross Harbor Project proposes the construction of a new bridge over the Newtown Creek extending from Queens, on 59th Avenue to Greenpoint in the area most affected by transfer stations.

This bridge would be in addition to the Kosciusko Bridge. That's unacceptable.

The Cross Harbor Project

proposes the filling of Maspeth Creek and a portion of Newtown Creek which may affect SWMP plans which also needs careful review. And the Cross Harbor Project strongly indicates major truck impacts in our community in an area most concentrated with land-based transfer stations.

The Greenpoint/Williamsburg rezoning DEIS proposes major changes that will affect manufacturing and industrial area uses which may affect the SWMP. It proposes massive population and traffic impacts that will also affect the community and the SWMP. These potential and major impacts need to be looked at in the SWMP EIS. DOS must also consider creative ways of directing traffic off community streets such as a ramp from the Kosciusko Bridge to bring truck traffic directly onto

the major traffic arteries rather than past homes. This needs DOS coordination with the New York State DOT. And I don't know if you noticed how hard I'm breathing, but I carry it (indicating) this Greenpoint trademark as a sort of a thought. The asthma is very severe in this neighborhood and you really need to go back and do the right thing (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Carlotta Giglio.

MS. CARLOTTA GIGLIO: Thank you for this opportunity to speak. I did not prepare a statement tonight. I did testify before this committee before and in Manhattan and I'm sure you don't want to hear again about all my ailments and all the noise that I hear.

I live on Metropolitan Avenue between Manhattan and

Leonard Street. I certainly agree with everyone that spoke, about the waste management stations and the landfill stations and I certainly could not articulate any better than everyone has. But I really think you need take into consideration several points:

One is, I live on Metropolitan between, as I said, Manhattan and Leonard and not only do I hear thousands of trucks passing my house on a daily basis, but I also have the L train running underneath my home. So my house rattles from the train and when that stops, it rattles from the truck traffic. So it's like I'm doing a constant rumble all day long.

Yesterday I was tracking a report because although I'm retired, I'm involved with many things in the community and I have

to tell you, I just could not concentrate because every time trucks passed, they set off the alarms on every car on that block.

Now, if they're doing that to me, children at 132 on the next block have to hear the same thing and it's just incomprehensible to me that none of those parents, and I hope some of them are here, 'cause if they are not here, because I know if my child went to that school I would be screaming to the top of my lungs (applause.) Excuse me?

THE AUDIENCE: Then they wonder why our scores in our schools are so low.

MS. CARLOTTA GIGLIO: I don't know how they concentrate. It's just beyond my belief. And they added those, they look like trailers in the front of the schoolyards and now the children

are closer to the avenue then they ever were before. So again, I don't know how they concentrate.

And I agree with what Sister said, you know, I never thought of this, but for the past two years every time I plant flowers in my garden in the front, they don't last more than a week, they die. They're dying from the fumes, the black smoke that comes out of those pipes. These trucks are so old and all you need to do to see what has been happening with Assemblyman Lopez. We had two truck stops already, we're having one tomorrow, okay and Joe Lentol. They've given out thousands, I think the last time was $97,000 in fines, but these trucks that pass my home, her home and anyone else that lives on Metro, because they are so overweight, the tonnage is unbelievable. They're so old, the

tires are worn and this is what's passing through our streets.

I have trucks that pass with seven or eight cars besides Waste Management trucks. You can't imagine, and I invite you and I've invited you the last time and I invite anyone on this committee or anyone that will have the final say as to what happens in this neighborhood with garbage, to come to my home for a week, believe me, it will only take an hour, but you can stay a week. I'll feed you, I'll do whatever you want to do.

I think you really, really need to see firsthand what's happening down Metro. There is such a crack in the facade in my house, it's unbelievable and that's the outside.

On the inside, all my window frames are cracking, the sides of my walls are cracking and, you

know, as I said, people could say, well, why don't you get up and move? I was born and raised here, I was one of the few people that stayed here, I didn't run away. And I helped build this community and I want to stay here, because I do love this community. But this is just, it has to stop, it really does have to stop. And I really hope you take this into consideration. Because one day I'm going to pull right through Metropolitan Avenue, ride the L train to Manhattan, but no thanks.

And I also have to tell you, last week I fell. I fell on Manhattan Avenue, I walked in the street, the tar is buckled because of the traffic and I landed there and I just fell flat on my face. Really, you know, we can stand here and talk for days, but you have to really see what's going on

firsthand to understand and appreciate what we go through.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Alison Cordero.

MS. ALISON CORDERO: Well, Mike just said, uh-oh, but I know I can't top Guido so I'm not even going to try.

I am actually here to testify on behalf of St. Nicholas instead of our Executive Director, Michael Rochford who had a family medical emergency and couldn't be here today. He will be submitting his written testimony.

A lot of the points that I would like to make and some of the ones that he will make in his written testimony, have already been made, so I will in the interest of time and because there are still other speakers to come,

not repeat them.

I would like to just emphasize the three most important points that I think have been made tonight.

One is we need a real reduction and until we have real reduction, we shouldn't even really be talking about opening one of those alternatives, it has to be concurrent. We cannot open one of those alternatives until we see a real reduction called stop (applause.)

First we need fair share. A number of us, I think about 50 of us altogether from the Bronx and Brooklyn went up to East 91st Street to take the message to Manhattan that all boroughs including Manhattan, must handle their fair share of all the residential and commercial garbage (applause.)

Now, we appreciate that this plan takes some long steps and it's been, I think we've spent the past five years talking to you, talking to DEC, talking to the administration and we appreciate that you've listened, but it's not far enough. Whoever said that there needs to be a transfer station in Lower Manhattan is right. They dredged out the one -- maybe the one good thing that 9/11 did for the City apart from everybody getting together, was that they ended up dredging out, as an emergency measure, something that would have probably taken us 25 years to get permits to do, so now you can move that stuff out of Lower Manhattan by barge. You just go to plan the site.

But that's a real -- because a lot of what we have in addition to Manhattan's commercial waste, we

have a lot of fill. And although fill is not as noxious and we don't smell it as much as the prutrescible garbage and so we haven't talked about it 'cause what we smell in all summer is the putrescible, the fill; if you go by a fill station they're probably some of the worst run stations, there is a lot of dust. And if they run by houses like Collatas like the senior citizen residence that St. Nick's operates at 609 Metropolitan Avenue, people cannot keep their windows open because they try to keep the smell out off of most of those trucks.

Some other things specifically on behalf of St. Nicholas and for the work that I do, there are some people here from the community that are immediately proximate to transfer stations because this is an old industrial

area, we do have nonconforming zoning within the industrial area, on Grattan Street, on Thames Street as well as the newly built homes on Seigal Street which Delia testified about.

In particular the White Street side of that development, the impacts are terrible. The Thames Street Station needs to be closed and closed soon. That station is in an M-1 area and literally there are trucks queuing across the street from tenement buildings with open windows; we just reconstructed one of them actually around the City program last year.

Finally, one, not two.

Once we get that reduction, then we can talk about one alternative, not two. You want a redundancy, find the redundancy somewhere else. We had ten years

of this because you didn't plan the last time. We're not going to take it again. I'm going out with Guido and that bullhorn if that happens (applause.)

We support, as you know, the use of barge or rail, their trucks and in fact I remember that Tisch was one of the people or the lead person that testified when BFI had their CSX application in front of the community board. But again, it has to come hand and hand with the reduction because the fact is that stuff is still coming in by truck and those are still a lot of trucks and we already have the damage to our streets and our infrastructure on those trucks.

Finally, things the Sanitation Department can do and you know you talk to us and many of the meetings we've had about some things you can't legally do that

involve private transfer stations and you might get sued and I'm sure in New York City there are many, many very bright lawyers and the Mayor seems to be very adept at getting pro bono legal and other advice from the best people so I'm sure somebody can figure that one out.

But there are some things, some very simple things that you can do. We're getting two more Sanitation garages and this is the part that, because we consider ourselves the community of Greenpoint, we haven't talked about a lot, but the reality is that the current siting of the garages and proposed siting of the alternatives is concentrating the traffic in East Williamsburg and Southern Greenpoint. It's not staying on Thames Avenue 'cause we know they want to build expensive condos on

Thames Avenue. It's not going up to the Greenpoint Marine Transfer Station where they A, already have the huge Newtown Creek Plant, but Mr. Klein also wants to build some condos up there we hear. So you understand why some of those things aren't happening.

But we're not going to again look at that concentration without some compensation to this community and some mitigation.

One of the things that you can do right away is you open that new garage, you better get green trucks in both garages that are going in there as a priority. Every truck that comes off of those garages needs to be a green truck.

We need to have very strict standards about operations; we need a Community Advisory Board that includes, 'cause you've got, for those people who don't know where

the transfer stations are, you got Varick one, two garages in Varick too. That is the largest Sanitation facility that makes you want to regulate a huge facility in the City of New York at this time, I believe, if you look at the size of those four buildings, it's six city blocks long. We got to deal with that, that's gonna be here. And the reality is because it has a barge and rail connection, it's probably gonna be here for the rest of our future. So we better figure out a way to make sure it operates with the least possible impact on the community, that we start doing waste prevention now.

We had a pilot waste prevention program, it lasted a year. Anyone will tell you that no program involves that amount of public education, as Shannon said, it can be up and running in a year.

We did a lot in a year. We did clothes, we did electronics, we established six composting programs which are still running, so let's -- using $80,000.

I don't know how many hours your consultants that are here, how much time that pays for, but not me, we work a little cheaper and we'll be happy to continue doing that work.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Venus Bonnet.

THE AUDIENCE: She had to leave.

MR. SZARPANSKI: Thank you.

Dolores Clay? Is Dolores here? Marva Baker? Not here?

Dr. Edward Fishkin (applause.)

MR. EDWARD FISHKIN: Thank you. I'm not a garbage expert and

1
2 I'm not a Sanitation expert, but I
3 do work, I'm a Medical Director of
4 Woodhull Hospital, a community
5 hospital for our neighborhood.
6 We're very concerned about
7 the amount of trucks and garbage
8 coming into the neighborhood. My
9 patients are penalized from living
10 in this neighborhood. It is a
11 penalty just for living in this
12 neighborhood and I'll tell you why
13 in a minute, but what I have to ask
14 that you'll agree, that everyone in
15 the room agrees that all men, all
16 women, all boys and girls are
17 created equal. Do we all agree
18 with that?
19 If you agree with that
20 premise, then why is it that the
21 hospitalization rate for children
22 in this neighborhood with asthma is
23 between 182 and 220 per 10,000?
24 If I go to the Upper West
25 Side or I go to the Upper East

1
2 Side, where we had a demonstration
3 last week, the hospitalization rate
4 for children with asthma is zero.
5 So what is that? I mean, there's
6 plenty of asthma there, but theirs'
7 is zero. And how many waste
8 transfer stations do they have?
9 Another thing, asthma is, in
10 Kansas, the asthma prevalence is
11 about seven percent for the
12 population. That's not, it's not
13 bad. In urban centers throughout
14 the country, Chicago and Los
15 Angeles, it's about 15 percent,
16 pretty high, double what it is in
17 Kansas.
18 I'll go into schools in our
19 neighborhood and I go into many
20 schools, I was in one yesterday,
21 the asthma prevalence is 25
22 percent. One out of four children
23 in the neighborhood have asthma.
24 Asthma is the number one
25 reason children come to my

1
2 emergency room. It's the number
3 one reason children get admitted to
4 my hospital. It's about the number
5 three reason adults get admitted to
6 my hospital. It's the number four
7 reason that adults come to my
8 emergency room.
9 At the end of this year, by
10 Christmas Eve, by the end of this
11 month, they'll be 5,000 asthma
12 deaths in the United States.
13 Almost 25 percent of them are going
14 to be in Brooklyn.
15 I think Brooklyn has the
16 fourth highest absolute number of
17 asthma deaths than any other city
18 in the country. It is outrageous.
19 The truck traffic is
20 phenomenal. If you stand on Union
21 Avenue or Metropolitan in the
22 summertime and you count the number
23 of trucks and these folks have done
24 this, the diesel particulate
25 emissions, the vapor emissions,

1
2 those are very powerful triggers
3 and very powerful irritants for
4 people with asthma, other
5 respiratory diseases, heart
6 disease, it's phenomenal.
7 When I look at the weather
8 in the morning to see which way the
9 wind's blowing, I know if my
10 emergency room is going to be
11 packed with people with respiratory
12 illness. That's unacceptable.
13 In the summertime when it's
14 hot, you get 5,000 diesel trucks
15 coming in daily, so you know about
16 the ground level ozone levels.
17 Also powerful stimulants for
18 respiratory illness.
19 It's not happening in other
20 neighborhoods. It's really
21 unconscionable I think, that this
22 neighborhood has to put up with
23 things that other neighborhoods
24 won't put up with.
25 I was embarrassed frankly

with the behavior of the Upper East Side last week when they said, "We don't want this stuff. We don't want any of that stuff here." It's good enough for the people here, but it's not good enough for them. But I think what we have to come out with the discussion in the City, however it ends up, is that each neighborhood at least has to recognize that they're responsible for their own stuff. At least everyone agrees (applause.)

It was shocking, I was actually shocked to see the way the Upper East Side behaved and I think if we start with the premise that we're all responsible for our own, then I think we can do something for our people in North Brooklyn and for people in our City. Thanks.

MR. SZARPANSKI: Thank you.

Carina, is it Sciangola?

CARINA SCIANGOLA: I really like this neighborhood and would like to stay here, but we can't with all the garbage and odors. On garbage collecting days, I get nervous crossing the street. I get nervous because I see all these garbage trucks zooming down the street, I think well, someone is going to get hurt.

I honestly think you should take the trucks off our street and move the garbage out by barge or rail because it will be much safer for our neighborhood.

Now, about the odor. I think that you should probably solve it because by bringing other neighborhood's garbage, people become sick. We need better odor control and more monitoring and enforcement, thanks (applause.)

MR. SZARPANSKI: Thank you for that. And how old are you?

MR. KARINA SCIANGOLA: Eight.

MR. SZARPANSKI: Thank you.

Dominick Sciangola.

MR. DOMINICK SCIANGOLA: My name is Dominick Sciangola, a member of OUTRAGE, parent of three children who attend St. Nicholas Elementary School and also represent St. Nicholas Parish.

We're sick and tired of bringing my three young children to the doctor every month to treat for their sickness. One child at this point has asthma and this is obviously a serious problem.

We need to stop this garbage waste that goes on in this neighborhood and continues to destroy the physical and mental health on our residents. We need to stop dumping on Williamsburg. We need to have a reduction in the number of transfer stations that

are in this area, 16 is way too many. We need to open the marine transfer stations, especially East 91st Street.

Do not now allow any expansion on any existing waste transfer stations. Place a cap on capacity on these existing transfer stations. And we must close the existing waste transfer stations especially if you're going to be adding the marine transfer stations in our neighborhood.

We must have more enforcement of the existing laws involving the existing transfer stations because they will continue to manage their facilities and their trucks however they want to. And the trucks especially are breaking the law when they travel on the roads being too heavy, bald tires and we have all those problems.

We must reduce the amount of truck traffic that comes down our streets especially on Metropolitan Avenue that bring noise and unbearable odors to our neighborhood and continue to speed down the street just waiting for a tragedy to happen.

We need to stop this now before someone gets hurt or possibly dies from these trucks.

We have young students and many elderly that need to cross our streets daily and the main goal of our neighborhood is to develop an equitable solid waste policy that will reduce the impacts on residents' experience on a daily basis.

Thank you.

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Council Member David Yassky (applause.)

MR. DAVID YASSKY: Thank you very much. My name is David Yassky, I represent the 33rd Council District including the neighborhood of Greenpoint and most, much of Greenpoint or most of Greenpoint and much of Williamsburg.

And listen, you know that this community and this neighborhood has suffered under the so-called interim plan like none other with 40 percent of the garbage coming through Community Board 1. This community needs relief and it needs relief desperately.

I do believe that moving from a truck-based plan to a barge-based plan holds out the promise for relief, but your solid waste management plan must be amended to guarantee and make sure that that relief will come. And

very specifically what I mean is, if a marine transfer station is to open, then an equivalent capacity in truck-based transfer stations must be closed down.

We cannot have both. We cannot have both a marine transfer station (applause) and continue with the same truck-based transfer stations that we have had here in the neighborhood for the last several years.

I also believe that you must very clearly and in a legally binding way in the plan, make sure that we won't have the problem that some marine transfer stations will open and others will not.

What I'm specifically, what I'm concerned about is how do we know that the marine transfer station we were talking about for this area won't open and then others won't -- then others won't,

either will not open or be delayed for many years, meaning that all the truck traffic will have to come here. I believe that you have to make sure that they will all open together or not at all so that the new ones here don't get permitted unless all of them do Citywide.

If this community is going to be asked to bear its share, everyone I believe has to bear their share as well.

Those are the changes, those are the two most, to me, most important changes that I hope you will all consider as is this plan moves forward.

Thank you very much.

MR. SZARPANSKI: Thank you.

Is there anyone else here who signed up to speak and wasn't called? Please come up.

Please state your name for the record.

MS. EVELYN CRUZ: So tonight I think Carina put things in perspective. We are here tonight to speak on behalf of our most vulnerable, our young children and our seniors.

My name is Evelyn Cruz and I'm here representing Congresswoman Valezquez, representing the 12th Congressional District. She's not here to join us tonight, but she's asked that I submit, read the statement on her behalf and we will be forwarding written comments.

"I thank you for the opportunity to submit the statements in response to the draft EIS regarding the Greenpoint three marine transfer station alternatives along the Newtown Creek significant maritime industrial area under the new revitalization plan.

As your representative of

New York's 12th Congressional District, which includes Brooklyn, Queens and Manhattan, I have actively been working in Washington to end the environmental injustice in my districts and nationwide.

In submitting these comments, I believe that the new SWMP will only be successful if it helps permanently reduce a significant number of land-based transfer stations in Greenpoint/Williamsburg, ensures that each of the City's boroughs, especially Manhattan, moves to self-sufficiency in disposing of its own residential and commercial waste (applause) and the DOS acknowledges that the Greenpoint MTS is inadequately sited to meet the objectives of the proposed plan.

The communities of Greenpoint and Williamsburg already

bear a disproportionate number of waste transfer stations and other hazardous waste. These neighborhoods are home to more than 60 waste transfer stations that process more than 40 percent of the entire City's garbage. 4,000 trucks loaded with tons of trash, travel the streets of these communities daily causing environmental and structural damage and contributing to a high prevalence of respiratory illnesses and other ailments among its residents.

Sadly, the waste management industry rakes it billions of dollars at the expense of the community and low-paying hazardous jobs. The waste transfer stations combined with the clustering of other polluting facilities like power plants, the Newton Creek Sewage Treatment Plant, which is

considered the largest of its kind on the East Coast. The Diamond Asphalt Plant, cement plant and existing and future roadway and bridgeway projects, are all damaging the environment and are jeopardizing the health and well being of the community.

The reopening of the MTS will be an equitable alternative to the current system which is clearly overburdening our neighborhoods. However, I strongly oppose the opening of two private marine or rail-based alternatives in Greenpoint and Williamsburg.

In addition, I oppose any expansion of capacity for private marine rail or rail-based alternatives unless there is a serious and guaranteed offset that the same waste processed by another facility will be reduced in the immediate community.

As proposed, the plan will equitably retrofit the city's entire network of MTSs to compact, containerize and export solid waste via waterways rather than by trucks. This will substantially reduce over 30,000 tons of solid waste transported daily here in the neighborhood streets.

However, for the solid waste plan to succeed, it is imperative that DOS one, guarantee a significant reduction of the number of private land-based transfer stations in Greenpoint and Williamsburg and that DOS simultaneously works to develop a plan that addresses the closing of private land-based stations and alternatives to the environmental impact study.

The plan must permanently reduce the amount of commercial waste processed in Greenpoint and

Williamsburg. Commercial waste should be processed at all MTSs. It's important that each borough become self-sufficient in managing their waste.

Failure to do so will only jeopardize the revitalization projects throughout the Greenpoint and Williamsburg community.

Manhattan needs to take care if its own garbage. DOS must assess the environmental impact of the private land-based waste transfer station as thoroughly as the impact studies of the MTS and the alternatives listed in the SWMP DEIS.

The City has the obligation to ensure the public welfare of its citizen. It is unacceptable for DOS to dodge evaluating the impact of private land-based waste transfer systems by listing them as future no-build condition

alternatives. The people have a right to know.

Lastly, assessment of impacts for the SWMP must be a full environmental impact assessment that meets the requirements of the CEQR and CEQRA. As presented, the study has a series of major analyses deficiencies in the sections related to the geographical, the geographical proximity, siting regulations and operational regulations.

It is imperative that DOS identify it has segmented its consideration of the land-based transfer system and the regulations from the EIS from the SWMP.

In its rezoning plan, The Department of City Planning has proposed the development of more than 8,000 units which will increase the population density by 20,000 over the next ten to 12

years. It is critical for the new SWMP DEIS to reanalyze the impact of the proposed plan and present a plan that really ends the dumping of garbage on these communities.

We need the city to step up its enforcement and we need to put the green back into Greenpoint.

In closing, I ask you to take into consideration the information from today's speakers and urge you to develop a better comprehensive waste management plan that not does continue to impact the Greenpoint/Williamsburg community.

Again, thank you for the opportunity to provide these comments and written comments are forthcoming. Thank you (applause.)

MR. SZARPANSKI: Thank you very much.

Is there still someone here who signed up to speak and did not

have the opportunity to do so?
I just want to remind you
that written comments can be
submitted to us until January 25th.
I thank you all for coming.
For those of you who want
copies of my statement and the
power point presentation, you can
pick them up at the front desk
here.
(Time noted: 8:21 p.m.)

C E R T I F I C A T E

STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

I, Marc Russo, a Notary Public
within and for the State of New York,
do hereby certify that the within is a
true and accurate transcript of the
proceedings taken on December 2nd,
2004. I further certify that I am not
related to any of the parties to this
action by blood or marriage and that I
am in no way interested in the outcome
of this matter.
IN WITNESS WHEREOF, I have hereunto set my
hand this 27th day of December, 2004.

_____
MARC RUSSO

THE NEW SOLID WASTE MANAGEMENT PLAN
DEIS PUBLIC HEARING
FOR THE PROPOSED HAMILTON AVENUE
CONVERTED MARINE TRANSFER STATION
HELD AT: 4201 4th Avenue
Brooklyn, New York
December 13th, 2004, 6:15 p.m.

Reported by:
MARC RUSSO
Job#: 167214

A p p e a r a n c e s:

HARRY SZARPANKSI, P.E., Assistant Commissioner, DEPARTMENT OF SANITATION, 44 Beaver Street, 12th floor, New York, New York 10004

VAUGHAN F. ARNOLD, DEPARTMENT OF SANITATION

SARAH DOLINAR, DEPARTMENT OF SANITATION

WALTER CZWARTACKY, DEPARTMENT OF SANITATION

ALSO PRESENT: JORGE FREIRE, HOWARD FREIRE
Spanish Interpreters

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MR. SZARPANSKI: Good evening everybody. My name is Harry Szarpanski, I'm Assistant Commissioner for Long Term Export with the Department of Sanitation.

With me tonight are Walter Czwartacky, Sarah Dolinar and Vaughn Arnold also with the Department. We also have with us tonight from our consulting firm of Henningson, Durham and Richardson, HDR, we have Dan Harkins and Susan Raila. HDR is the firm responsible for preparing the draft environmental impact statement for the new solid waste management plan and that's the subject of our hearing tonight.

We also have representatives from the firm of Ecology and Environment, they helped us organize this meeting.

As you know, in October of 2004, the Department of Sanitation

issued a New York City comprehensive solid waste management plan for the next 20 years. As required, the new SWMP, as we refer to it, has been submitted as a draft to the City Council.

The new SWMP is proposed to replace the current SWMP and must be approved by the Council before it can be submitted to the New York State Department of Environmental Conservation for its approval.

The new SWMP plans for the management of all of the solid waste generated in the City over the next 20 years. It is supported by a draft environmental impact statement, or draft DEIS, on which we will take comments this evening.

My comments tonight will be brief. I will make a short power point presentation before the public portion of the meeting

begins.
Copies of my statement will be available, as well as my presentation, will be available at the end of meeting.
Should you require the assistance of a Spanish interpreter, please let the individuals at the front table know.
Because the real focus of this public hearing will be your comments, if you plan to make a statement for the record, please take a moment to fill out a speaker sign up sheet and submit it to the individuals sitting at the front table. You will be assigned a number and I will call your name when it is your turn to speak.
If any elected officials are here or show up, we'll allow them to speak before the other speakers, out of turn.

We're interested in making a complete record of your comments, so please state your name clearly and slowly for the stenographer.
So that we can hear everyone who wants to speak, we ask that you keep your statements to three minutes. If you do not wish to speak, but would like to provide us with written comments, please complete a comment card that we have provided for you use.
Thank you for coming and I'll now begin the power point presentation.
(Showing slides) the draft DEIS covers many proposed actions, many proposed components in this draft EIS.
This is a public hearing on the draft comprehensive plan and both the new SWMP and the draft DEIS were distributed by the City of New York, Department of

Sanitation.
The DEIS supports the State solid waste air and marine permits that are required to construct and operate the converted MTS.
The DEIS and new SWMP are available on the DSNY website and also in six public repositories in Brooklyn for your review.
The State permit application for the converted MTS is also available for your review at these public repositories and you can also check the State website to see the progress being made by the State on reviewing these permit applications.
The City Council is also expected to hold hearings on the new SWMP in January.
There are three broad categories as part of the SWMP. Those include: Recycling, Department-managed waste and

commercial waste.
With respect to recycling, the goals are to hold down the cost of recycling and expand barge transport of recyclables; to meet the 25 percent recycling goal for the DSNY Curbside Program by 2007 and by the same date, meet a 35 percent recycling goal for all Department-managed waste.
Let's go back a slide.
The specific initiatives with respect to recycling are: To enter into a 20-year contract for metal, glass and plastic processing and marketing, and for a new recycling processing facility at the South Brooklyn Marine Terminal; enhance composting and waste prevention programs; develop an electronics recycling program and also establish a recycling education center and recycling acceptance facility at the

Gansevoort Peninsula or an alternative Manhattan site.

The Gansevoort site that we're talking about here is in Lower Manhattan on the West Side just below 14th Street.

In July of 2004, weekly Brooklyn recycling collections began again.

Hugo Neu is expected to develop a recycling processing facility on City-owned land at the 30th Street Pier in the South Brooklyn Marine Terminal.

And I just want to point out that the specifics of the Hugo Neu proposal were disclosed in the draft scoping document, and if some of you want to refer to it, it's on page 14 and 15 where it talks about that facility accepting waste primarily by barge. However, trucks from the local area from South Brooklyn will be arriving

there to deliver material from the local area.

Composting began in the fall of 2004 at Canarsie Park; full funding was given to the Brooklyn Botanic Garden for composting information programs.

With respect to Department-managed waste, the goals are: To end the use of long-haul trucks for waste transport and export more waste by barge or rail; to stabilize waste export costs; distribute waste transfer facilities throughout the City; and containerize waste to get more transport and disposal options.

Specifically the long term export program includes building four new marine transfer stations at exiting MTS sites. Those include East 91st Street in Manhattan, the North Shore MTS site in Queens and the Hamilton Avenue

and Southwest Brooklyn sites in Brooklyn.

It includes the use of private transfer stations for barge or rail export of containerized waste from the Bronx and from the Brooklyn and Queens communities once served by the Greenpoint and the South Bronx Marine Transfer Stations; also complete the construction of the Staten Island Transfer station and begin export of Staten Island waste by rail. And enter into a long-term contract for the disposal of a portion of Manhattan waste at the Essex County Resource Recovery facility in Newark, New Jersey.

With respect to commercial waste, to limit new or expanded transfer stations in communities where they are already concentrated; establish new operational regulations to reduce

noise, odor and dust at private waste transfer stations; to study how to lessen waste truck transport on truck routes though residential areas; expand barge and rail export of commercial waste from Department-contracted transfer stations; export some commercial waste through converted MTSs and offer the West 59th Street Marine Transfer Station for export of commercial waste.

This is a map that shows the various wastesheds and the four existing MTS sites that we're proposing to convert; those facilities, the containerization facilities and the privately-owned facilities is where we would contract for export with private companies.

Specifically for the Hamilton Avenue converted MTS, the wasteshed formerly served by the

Hamilton Avenue MTS, we're proposing to develop a City-owned converted MTS on the same site where waste will be placed into containers and then exported by barge.

The expected average daily throughput is approximately 1,900 tons per day of Department waste and potentially up to 1,270 tons of commercial waste per day.

Commercial waste would be accepted at this facility only during the nighttime during the hours between 8:00 p.m. and 8:00 a.m. and only putrescible waste will be accepted, not construction, demolition debris or fill material.

And as I mentioned, up to approximately 1,300 tons per day of commercial waste will be delivered at nighttime to avoid adverse noise impacts.

There would be no

significant adverse on-site noise, traffic or air quality impacts.

This shows the three Brooklyn wastesheds; the area in blue is the wasteshed that will be served by the Hamilton Avenue converted MTS.

In summary, what the draft DEIS found was that with respect to traffic, no significant adverse traffic impacts were shown with traffic signal changes in place; air quality, no significant adverse on-site or off-site impacts were shown.

With respect to odor, the environmental review showed no significant adverse odor impacts.

And noise, the facility would not exceed the noise code at the property boundary. And the Department will limit the number of commercial waste trucks accepted to only four during the 2:00 a.m. to

3:00 a.m. hour, to avoid noise impacts.

With respect to MTS permits and approvals, the converted MTS will require State, Federal and local permits and approvals. The MTS itself is subject to the Uniform Land Use Review Procedure, ULURP as a site selection for a capital project.

The converted MTS ULURP application was certified by City Planning on November 15th and the ULURP process is ongoing.

Brooklyn Community Board Seven is expected to hold meetings and a hearing to consider and vote on the ULURP application.

The converted MTS State environmental permit application, and that includes solid waste, air and marine, was submitted in November to New York State DEC. The New York State DEC will hold a

hearing and establish a public comment period on the converted MTS permit application as part of its permit review process.

This shows you how you can provide comments to us. These comments are both on the DEIS and/or the state Permit applications.

Those comments could be provided to us verbally tonight by filling out a speaker registration card. You can fill out a comment sheet and leave it with us. You can leave a written statement with us or you can mail comments to us. And we ask that you mail it so that we receive it by January 24th, 2005. They can be mailed to either myself or the consultant's address shown below.

I'll now open it up to the public.

The first speaker is Fred

Xuereb.
MR. FRED XUEREB: Thank you.
My name is Fred Xuereb, I'm a resident of 561 62nd Street. I have a couple of questions.
On East 91st Street and on West Street at 14th Street, these locations in Manhattan that you proposed, truthfully, I don't think it'll happen that it will be passed because that area I'm sure doesn't want the barges in their area up there, high-rent districts. And if they do not allow the barges to take the garbage, does that mean that the garbage trucks are going to come through the Brooklyn Battery Tunnel onto the BQE into our neighborhood?
MR. SZARPANSKI: The format of this hearing is that we listen and ask for you comments; if you have any questions we'll certainly listen and we'll respond to all

questions in writing.
MR. FRED XUEREB: Okay.
The next one will be in reference to the garbage trains right now in the Sunset Park area. I know they keep calling it Bay Ridge Yards but it's still in our area of Community Board Seven.
Right now there are garbage trains that you line up and you can see them clearly on 5th Avenue and 65th Street, that loaded container transportation.
This has been in the area for over a year that we have noticed them. Now, when you get your facilities up and running that you want to propose with the tunnel and putting the trains along that route, they're going to be sitting there as long as the trains are sitting there now?
A lot of people aren't aware that the Sanitation, how should I

say it, containerization cars are parked fully-loaded because you can see the garbage still protruding out of the doors even when it's locked. And what we want to know is it going to be a continuation when they decide to put the train yards to storing the garbage? They do it there now so I'm saying it --
MR. SZARPANSKI: Just to offer a clarification for everyone, the Department, there is no Department-managed waste that's going into containers in that area right now. I'm not sure if you're referring to the C&D Construction demolition waste or sludge but --
MR. FRED XUEREB: It's garbage.
MR. SZARPANSKI: If it's garbage it's not Department-managed waste.
MR. FRED XUEREB: It's somebody's garbage, that's what I

want to know.
Now, if it's New York City garbage that you're transporting and used to take it down to the barge, just want to know if that's it, that it's being right along the Sunset Park Yard for over a year now. Occasionally you see it by just walking across the street bridge.
And Arthur Kill, the facility I know is closed, but you could still see when you're on Route 440 that they have 20, 25 barges at any given time docked at Arthur Kill. And my question is: I don't see why Sunset Park has all facilities from all five boroughs when they could be utilizing other areas.
For instance, Arthur Kill has the facilities, they're there now to dock their barges and their tugboats, why everything has to be

bring -- brought into our area of Sunset, I can't understand this. And that's it, I'm sure there are other members that want to talk.

MR. SZARPANSKI: Thank you.

Our next speaker is Nancy Walby.

MS. NANCY WALBY: Good evening, my name is Nancy Walby. This evening I'm going to be representing the Brooklyn Solid Waste Advisory Board and I just have a few comments, we'll write them out in a more complete form at a later time.

The plans that you have for Hamilton Avenue, and am I correct this also includes the Hugo Neu facility or you're concentrating on the Hamilton Avenue?

MR. SZARPANSKI: This hearing is on the draft DEIS for the new SWMP. The SWMP includes both Hugo Neu and the MTS

facilities.

MS. NANCY WALBY: Okay. We know that your -- the plans are for moving solid waste out by rail and barge. We have always encouraged that and the proposed facilities are going to be enclosed, then we think that's a good thing.

And Hugo Neu is known for its aggressive recycling as a business and I know the SWMP has a section on enforcement of all the operations. Those are the good things.

Now having said that though, we have some questions and we would like them addressed. And one is, we're aware that Hugo Neu has other facilities in this City and they don't have a very good track record about being clean at those facilities. And we want to be assured that they will not carry those behaviors down to the 30th

Street facility that's proposed. And my question is: How can the community be assured that the operations that Hugo Neu carries out will be clean and how will that be enforced, those regulations be enforced?

Another concern we have is the truck traffic along Hamilton Avenue at the Hamilton Avenue Station. It's a very small footprint comparative -- comparing it to other footprints in the City and it has quite a large wasteshed. And what is the truck queuing, what are the plans for the trucks queuing on Hamilton Avenue, because I don't believe that there's going to be enough room on that footprint for very many trucks, I could be mistaken but I want that question answered.

And also, we have concerns about the environmental impacts

resulting from the activities I just mentioned.

In particular, air pollution, noise pollution and traffic pollution and we want to be ensured that there's going to be aggressive enforcement, by whom will there be enforcement and I understand we also have regulations will be passed, I don't know if they've been passed but we're concerned about enforcement.

And we also believe the SWMP really is not aggressive enough in its plans for composting and recycling and we would like to see the Department and even the City propose much more aggressive plans for composting, more than handing out information and recycling additional materials other than what they recycle right now.

We'll submit additional comments later. Thank you.

MR. SZARPANSKI: Thank you.
Our next speaker is Felecia Campasano.
MS. FELECIA CAMPASANO: Hi, my name is Felecia Campasano and I am the Board President of the Bay Ridge Towers. We are 811 families. Our building is located on 65th Street between 4th Avenue and Second Avenues. And we have many concerns, okay, for all our residents.
First of all, what kind of waste is actually going to be held in these containers? Also, how many times -- how many trains per day will be going under our buildings? How many barges will be going out after they're loaded and what happens when it snows and it's icy, are these trains going to be sitting under our buildings? For how many hours? For how long?
And what guarantee, we keep

hearing that it's going to be in sealed containers. What kind of guarantee do we have, I mean we're talking about from children to the elderly, our backyards are out there, we have windows that are facing both areas. And actually, I think it's a lot being asked of the residents here and other residents to really have to tolerate this, okay.
Common sense, when the weather is bad those trains are not going anyplace. And I'm sure there's only go to be X amount of barges going out per day. So we would like to know all those answers.
Thank you.
MR. SZARPANSKI: Thank you.
Our next speaker is David Rizzuto.
MR. DAVID RIZUTTO: My name is David Rizutto, I am the property

manager of the Towers of Bay Ridge which Ms. Campasano is the Board President.
In chapter ten of the final scoping document, the Department of Sanitation's new rules talks about it's not necessary to do an environmental study on the 65th Street Yard. However, chapter 2.1 and 2.3 define the 65th Street yards as an intermodal yard. And I'm trying to find a way to understand if it's an intermodal yard why there would be no need right near a waterway to do an environmental study if the plans, as I hear them, are for the 65th Street Yard are going to be what they are.
My other question was already asked this evening, but I also have that concern. My belief is that there is waste being transported underneath these

buildings on the rails at this time. It has been going on for some time. Where it's from, I don't know and it's a question that you need to answer to us.
Also I have one more question, what is the time frame of the barges, like Ms. Campasano asked, I know it has to be an expensive proposition to have barges leaving daily, how often daily, and it would only stand to reason to me that this garbage would sit for some time underneath the buildings for whatever period of time that is. And I would like an answer as to that also.
MR. SZARPANSKI: Thank you.
Our next speaker is Antonia Smith.
MS. ANTONIA SMITH: Good evening, my name is Antonia Smith.
MR. SZARPANSKI: Sorry.
MS. ANTONIA SMITH: No

problem, that's okay sweetheart.
You did state earlier that we would get what was shown on the screen was, it was definitely too much for me to write and listen at the same time.
I am from Bay Ridge Air Rights, that coop building on 65th between 4th and Third. I do have two other board members here with me which came before me.
My question sir, is what is the RFP for 65th Street? Okay. Also, how will this garbage be transferred? I understand that they say it's going to be under closed containers, but how sure can we be that they are? Who's watching all this? Who's responsible?
Second, is who is representing Bay Ridge Coops, name me the coops. Is it Sarah Gonzalez and, is it Sarah Gonzalez? Okay, I

wasn't sure about that.
Again, I think I asked the question how many trucks and trains will be going through. And has the City or the State actually conducted surveys for our buildings; keep in mind our buildings are 30 and 29 stories high, these trains are going to be going under our buildings. The structure of the building, have they been surveyed by, you know, whoever knows about buildings? Would that cause damages to our homes?
They also stated that the noise will be low and the smell will be controlled. How can we be sure of that? How do we know that these trucks coming in at two or three in the morning is not going to wake half of the neighborhood up. The rodents that's going to definitely start showing up because

of the weather, not such much because the cold weather with the snow, but come summer. We do have children playing out in the backyard, we do have elderly citizens, you know, living with us so we definitely are very, very concerned as to how this is going to have an impact on us.
And I'd definitely like to get some of that paperwork so I can take back to my shareholders and they be aware of what's going on.
That's what my concerns are.
MR. SZARPANSKI: Thank you.
Both my presentation and my statement are available at the desk out front.
Our next speaker is Nicole Tai.
MS. NICOLE TAI: Hi, my name is Nicole Tai, I'm the Chair of the Sanitation Committee for Community Board Seven and I also am the

Treasurer for Sunset Park, for Baltic Homes on Sunset Park.
And I've been a resident here for four years and have noticed that we have major, major traffic issues mainly in the form of our streets. Our streets are a complete mess and there's really no discussion on how that is going to be alleviated and how much money we're going to be receiving to fix our streets; how much effort is going to be put into fixing our streets when the trucks have to take alternative routes.
I live on an alternate truck route and we have buses going down that street that aren't supposed to be going down that street. We have tractor trailers hauling everything from trash to goods going down our streets and it's got a park -- it's got many schools and businesses and homes on that street.

And so I just wanted to ask how are you going to assure the community that these trucks are not going to be going down alternate routes then what is proposed in the EIS? Because this is just, you know, there's conditions that cannot be predicted and whether it's the weather or whether it's the street closure or, you know, water running down a street, so that's something I'd like to have addressed.

Another issue which I think is the most intense and major issue for this community is that we have four facilities proposed for Community Board Seven. The 65th Street intermodal yard will, is basically in Sunset Park. And so we consider having four facilities in our neighborhood to be an overburden on our community and it's been voiced by numerous board

members and community members that this is just, this is unacceptable. And so are there alternatives to having these, all four of these facilities in our neighborhood and if there are not, how can we be assured that the environmental impact statements have been targeted to address all four of these areas being in one neighborhood.

I noticed each one is dealt with individually and there hasn't been an overall impact of all of these facilities being in one area. So each -- each, the Hamilton Avenue and the recycling plant have all been dealt with individually, but there haven't been the cumulative impact set and developed to tell us what's going on when all the trucks for the recycling facility and for the waste facility are coming in all at the same time,

they're all going to be going, using the same streets. And if those streets are full, they're going to be coming down everybody else's street and they're all residential streets.

So that's a major issue we have. And I know that some other board members here are going to talk about the other conditions that will result in having four facilities in our neighborhood such as health and impasse so I'll let them talk about it.

But one of the major issues that we have as well is that we only received three documents, we did not receive the SWMP, we did not receive any of the appendices, we only received the three, the three out of the six documents.

THE AUDIENCE: There's more than that. I've got a list.

MS. NICOLE TAI: Yeah, so

you know, we're very disappointed that we haven't received those documents. I've been downloading most everything I can from on line but my computer can only handle so much.

So for us, this is a real issue and we're going to need more time to evaluate this as a board. So we would appreciate those documents being sent to our district manager.

Okay, I'll try and make this brief. Okay, the 56th Street barge staging area, want to know if there's a potential for that site to be a source of truck traffic. It says it's just for barges only but we want assurances that it is only for barges or else is there potential that there will be truck traffic going to those places to load containers or garbage on to the barges as well as the 65th

Street intermodal yard as well. So we would like those two questions answered.

And of course the major issue which Fred also brought up is what's going to happen if the Manhattan facilities, both the MTS and the recycling acceptance center are not approved, which is highly likely, so does that mean that everything is going to be trucked into our neighborhood from Manhattan or will it be trucked to New Jersey or what are the alternatives there? And then what is the date? Do you, I don't know if you can answer this now, what is the date that the Brooklyn MRF is supposed to open? The recycling facility, do you know? So the Manhattan one is seven years down the road.

MR. SZARPANSKI: I think we've estimated 2007 for that

facility.

MS. NICOLE TAI: Okay, so it would be before the Manhattan facility, okay. So as such, there would be a gap there and we probably would have trucks for about, what that would be, about five years coming into our neighborhood from Manhattan. No?

MR. CZWARTACKY: If you go back, if you go back and review; if you go back and review the document, you'll have trucks that will either continue their process of going to the Bronx, dumping it into barges there and then it will be barged to Brooklyn or drive to New Jersey where it will be put into barges and barged to Brooklyn.

MS. NICOLE: Okay.

MR. CZWARTACKY: It's not part of the plan to drive Manhattan waste -- Manhattan recyclable to Brooklyn.

MS. NICOLE TAI: Okay. And finally, the chapter on waste prevention and recycling in the SWMP is just, it's just pathetic. This is a City of eight million people and there's nothing proposed in there that's new. And I've SEEN so much better done by cities in Texas for instance, New York city should be able to do much better and I'm extremely disappointed and I'm just, I cannot believe that there's nothing in there about reuse, it's just called waste prevention recycling. That is just unacceptable.

And I mean, there are, there are facilities here in the City that are doing a wondrous jobs and they aren't even mentioned there and they're not even talked about as a potential source of acceptance of materials. And there's no discussion on a potential

infrastructure for the use; there is discussion a little bit on waste prevention initiatives that are education-based but, nothing, nothing beyond that and no numbers, no dollar amounts. And the fact that we're only going to have two recycling education centers is, I mean, who's going -- some kids in Brooklyn don't ever leave Brooklyn, they wouldn't go to Manhattan for, you know, recycling education. And I mean, certainly couldn't handle, you know, every class in Brooklyn going to those facilities. So there needs to be something community board-based as far as education is concerned.

We need to have money to put into that to help us reduce the burden of our streets for this trash. We can reduce our waste and prevent a lot of things from happening in the first place.

We've got 20 years do to it and I mean I know that there are some brilliant minds here in New York so we should be able to tap into those people and actually get some numbers here and get some real information for the people on how to reuse, how to recycle and how to prevent waste. And if that means legislation, I think that that should be talked about too. I don't think it's inappropriate to talk about that in our City government, it just seems ludicrous that our City Government is not talking about legislating in some sort of waste prevention.

Thank you.

MR. SZARPANSKI: (Applause.)

Thank you.

Our next speaker is Gloria Flora Nicolich.

MS. GLORIA FLORA NICOLICH: My name is Gloria Flora Nicolich

and I'm a homeowner. I lived here since 19 -- October the 15th, 1959, I moved into 464 45th Street. And the neighborhood has been going down ever since. It looks as if I might -- you know, I pass, go through Richmond and burn everything up.

He said we have 20 years, I don't have 20 years, I'm 81 years old, I most certainly do not have 20 years.

I would like to see -- I am, the 4th of July 19 -- in the year 2004 I became 81.

I have lived here a long time. When I came here, this was a beautiful area, it's a lot of shipping we had on the coast. My husband worked on a tug, it was beautiful.

As things went on, Sunset Park has become a dumping ground for just about everything if you

come into the area. I worked very, very hard on a program that we had for the sledge plant, we didn't want that either. And all the reason why we didn't want that are the same as we why we don't want this.

First of all, the Sunset Park area between 17th Street and 65th Street from the waterfront to 11th Avenue has always been a dumping ground. Why? While other areas of Brooklyn and Manhattan, absolutely Manhattan, like Park Slope, Windsor Terrace, Carroll Gardens and the so forth, have ridden themselves of incursions detrimental to residential living, we haven't been able to do that. And one of the reasons why we haven't been able to do that is because we have people here who are willing to take the crap.

Well, after all these years,

I'm not willing to take the crap anymore (applause.)

No matter how you slice it, recycling is not clean, even if you promise me that you're going to have a beautiful, sterile white building there and that the trucks are going to go into that building and the doors are going to close down behind them, you know, that's not going to happen. There's going to be dirt and there's going to be filth and there's going to be vermin and there's going to be rats.

I see what happens now with the recycling on the sidewalk. I'm very, very careful, I make sure that all my stuff is put in the right color bags every time, certain things have to be in blue, certain things have to be in white and then people come along and rustle threw the things so they can

see if there's a can or something. The next morning we wake up, the whole sidewalk is filthy. They throw papers on our stoops. We come down, whole street is filthy. I'm tired of living like that. And I think this is just going to be one more thing that's going to hurt our neighborhood. More trucks are going to bring more crowds, more pollution, more danger for our children and seniors.

There's a senior center, senior citizen center here with many old people who come up on little, on wheelchairs. There are other schools around here. We have a nursing home up near Lutheran Medical. Sick people. The same problems that we had when we said we didn't want the sledge are the same for you.

There's going to be vermin, there's going to be pollution,

there's going to be trucks, it's hard enough to cross the street now. This is the most crowed area I've ever seen in my life and little old people can't get across the street in time for the lights to change.

I was nearly killed the other day and I'm very careful because I can't walk well.

What are you doing to us? I'm not even going to -- you don't -- you're not going to answer any questions today, I'm not even asking you questions and I don't think the people in this room care about your answers, because you had no choice, you have to answer what is on page six, line four, word two. This is your job, you're not for us so I'm going to tell and I really shouldn't be speaking for the entire neighborhood, but I think I'm older than anybody in

this room and I've been here longer than anybody in this neighborhood and I also, by the way, represent the American Merchant Marine Veterans Organization, I'm their public relations director and that's from coast to coast. And one of my aims was to build up the waterfront for maritime use because we really need it not wearing white -- I can go into a lot of things but I'm going to tell you, we don't want these plants. One is enough, you're trying to shove five down our throats, no, we do not want it. We don't want it because it will bring in traffic. We don't want it because it will bring in vermin. We don't want it because it'll bring in dirt. We don't want it because we have asthmatic kids here. We don't want it because have a lot of schools here. We don't want it because we have

senior citizens here. We don't want it, and if we have to stand up and kick it, we'll do that too (applause.)

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Edward Wade.

MR. EDWARD WADE: I was here in June and we had three large volumes on the first plan you had. And in June you said the City was going to share. Every neighborhood, there was going to be three marine transfer stations in Manhattan, two in Brooklyn, the Bronx, Queens, it was going to be complete, the whole City was going to share it.

Well, we're not sharing because it's all changed. But while we were here in June we knew it wasn't going to be what it was because Hugo Neu already had

submitted their, with the RFP to do the 30th Street for a complete, all the recycling, all the recycling in the City's going to 30th Street.

But now we got a marine transfer station on Hamilton Avenue and according to your records, your records, not my records, it's going to be one of the busiest because you see, you don't put down the hours of East 91st Street.

I heard it's going to be from ten at night to 6:00 in the morning because they don't want to disturb the neighbors, and it's not going to take regular garbage, just commercial. There's all kinds of stories but according to your records, East 91st Street is gonna have 130 trucks a day, but Hamilton Avenue's going to have 267. So it means -- it means that in one day it's going be open longer. And I know it's going to be seven days,

24 hours and it's going to take the commercial garbage.

And the thing you had on the screen, you're going to stop commercial people from coming at two in morning, that's a joke. How are you -- who's going to stand out there and stop a commercial garbage truck from going down Hamilton Avenue? There would be a fight on the street.

And Harry, Harry, I don't want to keep you awake, but you missed it, all the -- all of the recycling from Manhattan's coming here. In your records, your records, not my records, on page 87 of 120, the Manhattan curbside recycling is going to show 60 trucks everyday down to Hugo Neu, but Gansevoort's supposed to take the rest. Gansevoort isn't going to exist because today the West Side Plan went through and Governor

Pataki doesn't want anything on the West Side but parkland so Gansevoort isn't going to exist but that's your problem.

But let's get back to Hamilton Avenue. Hamilton Avenue's going to be a disaster, it's going to be truck, truck, truck. Trucks all day, all night, seven days a week. It's going to take trucks from every borough.

Now, 30th Street, 30th Street, they came down, Hugo Neu said they're gonna get trucks, 20 a day. They came here, they sat right where you are and they said, it's going to be a very clean, neat plant, the City's gonna build them a plant. But when I went to Planning Board 11, 'cause we don't have -- we don't have the books, you didn't bring the books here. I had to go to Planning Board 11 in the library to check the books.

And not only don't you have books, but the plans for the four, four facilities in Board Seven, there's no other planning board in the City getting four facilities but us.

30th Street is going to have, as you come in, there's no trucks going to be there, right, it's gonna have two in-the-ground truck weighing stations, 80 feet long. Why do you need a truck weighing station if you don't have any trucks?.

Then by the barge area you're gonna have a tipping area for trucks. Well, if there's no trucks, why do you need a tipping area to load them on barges?

Then on the other side, the north side, there's a truck loading section so they can load trucks overhead. So for a place with no trucks, and in chapter 17 dash one of a section, you didn't deliver

here. You said Brooklyn would be, get all the trucks -- all the recycling from Brooklyn would travel to 30th Street by trucks, although there's no places in Brooklyn, there's no piers to take these things for barge in Brooklyn. Certainly, there's none in Queens so we'll probably get Queens.

Also, we're gonna get all the trucks in Brooklyn and the Manhattan curbside in this, in chapter 17 of the Manhattan curbside recyclable to the 30th Street Pier and South Brooklyn Marine Terminal, Chapter 17 of your book so that takes care of 30th Street.

Now, down to 52nd Street, you're going rebuild a pier on 52nd Street. You gonna -- there was a pier there to load garbage to take it to Great Kills years ago. You're going build a new pier

because the old pier were all eaten up.

Now I couldn't -- I couldn't get the -- I couldn't bring the books here because I had to make notes, since you didn't bring the books here. And the plans weren't delivered here either. The pier on 52nd Street, now why build a pier, a concrete pier on 500 feet long, 60 feet wide, just to tie up a barge?

Now we have barge people here, oil barges, they build cluster piers just to tie them up. When you build a pier, concrete pier 60 feet wide, it's for trucks to go around and can turn around. That's the function of a concrete 60-foot pier. And that pier is going to be down a very narrow street so what you can do there and in your plan too you said it's a backup for Hamilton Avenue. But

you don't go any further. A back up for Hamilton Avenue. In your own -- this is your plan right here (indicating) and in Planning Board 11, which I had to go to and look at their books, the pier on 52nd Street is a back up for Hamilton Avenue.

Now we get down to 65th. 65th Street is rail yard, a big rail yard, it's 33 acres of rail and it's got 12 acres of tracks so you can store a lot of stuff but in your plan, you're gonna take part of the stuff from Hamilton Avenue and containerize, bring it down here by barge.

Now, when tugs cost ten or 20 thousand dollars an hour to rent, it's good to bring it by barge, but when it gets there, there's no way to get it off the barges because there's no cranes down there, there's no overhead

cranes to lift them off. So I don't know how you're going to get these off the barges.

The whole plan is terrible for us because we're gonna get four dirty, rotten facilities which we're certainly going to get trucks. You're going to get the containers from Hamilton Avenue and 65th, you're gonna truck them down there, I know what's gonna happen, and you know what's gonna happen, but you weren't honest with us in the beginning and there's no reason you should be honest now.

But tonight before I came here I was -- I said, gee, maybe he'll be honest and above word, you know it's not -- let me just make a comment. I got my dictionary out and I looked up three words and you can decide what we are.

Sucker: One who is easily deceived, a gullable person.

Now we might be suckers and you might look at us like suckers but we're not.

Victims: We certainly are victims. Someone how is harmed by another. Well, the other is you people.

One who is harmed and made hurt from an act of volun -- voluntary act.

And the worst one, the worse one we can be and that I don't see our elected officials here tonight is a fool: One who is deficient in judgement. Well, we're not deficient in judgement and your plan hurts us, it hurts every man, women and child in this community. From Hugo New to the plant to Hamilton Avenue to the pier, to 65th Street and I, please share it with someone else because we don't want every piece of garbage of Manhattan, Brooklyn and Queens to

come here and that's what you designed this for (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Timothy Logan.

MR. TIMOTHY LOGAN: Hi, good evening. I'm here representing several different groups so I just want to make sure that I delineate statements.

Anything that refers specifically to export or marine transfer stations or land-based transfer stations can be attributed to the Organization of Waterfront Neighborhoods.

The other statements that I make can be attributed to the Zero Waste cam -- New York City Zero Waste Campaign and all of it can be attributed to the Consumer Policy Institute with the Consumers Union, for who I am consulting.

I'm going trying to give the

glass half full tonight, see what we can do. It's tough given what I've heard and what I've seen.

The failure to include the study of siting and regulation regs in the DEIS as well as plan for the phasing out of truck-based land transfer stations in this document, appears to be a clear example of segmentation, it's extremely problematic as we look at the various facilities that have been talked about tonight.

They don't begin to address the truck-based transfer stations that are close to the Hamilton Avenue facility or for that matter, in on 50th Street, 51st Street, in that area.

So without addressing those, that would add additional impacts. The findings of no significant adverse impacts notwithstanding the DEIS, appear to have neglected

consideration in this community of the Gowanus redecking and the failure to plan for the closure again, of land-based transfer stations. Also, this litany of different options within the neighborhood is problematic.

If the plan is that you're going to use the Hamilton Avenue Marine Transfer Station, then why do you put these other things in there? It leaves a dubious problem for the community to address. They have to look at all of these different areas.

If the plan is that you're using the Hamilton Avenue Marine Transfer Station, then the other phase needn't have been in there. I would hope that that would be the plan and that alone.

I'd like to recognize the movement forward that DSNY made with the Hugo Neu recycling

facility and what it represents. It's something that was in the 1992 solid waste management plan, not that particular site, but rather the concept, something that has been proposed by advocates throughout the City since that time. And its coming to realization is quite impressive but there's certain concerns that have been called to attention regarding truck traffic, including dubious or conflicting numbers of truck trips that have been put forward both by public affairs of DSNY and the Economic Development Corporation. There's somewhat significant disparity around those numbers, not to mention numbers that have been mentioned earlier tonight about Manhattan trucks.

That should be very clear, and its failure to provide clarity for the people here tonight is

problematic.

Also, it's problematic to suggest that trucks would be coming from, and you have the map 'cause you created it, all of these areas to the Hamilton Avenue (indicating) or rather to the Hugo Neu facility rather than strictly one-third of Brooklyn coming by truck to the Hugo Neu Facility. It would make sense that one-third might come by trucks because the Hamilton Avenue facility is so close, but that two-thirds should be coming from the other barge facilities within Brooklyn rather than coming by truck.

Also the lack of additional infrastructure planned for diversion from waste prevention and reuse, recycling and composting in this plan is problematic. The only significant plan that was made for infrastructure here was the Hugo

Neu Facility; if you're doing an EIS, you have to look at what environmental impacts there are for the various possibilities. And the possibilities were not considered. The only possibility that appears to be considered primarily was export of waste.

What is waste? Waste is the various useful things that we purchased and utilized and we're now trying to dispose of some portion of them.

When DSNY was first created a hundred years ago or so, you were primarily utilized for composting because there were any number of different scrap dealers that were picking up everything else. Where is all of that?

The DEIS fails to fully or even significantly consider the broader concept of zero waste and the inclusive disciplines of waste

prevention, reuse, recycling and composting.

I'd like to support the export of Manhattan's commercial waste through transfer stations in that borough to reduce the impact of commercial waste transfer stations on neighborhoods in this borough or the other boroughs in New York City other than Manhattan, they need to deal with their own share of waste.

I'd like to strongly support the goal of 70 percent diversion by 2015 which is mentioned in the solid waste management plan and it's consistent with a goal for zero waste that the public has put forward on numerous occasions now and was submitted in comments during the scoping for the DEIS, but apparently not particularly considered. However, the plan provides for no detail on how

you're going to achieve that goal.
I'd like to support the reinstatement of the Botanical Gardens Composting Programs but again, call greater attention to the composting of food waste that's critical to achieving aggressive diversion rates, that not addressed.
The commercial waste section of the plan does pay any attention to waste prevention or recycling of commercial waste. The City will not be able to meet this combined 70 percent diversion rate without addressing commercial and construction and demolition debris streams.
The plans states an intention to increase transfer station fees on commercial waste. Those increased revenues should be dedicated to the commercial waste prevention and recycling programs

as well as I mentioned composting programs.
The plan should include an investigation of commercial waste franchising. This might be a way to make sure that we don't have all of these trucks running rampant on the different streets when they're given a specific route that they're only allowed contractually to drive, that might be an opportunity.
Franchising schemes should be exempt from recycling recyclables to provide maximum competition in the recycling markets.
The plan states that the City supports Federal legislation to establish extender producer responsibility for electronic waste. Nice, but then again, the City should be pursuing local EPR legislation beyond electronic waste

and the Administration has every opportunity within their plan to put forward this kind of legislation to propose it, not to wait on the City Council to do such a thing.
If you are the planning agency responsible for solid waste in this City, why are you stepping back and saying we'd like it if the Feds did something? None of us are blind here, we've seen what's happened recently in the Federal elections, we do not expect anything particularly progressive to happen at the Federal level.
Failure to address this on a local level is problematic. The plan should include the City's support for expanding the State's Bottle Bill as a means for increasing the recycling of beverage containers. And incidentally, the Bigger Better

Bottle Bill that's been proposed might also provide up to, I've heard varying numbers, but up to about $75 million in local revenues for New York City, that could be move towards these very issues that you've otherwise neglected.
Plastic packaging is clearly a problem that must be addressed through policy.
I'd like to encourage the City to implement programs and policies to control plastic waste and eventually prohibit the use of plastic that are not recycled and/or not compostable assuming that the City moves forward with composting programs.
I'd like to mention that while it is wise for the City to seek alternative technology to manage its waste, many of the technologies that are proposed, particularly the combustion

technologies, are black box approaches or new versions of incineration, things that have already been lost at both the policy level and at the science level and at the economic level within the City, and must be stopped now. They should have been stopped when they were otherwise walked away from back in '96 by state legislation.

And finally, not quite finally, anaerobic digestion should be pursued immediately and aggressively because it would enable the organic food waste string to be recovered as a available composting and could generate energy as well.

In sum, the lack of transparency in this whole process, particularly in the documents, the failure to get them to various different communities, as well as

get them all up on line at the same time, as well as presenting an executive summary of the solid waste management plan before the document is actually even prepared, is continuing to prove a systemic shortcoming of the Department of Sanitation.

I look forward to changes; I'd like to believe that the glass if half full, let's see what we can do (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is, I apologize if I don't state it correctly, Dyhalma Anaya. Was I close?

MS. DYHALMA ANAYA: No.

Hi, good evening, my name is Dyhalma Anaya and I'm a life-long resident of Sunset Park.

The H is silent in Spanish.

So I'm also a co-founder of Youth Justice and I'm the lead

youth organizer at the United Puerto Rican Organization of Sunset Park, commonly known as UPROS.

And our neighborhood is a community of color and is heavily burdened with environmental injustices. It's effecting our children and the way we live.

I live two blocks away from the waste transfer station and my mom can't take a deep breath without wheezing and my cousin has been in and out the hospital with asthma for, since she was three months old. And I can't even open my windows without my house smelling like a truck or garbage or being full of dust.

We shouldn't live like this. All we ask is for equality, for the same rights as privileged communities have. All we ask is that Manhattan will take its fair share of garbage. We already have

the Gowanus Expressway to effect the air we breathe. You can't stop -- you can't stop this, you have the power to reduce my mom's asthma attacks and make it easier for my cousin and family to breathe by bringing the garbage through barges so that the trucks won't go through our neighborhood and by retrofitting the Hamilton Avenue Marine Transfer Station; the Hamilton Avenue station is on water anyway, to open that one and to close the one on 50th Street down the block.

Help us make Sunset Park an easier place to breathe. Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Irene Shen.

MS. IRENE SHEN: Hi, good evening, my name is Irene Shen and I'm also a member of UPROS, the

same organization as Dyhalma.
We do a lot of environmental justice work in Southwest Brooklyn and we work to empower the young people in the community and the families and to help develop eco-friendly, environmentally-sound and less hazardous environment in Sunset Park.
And, well, I came with a bunch of things written down that I wanted to say, but some of that is kind of changing as I'm hearing things, and I apologize for coming late, because I, you know, I think I missed some of the presentation and, you know, unfortunately that's what happens in an under-resourced nonprofits.
But we're a community that is very densely populated, it's a low-income community of color representing Latinos, Asians, Arabs, people of African heritage

and 24 percent of the community are residents who actually work in the community as well as live here so people are in this environment all the time.
We're concerned with truck traffic, we've been concerned with truck traffic. We are part of the Gowanus Expressway Committee to actually take down the Gowanus to alleviate some of that pollution.
We've involved with a number of environmentally, eco-friendly projects to actually make Sunset Park a better place to live so that are elders and our children and our working members of the community can actually survive here, you know, and have a healthy environment to be in.
UPROS, our organization is also a member of OHM, the Organization of Waterfront Neighborhoods that Timothy was

mentioning earlier and we have been involved with the process of the solid waste management plan for a while. And in that, you know, we've been very pleased that the Mayor has been in support of the SWMP and pushing it forward and, you know, and the bigger picture of environmental justice and in solidarity with our sister communities around the City, we believe that moving from a land-based transfer station into a water-based marine transfer station is a good move and it is move that we want to be in support of, because it takes the trucks off -- the trucks off our streets and brings garbage in through barges.
I came with the understanding that the idea was to retrofit and convert the marine transfer stations at Hamilton or to create a marine transfer station at

Hamilton Ave and with that, we would also be expecting that the waste transfer station, the land-based transfer station at 50th Street would be shut down so we would be reducing the truck traffic. And also that the M-1 zones we're not going to take anymore, any more proposed land-based transfer stations as we've been hearing rumblings about.
So we, UPROS, does support the conversion and the retrofitting of a marine-based transfer station if that means that the garbage is containerized and moved by barges exclusively and that it reduces truck traffic explicitly in the community.
And if it means that, you know, there aren't going to be additional sitings or other options for alternative sites in the community because, you know, as

people have mentioned, we are taking on Hugo Neu, we are in support of a recycling process in the City for a wider understanding of environmentally-sound practices, but we also are very concerned with what's going to happen in Sunset Park and the future of the generations to come.

And if that means that barging the garbage in is the option and is the exclusive and explicit option that we're looking at, while land-based transfer stations and truck traffic is reduced, then we are in support of that. If that isn't what that means, then I guess there's a big question mark right now.

And, you know, we are in coalition with lots of other community-based organizations around the neighborhood so we do have a voice and we do have a lot

of power and we have been out there, you know, taking on 91st Street in Manhattan and taking on Gansevoort and expecting that they will do what the SWMP plans on doing and we expect that the City and the officials on top of this to actually back that and to make sure that that happens so that the SWMP can move ahead and make sure that Sunset Park is protected. Thanks (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Jeremy Laufer.

MR. JEREMY LAUFER: Thanks.

Good evening, my name is Jeremy Laufer I'm the District Manager of Community Board Seven. I am stating that only for identity purposes since our board has not taken a position as of yet on the solid waste management plan.

However, I'd like to give

you my personal feelings about this and some of the observations that I've made here at the office. And I'd like to begin my testimony tonight by juxtaposing two quotes, one from our Mayor which is, "One City, one standard" which he said not too long ago in the 2001 campaign. And the other is from somebody I seem to be quoting a lot lately, George Orwell which is, "All animals are created equal, but some are more equal than others."

Let me start by saying that Mayor Guliani's plan, which I thought was a terrible plan, still called for each borough to handle its own garbage, one City, one standard. Unfortunately, in this plan I see garbage coming from Manhattan into Brooklyn, but no garbage going from Brooklyn into Manhattan.

One city, one standard or

some are more equal than others?

I'd also like to say that -- well, let me say that Mayor Bloomberg has promised one City, one standard and Mayor Bloomberg was very nice to fight against the power plant in Williamsburg because they're looking to put Olympic facilities there.

When it came to the power plant in Sunset Park, Mayor Bloomberg's comments were: "(Indicating)" I wish I had a cricket sound effect.

When it came to putting adult entertainment facilities in communities, Mayor Bloomberg went to a town hall meeting in the West Village where they had one of these businesses. Mayor Bloomberg told them that you should not have this type of facility in your community. We have at least 20 of these in this community, Mayor Bloomberg has

said about this in our community.
THE AUDIENCE: (Making sounds.)
MR. JEREMY LAUFER: Thank you.
One City, one standard or some are more equal than others?
We have been asked, and I say asked even though it seems like we're being told, to host four facilities. I know of no other community board that's being asked to host four facilities.
Currently we have, also have, when you talk about Department of Sanitation facilities, we have our own BK7 garbage, but we also house BK10's garbage, our neighbor's facilities.
One City, one standard or some are more equal than others?
We've been told tonight that, and it's been mentioned before, that there have been a

number of volumes missing from what we should have expected. We have not received the solid waste management plan.
Our DEIS was missing section 17 which is the 30th Street facility. We have not received the 65th Street rail yard RFP and we only learned last week that the ULURP application has been certified. We have never received the notice that it was certified. I'm told tonight that it was on November 15th. We have 60 days in which to act on that, 30 of those days are gone already.
We were also told that there will not be an EIS for the 52nd Street -- for the 65th Street rail yards. These are two facilities in our community that will be hauling garbage in some form or another.
It seems like the plan was created in a vacuum because it

doesn't address or because there's no EIS for those facilities. It doesn't address the fact that the 52nd Street facility is going to have a major public park sited right next to it and I know the people from Bay Ridge Towers here will tell you that there should be, and even though it's not our community, that there should be an EIS for impact on the housing around the rail yard.
But we're talking about a like piece here and a little piece there, a study here and a study there. I haven't heard anything about cumulative impact on this community.
I think I would support all the comments that have been made this evening. People have been talking about asthma and respiratory disease, but when you don't study the cumulative impact

of four facilities on this community, you're not giving us the full picture.
The plan itself will not be reducing the commercial facilities in this community of which we receive 1,000 tons of putrescible garbage a day, because we're not seen as a community that takes a great deal of garbage already.
When I asked in September the Department of Sanitation, how close is our commercial facility to residential properties, I was told well, it's about 400 feet. I said is it about 400 feet? Which I believe is the law, or is it a little less or a little more than 400 feet? There was no answer in September, there's no answer today.
I have a feeling that that facility is there illegally and I think it's too close to people's homes.

Hugo Neu, I'll support the comments that have been made tonight, but we've told 25 trucks will be coming to that facility. That seems very strange and very low for what Brooklyn has alone. And I'll even assume that every other borough will get their garbage here by barge, but Brooklyn alone, are we to believe that Sanitation trucks from central Brooklyn are going to go to another point in Brooklyn, drop off their garbage on a barge there and then send it to us, or is it more likely that they're going to come directly here?

I think 25 trucks is a very low estimate. And again, I said it seems like the plans were drawn up in a vacuum. I haven't heard anything about, you know, we've been told well, you know, there won't be much of an impact with

trucks queuing, I haven't heard anything about the drawbridge at Hamilton Avenue which is going to be replaced at the same time the Hamilton Avenue MTS is supposed to come on line. How are the trucks going to get there during the construction phase? Hasn't been addressed.

So once again, one city, one standard, or some are more equal than others? Why are we so blessed to be more equal than others? (Applause.)

MR. SZARPANSKI: Before we go on to the next speaker, just a couple of clarifications.

If indeed you did not get some of the sections in the draft EIS I do apologize and I wish you had told us that because we would have gotten that to you immediately.

With respect to the ULURP

certification, again, I apologize if you didn't get notice but it's not the Department of Sanitation that notifies the community board, it's City Planning and we will make sure tomorrow morning that we let them know that you haven't received it.

MR. JEREMY LAUFER: We only found out it was certified last week from EDC, not even City Planning.

MR. SZARPANSKI: Well, that's very strange.

THE AUDIENCE: No, it's not, it's usual.

MR. SZARPANSKI: Our next speaker is Chaplain Viviania Hernandez.

MS. CHAPLAIN VIVIANIA HERNANDEZ: My name is Chaplain Viviania Hernandez; if you will permit me the opportunity to at least move around a little with

this (indicating.)

First I'd like to show you what we have to deal with in air quality in our neighborhood (indicating.)

This has just been in front of my yard since Thanksgiving and it's underneath an overhang.

This chair, for all to see, all right, that chair has been on my back porch and the overhang, the awning is over what, three, four feet. There's no way that this gets access from the outside, this is underneath an awning, okay.

Excuse me again. This is a proposed plan (handing) that was supposed to happen for Sunset Park. I'll show it to the audience first, to my fellow residents and ones in the community.

I believe that there's no such things as the barges in this plan, okay. No barges, cleaner

air, things like that and I humbly and respectfully submit this to you, okay.

This is also a Sunset Park plans for the future and I highlighted some of the items that I'll be addressing

So because of these things and what I'm about to express, I personally, as a resident of Sunset Park, oppose the sites that you plan to bring to our area. And that has nothing to do personally with you as individuals but it's the fact of quality of life in this area.

And we are finally moving towards an area that will be much more healthy for our residents and visibly beautiful for our residents. And for you to perpetrate four stations in Sunset Park is unconscionable.

We contend that Sunset Park

is being asked to shoulder a disproportionate amount of the recycling responsibilities of the City. We feel that each borough or pair of boroughs should be responsible for recycling the volume generated by their own residents.

Number two, there is an ongoing community development project, 197A to revitalize the waterfront. That's how thick this plan is, sir and ma'am. This has been worked on for many, many years and it's finally coming towards funding.

What you propose will be in direct opposition to that plan. Because like I said, in the pictures, there are no barges, there are no waste transfer stations. The trucks that you will be bringing in will totally disrupt what's going to happen there.

We have State support for the 197 plan so it's not just a community effort, it's something that the State wants to bring into this area to revitalize an area that's been deteriorating just like my friend here had mentioned to you.

So on three, the constant barges and truck traffic will be also in opposition to the 197 plan to transform this remarkable site into an asset that Sunset Park has long awaited.

After 40 years of isolation from the waterfront, Sunset Park residents are poised to return to the park they will celebrate for years to come.

Even with the different things that you propose, when this park is being worked on, there will be even additional traffic on top of that, sir and it will definitely

be a detriment to the neighborhood.

The Sunset Park area has also been identified as having a poor image due to a poor working environment and if you walk around Sunset Park in the area of Third Avenue, you will be -- if you hadn't had a bad day, you will have a bad day. And we're hoping that as we tear down the Gowanus, as we build this park, we will have a new lease on life for ourselves and for children, and for residents that have been here so very long.

Okay, we have deteriorated roadbeds as has been stated. Sunset Park has antiquated and deteriorated road infrastructure that impedes freight movement as well as technological upgrades. So as it is, we are bearing enough of the load, we don't need additional.

Traffic congestion it says on the elevated highway and also

along Third Avenue below, constrains vehicular and pedestrian movement in the area and results in high levels of air pollution, threatening the health of the surrounding community. And you have eyewitness testimony from this young lady. Her children with asthma, there's a lot of pieces that are not reported and we're dealing with that.

If you can imagine that on my chairs, that's what we're breathing everyday.

Children and adults who will start enjoying this park will also be in danger. The crossings will be perilous.

We also have, let's see, to encourage development in our area that will be minimal to the environmental burden on adjacent residential communities. How can this proposition reduce the bad

environmental burden on us? I say it will not.

And my fifth point and I thank you very much for being so kind to hear all of us, is that if we accept this now, we've accepted many other things before, I don't believe it's going to be the last. And we have come to a point where we have to, as a community, to stand up and say, "No more."

I thank you very much (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Judd Schechtman from the Brooklyn Borough President's office.

MR. JUDD SCHECHTMAN: Thank you very much.

My name is Judd Schechtman and I'm the environmental and land use specialist with Borough President Marty Markowtiz. Marty couldn't be here tonight and did

ask me to allow you to have me read the testimony into the record and for the community.

First, I'm sure if he were here, he would want to say that he really feels for this community and he agrees largely with what the residents have been saying.

Marty came out right after the Hugo Neu facility was announced as having issues with the fact that Brooklyn again is going to be unfairly taking the burden of the City's waste.

In fact, we all know the statistics that prove the case, that in borough-wide, 60 percent of the waste throughput or with the current system is handled by Brooklyn. And one thing I'm sure that the community hasn't done is if you aggregate Community District Six and Seven, 'cause the location that we're talking about, Hamilton

Avenue, is very close to the border of Community District Six. And just currently both those community districts have three transfer stations and that's a total permitted capacity of 2028 tons per day which is about four percent of the City's waste stream; while the two community districts have only about 2.7 percent of the population so already they're handling more than their fair share.

And unfortunately the new plan, the new solid waste management plan again, Brooklyn is going to be the centerpiece of the waste system. And the borough as a whole is proposed for three marine transfer stations, and of course the Hugo Neu facility that will handle all of the City's recyclables; that is, while Manhattan has, if the plan goes through as stated, two marine

transfer stations and Queens only is slated to have one; it was one in the original plan, I guess it's not two, still fewer than Brooklyn's going to have. And that is in addition to the already existing transfer stations.

That said, we've all been working together to make sure that the new solid waste management plan, you know, is better for the environment and residents and the quality of life in the City. And the promise of marine transfer stations in Manhattan and in Brooklyn is a vast improvement over the disastrous hodgepodge that Brooklynites live with now everyday and for that we are thankful.

Let there be no confusion, Marty's also pleased that the City has signed an agreement to ensure that recycling be maintained and approved and that there is a

20-year contract, but because Brooklyn and Community District Seven in particular is going to handle so much of the burden to the entire City, there are two things that we really would like assured:

One is that the facilities being planned will operate with the absolute highest degree of environmental quality, which we cannot say for the existing transfer station, and at least screen impacts, and that the community itself will be fairly compensated for handling more than its fair share of waste.

Additionally, the plan must be effectuated in its entirety; a failure to secure the opening of Manhattan's transfer stations will completely, utterly and immediately nullify any support Brooklyn residents have been lending this plan (applause.)

We in Brooklyn will accept nothing less than absolute certainty that Manhattan's transfer stations open both at West 59th Street and East 92nd Street and that Brooklyn sees a real decline in throughput of Manhattan's putrescible waste.

We are calling for an absolute guarantee of an offset in the total amount of waste handled in this community; this should be accomplished when the marine transfer stations all are opened, as the City will no longer need the IESI 50th Street or the 577 Court Street facility to handle the Sanitation Department's managed waste, they both currently have contracts with the Department of Sanitation to handle the residential waste.

But that is not even enough of a guarantee since those

facilities that -- the fact that the contracts will expire and the City will then move its waste to the marine transfer stations, it's not enough of a guarantee because if the permitting capacity isn't reduced, then those two facilities could start to take commercial waste or waste from other places like Long Island. And so that needs to happen.

And ultimately, the community, in order to reduce the burden and reduce the number of facilities that it currently -- that it will be expected to take, we really would like to see the closure of those facilities any way that the City can effectuate that.

In addition, there are a few things that residents have stated that must be assured at Hamilton Avenue and with regard to the Hugo Neu facility.

The first is truck traffic, because we know that one of the most significant impacts a community will be forced to endure is the relentless pounding of garbage trucks delivering recyclables to Hugo Neu and waste to Hamilton Avenue.

It is essential that the City do as promised by utilizing water-based transport whenever possible. Thus, I'm calling for the City not to hesitate in its opening the Manhattan receivables acceptance facility at Gansevoort.

While the solid waste management plan proposes to develop this particular -- that particular facility, no official action has been taken to indicate that this will happen. Whatever the City's plan states, there's a risk that political pressure from neighborhood residents could

threaten the viability of operation of the Gansevoort facility.

Brooklyn must see the City moving towards actual permit applications and design engineering commitments at Gansevoort.

We realize that you probably didn't want to make that all too public since that could be the result, but we don't have any guarantees that Gansevoort will open, and if we don't, as community members have stated, that means that Brooklyn could be receiving Manhattan's recyclables by truck. And that is totally unacceptable, essentially nullify any support for the plan and the Hugo Neu facility in Brooklyn.

In addition, with regards to commercial waste, it is a great concern that the existing land-based transfer stations will be permitted to operate at their

existing capacities while the Hamilton Avenue marine transfer station is retrofitted and opened. The plan as currently stated, does not guarantee offsets and we, of course, have heard that the City is looking to use excess capacity for the marine transfer stations for commercial waste, especially in Manhattan at 59th Street.

We would ask that the City extend that courtesy, that plan to Brooklyn, and if that were the case, then the need for the private waste transfer stations, the ones that are currently in this region and in other parts of Brooklyn, would be obviated and therefore, the City could eventually close those stations.

Whether by franchise, financial incentives or some other means, the City should coax the commercial carters to use the MTSs

and thereby releasing the need for land-based transfer stations.

With regards to like a site-specific issues, one thing that we know that could be a concern is fugitive debris. We expect that the water surrounding the Hamilton Avenue facility will be minimally impacted as the environmental impact statement promises. That means that best practices will be used and any necessary dredging for instance, in dredging, that clam shell buckets and silk curtains be used as the state -- as the plan proposes and that since operations are going to be fully containerized, the promises that there will be zero fugitive debris problems at that facility.

At the Hugo Neu operation, the barges are currently planned to operate with four-sided fencing,

we're asking that they be at least fully enclosed with netting material and preferably fully containerized.

And one question that remains to be answered is exactly what's going to happen with the 20 percent of waste of materials that come into the recycling plant that are not recyclable since we know that there is contamination, and how that's going to be transported out and what the risk is of debris, lose debris in the water and in the air around the facility.

And in addition, there should be some kind of a filtering system so that if the debris is actually -- if the debris that's on the barges when it's lifted, winds up falling into the water surrounding the docking birth, that the floatables still don't wind up going out into the harbor.

In addition, one problem has been or one problem that could result is that, is the new siting operating regulations are, do sound to be in fact strict, but they need to be effective, we need to have effective regulation; at the private transfer stations is one thing because thus far, the Sanitation's responsible for enforcing those regulations and can fine the operators, but at the Department of Sanitation facilities, if they don't follow their own rules, if the trucks are queuing outside or the sites themselves are contaminated or there's rat problems, there's no one to enforce, because the Department's operating the facility itself.

So we propose that there be some kind of a citizen enforcement system and that a guarantee that,

you know, the Department's own employees will be fined if they violate their own rules such as the truck routes. And if there are violations, that there be you, know, that immediate injunctions be issued and that remuneration be paid to the community.

And furthermore, if Sunset Park is going to handle, take on this burden of the recyclables in particular and the waste of the City, that it be given fair compensations at least that the community should expect.

Marty has specifically called for a minimum of eight million dollars immediately available in funding for the construction of a Sunset Park waterfront park in next year's Mayoral budget.

Two, that an easement be provided for a right-of-way for the

Brooklyn Waterfront Greenway Initiative through the SBMT, and that the New York Police Department Auto Pound, which is in that vicinity, be closed and moved permanently out of the area; that in addition to the previously mentioned requirements with regards to the siting and the operation of the facilities and the opening of those facilities in Manhattan.

So we're prepared to support the community in accepting a law-abiding marine transfer facility if it handles only its fair share, the community's fair share of waste generated here and that means no additional capacity, but replacement capacity for the land-based stations which will be closed under the implementation of the plan.

And support for the other components of the solid waste

management plan in Brooklyn, depends on meeting the mitigation measures that I've outlined.

Thank you for the opportunity to testify (applause.)

MR. SZARPANSKI: Thank you.

Is there anybody else here who signed up to speak and didn't have an opportunity to speak?

MR. FRED XUEREB: Yes, I did.

MR. SZARPANSKI: I'll get to you in a minute. You spoke already.

MR. FRED XUEREB: I know but I put my name in before.

MR. SZARPANSKI: Right after people who didn't get a chance to speak yet.

Leonard Silver.

Yes, just in time.

MR. LEONARD SILVER: Do I say my name? NAFTA, glad it's over.

I know this area since 1980,

I do agree with the objections, why all in one borough? One is -- if the population in New York City is so great, if it's eight million, what are the fees which - personally I don't even agree with the fees - at a time to give seven million, and if you really want to count, there's even nine million, I don't even know if that is so today.

Now, which means a few million in each borough, you don't take over all waste in one borough so one borough should do or is suffering, you don't listen to everything else which was stated tonight.

Now, a question I do have, why at all at once? Part of Brooklyn rather than, let's say other areas that don't have so much population, like around the Navy Yard, Bushwick, not where residents

are. There's areas of Bushwick where there's no residents.

There are places in Brooklyn, it's getting less and less, that do have vacant property when you mentioned there won't be such a thing as any vacant property.

So I know probably what your answers going to be, it's less expensive, cheaper to have all in one together rather than spread out, but you're dealing with people's lives and illnesses, unless you want to just cut down the population by causing these problems, causing these problems to cut down the population.

So as I say, what other areas in spreading out and this definitely may be a block, that it isn't much residential, maybe a block or two. But you also have wind, and pollution does travel

many miles. So I do object to these plans. Thank you.

MR. SZARPANSKI: Thank you.

Is there anybody else who didn't get a chance to speak?

Okay, Fred Xuereb.

MR. FRED XUEREB: Thank you.

I spoke earlier and I just want to hit on a few notes that some of the people almost touched on.

The reason that this area, that we're so annoyed with what's going on with the Sanitation Department is you have to understand why we are the way we are.

Number one, this has nothing to do with you, but right next to the Hamilton Avenue Yard you have the only asphalt plant in the five boroughs, DOT asphalt plant's right next door to it.

Now, there used to be one on

91st Street, 92nd Street and the FDR, that's closed. Now it's a park. But I'm trying to bring out the point, right next door to you there's going to be an asphalt plant which we got stuck with and the Sunset Park/Windsor Terrace area.

Number two, we have a federal prison right here in the same area, stuck with it again. Nothing to say about it.

Number three, Sanitation is in charge of the alternate side parking. It has nothing to do with this right now, but what I'm trying to bring out is we're the only area, one of the few areas in Brooklyn that still have four days a week. And we're annoyed with that or we were told Sanitation, when they get around to it, they'll change it to two days a week like a lot of the other areas.

All right, now, this has to do, this question here is the loading areas for Sanitation, you'll have to have staging areas for these trucks, they're not going to be just coming in at a certain time and say, okay I'm just going to pull and drop my load and go. They'll be waiting on line.

I would like to see the EPA involved with this and see how long those engines run, do they leave them continuously running while they're on line? We'll, they're supposed to shut them down after three minutes, this is the way it should be then.

So that should be, the DEP or Environmental Protection anyway, should be monitoring the engine running of these vehicles, because it's not one or two trucks we're talking about in the whole.

And over there is a model of

a few piers that they want to do for the waterfront to beautify the area. And Sarah Gonzalez has been pushing for this and some of the other politicians in the area, and what really annoys me is she's promising the community a hundred jobs out of that, you know, project and to me it's a lie, because when it comes to a hundred jobs, this is a union shop and just because she says that you're going to get a hundred residents of Sunset Park that are guaranteed a job in this is baloney. Because even if they put their name down for it, if it's a union shop, that means oh, they may hire them, but they'll put them in the Bronx or another location and people that may live in Jersey that work for the same company, that's a private agency working for Sanitation to do with this recycling, they're going to have

seniority and then you're gonna say okay, let's put that guy in Sunset Park, that's where he wants to go.

So it's all lies as far as I'm concerned. And to put all these facilities, like I said before, in this community of Sunset Park without even giving it to some of these other areas, for instance Staten Island, I think is a shame.

And that project, I think they should just throw that in the water and recycle that garbage because that, those piers to me mean nothing if they're going to beautify an area and then roll these garbage facilities in the area.

Thank you.

MR. SZARPANSKI: Thank you for your comments.

I want to remind you that if you still have written comments that you want to submit to us,

please do so by January 24th.
Thank you all for coming.
(Time noted 7:59 p.m.)

C E R T I F I C A T E

STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

I, Marc Russo, a Notary Public within and for the State of New York, do hereby certify that the within is a true and accurate transcript of the proceedings taken on December 15th, 2004. I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 14th day of January, 2005.

_____
MARC RUSSO

THE NEW SOLID WASTE MANAGEMENT PLAN
DEIS PUBLIC HEARING
FOR THE PROPOSED NORTH SHORE CONVERTED
MARINE TRANSFER STATION
HELD AT: 33-23 Union Street
Flushing, New York
December 14th, 2004, 6:19 p.m.

Reported by:
MARC RUSSO
Job#: 167215

A p p e a r a n c e s:

HARRY SZARPANKSI, P.E., Assistant Commissioner,
DEPARTMENT OF SANITATION, 44 Beaver Street, 12th
floor, New York, New York 10004

WALTER CZWARTACKY, DEPARTMENT OF SANITATION

VAUGHAN F. ARNOLD, DEPARTMENT OF SANITATION

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MR. SZARPANSKI: Good evening everybody. My name is Harry Szarpanski. I am the Assistant Commissioner with the New York City Department of Sanitation, Bureau of Long Term Export. With me are Walter Czwartacky and Vaughn Arnold also with the Department.

We also have Susan Raila and Dan Harkins with the firm of Henningson, Durham & Richardson, HDR. HDR is responsible for the preparation of the draft EIS.

Also with us tonight are people from Ecology and Environment, they helped us prepare for this meeting and other meetings that we're having.

As you may know, in October of 2004, the Department of Sanitation issued a New York City comprehensive solid waste management plan for the next 20 years. As required, the new SWMP,

as we refer to it, has been submitted as a draft to the City Council. The new SWMP is proposed to replace the current SWMP and must be approved by the City council before it can be submitted to the New York State Department of Environmental Conservation for final approval.

The new SWMP plans for the management of all of the solid waste generated in the City over the next 20 years and is supported by a draft environmental impact statement, DEIS on which we will take comments this evening.

My comments tonight will be brief. I will make a short power point presentation before the public portion of the meeting begins. Copies of my statement and the presentation will be available at the end of the meeting.

Because the real focus of

this public hearing will be your comments, if you plan to make a statement for the record, please take a moment to fill out a speaker sign up sheet and submit it to the individuals sitting at the front table. You will be assigned a number and I will call your name when it is your turn to speak.

Note that elected officials, who may be attending many meetings on behalf of their constituents on any given night, will have an opportunity to speak first.

We're interested in making a complete record of your comments so please state your name clearly and slowly for the stenographer.

We usually ask people to hold their comments to three minutes, but since there are not many speakers here, we'll waive that three-minute maximum.

Thank for coming and I'll

now begin the short power point presentation.

(Showing slides) As I mentioned, this is a draft EIS hearing and it's on all of the converted MTSs. We're focusing here with particular information on the North Shore converted MTS.

It's a public hearing on the draft EIS for the comprehensive solid waste management plan. Both the SWMP and the DEIS were issued by the City Department of Sanitation. The DEIS also supports the state solid waste, air and marine permits that are required to construct and operate the converted MTSs.

The DEIS and SWMP are available on the Department's website and at four repositories in Queens for your review.

The State permit applications for the converted MTS

is also available for review at the public repositories. And we also expect that the City Council will hold public hearings on the new SWMP in January.

Well, that was the last page. Sorry, we're having technical problems.

The SWMP is organized in three broad categories: It addresses recycling, Department of Sanitation-managed waste and commercial waste.

With respect to recycling, the goals are to hold down the cost of recycling and expand barge transport of recyclables; meet a 25 percent recycling goal for the Department Curbside Program by 2007, and also by that same date, to meet a 35 percent recycling goal for all Department-managed waste.

The specific initiatives for recycling are to enter into a

20-year contract for metal, glass and plastic processing and marketing and for a new recycling processing facility at the South Brooklyn Marine Terminal; to enhance composting and waste prevention programs; develop an electronics recycling program and establish a recycling education and recycling acceptance facility at the Gansevoort Peninsula or an alternative Manhattan site.

The Gansevoort site is a site of a former marine transfer station on the West Side of Manhattan just below 14th Street.

In July of 2004, we resumed Queens recyclable collection. Department of Sanitation trucks collecting Queens recyclables, take them to our processors at the Long Island City Acceptance Facility and then to New Jersey. They will eventually be barged to the new

1
2 facility proposed in Brooklyn. And
3 composting began again in the fall
4 of 2004 at Idlewild Park and full
5 funding was given to the Queens
6 Botanical Garden for composting
7 information programs.
8 With respect to
9 Department-managed waste, our goals
10 are to end the use of long-haul
11 trucks for waste transport and
12 export more waste by barge or rail;
13 to stabilize waste export costs; to
14 distribute waste transfer
15 facilities throughout the City and
16 containerize waste to get more
17 transport and disposal options.
18 The specific elements of the
19 long term export program for
20 Department-managed waste are, build
21 four new marine transfer stations
22 at existing MTS sites and those
23 include: The East 91st Street site
24 in Manhattan, the North Shore site,
25 the Hamilton Avenue and Southwest

1
2 Brooklyn sites in Brooklyn; to use
3 private transfer stations for barge
4 or rail export of containerized
5 waste from the Bronx and from
6 Brooklyn and Queens communities
7 that were once served by the South
8 Bronx and Greenpoint Marine
9 Transfer Stations; to complete
10 construction of the Staten Island
11 Transfer Station and begin export
12 of Staten Island waste by rail.
13 And to enter into a long term
14 contract for the disposal of a
15 portion of Manhattan's waste at the
16 Essex County Resource Recovery
17 Facility in Newark, New Jersey.
18 With respect to commercial
19 waste, we're looking to limit our
20 new or expanded transfer stations
21 in communities where they are
22 already concentrated; to establish
23 new operational regulations to
24 reduce noise, odor and dust at
25 private waste transfer stations;

1
2 study how to lessen waste truck
3 transport on truck routes through
4 residential areas; expand barge and
5 rail export of commercial waste
6 from Department-contracted transfer
7 stations; export some commercial
8 waste through the converted marine
9 transfer stations and offer the
10 59th Street MTS for export of
11 commercial waste.
12 The DEIS evaluates the
13 environmental consequences of sites
14 and facilities that are or may be
15 part of the proposed action in the
16 new SWMP. Also, it covers
17 alternative sites and facilities
18 and identifies the things the City
19 would do to avoid potential
20 significant adverse impacts and
21 meet City and State environmental
22 review and permit requirements.
23 This is just a map showing
24 the various wastesheds throughout
25 the City; the four marine transfer

1
2 stations that are proposed to be
3 converted and the private facilities
4 that we're looking to negotiate
5 contracts to export
6 Department-managed waste.
7 With respect to the North
8 Shore converted MTS, for the
9 wasteshed formerly served by the
10 North Shore MTS, we're looking to
11 develop a City-owned converted MTS
12 on the same site where waste will be
13 placed into containers and exported
14 by barge.
15 We expect an average daily
16 throughput of approximately 2200
17 tons per day of Department waste
18 and potentially about a thousand
19 tons a day of commercial waste.
20 Commercial waste would be
21 accepted only during the nighttime,
22 that's the eight p.m. to eight a.m.
23 hours and only putrescible
24 commercial waste will be accepted,
25 not construction or demolition

debris or film material.
No more than a thousand, about a thousand tons of the commercial waste would be delivered during the nighttime to avoid adverse noise impacts. And there will be no significant adverse on-site noise, traffic or air quality impacts.
This is a map showing the two Queens wastesheds, the one on the left side, the dark area is going to a facility along the Newtown Creek called Review Avenue and the North Shore converted MTS would handle the area shown in that gold.
This is just a summary of what the draft EIS concluded as being with respect to specific impacts. With respect to traffic there was no significant adverse traffic impacts with traffic signal changes in place. With respect to

air quality, no significant on-site or off-site impacts were shown. With respect to odor, the environmental review showed no significant adverse odor impacts. And with respect to noise, the facility would not exceed the noise code at the property boundary and noise impact mitigation will be required for commercial waste trucks traveling to the facility between one a.m. and five a.m.
The converted MTSs will require State, Federal and local permits and approvals. This MTS as well as the other MTSs, are subject to the Uniform Land Use Review Procedure, ULURP as a site selection for a capital project.
The converted MTS ULURP applications were certified by City Planning on November 15th and the ULURP process is ongoing.
We expect that Community

Board Seven will hold meetings and a hearing to consider and vote on the ULURP application. The converted MTS State Environmental Permit application which includes solid waste, air and marine, was submitted to the State in November and the New York State DEC will hold a hearing and establish a public comment period on the converted MTS permit applications as part of its permit review process.
This page is just a summary of how you can submit comments to us. You can provide them verbally tonight, you can fill out a comment sheet and leave it with us or submit a written statement. And if you want to mail comments to us, we ask that they be received by us no later than January 24th of '05 and they can be sent to my attention or to our consultant's address.

At this point I will open it up to speakers. And our first speaker is Robert LoPinto.
MR. ROBERT LOPINTO: Good evening Commissioner Szarpanski, my name is Robert LoPinto, I chair the Environmental Sanitation Committee for Community Board Seven. I'm the Chair of the Queens Solid Waste Advisory Board; a member of the Steering Committee for the City-wide Recycling Advisory Board.
I've been involved in helping the City write some of their early solid waste management plans and involved in reviewing them since 1990.
Thank you for coming to our community and I have a few comments.
First one is on recycling. And I'd like to see more emphasis on waste prevention in the recycling part of the solid waste

management plan.
As you know, it is generally cheaper to prevent the waste than to have to collect it and dispose of it, even if you do have a nice contract now.
Second item is on DOS facilities in our community board. In Queens, there are already a number, a few community boards that have waterfront access and even fewer of those that really have industrial waterfront access.
Our community board being one of them, we seem to have a number of borough-wide Sanitation facilities in our community board. Yes, we had the marine transfer station here before it was closed when Fresh Kills was closed, and this is one of the logical places to put it since there are not that many waterfront accessible community boards. However, we also have,

as I said, other borough-wide and some even larger area Sanitation facilities in our community board and we think that that should be considered.
We also have the garage for another community board's Sanitation vehicles in our community board and this must end.
One of the things you did not mention was where is the waste going. And this is a concern, it's nice to have these plans, it's really nice that we're containerizing this putrescible waste, it will obviously leave these facilities in a more environmentally-friendly manner, but we need to know where they're going. And that has to be identified before the State approves this solid waste management plan.
Specific to the North Shore

marine transfer station, first is the height of the building. You know that we are right across from LaGuardia Airport. The existing building is a pretty high building, right on the water's edge. There's no building that's going to be even that high. There are concerns about the height, not so much from what the FAA may allow, but what the Port Authority allows.
We just entered into a new lease agreement, the City with the Port Authority and the idea is to improve the efficiency and use of LaGuardia Airport as an economic base for Queens; if in fact this building will have an impact on that, it must be changed.
Last item is traffic. Since the MTS closed, this area of Whitestone/College Point has changed drastically. Development has mushroomed. There is more

traffic now than there was four years ago. There are changes being made to the Whitestone Expressway, to the Grand Central exit at Linden Place. There is increased traffic at 20th Avenue which seriously impacts the Whitestone Expressway. At times, that exit is backed up almost to the Linden Place exit.
The number of trucks that will be coming here if you continue with your ten to eleven tons per truck, which is what Sanitation trucks have been averaging, you're talking about 210 trucks a day. The majority of the Sanitation trucks, as I expect, will come probably between eight a.m. and eight p.m. and so some of them may come later, but you're talking about as many as 12 to 14 in an hour time period for Sanitation trucks, you're talking about a considerable number of trucks, ten, fifteen

trucks at the peak hour.
Commercial trucks, they're a little heavier, some of them actually run 25 tons of truck so you might only have 40 maybe, 60 of those trucks during the nighttime. Obviously those that come after 10:00 when the traffic starts to die out, except on a weekend, Friday night when the traffic is still there because of the movie theatre, you are going to have some impact.
One of the concerns we have is Linden Place. The ability for the trucks to come to Linden Place, make a left under the expressway, only room for so many trucks. Turn left again onto the service road heading south to get to 31st Avenue where they can then head on over to the transfer station, is going to cause serious problems to that area.

We understand that the way the DEIS works is that if that intersection is already a C, D or an E, changing it isn't considered a major impact. That's nice on paper, but it doesn't work in reality.
People are now sitting there sometimes two to three light changes, we don't want it to get worse, we want it to get better.
We think that if there's a problem there, something has to be done for mitigation by this City because of this additional truck traffic. Thank you.
MR. SZARPANSKI: Thank you for your comments.
Our next speaker is Victor Ross.
MR. VICTOR ROSS: My name is Victor Ross, I'm the Transportation Chairman at Community Board Seven.
Joe LoPinto has stolen some

of my thunder, but let me go back into certain points about that.
There is absolutely no way that you will be able to maintain the promise that you made under the, using the old older disposal unit as you will with the new one, because of the heavy congestion that you're going to get at Linden Place.
During the past five years, according to the City DOT, the general increase in traffic volume has gone up about one-third. Fitting four Sanitation trucks under the underpass is just about the most that you can do. You may get five if you stand one on its end. But I can assure you that what you're going to get during the morning and evening rush hours is not pandemonium, but total stillness.
This would not only block up

traffic, through the Corporate Park, but it also locks up your schedule. The turnaround that they have there may or may not be useful for you. You may have to take an alternate route. I'm asking you in any event, please avoid using College Point Boulevard as a way.
You may or may not know, the City Planning Department has already pinpointed portions of College Point Boulevard as part of the Westwood expansion of Downtown Flushing.
In this area, the Economic Develop Corporation has already funded and planned expansion of the Flushing Bay, they're putting in a promenade, a walkway and there are plans also for the expansion to reach into the Iron Triangle which is right across the river.
Any scintilla of fleet movement of Sanitation trucks on

College Point Boulevard in Downtown Flushing will be highly detrimental to the development of this area and certainly it would be hazardous to the pedestrians that are going to be crossing there.

I believe that putting them on 39th, at 41st Avenues, 37th and 39th, that's where people will be able to cross over to the river.

So if you have studies, traffic studies, please review them because what you have now is not what you had four years ago, I can assure of you that.

The City has already gone into and I believe they are going in to widen 20th Avenue, which is right up the road. That is already exploding. Linden Place will be next.

The Department of Transportation was already talking about installing computerized

signals in all the College Point Corporate Parks arterials, which is an indication that they recognize the fact that while your facts are rosy about being able to accommodate a couple of hundred Sanitation trucks, actually the traffic engineering study shows it's not 200, it's 400. 200 coming in and 200 going out.

And then of course, we have another albatross of Community Board 11 Sanitation trucks that are marching though Northern Boulevard I suppose. But the point is, you have to take total common sense of what this is going to be doing to traffic. Thank you.

MR. SZARPANSKI: Thank you for your comments.

Is there anybody else here who wishes to speak? No one?

Please step up and state your name. State your name for the

stenographer.

MS. CRYSTAL FENG: Crystal.

Will the truck routes be the same as they were before?

MR. SZARPANSKI: Well, the forum for this hearing is for us to accept comments and questions. We answer all questions in writing.

If you want to wait a few minutes once we end this formal part of the session, we can give you as much information as we have here about the truck routes.

MS. CRYSTAL FENG: Okay, thanks.

MR. SZARPANSKI: Is there anybody else here who wishes to speak?

If not, thank you all for coming. I urge you to submit any comments you still want to submit to us in writing by January 24th. Thank you.

(Time noted: 6:47 p.m.)

C E R T I F I C A T E

STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

I, Marc Russo, a Notary Public within and for the State of New York, do hereby certify that the within is a true and accurate transcript of the proceedings taken on December 14th, 2004. I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 3rd day of January, 2005.

_____

MARC RUSSO

THE NEW SOLID WASTE MANAGEMENT PLAN
DEIS PUBLIC HEARING
FOR THE SOUTH BRONX CONVERTED
MARINE TRANSFER STATION
HELD AT: 333 East 151st Street
Bronx, New York
December 6, 2004, 6:25 p.m.

Reported by:
MARC RUSSO
Job#: 167212

A p p e a r a n c e s:

HARRY SZARPANKSI, P.E., Assistant Commissioner,
DEPARTMENT OF SANITATION, 44 Beaver Street, 12th floor, New York, New York 10004

WALTER CZWARTACKY, DEPARTMENT OF SANITATION

SARAH DOLINAR, DEPARTMENT OF SANITATION

ALSO PRESENT: JORGE FREIRE, HOWARD FREIRE, Spanish Interpreters

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MR. SZARPANSKI: Good evening everybody. My name is Harry Szarpanski. I'm Assistant Commissioner of Long Term Export at the Department of Sanitation.

With me tonight are Sarah Dolinar and Walter Czwartacky of the Department. Also we have Dan Harkins, Susan Raila and Alan Cohen of Henningson, Durham & Richardson, HDR. HDR is the firm responsible for conducting the environmental impact statement for this project and that's the subject of our meeting tonight.

We also have representatives from Ecology and Environment, they're the people who helped us set up this meeting.

As you may know, in October of 2004, the Department issued a New York City comprehensive solid waste management plan for the next 20 years. As required, the new

SWMP, as we refer to it, has been submitted as a draft to the City Council.

The new SWMP is proposed to replace the current SWMP and must be approved by the Council before it can be submitted to the New York State Department of Environmental Conservation for final approval.

The new SWMP plans for the management of all of the solid waste generated in the City over the next 20 years and is supported by a draft environmental impact statement, or draft EIS on which we will take comments this evening.

My comments tonight will be brief. I will make a short power point presentation before the public portion of the meeting begins. Copies of my statement and presentation will be available at the end of the meeting.

And Should you require the assistance of a Spanish interpreter, please let the individuals at the front table know.

Because the real focus of this public hearing will be your comments, if you plan to make a statement for the record, please take a moment to fill out a speaker sign up sheet and submit it to the individuals sitting at the front table. You will be assigned a number and I will call your name when it is your turn to speak.

Note that elected officials, who may be attending many meetings on behalf of their constituents on any given night, will have an opportunity to speak first.

We're interested in making a complete record of your comments, so please state your name clearly and slowly for the stenographer.

So that we can hear everyone who wants to speak, I typically hold people's comments to three minutes, but I think we will allow people to speak a little longer tonight, it doesn't look like there's a lot of speakers here.

Thank you for coming and I'll now begin my short power point presentation.

(Showing slides) This is a public hearing on the City's draft environmental impact statement for the solid waste management plan.

Both the SWMP and the DEIS were issued by the Department and can be found on our website. It's also available at public repositories in the Bronx and in other boroughs.

The City Council also intends to hold public hearings on the SWMP, probably in January.

There are three basic

components included in the SWMP. It covers recycling, it covers Department of Sanitation-managed waste and commercial waste.

With respect to recycling, the goals are to hold down the cost of recycling and expand barge transport of recyclables; to meet a 25 percent goal for the DSNY Curbside Program by 2007 and by that same date, meet a 35 percent recycling goal for all Department-managed waste.

The specific initiatives for recycling are: To enter into a 20-year contract for metal, glass and glass and plastic processing and marketing and for a new recycling processing facility at the South Brooklyn Marine Terminal; to enhance composting and waste reduction programs; develop an electronics recycling program and establish a recycling education

center and acceptance facility at the Gansevoort Peninsula or at an alternative site in Manhattan.

The Gansevoort site is a site where we once operated a marine transfer station and it's just below 14th Street on the West Side.

With respect to Bronx recycling, in July of 2004, we restarted the weekly Bronx recycling collection. The Department trucks collect Bronx recyclables and right now take them to our processors in the Bronx acceptance facility where they are shipped to Brooklyn. Eventually they will be barged to the new -- sorry, right now they're shipped to New Jersey, eventually they will be barged to the new Brooklyn facility.

Also, composting began again in the fall of 2004 at Ferry Point

Park and Soundview Park. We also restored full funding to the New York Botanical Gardens in the Bronx for composting information programs.

With respect to Department-managed waste, our goals are to end the use of long-haul trucks for waste transport and export more waste by barge or rail; to stabilize waste transport costs; distribute the waste transfer facilities throughout the City and containerize waste to get more transport disposal options.

The specific elements of the long-term export program are: Use of private transfer stations for barge or rail export of containerized waste on the Bronx and from the Brooklyn and Queens communities that we're once served by Greenpoint and the South Bronx marine transfer stations.

The complete construction of the Staten Island Transfer Station and begin export of Staten Island waste by rail; enter into a long-term contract for disposal of a portion of the Manhattan waste at the Essex County Resource and Recovery Facility in Newark, New Jersey.

THE AUDIENCE: That's an incinerator everybody, who doesn't know what that means.

MR. SZARPANSKI: Thank you for the clarification.

And build four new marine transfer stations at existing sites. Those sites include the East 91st Street in Manhattan, the North Shore site in Queens, Hamilton Avenue and the Southwest Brooklyn site in Brooklyn and we are not planning to rebuild the Hunt's Point Marine Transfer Station in the Bronx.

With respect to commercial waste, limit new or expanded transfer stations in communities where they are already concentrated; establish new operational regulations to reduce noise, odor and dust at private waste transfer stations; study how to lessen waste truck transport on truck routes through residential areas; expand barge and rail export of commercial waste through DSNY-contracted transfer stations; export some commercial waste through the converted marine transfer stations and offer the 59th Street Marine Transfer Station in Manhattan for export of commercial waste.

The draft EIS evaluates the environmental consequences of sites and facilities that are, or may be, part of a proposed action. It also looked at sites and facilities as

alternatives. It identified the things the City would do to avoid potential significant adverse impacts and it also meets the City and State environmental review requirements.

This is just a map showing the various wastesheds and the facilities that are going to have to be served by them.

In the dark it shows the two private facilities that we plan to negotiate with. And it also shows private facilities in Brooklyn and Queens and the former marine transfer stations in the other boroughs and the Staten Island transfer station in Staten Island.

With respect to the Bronx specifically, we're looking to enter into a long term contract with one or both private facilities for export of barge -- for export of Bronx waste by rail.

We've got the Allied Waste Service facility at 920 East 132nd Street. For that facility, there's no expansion of the existing permits. The facility proposes to truck containers to the nearby Oak Point Rail Yard which is located at Oak Point Avenue and Barry Street.

For the Waste Management Facility at the Harlem River Yards, there's no expansion required and rail exists on the site.

The advantages of this plan are that both facilities are already operational and receiving all Bronx residential waste.

If a portion of the Department-managed waste continues to go to both facilities, then all waste going to both facilities will be exported by rail.

This is just a map of the Bronx showing the location of the

transfers stations in the Oak Point Yard.

With respect to the environmental review that was conducted for the East 132nd Street facility, traffic and air quality found no significant traffic impacts with track signal changes in place; no significant off-site impact for mobile air quality.

The evaluation included the trucking of containers and return the empties between the East 132nd Street site and the Oak Point Rail Yard.

Odor and noise, the environmental review showed no significant odor impacts. The Oak Point Rail Yard is permitted to receive waste in sealed containers and an off-site noise analysis showed no significant impacts.

With respect to the Harlem Yard Transfer Station, the

environmental review showed no significant adverse impacts and the DSNY truck traffic showed no significant off-site air, noise or traffic impacts.

The various ways that you can provide us with your comments are, you can speak tonight or you can fill out a comment sheet or submit a written statement. And if you choose to mail it in to us at my address or our consultant's address, please do so no later than January 24th.

Thank you and I will now open it up to the speakers.

Our first speaker is Paula Caplan representing the Bronx Borough President.

MS. LURIA CAPLAN: Good evening, my name is Paula Luria Caplan and I'm speaking on behalf of Bronx Borough President Adolfo Carrion.

"This solid waste management plan for a containerized water and rail-based export strategy based on the City's marine transfer system, emphasizing borough self-sufficiency, is a positive step forward. I congratulate Mayor Bloomberg and the Department of Sanitation for their extensive effort.

I applaud the following features: Appropriately recognizing that the Bronx Marine Transfer Station should not be reopened.

Acknowledging the need to equitably distribute responsibility for both commercial and sanitation-managed waste among the borough. A Manhattan transfer option should help to redress the imbalance among boroughs.

Allowing and encouraging private carters to deliver

commercial waste to the four converted marine transfer stations, thereby combining the residential and commercial streams in a comprehensive system.

Entering a 20-year recycling contract with Hugo Neu Corporation to develop a metal, glass and plastic processing facility which will export processed materials by barge.

Recently enacting siting rules for commercial waste transfer stations and proposing operational regulations to reduce emissions.

My concerns about the DEIS and by extension, the solid waste management plan, concern omissions and underestimating of environmental impacts as follows:

One, while I agree that the Harlem River Yard and the 132nd Street site are preferred locations for a Bronx transfer station, the

DEIS inadequately analyzes these properties.

The DEIS declines to fully evaluate the environmental impacts of export strategies for either site because these facilities received negative declarations in previous reviews.

I fundamentally object to any claim that a waste station in an urban location has no adverse environment effects. It is just disingenuous to claim that a facility handling thousands of tons of putrescible garbage has no impacts. Few uses in New York City are more noxious. An EIS must identify those impacts in order to offer mitigation strategies.

The DEIS contains insufficient information for a comparative assessment between the Harlem River Yard and 132nd Street. If does not analyze the 2.5 micron

particulate matter at 132nd Street.

In the American Marine Rail case, an Administrative Law Judge rejected PM10 as an inadequate measure to capture small particulates that cause respiratory problems, in favor of the finer PM 2.5 screen. Given the high level of asthma in the South Bronx, the highest monitoring standards should be applied.

Two, while the draft solid waste management plan does not include a barge-to-rail operation in the Bronx, the DEIS includes that option. Bringing containers of waste from other boroughs to the Harlem River Yard would contradict the plan's fair share objectives and would not be acceptable to me or to my constituents.

We already endure odor and vermin while rail cars gather in the Harlem River and Oak Point

Yards awaiting assemblage of a train.

Three, the plan fails to identify the disposal sites, a crucial element for plan feasibility. Absence of a disposal plan renders the plan highly speculative.

Fourth, I commend the City's aim to achieve an ambitious 25 percent recycling rate through its Curbside Program by 2007 and 70 percent recycling rate for the combined residential and commercial waste stream by 2015. But the plan does not show how that goal will be attained. Assuming that construction and demolition debris and fill material constitute a large share of the 70 percent, facilities that handle them must be addressed.

Accomplishing the 70 percent goal will also require a serious

composting program for food waste.
Five, the plan barely mentions waste prevention. A waste reduction strategy is essential to the ultimate success of a waste management plan.
Six, the DEIS undervalues the correlation between diesel fumes and asthma. Fine particulate matter and diesel emissions is a proven cause of asthma, lung cancer and heart disease. Long idling at traffic lights and odors from waste haulers exacerbates diesel impacts.
The South Bronx endures an extremely high rate of asthma and the highest pediatric hospitalization rate in the City. Its children suffer from asthma at a rate more of more than double the national average.
A 22 percent reduction in traffic volume was accompanied by a 41 percent reduction in acute

asthma when Downtown Atlanta streets were closed to traffic during the Olympics.
Seven, the DEIS fails to analyze the impact on the proposed mixed use, residential and industrial districts adjacent to the Harlem River Yard. It inaccurately states that development related to rezoning in Port Morris is projected to occur by 2014 at the earliest, while in fact 2014 is the year by which the City Planning Department projects full build-out.
The expanded Port Morris mixed use district abuts the Waste Management facility. Mitigation measures and vigilant regulation of waste operations in the Harlem River Yard are essential. Yet the DEIS denies impacts beyond the property's borders. Port Morris residents and workers can attest

otherwise.
In addition, Randalls Island, which is undergoing a major overhaul to become a premier public recreation area, lies a stone's throw across the Bronx Kill from the Harlem River Yard. Impacts on both Port Morris and Randalls Island must be addressed and corrected.
Eight, while I welcome the plan to not open the South Bronx MTS, I object to the assertions in the analysis. The DEIS remarks that a converted South Bronx MTS would be compatible with its industrial surroundings and not be expected to have a significant adverse impact on residents who are on the adjacent Hunts Point Market uses related to air quality or odor. These statements ignore the impact of truck traffic on local streets and diesel and garbage fumes.

Prior to the MTS closing in June 1996, rodents attracted by the waste posed a major Sanitation problem for the food market. Since the MTS closing, the rodent population has decreased markedly.
I must set the record straight: Garbage handling is not a compatible use adjacent to a major food center.
The DEIS further states that under the no-build scenario, the site would remain Sanitation Department property and the existing MTS would remain standing. This contradicts the Hunts Point Vision Plan recently completed by a task force formed by Mayor Bloomberg and me.
Furthermore, within the dynamic of a constantly-changing City, one cannot assume that an abandoned City facility will remain unused.

In conclusion, I applaud the overall policies and concepts in the draft solid waste management plan, but I find serious inadequacies in the environmental review. My ultimate support for the plan will depend on the actual site or sites selected for the export of Bronx waste in relation to the Citywide system."

Thank you.

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is George Torres representing Council Member Jose Serrano.

MR. TORRES: Hello, my is George Torres, I'm here representing Council Member, the office of Council Member Jose Serrano. And I think I'll reserve most of my comments with the fact that there will be a Council Hearing for the Councilman to make

statements.

But there was some concern over the vagueness of the plan for the SWMP and I think that some of the things that will lead to a more smoother meeting tonight would be if you guys could speak on the plan in terms of basically almost everything, where the garbage ends up, the rules for selecting of the contractor, or if there's going to be an RFP in terms of which site will get the garbage, whether it's Allied or the Harlem River Rail Yard.

I think in our professional opinion that not both facilities should receive, but there should be only one. And I would go even further and say that while both sites served are preferred, the Harlem River Rail Yard or the Allied site, you would need to do truck-to-truck-to-rail for the

Allied site.

For the Harlem River Rail yard I think it's a little easier just to do truck-to-rail in that facility.

I mean, we must take into consideration the impact that just, as the Borough President stated, the negative impacts that would go in there.

And then the final thing for, to my comment would be there was talk, I guess you guys could answer this, developing an intermodal facility, should the other waste transfer station go to plan, not to develop fully the Harlem River Rail Yard and maybe you can speak to that.

Is that a reality or is that something that you guys are not planning on doing? And that's basically just if you could answer that.

MR. SZARPANSKI: As you may know, the forum for this meeting is to receive comments from you. We will answer all of the questions you have in writing.

MR. GEORGE TORRES: Okay, then that's it. And then we'll, I guess we'll submit more detailed questions.

And at what point will you respond? You will respond to people individually or as a group or?

MR. SZARPANSKI: No, just as we commented and responded to comments for the draft scoping documents, we will publish both on CD form and it will be on our web page where we'll provide our full responses.

MR. GEORGE TORRES. Okay.

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Mary

Feinberg.
MS. MARY FEINBERG: Hi, I'm speaking tonight for my colleague Carlos Alicea who actually prepared this but wasn't feeling too well so he asked me to fill in for him.
I'm going, these are sort of general comments, we have technical comments on the way which we will be submitting to you further. And I have a couple of comments that are sort of based on the presentation that you made that I want to add to it that are sort of nontext.
The New York city waste management plan as proposed by the Department of Sanitation is based on a wrong underlying principle of exporting garbage.
This principle of exporting garbage is misguided because it will impose environmental burdens in communities where the landfills

are located to receive New York City waste.
Historically it has been demonstrated that such communities are also poor communities and communities with populations that are nonwhite.
Exporting garbage will only delay this administration's dealing with the environmental impacts of an unsustainable economy based on consumerism and throwing out waste. However, this exporting waste model makes a lot of sense for waste companies.
This plan basically will provide waste companies an area of expansion for their business activities. This will bring, and I just want to state parenthetically here that although you said that there's going to be no permit expansion in your presentation, in fact there was a just a permit

expansion, you know, within the last year and a very substantial permit expansion. So it's a little disingenuous to say that this is not going to require a permit expansion when in fact you just expanded the permit to sort of make room for all of this.
This will be bring environmental consequences for the communities targeted to host the waste transfer stations for the next 20 years. Instead of envisioning a program that will use as a guiding principal zero generation of waste, this administration in collusion with the waste industry, has put forward a plan that is more of the same, securing garbage for Waste Management and other incinerator companies.
One of the easy ways to make business, no risk involved, profits

guaranteed for the next 20 years. If it is hard today to get the City to implement modest waste, modest zero waste and re-use and recycling programs, can you imagine how hard it will be to do this when the plan is approved. No way the waste industrial will allow the supply of waste to be lowered, because that will mean less profits.
What we do not understand in the South Bronx is this idea of not dealing with the root of the problem of garbage in New York City.
First is the excessive production of waste, the real lack of institutional support for a zero waste program and reuse and recycling program in New York City.
Prominent lip service is given to these buzz words. However, after reading this proposed plan, it's the same old

story, let's rely on exporting our waste to other places paid with money and make Waste Management and other private haulers of waste companies rich. Then they have the nerve to call it sustainable.

Not only is exporting garbage the wrong principle for designing a waste management plan, but this plan that claims to achieve equality is flawed.

And I want to sort of interject here that in sort of the last minute looking at this plan, although the idea of this plan is that quote, each borough will handle its own waste and supposedly that promotes equality, in fact, the plan then talks about a second step which is sort like a staging area, this stuff can actually go on to rail and the South Bronx transfer stations are mentioned as a likely possibility for that to

happen. So that whereas, garbage may be collected, may be barged out of the MTS in Queens, it's then going end up barged by our marine plant, it's going to end up barged to someplace like the Harlem Rail Yard to be put on rail and then sent out.

So in fact we are going to be receiving quote, more than our fair share, unquote.

The plan also proposes to send New York City garbage to an incinerator in Newark, one of the most poor communities in New Jersey.

Additionally, as a community activist in Newark told me at a meeting where we discussed a proposal of sending garbage to that incinerator, she stated, "We are going to receive the pollution in solid form and you in New York will receive it back in the form the air

pollution."

Incineration has been proved to be an unwise and very unhealthily environmental strategy to dispose of waste. Incineration produces some of the most dangerous chemicals on earth, chemicals that can cause cancer, birth defects, learning problems and asthma.

Some of us in this room spent eight years to stop the medical waste incinerator in this community. How could we in good conscience live with our garbage going to another poor, polluted community to be burned there, we can't.

Following the strategy that began in the Guliani Administration, the Department of Sanitation and the Bloomberg Administration are basically extending their privatization mantra to one of the most lucrative

sectors, the waste industry.

The DOS and this administration seek to protect the goose that lays the golden egg by proposing a 20-year plan that will guarantee a lot of money to private corporations for disposing of the waste generated by the City, not to mention lobbied money to the politicians they support.

The point here of For A Better Bronx, is that this plan basically gives control of the garbage industry to Waste Management, Inc.

Although many community groups have labeled this plan a victory and a step forward, we respectfully disagree with our friends and collaborators that have this opinion. For a Better Bronx cannot support a waste management plan that does not attack the root of the problem of waste in New York

city.
For a Better Bronx cannot claim this plan is a victory, because clearly other poor and nonwhite depressed communities are going to bear the environmental impacts of the garbage export of New York.
For a Better Bronx cannot support a plan that is proposing to increase the burden of three and four transfer stations in communities that already suffer a lot of pollution and are poor communities and communities of nonwhite human beings.
For a Better Bronx cannot support a plan that does not mention a cohesive plan for zero waste reduction like New York City -- like New York City did in its bid proposal for the Olympic Games.
For a Better Bronx cannot

support plans that offer a book of proposals to open a waste transfer station in the very community where the Mayor and the President of the City Council live.
For a Better Bronx cannot support a plan that legitimizes the privatization of waste in New York City.
Waste Management which will begin the control of the waste business in the City is a company that has had a history of abuse and discrimination within our community in Mott Haven and abuse and discrimination against its workers, exposing them to dangerous working conditions and paying lower salaries in our communities when compared with workers in communities that are white.
I also just want to add in a comment on what Mr. Torres said before, that the reason why there's

no direct rail access right now at Allied is because Waste Management cut a piece of track so that Allied couldn't -- couldn't access the rail. That piece of track is very easily relaid, you know, if there was the political will to do so.
We affirm our commitment to defend our overburdened community against the waste facility that operates in the South Bronx and our commitment to take Waste Management out of our neighborhood.
We reaffirm our right to use whatever means necessary to fight against this ill-conceived waste management plan.
We reaffirm that this plan that claims justice because each borough will handle its own garbage is not in fact just, because of the locations of the waste transfer stations are almost all in low-income communities of color.

This is not environmental justice.
We reaffirm that the plan is based on bogus propositions like the one that locates the only transfer station located in a rich white neighborhood right next to where Mayor Bloomberg and the City Council Speaker Gifford Miller lives which is across the street from the new fancy high-income housing project that's just being developed. Do you really think this waste transfer station will ever really open and where will that garbage end up?
We reaffirm that this plan is ill-conceived because there is no plan here to start reducing the garbage as many other cities have done. Equal distribution of garbage is not environmental justice, zero waste is environmental justice.
We reaffirm our support for

this plan is a legitimization of a political strategy that undermines the struggle to end environmental justice because our garbage will be leaving New York City, going to poor communities to be landfilled at our cities and to Newark to be burned in a very poor polluted neighborhood right across the River, it's like 12 miles away from New York City, ten miles away as the pollution flies.

Is our garbage is being dumped in incinerators in other communities environmental justice?

We reaffirm that this plan is unacceptable because the garbage in the Waste Management transfer station stinks. Many of us in this community have to close our windows in the summer when it got really bad. Like, we can't emphasize this enough and to support what Paula Caplan said on behalf of the

Borough President, there's clearly a problem shipping waste out of that yard. The stuff here had been mishandled and not properly protected there or there's insufficient rail as we all know, we have insufficient freight rail out of the City and out of that yard. And stuff backs up there. And this plan will only add to that problem. And we do not see this DEIS addressing the problem of actually getting the stuff moved out in a timely fashion.

Now the Department of Sanitation has given Waste Management the largest waste corporation in the world, a present for its bad behavior. A long term contract for the garbage facility here in the South Bronx and an increase in its monopoly on the garbage business in New York for the next 20 years.

Privatization of New York City garbage with the worse waste company in the New York and the number one worst waste company in the world, is not environmental justice.

MR. SZARPANSKI: Thank you for comments.

Our next speaker is Harry Bubbins.

MR. HARRY BUBBINS: Thanks a lot for having this again.

So I wanted to say it's true, it's kind of -- we're skeptical of the commitment DSNY has given the facts that were mentioned earlier that there was a significant increase in permit expansion allowed. And we've recently, regardless of the company involved, you could of at least mandated a full environmental impact statement and that was not done. So I meet this with

skepticism, it's that this is a certain process and maybe then there would have been studies done about those effects with a full study, but that didn't occur unfortunately.

I want to zero in as well, I think one of the principles of borough self-sufficiency in Community Board 1 is getting all the garbage in the Bronx and that's rather unfair and there should be a program of mitigating factors and benefits for the community.

It's mentioned on page 13 of your executive summary in fact that one of the goals is to create new jobs on the Brooklyn economic development of the waterfront, Brooklyn waterfront. So it's within your task to do that kind of development throughout the City. Now, I'm sure that's the case with the recycling plant that there's

1
2 going to be a number of satellite
3 and peripheral benefits coming from
4 that so that should be similarly
5 included in the Bronx, especially
6 Community Board 1 given the fact
7 that we're handling all of the
8 borough's waste.
9 The mention of the Green
10 Berger Advisory Council, that
11 should be implemented immediately
12 even as this whole plan is being
13 fully considered so that there's a
14 local neighborhood advisory council
15 that is probably be good in
16 monitoring the Government as well
17 as the private companies'
18 fulfillment of this plan and in
19 general their operations in
20 general. And then it will move on
21 to develop trucks and mobile
22 distribution and these important
23 issues.
24 Also a
25 bridge and rail dialogue should be

1
2 included as the Borough President
3 mentioned, it's a very important
4 facility and you
5 can't get to it pretty much because
6 of the garbage and the rail. So
7 the Mayor should work to make that
8 part of this comprehensive plan.
9 And that would do well and much to
10 expand the South Bronx marine way
11 which the city DEC is already
12 working on with local community
13 leaders.
14 It's great that the
15 composting program be enhanced and
16 hopefully that will continue.
17 Also regarding waterfront
18 development, the two companies, Allied Waste
19 and Waste Management presently
20 occupy pretty much the entire
21 waterfront. There's also open
22 space that's not used by the new
23 facility, and hopefully DSNY can
24 help pressure those companies to
25 provide community access and

1
2 resources to have recreational
3 opportunities.
4 Parallel to that, the City
5 Department of Planning has
6 mentioned by the Borough
7 President's Office, has identified
8 two locations, one of them adjacent
9 to the Waste Management property
10 that are priority concerns for the
11 rezoning of Port Morris. So again
12 the Bloomberg Administration can be
13 having more cooperation through the
14 city agencies to bring that to
15 fruition and allow Community Board
16 1 to get waterfront parks.
17 And as I said, the zoning
18 plan I think there's two of
19 numerous sites as a priority.
20 It's great tonight, the
21 first three transfer stations need
22 to be open on the Upper East Side
23 so hopefully that will really
24 happen. As was mentioned, some
25 people are skeptical that that's

1
2 even going to happen.
3 Regarding waste reduction,
4 there should be, as I mentioned
5 earlier, as in other countries,
6 there's a law mandating that waste
7 be left at the source. For
8 example, department stores and
9 handling packaging, and therefore
10 they handle the cost of removing
11 that, therefore they pressure
12 companies to make less packaging.
13 So that's something that the City
14 Council can do or agencies or the
15 Mayor could bring forward to the
16 City Council and ask for a local
17 leader to take up that.
18 The waste-free tax revenues
19 to reduce waste, the City pretty
20 much subsidizes a lot of businesses
21 especially these free papers that
22 are given out nowadays, they're
23 pretty much thrown immediately into
24 the garbage and that's millions and
25 millions of paper every year and

it's a lot of extra work that the Sanitation Department is doing at no cost for these businesses that provide metal and plastic and the newspapers are just one example.

McDonald's, all these restaurants and everything, people go and buy food, they get a hundred napkins with their bags and those are all thrown immediately to be picked up by your personnel. So that should be addressed somehow.

And finally you mentioned that biofuel study, I wonder how well a study because other cities are converting their entire garbage fleets to biodiesel. For example, Tacoma and Olympia, Washington have their entire garbage fleets run on biodiesel so hopefully that will become more of a strategy to reduce pollution as people's main concern today, the emissions from idling trucks that line up and that would

reduce the emissions, and probably with the purchasing power of New York City would reduce cost as well.

So thank you very much for the opportunity today.

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Silkia Martinez.

MS. SILKIA MARTINEZ: I'm here on behalf of the many asthmatics and asthmatic children, my daughter fortunately is not asthmatic.

Asthma plays an impact. Did you realize how many children in the South Bronx have asthma? And how many others you are going to be effecting trying to so called under quotations, solve the waste issue? I'm an asthmatic but thank God not I'm not a chronic asthmatic because I wouldn't been here speaking

today. But unfortunately the community you are putting this garbage in are communities of color.

I have not seen any other person come and testify in this hearings and say they are in communities who are not of low income.

I've seen it, I've lived it everyday and it's unfair to our community, our children and our senior citizens and everything else that we have in addition.

We have listened to this everyday. Do we know we are going to get it, no, because many of these politicians and other people who serve our community, don't really care. And it's unfair to stand here and seeing a lot of people say, yeah, we're going to do this, we're going to do that, we're going to try to eliminate the waste

but what about these trucks? The emissions of these trucks only weigh down on people mother's, our children lung's, they kill people with asthma every year.

People don't realize that this is not only a garbage issue, it's a health issue, it's a smell issue, it's a borough issue.

People say that the Hunts Point shouldn't be opened, but unfortunately I live in Hunt's Point and if I couldn't care less about what was going in there before. So I don't know what's the whole issue we're saying that they shouldn't open it because there's a market there and there's three transfer stations directly in that same neighborhood where the market is at.

So how am I going to be so little for when I see myself or what my neighborhood looks like.

1
2 That's what I want to know, why
3 people try to tell people in other
4 communities, no mentality. We're
5 not people because we don't have
6 the greedy amount of people Uptown
7 for low income who might not have
8 high working rate, but we're people
9 who actually know what it is and to
10 say it stinks in Hunts Point and
11 it's not fair. It's not fair to
12 me, it's not fair to them, it's not
13 fair to anyone who knows me in this
14 room to say I live in Hunts Point
15 and there's so many, 15 different
16 stations.
17 None of you have bothered to
18 get up on your two feet, get on
19 that six bus and look at the whole
20 perimeter of that neighborhood.
21 That's my upsetness and my
22 and my anger because I have to
23 stand every time when these
24 meetings come along to say that I'm
25 an asthmatic and I'm fortunate to

1
2 fight for what I want. And I don't
3 want to see any more garbage pushed
4 into my community.
5 MR. SZARPANSKI: Thank you.
6 Our next speaker is Marta
7 Rodriguez.
8 MS. MARTA RODRIGUEZ: Good
9 evening, I'm Marta Rodriguez and
10 I'm representing Sustainable South
11 Bronx, but I'm also a resident of
12 Hunts Point.
13 We support the opening of
14 the marine transfer station and
15 private marine or rail-based
16 alternatives because we need a fair
17 alternative to the permit
18 application system which
19 overburdens our neighborhoods and
20 other low-income neighborhoods of
21 color.
22 Our support of the solid
23 waste management plan is
24 conditioned upon the fact that this
25 SWMP will be of two or more

1
2 strategies. The SWMP must make any
3 new system, including the converted
4 marine transfer station and the
5 private marine or rail-based
6 alternative, conditional on the closure of
7 significant number of the private
8 land-based transfer stations
9 currently in operation in our
10 neighborhood. And I also believe
11 that you have to look further into
12 the environment, the fact -- the
13 fact is that the harm that it does
14 environmentally. Because it has to
15 be absurd that they say that it has
16 no type of harm.
17 I mean, we have one of the
18 highest asthma rates in the South
19 Bronx. We have trucks, we have the
20 smell of garbage. I mean, it's
21 unfair for someone to come -- that
22 someone that doesn't live around
23 here could come and say it's not
24 harmful to us. But we live here,
25 we breathe it and we suffer from it

1
2 so I think that it should be part
3 of the plan.
4 Thank you.
5 MR. SZARPANSKI: Thank you.
6 Our next speaker is Elena
7 Conte.
8 MS. ELENA CONTE: Hi, good
9 evening. My name is Elena Conte
10 and I'll be giving comments on
11 Sustainable South Bronx in addition
12 to the comments that Marta already
13 put forth.
14 Tonight's meeting especially
15 we know is on the environmental
16 impacts of the city solid waste
17 management plan. And the bottom
18 line is that a Sustainable South
19 Bronx wants to emphasize is that
20 the real way that the South Bronx
21 will be protected and the people of
22 New York served is through the
23 aggressive pursuit of zero waste,
24 an initiative that requires
25 planning and economic support for

waste prevention, reuse and sustainable economic development.

And while we believe that great commitment to the goal of zero waste and more planning can help bring it to reality in 20 years. And the details that we need to be filled in on that will come out at the SWMP hearings.

We also want to speak about the term reality. As you heard, we support opening of the marine transfer stations and private marine and/or rail-based alternatives, because we believe that it can be an equitable alternative to the current system which overburdens our neighborhood and other low-income communities of color, but that doesn't mean that it will be. And the way that things are laid our in the current plan, leaves a lot of questions in our minds.

The bottom lines which must be adhered to despite any circumstances are: Borough self-sufficiency, the closure of the land-based stations and the reduction of excess permit capacities in the Bronx.

Currently, the Bronx generates an average of about 3600 tons per day of the residential and commercial putrescible waste combined. While the 3600 number varies, the total Bronx putrescible capacity needs to be reduced to a maximum of 4,000 tons per day.

The current DEIS and SWMP, while these principles don't do enough to ensure that the necessary changes will take place.

Page 11 of the draft SWMP says that among the long term export programs major advantage is, is that the quote, use of existing private transfer stations capacity

allows some components to be implemented on a faster timetable and avoid City investment in new capital products, projects, excuse me.

Of higher concern than avoiding City investment and other types of expediency, however, are the reduction of excess capacity, the closure the land-based stations and the strict adherence to the principal of borough self-sufficiency and relying on that existing capacity is not an acceptable way to try to implement the basic principles.

So in spite of the historic and current burden that the South Bronx has had to bear, it's willing to accept the garbage that it creates provided that the standards of operation of the facilities charged with handling this waste, are dramatically improved to truly

ensure the safety and well being of the surrounding neighborhoods. The safety and well being of the neighborhoods includes that of the workers at the facilities who deserve being given prevailing wages, uncompromised safety protocols and other basic rights.

Furthermore, these facilities should be required to make significant contributions to the neighborhoods to make sure they receive meaningful benefits for housing these facilities.

We expect that the City should include this as a requirement for all stations with which it enters into any kind of a contract.

Furthermore, notices should not be made without the people of the neighborhood. To ensure you meet the bottom line, a plan for closing the private land-based

transfer stations should be considered at the same time as the plan for opening the MTSs and the alternatives in this SWMP DEIS.

The City should commit to a plan that includes a community advisory group and a timeline of milestones to develop and implement the redistribution of waste capacity for communities with the largest number of land-based transfer stations as is proposed in the draft SWMP.

It's only after the details in that plan so this redistribution plan has been worked out to the satisfaction of that community group, that the City should enter into -- that's a really bad word -- should enter into a contract with the private company for DSNY-managed South Bronx waste.

To protect the neighborhood for long term capacity, only one

company should get that contract for DSNY-collected waste. But after that will be considered, after we flush out the plan, the community input on that group of how we're going to redistribute all that excess capacity.

So that gives you some of the general principles. I really want to highlight just a couple of key points, although I'll get much more into it in the written comments.

But that the current analysis represented by this DEIS does not go nearly far enough to address, it doesn't really do the job that it even claims to let out.

So the first point that has to be raised is it hasn't been presented to us or discussed at any public hearings thus far or any of our other conversations with the City, is this proposed intermodal

facility in the Harlem River Yard, okay.

Sustainable South Bronx is opposed to the creation of a facility that will allow the Bronx to receive containerized garbage from other boroughs to be railed though their neighborhood. The current documents would allow for this facility to receive containerized garbage from East 91st Street, the North Shore converted MTS, and West 59th Street.

Not only is this proposal a transparent violation of borough self-sufficiency, I mean, why bother to keep this facility if you're going to bring it right back up here, that's not right anymore.

The DEIS's assertion for the creation of such a facility is not subject to any kind of additional environmental review? That's

disastrous and it really exemplifies the worst attempts to sneak in other polluters and it's overburdening without any community input. I mean, that, you know, I've been reading all this stuff for months, I have to say I've been following it with my entire group from the point of the Sustainable South Bronx and all the documents, and I come upon the proposal to open this facility and I'm thinking, how is it possible that I have never heard about this and I've never heard anything of this discussed anywhere, it's unbelievable.

So the way that it currently works is that the plan would allow the responders to the City's argument and the City to make this decision in a back room. I want to be very clear, an intermodal facility in the Bronx getting

garbage from outside the borough is completely unacceptable.

The second point related to the DEIS refers to the insufficient gathering of analysis that the current DEIS offers and that's really an understatement.

The DEIS makes references to previous studies done in '94 and done in '97, 2000 but it doesn't provide an analysis of the impacts that the existing system has on the community. And a refusal to do this slightly shows the willingness to perpetuate the environmental injustices by depending on the sort of studies that we know has been proven over and over again has discriminated against the people of the neighborhood.

In particular, none of these historical studies have examined off-site impacts. This omission is what created the current situation

and there is no analysis in this DEIS of what the perpetuation of the current situation will be. You're calling it the future no-build alternative, but you're also calling it okay by refusing to do a full analysis of what's really going on here right now, that's a major leap in logic, since we know that Bronx's air quality is, you know, has received a grade of F from the American Lung Association, and high asthma rates so on and so forth.

So the DEIS doesn't provide any new information with regard to the waste management site. With regard to the East 132nd Street site, the operation that the proposed Oak Point Intermodal site are also being exempt from review.

The new truck traffic up the Bruckner and all the way down Barry Street are not analyzed. And it's

essentially trying to conclude that air quality is only going to be affected at one intersection at East 138th Street and Bruckner and that, you know, it's not going to be of significance.

So essentially the DEIS concludes that by changing the traffic signals, this is its big recommendation for the whole impact, that if you change the traffic signals at 138th and Bruckner Boulevard, the environmental impact of the waste from the entire borough of the Bronx is going to be mitigated. I mean, that in and of itself is a conclusion is unbelievable that that's what you're putting out there as what the impact is going to be. It's really insulting to the realities that people are living with.

So clearly, we need more

controls that need to be installed in our existing facilities, whatever facility get that contract, I'm going to include those in the written comments.

Just two more quick points. Well, with one other point. Just that the environmental impacts of the transfer station siting regulations and the transfer station operational regulations, should also be being assessed as part of the environmental review of the SWMP. It's absent from the analysis that you provided and it is inappropriate for DSNY to separate a set number of regulations governing a private land-based state waste transfer system from the delivery process of the overall SWMP.

That's enough for now. See the rest in writing, thank you.

MR. SZARPANSKI: Thank you.

Our next speaker is Sharon Joslyn.

MS. SHARON JOSLN: Good evening, my name is Sharon Joslyn, I've been a resident of the South Bronx since 1980 and I work at St. Luke's Church on 138th Street.

We do a lot of work in the community, we're always active, trying to improve the quality of the life. We're very rarely approached or informed of anything that is happening in the community and we do resent that.

The South Bronx is affectionately referred to sometimes as the Downtown Bronx, but some of us from the work that we've been doing, we're beginning to call it the Dumptown Bronx. Because every time a facility has to find a place for its location, it comes to the South Bronx.

And I remember when DNY

auxiliary came and it was in the paper, it's there because nobody lives there. And you're saying there's no significant impacts on the environment. Well, our population is part of the environment and we're suffering with asthma, with health problems. We're trying to work, we're trying to get our kids to schools. And we think that means that we are insignificant.

What we want is, in a capital city of the world, New York City, that there be more creative management of waste and we know that is possible. Whereas, other people have said that there be a just a way of dealing with waste and I know we can do it.

We would like to see quality of life considered. Look at our beautiful waterfront here that we have no access to. We would like

to see something done with that, make life better for people and not burden our people. Thank you.

MR. SZARPANSKI: Thank you.

Our next speaker is Timothy Logan.

MR. TIMOTHY LOGAN: Hi, Timothy Logan, on here speaking on behalf of the Consumer Policy Institute of Consumers Union (holding computer.)

I think part of the problem is we look at what you've done for this DEIS, come to the fact that it's you, Mr. Szarpanski that's running it and you're Assistant Commissioner of Long Term Export. That means that the entire Department has failed in looking at what they were doing when they were doing their comprehensive solid waste management plan. Because if they were being comprehensive, as put out here in a letter by the

Commissioner, which I will read to you. This is an excerpt, "In addition to continuing programs designed to reduce, re-use, prevent and recycle and compost solid waste, a key component of the proposed new SWMP is the development of the state-of-the-art MTSs."

That was a letter from Commissioner Doherty to elected officials of involved agencies and interested parties on the New York City new comprehensive SWMP CEQRA and CEQR notice of determination on May 3rd, 2004.

You notice it say says, a key component is the marine transfer station, not the whole damn thing. I think it's somewhat clear on that case.

The idea here, the comprehensive solid management plan according state legislation

requires it, is that we're implementing regulations for the City to produce a 20-year comprehensive plans which covers all aspects of the current and future solid waste management including alternatives to disposal, waste prevention, reuse, recycling and composting, while simultaneously evaluating the facilities needed for long term export.

A comprehensive solid waste management plan should contain many other sections that thoroughly cover at least diversion strategies as well as the detailed steps and necessary infrastructure to the City's proposals for the next 20 years. Instead, this request of a plan for the next few years to reconstruct facilities that are needed only to enable long term export.

The 20-year solid waste management plan can and should comprehensively deal with waste diversion options.

The notice of determination should not tell us one thing as quoted in the letter and then fail to have any chapters devoted to waste diversion strategies.

The DEIS almost entirely fails to deal with waste diversion strategies with certainly a noted exception of the Hugo Neu facility and a few minor other points.

I think it's been said by almost every person who came here tonight and it was mentioned in your SWMP, that this solid waste management plan considers zero waste but then you kind of dismissed it and I think that's a significant failure because, as you take a look at what was done, they haven't particularly come up with a

plan, hundreds of ideas of how we're going to reach this 70 percent diversion by 2015, which is laudable. Nor have they particularly looked at the commercial waste structure to designate how they're going to get to this 35 percent diversion rate of DSNY and commercial waste by 2007.

Those figures are simply inexcusable. Thank you.

MR. SZARPANSKI: Thank you.

Our next speaker Yolanda Gonzalez.

MR. TIMOTHY LOGAN: She asked me to step up here and give her comments so I'll read them from my seat.

I was also asked by the President of the Bronx SWAB to deliver these comments. They will in fact be delivering written materials in time for your January 24th deadline I believe it is.

The Bronx SWAB supports, so this is on behalf of the Bronx SWAB.

The Bronx SWAB supports the closing of the South Bronx MTS and the move to export waste from the City by barge or rail as opposed to the trucks.

The SWAB would like to provide comments on whether the City should pursue one of two designated Bronx sites other than the Harlem River Yards and the Allied 132nd Street Facility. However, there is no information provided that would enable our analysis of the comparative environmental impacts of the sites.

The Bronx SWAB is concerned to see the mention of the Harlem River Yards as a potential barge-to rail-transfer station for other boroughs' waste. We oppose such a move because utilizing this

facility would increase the waste disposal burden on the Bronx, overburdening an already taxed rail line.

The SWAB supports the export a Manhattan's commercial waste to a transfer station in that borough to reduce the impact of commercial waste transfer on our neighborhoods in the Bronx.

The SWAB supports the Hunts Point Market Composting Project and urges the City to move more expeditiously than the timeframe laid out in the plan.

The SWAB strongly supports the goal of 70 percent diversion by 2015 which is consistent with the SWAB goal of zero waste by 2024; however, the plan provides no detail on how that goal will be achieved.

It is necessary to build more recycling infrastructure to

achieve the 70 percent recovery goal. The Bronx SWAB strongly suggests that the City develop capacity in each borough through borough-based recycling industrial parks.

The SWAB supports the reinstatement of the Botanical Gardens Composting Program. However, greater attention to composting food waste is critical to achieving aggressive diversion goals.

The commercial waste section of the plan does not pay any attention to waste prevention or recycling. The City will not be able to meet a goal of 70 percent reduction without addressing the commercial and construction and demolition and debris streams.

The plan states an intention to increase transfer station fees; those increased revenues should be

dedicated to commercial waste prevention and recycling programs.

The plan should include an investigation of commercial waste franchising. However, any franchising scheme must exempt recyclables to provide maximum competition in recycling markets.

The plans states that the City supports Federal legislation to establish extended producer responsibility for electronic waste. While this a positive statement, the City should be pursuing local EPR legislation.

And if you care to find us on the Net at production.org and www.cleanfreshnetwork.

The plan should include the City support for expanding the State's Bottle Bill as a means for increasing the recycling beverage containers. Plastic packaging is clearly a problem that must be

addressed through policy means.

The Bronx SWAB encourages the City to implement programs and policies to control plastic waste and eventually prohibit the use of plastics that are not recyclable in the City's program.

While it is wise for the City to seek alternative technologies to manage its waste, many of the technologies proposed for study are black box approaches or new versions of incineration.

Anaerobic digestion should be pursued immediately and aggressively because it would enable the organic food waste stream to be recovered as a valuable compost and could generate energy as well.

Thank you.

MR. SZARPANSKI: Thank you for your comments.

Is there anybody else who

signed up to speak and wasn't called? Any other speakers?

If not, I thank you for coming and I urge you to get any comments you have in writing to us by January 24th. Thank you.

Copies of my presentation will be available at the end of the discussion.

(Time noted 7:33 p.m.)

C E R T I F I C A T E

STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

I, Marc Russo, a Notary Public within and for the State of New York, do hereby certify that the within is a true and accurate transcript of the proceedings taken on December 6, 2004. I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 10th day of January, 2005.

_____

MARC RUSSO

THE NEW SOLID WASTE MANAGEMENT PLAN
DEIS PUBLIC HEARING
FOR THE QUEENS ALTERNATIVE
TO THE PROPOSED GREENPOINT CONVERTED
MARINE TRANSFER STATION
HELD AT: 33-31 39th Street
Sunnyside, New York
December 8, 2004, 6:21 p.m.

Reported by:
MARC RUSSO
Job#: 167213

A p p e a r a n c e s:

HARRY SZARPANKSI, P.E., Assistant Commissioner,
DEPARTMENT OF SANITATION, 44 Beaver Street, 12th floor, New York, New York 10004

WALTER CZWARTACKY, DEPARTMENT OF SANITATION

SARAH DOLINAR, DEPARTMENT OF SANITATION

ALSO PRESENT: JORGE FREIRE, HOWARD FREIRE, Spanish interpreters

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MR. SZARPANSKI: Good evening everyone. My name is Harry Szarpanski. I'm the Assistant Commissioner for Long Term Export at the Department of Sanitation.

With me tonight are Sarah Dolinar and Walter Czwartacky of the Department. Also with us, we have Susan Raila and Dan Harkins of the firm of Henningson, Durham & Richardson, HDR. HDR is the firm that is responsible for conducting the environmental impact statement for this project and it's the EIS that we're here to talk about tonight.

As you may know, in October of 2004, the Department of Sanitation issued a New York City Comprehensive Solid Waste Management Plan for the next 20 years. As required, the new SWMP, as we refer to it, has been submitted as a draft to the City

Council.

The new SWMP is proposed to replace the current SWMP and must be approved by the City Council before it can be submitted to the New York State Department of Environmental Conservation for final approval.

The new SWMP plans for the management of all of the solid waste generated in the City over the next 20 years and is supported by a draft environmental impact statement, or EIS, on which we will take comments this evening.

My comments tonight will be brief. I will make a short power point presentation before the public portion of the meeting begins. Copies of my statement and presentation will be available at the end of the meeting.

Should you require the assistance of a Spanish

interpreter, please let the individuals at the front table know.

Because the real focus of this public hearing will be your comments, if you plan to make a statement for the record, please take a moment to fill out the speaker sign up sheet and submit it to the individuals at the front table. You will be assigned a number and I will call your name when it is your turn to speak.

Note that elected officials, who may be attending other meetings on behalf of their constituents on any given night, will have the opportunity to speak first.

We're interested to make a complete record of your comments so please state your name clearly and slowly for the stenographer.

So that everyone here who wants to speak, can speak, we

normally ask people to limit their statements to three minutes, but seeing that there are not a lot of speakers, we'll dispense with that time frame.

If you do not wish to speak but would like to provide us with written comments, please complete a comment card that we've provided for your use.

Thank you for coming and I'll now begin my short power point presentation.

(Showing slides) As I mentioned, this is a public hearing on the City's DEIS for the draft comprehensive solid waste management plan. Both the SWMP itself and the DEIS were issued by the City Department of Sanitation and are available on our website as listed there. There are also four public repositories in Queens where you can view these documents.

The City Council also is planning to hold hearings on the new SWMP in January or February.

There are three broad categories in the SWMP. The first one is recycling. Then the SWMP addresses Department of Sanitation managed waste and the commercial waste.

With respect to recycling, our goals are to hold down the cost of recycling and expand barge transport of recyclables. Our other goal is to meet a 25 percent recycling goal for the Department Curbside Program by 2007 and by that same date, meet a 35 percent recycling goal for all Department-managed waste.

The specific initiatives on recycling include entering into a 20-year contract for metal, glass and plastic processing and marketing, and for a new recycling

processing facility at the South Brooklyn Marine Terminal. The company we're looking to contract with is called Hugo Neu.

Enhance composting and waste prevention programs are part of the initiative; developing an electronics recycling program and establishing a recycling education center and recycling acceptance facility at the Gansevoort Peninsula in Manhattan or an alternate site in that borough. And the site that we're looking at at Gansevoort is a site that used to be a marine transfer station that the Department ran. It's just below 14th Street on the West Side.

Specifically with respect to Queens recycling, in July of 2004, weekly recycling collection started again. Department of Sanitation trucks collecting recyclables will take them to the Long Island City

acceptance facility and to New Jersey, but eventually when the Brooklyn facility is built, they will barged to that Brooklyn site.

And composting began in the fall of 2004 at Idlewild Park and in addition, full funding was given to the Queens Botanical Gardens for composting information programs.

With respect to Department of Sanitation managed waste, our goals are to end use of long-haul trucks for waste transport, and export more waste by barge or rail; we're looking to stabilize waste export costs; distribute waste transfer facilities throughout the City and containerize waste to get more transport and disposal options.

Specific long term elements of the export program include use of private transfer stations for barge and rail export of

containerized waste from the Bronx and from the Brooklyn and Queens communities once served by the Greenpoint and South Bronx Marine Transfer Stations.

We're also looking to complete the Staten Island Transfer Station construction and begin exporting Staten Island waste by rail. We're looking to enter into a long term contract for disposal of a portion of Manhattan's waste at the Essex County Resource Facility in Newark, New Jersey and we're looking to build four new marine transfer stations at existing MTS sites and those sites are: At East 91st Street in Manhattan, at the North Shore in Queens, Hamilton Avenue at the Southwest Brooklyn site and just to point out that the Greenpoint Marine Transfer Station where waste from this wasteshed used to go, is

not going to be converted.

On the commercial waste side, we're looking to limit new or expanded transfer stations in communities where they are already concentrated; establish new operational regulations to reduce noise, odor and dust at private waste transfer stations; study how to lessen waste truck transport on truck routes through residential areas; expand barge and rail export of commercial waste from Department-contracted transfer stations; export some commercial waste through the marine transfer stations which we do plan to convert. And offer up the West 59th Street Marine Transfer Station for use by the commercial sector to export commercial waste for Manhattan.

The draft EIS looked at environmental consequences of sites

and facilities that are, or may be part of the proposed new SWMP, as well as alternative sites and facilities that are not part of the recommended sites.

It identifies things that the City would do to avoid potential significant adverse impacts and it also meets the City and State environmental review requirements.

This map shows the location of the various marine transfer stations that we are going to convert and the private existing transfer stations where we're looking to contract for export of the waste services.

Specifically for this area we're looking to enter into a long term contract with a private waste company for truck-to-rail or truck-to-barge disposal of Queens waste that used to go to the

Greenpoint Marine Transfer Station in Brooklyn. The facility is Waste Management's facility at 38-50 Review Avenue in Queens and the Long Island Railroad Maspeth Rail Yard.

There's a proposed expansion of the waste processing capacity. The proposed expansion is going to be offset by reducing processing capacity in the region; it requires modification of waste transported by barge, and a truck-to-rail operation with truck containers to the Maspeth Rail Yard.

This map shows the various Queens wastesheds. The one we're discussing or we're talking about tonight is the one in blue and it shows the location of the existing Review Avenue Transfer Station that we're looking to contract with.

The findings of the draft environmental impacts with respect

to this facility, traffic and air quality, there's no significant off-site impacts for traffic or mobile air. We evaluated the trucking of full containers of waste and return of empties between Review Avenue and the Maspeth Rail Yard.

With respect to odor and noise, again, no significant adverse impacts. The Maspeth Rail Yard is permitted to receive waste in sealed containers and off-site noise analysis showed no significant impacts.

With respect to traffic, air quality, odor and noise, no significant adverse traffic, air quality or noise impacts were shown through the environmental impact analyses.

These are the various ways in which you can comment on this draft EIS. You can provide

comments tonight by filling out a speaker card and speaking, or you can fill out a comment sheet and submit it to us or you can given us written comments, either tonight or you can mail those written comments to us. And we ask that you send those comments by January 24, 2005.

I will now turn it over to comments by the public.

And our first speaker is Jerel Klue representing Council Member Eric Gioia.

MR. JEREL KLUE: My name is Jerel Klue, J-E-R-E-L, last name Klue, K-L-U-E again, representing Council Member Eric Gioia's office.

First and foremost, let me pass on from the Council Member and his family, a very happy holiday. I hope that everyone is doing well and has a great holiday.

And I would like to read this letter into the record.

"Dear Mr. Doherty: I'd like to thank you for coming to Sunnyside and speaking to the concerned citizens of our neighborhood. Your hard work and efforts are appreciated.

Tonight, I want to take this opportunity to discuss a few concerns that residents have raised regarding the New York City Department of Sanitation's draft comprehensive solid waste management plan.

Our neighborhood is a special place with easy access to public transportation, an amazing array of cultural institutions and hardworking people who care about their schools, streets and each other. This neighborhood is already a great place to live, work and raise and family, and because of its people, it also has more potential than perhaps anywhere

else in the entire world. However, before we reach this potential, we must first ensure that the quality of life for our residents is safe and secure.

Constituents contact my office on a daily basis about traffic problems on our streets. From increased noise and air pollution, to potholes and traffic jams, our streets are experiencing the effects of a system overwhelmed by cars and trucks. In fact, our streets are more crowded than they've ever been.

The draft plan will add even more traffic to the stressed system with garbage trucks bearing waste from across the borough barreling down our streets, barreling through our streets.

My office has written several letters to ensure that trucks stick to their prescribed

routes on main roads, but with traffic-jammed streets, commercial traffic is often diverted down less traveled, residential blocks. Quality of life is a top priority for me, so I ask that for the sake of our residents, please take the time to closely analyze the effects of more car and truck traffic on our roads before enacting your final plan.

Furthermore, my vision for the area is that one day soon, people will come from near and far to enjoy our waterfront, from Newtown Creek to the Triborough Bridge. Filled with parks, libraries, and good schools, the waterfront should be a place for people to bike, jog or simply relax and enjoy the view.

The plan allows for the possibility of trash barges floating down Newtown Creek, the

site of the largest oil spill in the history of North America. I'm currently in the process of suing Exxon Mobil to compel them to take responsibility for the environmental degradation they have caused. Until Newtown Creek is restored, we must be sure to nurture this area back to health.

At the public hearing this evening, you and your staff must carefully consider the ideas, the opinions and feelings of all our neighborhood residents. Waste management is an integral part of our quality of life and our residents know its effects first-hand. Their input must be taken into account not only tonight, but on a consistent basis. They know their neighborhood best and their input is invaluable.

That you for your time and attention. Should you have any

questions or concerns, or if I can be of any assistance, please do not hesitate to call me at 718-383-9566. Sincerely yours, Eric Gioia."

MR. SZARPANSKI: Thank you very much.

Our next speaker is Joe Conley, Chairperson of Queens Community Board Two.

MR. JOE CONLEY: Good evening and good evening to everybody. Thank you for taking the time to come out.

It's like deja vu all again, here we go again. This is the third time now the Department of Sanitation's come in to our neighborhood trying to do something.

We had the waste transfer station, it was going to be on 21st Street and Jackson Avenue. They wanted to do something at the

former Phelps Dodge site. So we're asking the Department of Sanitation to please pull this plan. And despite what you said earlier Harry about the no impact of truck traffic in the neighborhood, I invite you to come to 48th Street any night you want, you see the truck traffic that's there tonight, tomorrow tonight, next week, from all the Sanitation and garbage trucks that go along 48th Street.

I'll invite you to come right to my front yard and listen to the trucks, it's incredible.

And so we've been pleading for years about this. We get zero cooperation about the truck routes so we know that with this increased truck traffic coming into the area, there's no such thing as negligible or no impact. This cannot happen and we're asking the Department of Sanitation to rethink their plan.

Also, that this an area that we're trying to build up and for years it's about recapturing the waterfront, recapturing wasted industrial land for revitalization and we seem right on the cusp.

Long Island City is enjoying a very big growth in housing, it's enjoying a very large population growth for new development and projects like this are going to stymie it, it's going to slow it. It's not going to encourage it.

So we think this is an ill-conceived plan, it's not addressing the needs of the City, it's not addressing the needs of the community. We ask you to go back and rethink about this.

There will be a letter coming from the Community Board but we did have this as a vote. The Community Board voted against it after careful analysis and it's due

to the quality of life and the impact from truck traffic that does and will continue and will increase with this transfer station at this site.

So Community Board Two respectfully asks the Department of Sanitation not to place this at this site.

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is Joseph Ruzalski.

MR. JOSEPH RUZALSKI: My name is Joseph Ruzalski, I'm with the United '40s Civic Association. I'm representing Community Board Five, Tony Anunciata and his environmental over there, and I'm gonna ask to speak for the Blissville people.

Now, I've been down there on Review Avenue viewing this and it's pure hell down there, it's a damn

mess. Right down there they're trying to do their best. I don't understand how you gonna take all the garbage trucks that are coming down and then -- first of all, I understand it's going be from a hell of a lot of districts it's going down there on Review Avenue now, causing traffic jams.

7:00 in the morning, 8:00 in the morning up until 1:00, the traffic jam on Greenpoint Avenue, which is off the truck route, of truck route, it's supposed to be Van Dam Street to Borden Avenue, make a right. Then go up right up Greenpoint Avenue. And the same thing with Maspeth. You're going down towards Grand Avenue, down Grand Avenue, where there's kids, there's schools over there.

You know, I don't understand what the people are trying to do. You're trying to jam up Maspeth.

Now you got the MTA down there on Grand Avenue, they're building and you're gonna have this rail station down there you want and we can't have it. It's causing too much havoc as it is now.

Right now we go down along Review Avenue, we get down to the river that we check along the Newtown Creek, you have rats down there. I mean, the rats are nice, if you like rats, you got rats, but who the hell wants it, we don't want them. And the stench. Now, when you're in the cemetery you can smell it.

Now with the new housing coming up in Long Island City on the tip down there, what is this going to do to them people down there? We do not need it.

So I advise, not advise, I would say listen, come down and see what's going on itself. I mean,

it's a pain, I go down there, I try to do my best. I got Gus driving me all over the damn neighborhood. I can hardly see anymore, I can hardly walk, but I'm fighting, I'll be fighting till I fall on the ground and I'll be there.

Now, the people of Greenpoint have the same problem, you're going to bring everything over there, over here, or here, over there, we don't need it.

Right now when you go down alongside the railroad tracks, cross over underneath the bridge, you got the Waste Management down there now. It's a damn mess. So please, we're all against it.

Thank you. Have a nice holiday.

MR. SZARPANSKI: Thank you.

Our next speaker is Dorothy Morehead.

MS. DOROTHY MOREHEAD: Hi,

I'm Dorothy Morehead, I chair the Environmental Committee of Community Board Two. I'm on the Queens Solid Waste Advisory Board and I'm on the Newtown, member of the Newtown Creek Alliance but here as a, with the community board and as a resident of the area.

We have had a lot of problems with trucks, a lot of problems with traffic in our area. Our air quality is very poor. We -- since I've been on the community board, which is now about 11 or 12 years, from the very beginning we've been asking for air monitoring for our community. We finally got temporary air monitors for six months in the summer about five years ago, and it proved all of our worst fears that Long Island City is one of the most, has one of the worst air pollution problems in the City.

The area where we live is called asthma alley mostly because of either power plants or the traffic. We are crisscrossed by major roads. We have the entrance to the Brooklyn/Queens, the Midtown Tunnel, we have the Brooklyn Queens Expressway, we've got Queens Boulevard and the Long Island Expressway that cross our community.

They are, they don't call the Long Island Expressway the world's longest parking lot for nothing. Traffic is dead stopped there.

What happens with truckers, though they're supposed to stay on truck routes, they don't, they will find, I don't know if the Sanitation guys are any different maybe 'cause they get paid by the hour, but they all find other ways to get out of the traffic jams and

they all go on public -- on the regular streets without -- that are not designated for truck traffic.

At our board meeting, we did not cover this at our environmental committee meeting, I brought it up to the entire board last Thursday night and we had almost a unanimous vote against this. It's not a good site for it.

I've been to many waste transfer stations both for the recyclables which I'm, by the way, very much in favor of, that's the good part of your project to do the recyclables, I applaud that. I applaud the fact that now we can, some of the Cities' household waste can be removed by using the machines, forget what they're called now the, in the sinks, the insinkerator type of garbage disposals. And certainly the recycling of the compostable

materials, I think those are laudable.

The siting of this is disastrous for our community. To bring all of this garbage on our City streets from six community boards is really excessive and we will do whatever we can to convince you to number one, transport by rail, and because there are major initiatives to improve Newtown Creek, not the least of which, I mean, a major thing would be the Olympic village if we ever got that, imagine what the impact of this would have.

I'm sorry to tell you, garbage stinks. I've been to a lot of dumps, a lot of the transfer stations, I've been to the self-help centers, both out in College Point and the one at Greenpoint Avenue, many times. It is not pleasant to be anywhere near

downwind of a transfer station even though they are enclosed and I'm sure the technology is improving it still, when the trucks come in, they always queue and those -- the trucks don't smell good. So to try and put this in an area where you're transporting so much waste through major, very highly densely inhabited communities is really a disaster and we hope it's all -- you can rethink this project.

Thank you.

MR. SZARPANSKI: Thank you for your comments.

Our next speaker is, we have Don McCallian.

MR. DON MCCALLIAN: My name is Don McCallian, I reside at 48-30 40th Street, Sunnyside, which is sort of right in the middle of the spots that we talked about tonight to you already.

And I am a member of the

United '40s Group which has already been well-represented. I'm also a member of the 108th Precinct Council and many other groups connected with St. Teresa's Parish which is on 44th and 50th Avenues.

And I would just like to record maybe on behalf of the Ardly Tenants Association, which is a building right smack in the middle of the traffic area that you're talking about. I'd like to just tell you a little bit how people feel about this coming into the area. And as Joe Conley mentioned before from Community Board 2, they're dead against it.

Now, if you wish to go to Joe's house some night, maybe you can come over by me any day of the week and you'll see the truck traffic that's already coming into the area and through the area.

You add the tunnel which is

a big discussed item at the moment, you add your project to what it already is a mess and the people just can't stand it anymore. Not only do you have full trucks, you have empty trucks going back in the other direction which people don't seem to want to talk about, particularly with the cross-tunnel issue there, containers going out, they're going to be coming back either empty trailer or empty boxes on the truck.

So I would just start to relate to you on behalf of all the people of this area, that 48th Street, 43rd Street, 39th Street, Review Avenue, cannot take additional traffic without seriously injuring the area. Business-wise, real estate-wise and people-wise and as I say, I'm on 40th Street and Greenpoint Avenue, I'm sort of between all of these

areas, but I have many friends in the area that have been here for 40 years and I haven't met one person on the street that will say they're for this project.

So I would add to Joe's comments and just say, please reconsider the proposal you have on paper now.

Thank you, and have a good holiday.

MR. SZARPANSKI: Thank you for your comments.

Is there anyone else here who signed up to speak and I didn't call on?

Is there anyone else here who didn't sign up to speak and still wants to speak?

Please step up. If you can come to the microphone, please and please state your name

MS. GERTRUDE MCDONALD: My name is Gertrude McDonald, I'm a

homeowner in the area and I'm on the Public Safety Committee on Community Board Two.

We had many complaints about the trucks going through residential streets because most of the truckers don't know where the truck route is in the first place. And we wrote letters and I have a letter at home that states that our streets are not paved to withstand heavy trucking. And now you're asking us to accept more than what we already have which really is more than we can stand.

And in your statement here, it says they'll be no impacts from traffic and noise? Where we going to get those quiet Sanitation trucks? Does anybody listen to the noise that they create?

So a lot of things have to be considered here. We are overloaded with trucks and the

streets cannot withstand any more heavy trucking.

And when the pipes break in the streets, the homeowner is responsible. So is the City paying any attention to those problems or we waiting until they happen?

What happened, can you answer me?

MR. SZARPANSKI: The forum tonight is for us to accept comments and any questions you ask will all be answered in written form.

MS. GERTRUDE MCDONALD: Good. But I hope you give that a lot of consideration 'cause the whole community is against it.

(Continued on following page.)

MR. SZARPANSKI: Thank you for your comments.

Is there anybody else here who would like to speak? If not, thank you all for coming, have a good holiday.

(Time noted: 6:52 p.m.)

C E R T I F I C A T E

STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

I Marc Russo a Notary Public within and for the State of New York do hereby certify that the within is a true and accurate transcript of the proceedings taken on December 8th 2004. I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF I have hereunto set my hand this 3rd day of January 2005.

_____

MARC RUSSO

THE NEW SOLID WASTE MANAGEMENT PLAN
DEIS PUBLIC HEARING
OR THE SOUTHWEST
BROOKLYN CONVERTED MARINE TRANSFER STATION
HELD AT: I.S. 228
Brooklyn, New York
December 15th, 2004, 6:20 p.m.

Reported by:
MARC RUSSO
Job#: 167216

A p p e a r a n c e s:

HARRY SZARPANKSI, P.E., Assistant Commissioner, DEPARTMENT OF SANITATION, 44 Beaver Street, 12th floor, New York, New York 10004

WALTER CZWARTACKY, DEPARTMENT OF SANITATION

VAUGHAN F. ARNOLD, DEPARTMENT OF SANITATION

SARAH DOLINAR, DEPARTMENT OF SANITATION

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MR. SZARPANSKI: Good evening everybody, we're about to get started.

My name is Harry Szarpanski. I am the Assistant Commissioner with the New York City Department of Sanitation, Bureau of Long Term Export, and I welcome the opportunity to appear before you tonight.

With me are Walter Czwartacky, Sarah Dolinar and Vaughan Arnold of the Department. Also with us are Susan Raila and Dan Harkins of the firm of Henningson, Durham & Richardson, HDR. That firm is responsible for preparing the draft environmental impact statement.

We also have representatives of Ecology and Environment who helped us organize this meeting tonight.

As you may know, in October

of 2004, the Department of Sanitation issued a New York City comprehensive solid waste management plan for the next 20 years.

As required, the new SWMP, as we call it, has been submitted as a draft to the City Council.

The new SWMP is proposed to replace the current SWMP and must be approved by the City Council before it can be submitted to the New York State Department of Environmental Conservation for final approval.

The new SWMP plans for the management of all of the solid waste generated in the City over the next 20 years and is supported by a draft environmental impact statement, or draft EIS, on which we will take comments this evening.

My comments tonight will be brief. I will make a short power

point presentation before the public portion of the meeting begins.

Copies of my comments as well as the presentation will be available at the end of the evening.

Because the real focus of this public hearing will be your comments, if you plan to make a statement for the record, please take a moment to fill out a speaker sign up sheet and submit it to the individuals sitting at the front table. You will then be assigned a number and I will call your name when it is your turn to speak.

Note that elected officials, who may be attending many meetings on behalf of their constituents on any given night, will have the opportunity to speak first.

We are interested to make a complete record of your comments.

Please state your name clearly and slowly for the stenographer.

So that everyone who wants to speak can be heard, we ask that you limit your statements to three minutes; we can go a little over three minutes given that not that many people have signed up to speak.

If you do not wish to speak but would like to provide us with written comments, please complete a comment card that we have provided for you use.

Thank you for coming and I will now begin my short power point presentation.

(Showing slides) as I mentioned, this is a public hearing on the City draft DEIS for the draft comprehensive solid waste management plan. Both the new SWMP and the DEIS were issued by the City of New York Department of

Sanitation.

The DEIS also supports the State solid waste, air and marine permits that are required to construct and operate the converted MTS.

Both the DEIS and the SWMP are available on the Department's website and also in six public repositories in Brooklyn for your review.

The State permit application for the converted MTS is also available for review at these public repositories.

The City Council will hold a public hearing on the new SWMP in January and I want to point out that Community Board 11 plans to hold a public hearing by the community board on January 13th starting at 7:00 sharp.

The draft new SWMP is organized in three broad

categories: It covers recycling, Department-managed waste and commercial waste.

With respect to recycling, the goals are to hold down the cost of recycling and expand barge transport of recyclables; meet a 25 percent recycling goal for the Department Curbside Program by 2007 and by that same date, meet a 35 percent recycling goal for all the Department-managed waste.

The specific initiatives on recycling include entering into a 20-year contract for metal, glass and plastic processing and marketing, and for a new recycling processing facility at the South Brooklyn Marine Terminal; to enhance composting and waste prevention programs; develop a new recycling program and establish a recycling education and recycling acceptance facility at the

Gansevoort Peninsula or an alternative Manhattan site.

The Gansevoort Peninsula is on the West Side of Manhattan just below 14th Street, the site of the former marine transfer station.

With respect to Brooklyn recycling, in July of 2004, weekly recycling and collections started again.

Hugo Neu will develop a recycling processing facility on City-owned land at the 30th Street Pier in the South Brooklyn Marine Terminal.

We began recycling collection again in the fall of 2004. We did not take those recyclables to the marine terminal, those did wind up either at the Fresh Kills Staten Island facility or at a composting facility in Bronx.

Full funding was given to

the Brooklyn Botanic Garden for composting and information programs.

With respect to the Department-managed waste, the goals are: To end the use of long-haul trucks for waste transport and export of more waste by barge or rail; to stabilize waste export costs; distribute waste transfer facilities throughout the City and containerize waste to get more transport and disposal options.

The specific components include building four new marine transfer stations at existing MTS sites, and those include the East 91st Street site in Manhattan; the North Shore site in Queens and the Hamilton Avenue Southwest Brooklyn converted MTS site in Brooklyn;

To use private transfer stations for barge and rail export of containerized waste from the

Bronx and from the Brooklyn and Queens communities that were once served by the Greenpoint and South Bronx Marine Transfer Station.

To complete the construction of the Staten Island transfer station and begin export of Staten Island waste by rail. And enter into a long-term contract for the disposal of a portion of Manhattan waste at the Essex County Resource and Recovery Facility in Newark, New Jersey.

With respect to commercial waste, we're looking to limit new or expanded transfer stations in communities where they are already concentrated; establish new operational regulations to reduce noise, odor and dust at the private waste transfer stations; study how to lessen waste truck transport on truck routes through residential areas; expand barge and rail export

of commercial waste from DSNY-contracted transfer stations; export some commercial waste through the converted marine transfer stations, and offer the West 59th Street MTS for export of commercial waste.

The draft DEIS evaluates the environmental consequences of sites and facilities that either are, or may be part of the proposed action in the new SWMP.

Also, we looked at alternative sites and facilities and evaluated them; it identifies the things the City would do to avoid potential significant adverse impacts, and the draft DEIS also meets City and State environmental review and permit requirements.

This is a map that shows the various wastesheds and it shows where the proposed converted marine transfer stations are to be located

as well as where the private transfer stations are, the ones that we are to contract with.

Specifically for the Southwest Brooklyn converted MTS, for the wastesheds formerly served by the Southwest Brooklyn MTS, we will develop a City-owned converted MTS on the same site where waste will be placed into containers and then exported by barge.

The expect average daily throughput is approximately 950 tons per day of Department waste and potentially up to 828 tons per day of commercial waste.

Commercial waste will only be accepted during the nighttime hours between 8:00 p.m. and 8:00 a.m. and also putrescible commercial waste would be allowed to come to the facility, not construction and demolition debris or fill material.

No more than 830 tons of commercial waste will be delivered during the nighttime hours to avoid any adverse noise impacts.

There would be no significant adverse on-site noise, traffic or air quality impacts.

This map shows the three Brooklyn wastesheds. The part in gold towards the bottom of the slide is the wastesheds for the Southwest Brooklyn converted MTS.

This is a summary of what the draft environmental impact statement analyses showed, that there was no significant adverse traffic impacts shown with traffic signal changes in place and minor intersection improvements.

No significant adverse on-site or off-site impacts were shown with respect to air quality.

The environmental review showed no significant adverse odor

impacts.

With respect to noise, the facility would not exceed the noise code at the property boundary and no significant adverse on-site or off-site noise impacts due to waste deliveries were shown.

In order to approve the converted MTS, it requires State, Federal and local permits and approvals. The MTS is also subject to the Uniform Land Use Review Procedure as a site selection for a capital project.

The converted MTS ULURP application was certified on November 15th and the ULURP process is ongoing.

And as I mentioned before, Brooklyn Community Board 11 will be holding a meeting and a hearing to consider and vote on the ULURP application.

The converted MTS State

environmental permit application, which includes solid waste, air and marine, was submitted in November to the New York State DEC. And the New York State DEC will hold a hearing and establish a public comment period on the converted MTS permit application as part of its review process.

This slide just shows how you can submit comments to us either on the draft DEIS or on the State permit application. You can fill out a speaker sign up sheet or you can submit a written statement or provide verbal comments tonight or you can make any comments. And we ask that you send those comments to us so we can receive them no later than January 24th, 2005. These could be either mailed to me at the address above or to our consultants.

And I will now open it up to

speakers who signed up.
Our first speaker is Councilman Domenic Recchia.
MR. DOMENIC RECCHIA: Okay, good evening.
First of all, before we get started, I would just like to introduce my attorney and the attorney for the City Counsel who's been with us working on this issue, Carmen stand up; he's been with me and he's the attorney who's worked on this whole project.
So at the end of the meeting if anyone has any questions, just ask Carmen and if you'd like to make an appointment to see us, we will be there to accommodate anyone and work with you.
Tonight we're here to discuss the Department of Sanitation's proposal for developing a containerized marine transfer station in my district.

We're here to discuss two issues: The first is the City's new solid waste management plan. The other is the proposed marine transfer station to be built on the waterfront between Bay 41st Street and 25th Avenue.
A new solid waste management plan for New York City is sorely needed. After the closing of the Fresh Kills Landfill in Staten Island, our garbage problems have only gotten worse.
The City produces over 12,000 tons per day of residential garbage. Just think about that, 12 tons per day, that's more than 4.3 million tons every year and that's just residential garbage that is handled by the City's Sanitation Department.
Figuring out what to do with all this trash is a major problem for our policymakers.

Currently, our garbage is shipped by private haulers to private landfills throughout the East Coast. As I'm sure you can imagine, paying private companies to dispose of 12,000 tons of garbage everyday is getting very expensive. We can't keep trucking our garage out of the City.
I applaud the Administration for seeking alternative means to deal with the garbage. In order to address this problem, the Bloomberg Administration wants to build four new marine transfer stations, one of which will be right here in Bensonhurst.
Tonight we're here to give our opinion on the draft of the environmental impact statement, also known as the DEIS.
This document, after my careful review, has a lot of problems with it.

First, the DEIS traffic analysis is nonsense. We all know how much traffic will be produced by this facility. This transfer station will be open 24 hours a day and it will the first one to handle private and commercial waste, as well as the residential garbage.
The commercial waste will represent a huge increase in the amount of garbage handled at the new MTS. I'm astonished that the DEIS recognizes only minor traffic impacts.
The traffic analysis is completely flawed; the DEIS significantly underestimates the amount of garbage coming to the site every day. The claim is that only 828 tons of commercial garbage will come in everyday, this is totally unrealistic.
I'm sure many of you remember the EIS study that was

done for Keyspan Park. That study also claimed a minimum traffic impact. Anyone who has tried to get to Cropsey Avenue before or after a game at Keyspan Park can tell you how wrong engineers were back then.

At this time, I'm requesting that a new traffic analysis be added to the DEIS that includes a realistic worst-case scenario that will show the true impact as well as new and creative mitigation options.

We all know that simply adjusting the timing of the traffic lights isn't going to solve the problems with this new transfer station.

I am also very concerned with the addition of commercial garbage to the site. The old Southwest MTS handled only the residential garbage produced by us

in South Brooklyn. The new facility is expected to handle almost as much commercial garbage as residential garbage.

The City needs to develop a better system to handle commercial garbage that doesn't place such a heavy burden on our neighborhoods.

My third concern focuses on waste management, the whole plan as a whole. We need to do more to find better ways to dispose of the garbage than the current truck-based system. But more importantly, we need to address the City's long-term waste management needs. The problem is only going to get worse. The plan does not do enough to address the issue.

We need to identify concrete methods of increases in recycling as well as devoting significant capital resources towards developing and implementing new

technologies and methods for waste disposal. That is something that I think we really need to look at and study it and see what alternative methods there are.

I know we've been working on that in the City Council, we had hearings just recently, but we need to do more to try to start experimenting with some of these new technologies, because I believe some of them could be very satisfactory and will work.

I'm happy to see that the Administration plans to include a whole section of recycling and new technology, but it's not enough.

While the Department of Sanitation is moving in the right direction, I feel that they need to do much more in order to make the goal a reality and provide real alternative methods of waste management.

Another issue facing this whole plan that must be addressed is that we have a marina very close by. We are extremely concerned with the environmental impact it will have on the fish and the sea and the waterways. But most of all, the impact it will have on the marina operated as a business.

I know that the plan is to extend the wall out, possibly 280 feet and build a king pile but I don't believe that's enough. And I'm sure you'll hear from the owners of the marina shortly, but what we have to do is that we cannot hurt this marina, it's been here a long time, we have to see to it that we accommodate them to see that their business is not damaged and the habitat in the water are not killed or damaged in any way.

We're only at the beginning of a long process here tonight.

They'll be many public hearings both at the community board, and as you said earlier, and in the City Council.

In January we'll be holding a major public hearing at Borough Hall to discuss the plan.

I've also discussed this with Speaker Gifford Miller of the New York City Council and we have decided from that meeting to hire an outside consultant to independently review the EIS. This will provide us with an unbiased analysis of the problems caused by this facility.

These are just some of the things that we found and we'll be rendering our opinion later on after we hear from the community and when we have our consultants and look further into the whole impact.

Thank you very much

(applause.)

MR. SZARPANSKI: Thank you Council Member Reccia.

Our next speaker is Assembly Member Bill Colton.

MR. BILL COLTON: Thank you.

First of all, I would like to compliment the Department for having the hearing near the incinerator site which does give an opportunity for people who live in the immediate vicinity and it will have a direct effect, so that was a very good thing and I would certainly, you know, we appreciate that.

This is part of an overall solid waste management plan and I would start off by saying that the goals and initiatives contained in the plan are basically a positive step in terms of, you know, the direction as opposed to the previous plan.

Obviously it is a positive thing to have garbage moved by barge or rail as opposed to trailer trucks. Obviously, it's a positive thing to encourage more recycling of various kinds to remove garbage from the solid waste stream so that it does not have to be disposed of in landfills or incineration, but rather can be reused, remanufactured, recycled. So those initiatives are certainly steps in the right direction.

Obviously the idea of, you know, new technology becomes very important. I think that we need to look more carefully at some various creative kinds of new technology and ideas on how we can create and more creatively deal with our garbage in terms of ways that we can recycle, reuse and remanufacture as well as ways that it can be, through the new

technology, turned into other sources that are useful to us in terms of gasification or energy and so on.

Those things need to be looked at carefully. Obviously they are new technologies, we don't have proof and examples of them on a large scale basis but I think certainly, you know, with the mounting cost of garbage collection, that's something that I think we need to put great effort into and I would like to see more effort in that area.

Now, in terms of the specific Southwest Brooklyn part of the plan, I've read the draft environmental impact statement and there are a number of concerns that have been referred to in it that I think still might be concerns for the community that will need further addressing.

One concern obviously is the whole question of traffic and I think that was raised by Councilman Reccia. I think it is a very valid concern.

I will say as I read through the plan, that was the area that stuck out the most to me in that the estimate of approximately 142 or 146 trucks utilizing it, out of 45,000 trucks that go on Bay Parkway, I think that was one of the charts that was shown, you know, it seems to minimize the impact, make it appear very small. But first of all, there's a real issue as to whether that is a realistic estimate and there's serious questions about that.

And secondly, it fails to take into account the full impact it has together with certain other unique characteristics that reflect the character of the neighborhood

traffic.

For example, a study done in December on Bay Parkway and the Shore Road exit would find that the traffic pattern is very, very different than you might have if the study was done in February. You know, these are things that are of concern.

Also, the back up that develops in conjunction with our traffic that may be in the area on a seasonal basis presents a series of quality of life issues for the rest of the community and for the neighborhood throughout the Bay Parkway area, as it goes back, 86th Street. It does have us concerned which needs to be addressed.

So I think that there needs to be a further study in terms of the traffic impact and I think the community is certainly going to expect and demand more assurance in

terms of how this is go to effect the traffic patterns of the neighborhood.

For example, when Home Depot opened a couple of years ago, there have been continuous complaints of large trucks going along Cropsey Avenue causing noise, you know, and the environmental impact statement and the studies that were offered at that time, you know, would seem to say that there wasn't a serious impact, but yet in real lives of people there is. So that's something that does need to be addressed further.

Also in terms of the actual building, there is going to be a certain amount of dredging needed, first of all, in the initial stage and then probably on a maintenance basis there is some concern about the impact of the dredging upon the water quality and the impact that

it will have upon some of the organic life that is in that water quality.

Now, I know the study has indicated that it will be a temporary effect and that it will not effect -- it will be rather limited in terms of what it actually does impact upon in terms of fish life and organic life that may be in the area, but that is a concern, you know, in terms of the community.

Also what is to be done with the dredged material? This becomes a particularly serious concern when we recognize that this dredging is being done on the base of the southwest, the old Southwest Brooklyn incinerator, which might have contaminated and hazardous substances connected with it from the old incinerator uses. So there is concern, you know, regarding

that and I would like to see a further study regarding that.

There's also concerns regarding the marina as has been mentioned.

Now, the barges coming in and out, the wake from them and the tugboats and other associated uses, you know, may have an impact upon the structure and the integrity and the well being of the marina, even beyond the impact that might be had during the construction stage. So that is something that we would like to see addressed further, the impact that this is going to have both in its construction stage as well as in its operation stage in terms of that marina. And also in terms of the effect it may have on the amusement park nearby. Because there is a children's amusement park just about adjacent, directly adjacent to the Southwest Brooklyn

site.

In addition, there are some concerns raised in terms of noise and odor.

Now, I ran through the environmental impact study and it does offer assurances that there's going to be an odor abatement system that will be utilized. Also, this is an improvement over the previous plan that had been, you know, basically was projecting a containerization transfer facility at Southwest.

Here, the containerization facility, the actual processing of the garbage I understand is going to be within a building, a structural building, so that it will have the opportunity to contain within that building, any odors that might be generated from this garbage. That is certainly a positive thing and we have

indications and assurances in here that there will be this odor abatement system, a negative pressure to keep dust from escaping and other such abatement measures to prevent the problem with odors.

But nevertheless, the experience has been, and this has not been with City-owned facilities but with private marine transfer stations facilities, the experience has been that when they attain too much volume, when they basically attain volume beyond their proper capacity, what tends to happen is garbage starts to store up, it starts to back up and that's where we will end up with problems with odors and maybe even noise and certainly traffic.

So there is a very real concern here in terms of the odor situation that the volume of garbage being processed is not such

that it cannot be processed promptly. If it starts storing up, and I know the plan indicates that the garbage is not going to be stored on the site, that it is to be processed on an ongoing basis, but volume is going to be an important factor in that.

One of the things that concerns me in terms of Southwest Brooklyn is that the amount of volume that is expected to be received at Southwest Brooklyn is listed as much less than the volume of other sites, and the feeling would be as the amount of volume of garbage grows in the City, that there will be a temptation to transfer more and more of it to Southwest Brooklyn as opposed to other sites on the rationale that we're just equalizing it.

Well, equalizing it in numbers, that might be true, but it

is causing a back up of the garbage, and an inability to process the garbage if it's causing an increase in traffic and a back up of garbage, that equalizing it may result in a very serious quality of life issue being raised and a big concern that the neighborhood has. So we certainly want assurances of that.

And then as also was mentioned, the issue of commercial garbage. That is something that was not received in the old Southwest Brooklyn Marine Transfer Station and that is certainly a question mark; I'm not even sure that the environmental impact study has really explored what that could mean, how is it going to be -- it basically indicated that there's going to be incentives to private, to commercial carters to bring garbage to Southwest. I would

really want to know what those incentives are going to be, what kind of garbage this is going to be in terms of where is it coming from. I assume it's coming by private vehicles, private-owned vehicles which raises questions that they are not under the same kind of regulation and supervision as City-owned collection vehicles would be and control in terms of the routes they take, are they going to be going down residential streets at 2:00, 3:00 in the morning? That's a very legitimate concern.

So that is an issue that, you know, raises real concerns in the community, the potential, you know, for quality of life problem. And there is certainly, you know, the community, you know, wants to be assured that this potential is not going to come about and affect

its quality of life because this is a mixed neighborhood, it's got residential, it's got apartment buildings, private homes and the potential for havoc with it in there and certainly we would want assurances of that on these kinds of issues that steps are going to be taken to make sure that this does not destroy or hurt the quality of life in terms of the specific element of the Southwest Brooklyn conversion.

I certainly, you know, would want to see more information on the environmental impact regarding both the traffic and also the kind of commercial sanitation that is going to be received and how it's going to be regulated in terms of what routes those trucks are going to be taking, what kinds of trucks are going to be coming in and just the level of it. I think that's

something, you know, that a concern, a real concern.

I would certainly like to, you know, compliment the Department of Transportation again, you know, the environmental impact statement was, you know, prepared. It was not done -- an attempt was not done by saying there would be no impacts, it covered many of the issues that we are concerned about, some of them, as I said, we need to dwell a little bit further on and explore further, but, you know, this is something that I think the community, you know, is interested in, we want to hear more about and at that point we'll be in a position to, you know, give a more definitive response as to, you know, what should be done with this site.

So I would like to thank you again for having this hearing here

and I'm certainly interested with what the rest of the community has to say and I will be remaining for the hearing in order to, you know, hear how people respond to this plan.

Thank you (applause.)

MR. SZARPANSKI: Thank you Assembly Member Colton.

Our next speaker an Adeline Michaels.

MS. ADELINE MICHAELS: My name is Adeline Michaels, I'm Chair of the Concerned Citizens of Bensonhurst.

The Concerned Citizens of Bensonhurst is grateful to see the incinerator stacks down finally. However, I do not understand the policy of this Department to tear down the existing incinerators within our City and yet request that another incinerator be built Upstate New York, Essex County -

Albany News - clouds move very rapidly.

The practices of burning will never cease as long as we allow waste management and associate haulers to practice in this state.

On December 8, 2004, two engineers, James Binder and Susan Higgins presented City Hall Sanitation Committee Chair Michael McMahon evaluations of new and emerging solid waste management technologies, Alternative Resources Incorporated located in Massachusetts.

Commissioner Doherty made his presentation commenting and criticizing every technology possible and spreads propaganda how every technology an still in the laboratories. Yet the study of eight months proved that thermal technologies are out in front.

And as I made my presentation, I was asked to request the Solena Group to apply as the committee requested it. The Solena Group responded with a request to meet the study challenge and build an existing pilot program for one year on the existing landfill and handle two to 3,000 tons per day at a cost of less than 12 million.

Other technologies requested 140 million. The Solena Group gave them a fraction of the cost for a contract with a permit, with permits.

The Legislator informed them it is not done this way in this City.

Asthma is on the increase daily, change is 20 years away.

The study will continue and only you, the people, can retire these existing commissioners and

allow progress to commence.

We need to be the leading City of the world, not the last to change policy on how we handle our waste.

Europe and Asia has changed.

The present commissioner was a former employee of waste management. It does not surprise me he would push to promote the existing system of incineration and landfill. He cares less about air quality.

The people need to demand and speak out against the existing systems failure to produce a better environment of air quality and cleaner fuel that will be carrying the waste to the existing sites.

Above all, eliminate incineration in Nassau and Newark, New Jersey which we pay to burn our garbage. We do not need containerization or pay high

tipping fees. We need new technology. Open the door ladies and gentleman.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Bryan Thomas Gagliano.

MR. BRYAN THOMAS GAGLIANO: Thank you.

I'd like to thank the earlier speaker that showed up and cared about a marine-based marina, we do appreciate it and thank you for sharing your concerns as well.

My name is Bryan Thomas, my family, the Gagliano Family has owned a marine-based marina property adjacent to the Sanitation Department since 1963. We've been paying our taxes on a tax lot which start from Shore Parkway and extend out to the end of our jetty which is 800 feet beyond the Sanitation bulkhead. I have a closing tax

bill for my presentation.

We were informed about a year ago by the community board that the Sanitation Department was considering installing a transfer station at the site of the old Southwest incinerator; this property immediately adjoins our property.

Aside from all the concerns that -- with the environmental study, which we agree with, it also brought on two immediate concerns to us.

The proposed plan submitted to the community board, and it was submitted to the marine-based as well, showed encroachments onto Bay 41st Street and on to the marine-based marina property.

Secondly, the City's plan states the trash will be removed via barge on a tugboat. In the past, the movement of City tugs in

barges at this site has caused substantial undermine and damage to the marine-based and marina seawall. Knowing this, we have requested that the City take steps to protect our seawall from the tugboat and barge traffic as well as the proposed dredging.

Again, I have letters stating back and forth that I'm submitting.

The current proposal by the City is to create king pile wall 290 feet from the City bulkhead along the marine base and seawall; knowing this marine-based marina, they're requesting that the king pile be extended the entire length of our seawall, which is approximately 800 feet.

We also retained an engineer that reviewed this type of proposed seawall. After his review, we requested more information

pertaining to the construction and engineering of this wall.

At this point, the City has responded that the plans and designs for this wall have not yet been completed or approved.

The Sanitation Department has also stated that the City cannot extend this king pile wall more than the proposed 280 feet because they claim that the land beyond that point belongs to the State.

I have documentation obtained from the State showing that the State property does not start until well beyond the end of our jetty (indicating.)

Aside from the tremendous costs that would be necessary to maintain our seawall, if the entire wall is not protected, we will be adversely impacted by our loss of customer base due to the odors, the

vermin, and the traffic that will be generated by the transfer station.

And again, we'd like to submit our concerns with the environmental study as far as the traffic and everything the other speakers mentioned, I think that things obviously do need to be looked at a little bit harder.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Marisol Ponte-Greenberg.

MS. MARISOL PONTE-GREENBERG: Good evening. I'm a resident of Bensonhurst and I'm very concerned about air quality.

I recently became an asthmatic and my doctor almost assured me that my asthma had to do with the environment.

Many new companies such as Home Depot and Stillwell Materials

is a manufacturer of cement, which is located on Stillwell Avenue, have contributed to such things. People park their cars in the morning and in the afternoon their car is full of dust. And many residents in the area have asthma now.

I'm very concerned because as planned, this plan will be recycling electronics or plastics, there probably will be some sort of gas emission and I can only imagine what kind of respiratory disease will effect our children and our residents in this community.

I would also like to know, if this plan is so environmentally-friendly, why did Bay Ridge reject it a few months ago? And also I would like to see more studies that support that this plan will be safe for all of us.

Thank you so much for your

attention (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker an Peter Gaudiuso.

MR. PETER GAUDIUSO: Hi, my name is Peter Gaudiuso, I just want to say first that I haven't seen the plan and I'm not an elected official, I'm just one in the community. I'm retired right now and I'm concerned.

I've used the marina and I've seen now that this new plan is being established where it raises a number of questions.

If my question's redundant I apologize, certain things comes to mind.

The traffic for one, even before this plant wasn't in service, we all know how bad the traffic is just now going from Bay Parkway to Caesar's Bay, regardless of Home Depot and certain areas.

Now, I've been total that the engineering, the environmental study has been done and I see that there is something like 900 tons per day and I would imagine that that's the amount that's been processed up to now; is that correct? I mean for the past -- for the past two years or so.

So if that's the case, it's already going to be a tremendous burden in the area for the traffic itself.

Now have common sense come into play to add just as much in commercial waste, which aside from the traffic itself, we don't know the impact insofar as who checks this garbage? You said that it's only perishable, but is every single truck going to be checked by some authority? Either the DEP or the DEC, they start sending trucks and checking the health or whatever

materials are on board just to make sure that it's not asbestos or it's not lead or it's some contaminated material. It can be ties that can bring asbestos, that we don't want. So that, I don't know if that plan, that impact has been done on that, or the study has been completed but it just says that it's a very little significant addition to it as far as the traffic, and plus the environmental aspect of it insofar as hazardous material.

So I don't know if that's been addressed or not. Has it? I don't know. Does anybody know?

MR. SZARPANSKI: The forum for this hearing is that you may ask whatever questions you have in the comments and we'll respond to every question in writing.

MR. PETER GAUDIUSO: Okay. The other concern that I have is that it's been determined that

there will be not significant degrees so far as odor. But now we're saying that the amount is not so tremendous and was the study being done for 90 degrees weather or 100 degrees weather, where the garbage, as been mentioned before, can be picked up and then, I don't know if it's sealed, say that it's negative pressure, I would like to know more specifically what kind of equipment's being used. What kind of testing and what kind of follow-up that's been done. If the follow-up has been done by DEP or the DEC to make sure that those types of regulations are met.

The other concern that I have also is that once you handle garbage, I don't know how the environment is going to protect it from the weather, the rain. Is there anything been done insofar as the runoff to make sure that this

runoff is processed properly and it doesn't freely go in the water, which is the case right now.

The Sanitation place that we have right next to the marina now, even though it's not in full operation, any time you see they wash trucks everyday, that water runs right into the pavement and runs into the water, right into the marina and right into the water where our fishes our. And nobody cares about it. I don't know if this impact has been addressed in that.

And that's pretty much, let me see if I missed something else.

Oh, noise. The garbage being delivered through the facilities by truck, that is being compacted, and I don't know what kind of equipment is being used, so that the noise it's not so loud being that's it a 24-hour operation

which you're going to have these people nearby not too far. Plus the fact where you think the containers is going to be loaded on barges, that's my understanding. As I said before, I haven't read the plan itself, what kind of noise is there and when you start moving this container on top of a barge? There's knocking between one and the other.

Now, without the plant being in operation, how do you know the level of noise that you going get, plus the traffic, you gonna have from 8:00 p.m. to 8:00 a.m.

I would like some of you people to just stay there for a couple of weeks and just see what goes on, at night, not during the day.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Stanley

L-A-V-E, Lave?
MR. STANLEY LAVE: Lave.
MR. SZARPANSKI: Lave.
Thank you.
MR. STANLEY LAVE: I want to mention that it's a bad idea to build a waste processing facility in a residential neighborhood that happens to be close to a recreation area, Coney Island. They have enough pollution problems over there and we don't need Gravesend Bay turned another Newtown Creek (applause.)
And I just want to ask one question: Are any of you New York City residents?
MR. SZARPANSKI: Yes, yes.
Any other comments?
MR. STANLEY LAVE: No, that's it. Thank you.
MR. SZARPANSKI: Thank you (applause.)
Our next speaker is Judd

Schechtman. Is Judd back in the room? I know he stepped out. Okay, come on up.
JUDD SCHECHTMAN: Good evening everyone.
Hello everyone, I'm Judd Schechtman and I'm here on behalf of Borough President Marty Markowitz and Marty couldn't be here tonight but he wanted me to read his testimony for the record and for the community.
"We all know Brooklyn has been shouldering the burden of waste transfer stations and the City garbage infrastructure for years.
Today, the whole borough handles 60 percent of the waste throughput in the entire City and unfortunately, Brooklyn is going to be the centerpiece of the City's new solid waste management plan. And this community of course is

also going to be taking on a major burden.
The borough as a whole is destined for three marine transfer stations and that facility can handle all of New York's recyclables.
We all agree, though and we've been working together to make sure, that the new solid waste management plan is better for the environment and residents and quality of life and for the City as a whole.
The promise of marine transfer stations in Manhattan and in Brooklyn is a vast improvement over the disastrous hodgepodge that Brooklynites live with everyday throughout the borough. And for that we are thankful.
However, because Brooklyn is going to handle so much of the waste for the whole City, we must

have assurances that the facilities being planned will operate with the greatest, the highest degree of environmental quality and least community impact. And that, you know, that any community in Brooklyn that is going to be taking on more of its own share, more than its fair share, will be compensated for handling more than their fair share.
But moreover, we have to realize that the plan has to be effectuated in its entirety which means that Manhattan also must take the burden of its own waste and that the failure to open any of the transfer stations that are planned for Manhattan will nullify any support that Brooklyn residents have of supporting this solid waste plan. That means that we will accept nothing less than absolute certainty that the transfer

stations at West 59th Street and East 91st Street will open and as well as the Gansevoort Recycling Transfer Facility; and that Brooklyn as a whole will see a decline in the throughput of Manhattan's waste.

But we know that with all of the new marine transfer stations opening, that there's going to be a lot of local impacts which will need major mitigation.

In particular, we know there's going to be a lot of truck traffic coming to all of these new marine transfer locations and we must make sure that the Sanitation Department or the Department of Transportation work with the community and the community board to ensure that the impact is as little as possible to the community.

But in addition, there are

issues that the sites themselves would have to ensure that operations are kept absolutely impeccable which means that there be no floatables, for instance or debris that would, you know, somehow seep into the bay or that leakage from these new barges are going to contaminate the bay, and that, you know, truck emissions are minimized with the best available technology. In that applies throughout the borough at all the proposed transfer stations.

In addition, we know that the Sanitation Department has not exactly been effective in enforcing all of the siting operating regulations, in particular, at all of the existing facilities that we have throughout the borough. And we should all be concerned that with Sanitation Department operating this new facility, these

new marine transfer stations, and including here at Southwest, that the Department rigorously enforce its own regulations and that there be some recourse to the community if the Department fails to enforce and follow regulations, whether there be retirement matters as far as when the trucks can arrive or park or the trucks routes themselves.

We know that a lot of the drivers stray from those routes and there has to be some kind of recourse for the community, whether that's in the form of some kind of citizen supervision. There has to be some guarantee that the community, the Department itself will be able to enforce its own regulations and rigorously ensure the community that its employees will follow and abide by the law.

And, you know, I realize

that Brooklyn has to handle its own, its fair share of its waste, and that this plan does work towards that. We must make sure that that does not mean that there's additional capacity, that is, if each district is going to handle its own residential waste, we hope that each district, that each of the marine transfer stations can handle the commercial waste, as is currently planned for West 59th street in Manhattan so that each region will not have to be burdening other parts of the borough with commercial waste. And if that's the case, then that would be a laudable achievement and we would support it.

But in addition, you know, that we have mitigation in the neighborhoods that are going to be taking on these additional burdens.

So I'd like to thank you for

the opportunity to testify and if anyone has anything to say to me, I'm sorry I came in late and I missed all of your comments, but the Borough President would greatly appreciate hearing from every one of the community members as well.

Thank you (applause.)

MR. SZARPANSKI: Thank you.

Our next speaker is Mark Treyger.

MR. MARK TREYGER: Thank you Commissioners and I would just like to bring the crowd and the department just into a reality check that this community is still a very scared community because for years, decades, there was an incinerator at this location that spewed out tons and tons of pollution.

There are very high number of cancer rates along the Cropsey Avenue homes and the homeowners

along in this community, and we also found out that that incinerator operated for 30 years without a permit. It was an illegal operation for decades.

So you have to understand where we're coming from. There's a trust problem with the community and the City because for 30 years, this community really suffered neglect from the prior City administrations. So I do want to congratulate the community and thank the Department for shutting those smoke stacks down.

However, as I was looking at the presentation, I see some, you know, key components of the environmental impact study and it said "nonsignificant impact of traffic."

Folks, I urge you to travel down Bay Parkway near Caesar's Bay on an afternoon. I urge you,

because the traffic problem there is intolerable. I urge you to live along Cropsey Avenue and try to sleep during the evening areas when the trucks are rumble along hitting potholes in the street and wake up elderly people at night. Because at Assembly Colton's office, we hear a lot of that and that's not fair to them.

And the fact that commercial traffic will be going to this location during 8:00 p.m to 8:00 a.m., that could mean more trouble for these people.

So in addition to that, this new odor technology that will be in place in this structure, I am not an expert in this odor technology, I am not an attorney, I am not a specialist in that field, but folks, believe me, the residents will be able to smell if there's an odor problem.

So I urge you and I urge the Department to carefully analyze any odor problem deriving out of this marine transfer station, because if there's an odor problem, believe me, this community is riled up, it's local, it's active and it's working. They will have no problem organizing in the thousands to make sure that the structure goes down, because (applause) we will not tolerate that.

I also have a concern with regard to truck idling because since there will be a lot of trucks coming into the site, not all of them will be able to fit at once. So trucks might idle along Shore Parkway with their diesel fuel, with their noise. How will that problem be addressed?

And we're also affecting our businesses. That marina, it's been there many years, and how will the

Department carefully make sure that this, these business owners, these community business owners are not effected by this? And I would urge the Department instead of writing only the responses in writing, respond through actions.

Thank you very much (applause.)

MR. SZARPANSKI: Thank you.

Is there anyone else here who filled out a speaker sheet and I didn't call on?

Is there anyone else who wants to speak?

Please stand up and state your name.

MR. SIDNEY SCHATZMAN: Sidney Schatzman, I'm a member of the community from Harwin Terrace. And again, I want to thank all of you for coming down and arranging it on this site.

I just want to make an

example for you about this traffic problem now that the Councilman, the assemblyman and others have described tonight.

Take a look at this aisle right over here (indicating) from the back to the front. Envision that as the pathway where all the traffic leading into the incinerator will be coming down, one way, from the back to the front, it's not two ways, it's one-way.

In the back of the auditorium, envision that is the new shopping center where Best Buy, where Kohl's is and you have traffic coming out of that traffic -- that shopping center and it's one-way straight down say to here where the Nelly Bly is, our amusement park which, during the summer, has huge crowds all day long right through the night to

midnight.

Kohl's now has a shopping center, you cannot even get there it's so crowded in terms of the shopping going on for the holiday. All that traffic is coming out going one-way.

Just envision that in terms of your trucks and Sanitation and commercial traffic coming down a lane about as slightly bigger than this, one way. And if you can envision that kind of a situation that we now have without what you're describing, put your situation of your Sanitation together with commercial coming into this same one-way zone, you're creating a catastrophe in terms of pollution, in terms of congestion and in terms of the entry point. There's only way to come in, where the shopping center is and they're going to have to turn down that

street and come down, there's one street, one way, which is catastrophic in terms of the traffic you have now. Add on the additional traffic, it'll be monumental the impact in terms of congestion, pollution and everything else you can ever want to imagine.

So I would suggest some sort of a study where you stay there for 24 hours over a two to four-week period and just see this going on one way, and just envision this, if you're a homeowner in this strip, if you owned a marina in this strip, if you are in the amusement park in that strip, you envision yourselves how you would feel with that kind of a catastrophe which will come about if this every took place.

Thank you very much (applause.)

MR. SZARPANSKI: Thank you.
Are there any other speakers? If not, thank you all for coming.
(Time noted 7:23 p.m.)

C E R T I F I C A T E

STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

I, Marc Russo, a Notary Public within and for the State of New York, do hereby certify that the within is a true and accurate transcript of the proceedings taken on December 15th, 2004. I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 17th day of January, 2005.

_____
MARC RUSSO

THE NEW SOLID WASTE MANAGEMENT PLAN
DEIS PUBLIC HEARING
FOR THE PROPOSED STATEN ISLAND
MARINE TRANSFER STATION
HELD AT: 460 Brielle Avenue
Staten Island, New York
December 1, 2004, 6:10 p.m.

Reported by:
MARC RUSSO
Job#: 167210

A p p e a r a n c e s:

HARRY SZARPANKSI, P.E., Assistant Commissioner,
DEPARTMENT OF SANITATION, 44 Beaver Street, 12th floor, New York, New York 10004

WALTER CZWARTACKY, DEPARTMENT OF SANITATION

SARAH DOLINAR, DEPARTMENT OF SANITATION

BRIJ SHRIVASTAVA, DEPARTMENT OF SANITATION

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MR. SZARPANSKI: Good evening. My name is Harry Szarpanski. I am the Assistant Commissioner for the Bureau of Long Term Export at the New York City Department of Sanitation.

I welcome the opportunity to appear before you tonight. I am joined by Walter Czwartacky, Brij Shrivastava and Sarah Dolinar of my staff and Susan Raila from Henningson, Durham & Richardson Architecture, HDR. HDR is the firm that is responsible for preparing this draft environmental impact statement which is the subject of tonight's hearing.

Representatives of the firm of Ecology and Environment, who helped organize this meeting, are also here tonight.

As you may know, in October of 2004, the Department of Sanitation issued a New York City

Comprehensive Solid Waste Management Plan for the next 20 years. As required, the new SWMP, as we refer to it, was submitted as a draft to the City Council. The new SWMP is proposed to replace the current SWMP and must be approved by the Council before it can be submitted to the New York State Department of Environmental Conservation for final approval.

The new SWMP plans for the management of all of the solid waste generated in the City over the next 20 years and is supported by a draft environmental impact statement or draft EIS on which we will take comments this evening.

My comments tonight will be brief. I will make a short power point presentation before the public portion of the meeting begins. Copies of my statement and presentation will be available at

the end of the meeting.

Because the real focus of this public hearing will be your comments, if you plan to make a statement for the record, please take a moment to fill out a speaker sign up sheet and submit it to the individuals sitting at the table in the back. You will then be assigned a number and I will call your name when it is your turn to speak.

Note that elected officials, who may be attending many meetings on behalf of their constituents on any given night, will have an opportunity to speak first.

We are interested to make a complete record of your comments. Please state your name clearly and spell it for the stenographer.

This is where I tell everybody that in order to hear everybody you can limit comments to

three minutes, but I think we can dispense with the three-minute limit tonight, I don't see that many speakers.

If you do not wish to speak, but would like to submit a written comment, please complete a comment card that we have provided for you use. Thank you for coming. I will now begin my short power point presentation.

(Showing slides) as I mentioned, this is a public hearing on the City's DEIS for the SWMP. Both the new SWMP and DEIS were issued by the New York City Department of Sanitation.

These documents are also available on our website and at various repositories on Staten Island and in the other boroughs.

And if any of you are taking notes, you will have a complete copy of this later.

And the City Council is planning to hold public hearings on the new SWMP I think in January.

The draft SWMP has three broad categories: It covers recycling, DSNY-managed waste and commercial waste.

On the recycling front, the goals are to hold down the cost of recycling and expand barge transport of recyclables.

We're looking to meet a 25 percent goal for the DSNY Curbside Program by the year 2007, and a 35 percent recycling goal for all DSNY-managed waste, not just the Curbside Program by 2007.

I apologize, I think the dates may not be correct, but I'll check on that.

The specific initiatives that we are looking to offer, the first one is to enter into a 20-year contract with a company

called Hugo Neu for metal, glass and plastic processing and marketing, and for a new facility that they will build at the South Brooklyn Marine Terminal.

We are looking to enhance composting and waste prevention programs; develop an electronics recycling program and establish a recycling education and recycling and acceptance facility at the Gansevoort Peninsula or an alternative site in Manhattan.

Gansevoort is the site of the former marine transfer station just below 14th Street on the West Side of Manhattan.

Just some specific points in recycling on Staten Island. Weekly recycling collections began in July of 2004, they restarted.

We had an electronics recycling event in October of 2004 and collected more than five tons

of materials. And the composting of leaves, yard waste and Christmas trees will continue at the Fresh Kills Compost Facility. And full funding was given to the Staten Island Botanical Garden for composting information programs.

With respect to DSNY-managed waste, the goals are: To end the use of long-haul trucks for waste transport and export more waste by barge or rail.

We're looking to stabilize waste export costs. We realize that the new plan will not reduce our current cost, but will help stabilize those costs over time.

We're looking to distribute waste transfer facilities throughout the City and containerize waste to get more transport and disposal options.

The specific components of the long term export plan here on

Staten Island is to complete the transfer station and begin export of Staten Island waste by rail. And let me just say a couple of words on the transfer station here.

As you know, the transfer station is under construction right now. We expect that construction will be completed in March of next year. It's a facility that's permitted to take only Staten Island waste. No waste from the other boroughs will come to this facility.

Some of the other elements are: To use private transfer stations for barge and rail export of containerized waste from the Bronx and from the Brooklyn and Queens communities previously served by the Greenpoint and the Bronx, South Bronx Marine Transfer Station.

We issued RFPs that

resulted in a proposal that we received which again resulted in us recommending in this plan that rather than converting the South Bronx MTS and Greenpoint MTS, we'll rely on contracts with private companies to dispose of that waste.

We're also looking to enter into a long term contract with disposing part of Manhattan waste at the Essex County Resource Recovery Facility in New Jersey. That facility right now is taking most of Manhattan's, or a large portion of Manhattan's waste.

And we're looking to build four marine transfer stations, the East 91st Street one in Manhattan, the North Shore Facility in Queens and the Hamilton Avenue and Southwest Brooklyn Marine Transfer Stations in Brooklyn.

On the commercial waste front, we're going to limit new or

expanded transfer stations in communities where these facilities are already concentrated. We're looking to establish new operational regulations to reduce noise, odor and dust at private transfer stations.

We're going to study how to lessen waste truck transport on truck routes through residential areas; expand barge and rail export of commercial waste from DSNY-contracted transfer stations.

And again, just to explain what that means, when we entered into a contract with a private transfer station to receive our waste, in return, any waste that goes to that transfer station, including commercial waste, will have to go out by barge or rail. We will not enter into a contract with a company and still allow them to truck or to use long-haul trucks

to export that waste. And once the MTSs are converted, we're looking to export some of the commercial waste through those marine transfer stations.

At West 59th Street, that's a marine transfer station that we own. We're looking to negotiate some agreement with the private sector and we offered that up to the commercial sector to use that facility to export commercial waste generated in Manhattan. And that will have the advantage to communities that are now receiving a lot of Manhattan commercial waste and then the material will have to go to areas where these transfer stations are concentrated, areas like Brooklyn Community Board One and Bronx Two.

The DEIS looks at the environmental consequences of sites and facilities that are, or may be

part of the proposed action in the new SWMP. We included not just the alternatives that are chosen in the proposed SWMP, but alternatives were evaluated before we actually focused on which marine transfer stations were going to be converted. So there's more in the DEIS than what is being proposed in the SWMP.

The DEIS identifies the things that the City could do to avoid potential significant adverse impacts. Things like putting traffic lights or changing some of the configurations of the intersections, et cetera.

Meets the City and State environmental review requirements. And, as you know, the transfer station on Staten Island was already approved, it's an element of the current SWMP, as part of the SWMP modification we did in

November of the year 2000.

This is just a map that shows the various wastesheds and the transfer stations that will be proposed, that we propose to convert and also that the private facilities that we propose to negotiate and contract with.

A City-owned facility, the Staten Island transfer station that's under construction right now, we're looking at completing that construction in the spring of 2005 and it consists of a 70,000-square foot processing building. The waste will be compacted and containerized. The permit allows us to bring up to 1,250 tons a day of Department-managed waste generated on Staten Island only.

Some of you have pointed out that it seems to be oversized and right now it's more than what is

generated on Staten Island, this allows for future growth. The original design actually had a third compactor as part of the design. We did not build the third compactor so there are only two compactors at that facility.

The EIS that we did for the 2000 SWMP also considered this facility and it allows us to move waste by truck until the rail link is completed. The rail link is being worked on right now. There's rail only on our transfer station site.

The DEC is working on putting a rail or fixing up some of the rail that is going through the Con Ed property that goes through the RRF and the Port Authority is actually doing the work on the New Jersey side to help complete the rail link and connect it to the Chemical Coast Line in New Jersey.

This is a just a map showing

where the landfill is, where the transfer station is on the landfill.

And just to wrap it up, you can provide comments to us on the DEIS and the SWMP. You can give us verbal comments or you can fill out a comment sheet and give it to us, submit it to us in writing or if you want to mail comments to us, there are two addresses there and we ask that you mail it by January 24, '05.

Thank you and I will now call on the speakers who signed up. Councilman Oddo.

MR. ODDO: I will be as brief as I can.

Just a couple of things, and some things that I'm going to say might fall on some of the technical issues tonight, but I can't miss the opportunity to get on record yet again, certain

circumstances that we actually have.

Some of the things I'm going to say, this will probably be, officially the 6,247 time that either I or Chairman McMahon is saying these things. But again, when it comes to this issue, I think we believe that belts and suspenders are a bad idea.

The first thing I want to say is that I'm thrilled to see that the seeing a new resistance towards the borough-based concept that was voiced before Chairman McMahon committed back in March of 2002 no longer exists in this plan. And with all due respect to the folks on the Upper East Side of Manhattan who are having to deal with the reality of solid waste in New York City, welcome to the era of borough based self-sufficiency.

With that said, I still am concerned that we go on record at

every opportunity to make sure, despite the comments that are made, that in fact this facility that is to be the first one on line, is in fact, intended to handle only Staten Island's waste.

Back in 2001/2002 with the help of Jim and Tricia, we got special and very specific language placed in the special conditions section permit from DEC and it in fact said that.

Our concern I think at this point is we haven't been able to get an answer back as to the question if that permit expires at any point. We've actually written to the State and we'd like a response to that.

And also specifically that while it says that the facility will be City-owned, if the decision is made that it's to be run by a private entity, there

needs to be language in the specific contract between the City and that private entity that, again explicitly states that this would be for Staten Island waste only.

The other, the only other point I would like to make is that during the period when Commissioner Doherty testified back in October, I didn't hear it mentioned in the presentation, you know, the emphasis is that we want to get trucks off the road. And going back several years, we mentioned to the administration, to the Commissioner, that we are concerned that when the trucks tip at the new waste transfer station, that they will use the streets of Travis to get back to their destination. And to see and to imagine lots of DOS trucks rambling on narrow Victory Boulevard in front of the little red schoolhouse on P.S. 26 is very

troubling. And at the time we asked the administration and DOS to aggressively explore using internal roads within the landfill to be able to access Sanitation garage two, I guess it is.

So we would like to reiterate that point tonight as we're trying to get trucks off the roads across the City, I don't want to see trucks rumbling and rambling down Victory Boulevard and if we can continue to work aggressively towards that.

Other than that, I just want to thank you and thank Staten Island for showing up and thank my colleagues and chairman of the solid waste management community and City Councilman McMahon does a great job being the eyes and ears of Staten Island. So I thank you.

MR. SZARPANSKI: Thank you for your comments.

Council McMahon.
MR. MCMAHON: Thank you Mr. Szarpanski and everyone else who is here from DOS and thank you for agreeing to hold this hearing on Staten Island.
And I just want to say to the diehards, Joe Carroll and Barbara Warren and Trish and Jim Oddo and all the environmentalists who are here, look how far we've come. And what good news it is that we're not in a room filled with 500 people demanding the closure of Fresh Kills Landfill. And that's good news, and that's something that Staten Islanders have to be grateful for to prior administrations, to the current administration, to the people who are currently working in the Department of Sanitation, but most importantly, to the people who are here. Especially seeing Barbara

Warren who has worked so hard through all the years to get the message across, that Staten Island, that the environmental injustice, if you will, environmental justice has its origins or began in Staten Island.
Because now, within other parts of the city, that is the dialogue in other neighborhoods and the other communities that are suffering from environmental injustice, if you will. We're having that discussion and that dialogue, but it's something we knew about for 50 years. And because of the hard work of all the people who are here and the people of Department of Sanitation, that we are now moving forward and we are working on a 20-year blueprint to make sure that there will never be pressures to re-open the Fresh Kills Landfill again and that's

marvelous news.
Of course the devil is in the details and we at the City Council are committed to working with the Department of Sanitation to make sure that the final plan is one that spreads the burden of garbage equally out to the City of New York. And as Jim said, the idea of borough-based self-sufficiency is critical and there's a lot of reference to it in this document. And me and the councilman will work hard to make sure that the specific language is in here. And if not, at the same time, we have legislation pending that if we can't get it in here, then we'll try to pass a bill that will require it by 2012 Barbara? I think by the year 2012, that every borough must handle its own garbage, because the critical element is here.

But we're on the right path, we can't lull ourselves into a sense of security, but we are on the right path.
And I just want to say that the, with the idea of the third compactor coming into Staten Island and with Tricia and Jim even before I was even elected, such a great job with that. An Steven and thank Jim Oddo as well and they deserve a lot of credit because it was a little sneaky trying to get in there and you understand the concerns we have.
And certainly we are the first facility coming on line, that is clear, we'll be the first facility in the new era to come on line and we continue to be concerned about if politics on the Upper East Side of New York or politics in Brooklyn or politics in also in Queens, take such a turn

that the pressure is on to come back to Staten Island. But we're here to let you know and to let Staten Islanders know, that we will fight with every breath that we have to make sure that that doesn't happen. And they certainly deserve a lot of credit for that.

And also, the folks here should know that the City Council put the money in this year's budget to the tune of 140 thousand dollars to hire our own consultant to help us go through all of the technical data involved with the environmental impact study. And that person should be hired soon within notice of the City record this week and Carmen Cognetta is counsel for the committee, will continue to work with us. See, we have a real partnership, we really do, although sometimes we get into battles over issues, we're partners with the

Department to make sure that when you're old and when John Doherty is retired and well, he'll never retire, but when Mike McMahon retires or Jim Oddo is perhaps working up in the Capital in Albany, that this plan will be one (indicating) and this is where I get a promotion or a demotion, but this plan is one that will work. It's important that we have these hearings and these discussions so that you can hear from the community and things that concern us.

I know that it's not so much you're going to take, but I would like to ask just if you can go into a little more detail, the status of the rail connection. Because it is true that the plan is good, but while those trucks will continue to go in, the DOS trucks continue to go in and the hauling trucks

continue to come out, we have to resolve a major problem which is the trucks on the road in the City. And so how soon can we expect to see the rail on line?

MR. SZARPANSKI: We are working closely with EDC on the rail connection. EDC tells us that by the end of 2005 the interconnection between the coastline as well as all the other components on Staten Island will be complete.

MR. MCMAHON: So by the end of 2005?

MR. SZARPANSKI: Yes.

MR. MCMAHON: And are we running the trash out by, at that point by rail?

MR. SZARPANSKI: The construction will be completed on the transfer station early March of 2005.

MR. MCMAHON: And so we'll

be running the trash out by the end of 2005?

MR. SZARPANSKI: Well, it's not clear yet, because we still have to finalize negotiations for the contract for actually either operating the facility or us operating and a private company transporting and disposing of the waste.

So there may not be a long period of time where trucks are moving waste off Staten Island.

MR. MCMAHON: And so, but again, urgency I think is important enough. I would restate the position that I stated at City Hall is what I believe the Department should maintain control over this facility and I think it would be a mistake to issue a contract with a private entity to maintain it for a lot of reasons.

Control is obvious, we also,

we think that the men and women who work for the Department of Sanitation do a much better a job, not to say that they're not a responsible private entity.
But could you also just explain to the folks a little bit, the plan that we're looking at in many ways is sort of a transportation plan or movement of the trash through the City, out of the City and a lot of people are going to say to me, "Where will it go?" And what is the end result. Can you explain where we are in the process? If you have already I apologize, if you can just go over it again.
MR. SZARPANSKI: No, we haven't, but I'll give you some general comments, but if we can hold that type of discussion for when the Council holds hearings and questions the Department.

MR. MCMAHON: You know, I don't mean to pigeonhole you as to give me the answers, but just explain where we are in the process.
MR. SZARPANSKI: We will --
THE AUDIENCE: Which I think is a fair question. Just explain where we are in terms of issuing --
MR. SZARPANSKI: We did issue, in addition to issuing the RFPs that I mentioned where we did the contract with the private facilities to receive our waste, we issued an RFP for companies to propose to take containers from our converted marine transfer stations and move those containers to its ultimate disposal location.
We have proposals, we have started discussions with those proposals. We haven't gotten into any detailed negotiations. We hope that by the time the Council

approves the new SWMP, we will be at the point of having negotiated those contracts, because we can't enter into any contracts until the SWMP is approved.
So some time in the middle of next year we think we will able to reach agreement with those companies.
MR. MCMAHON: And just so the folks understand that there are private companies who were sent proposals to the City in response to the request for proposals and they're willing to take a certain amount of containers per day and ship it to either a landfill or a site outside of the City of New York. That's basically where we are.
Has the date ended to receive any proposals?
MR. SZARPANSKI: Yes, the proposal due date has come and gone. There's a limited number of

proposals that are going to be part of our negotiations.
MR. MCMAHON: Okay. But are there certainly some that are realistic and doable and we're optimistic that we can succeed on that end of the plan?
MR. SZARPANSKI: Yes, that's correct.
MR. MCMAHON: That's a softball, that was a good one.
MR. SZARPANSKI: Should we change seats?
MR. MCMAHON: Yes, yes, okay. Because I mean, that's the question that we always get and I think people have to understand, we can't tell yet, we don't know because we understand it's a process, that's all we're getting at Harry.
MR. SZARPANSKI: Why don't we ask you questions. When you're over here it's nice.

MR. MCMAHON: Definitely. Just a total aside, can we just give everybody the status on the North Shore garage?

MR. SZARPANSKI: The garage? I don't know.

MR. CZWARTACKY: The marine transfer station?

MR. MCMAHON: No, the garage number one. This is totally unrelated to the 20-year plan, just the status because I know that Joe Carroll was --

MR. SZARPANSKI: Oh.

MR. MCMAHON: The new garage siting.

MR. SZARPANSKI: I'm questioning my own people here, we're not working on the garage so I don't know, we can get back to you.

MR. MCMAHON: Okay, very good. Again, we look forward to continuing working for you.

MR. SZARPANSKI: We look

forward to working with you and again council members with the new SWMP. Thank you.

Our next speaker is Barbara Warren.

MS. WARREN: "Good evening.

My name is Barbara Warren. As many of you know, I have been involved in solid waste management issues in New York City for over 20 years now. It really dates me but at different times, I have been a representative for Staten Island Citizens for Clean Air, for the Staten Island Solid Waste Advisory Board, the Citywide Recycling Advisory Board, the Consumer Policy Institute of Consumers Union and the Organization of Waterfront Neighborhoods, a citywide coalition of groups working on a responsible way to handle our trash.

As part of this work, I prepared and released a report in

2000: Taking out the trash, a New Direction for New York City's Waste. That report was the first to call for sustainable waste management addressing three areas: The environmental soundness, economic cost effectiveness and social responsibility or equity.

Key elements of that report were waste reduction and recycling, retrofit or reconstruction of the city's marine transfer stations to accomplish export and improvements to the inequitable burden of substandard waste transfer stations.

This year after pulling together about 40 groups from around the City and forming the New York City Zero Waste Campaign, we prepared and released Reaching for Zero: The Citizens Plan for Zero Waste in New York City and I know I have a copy of this plan.

This zero waste plan was supported by Consumers Union, was funded, was prepared to help the City to develop a more sustainable solid waste plan for the next 20 years.

In our plan, we called for setting a 20-year zero waste goal; the construction of needed infrastructure and expansion of programs in waste prevention, reuse, recycling and composting, along with major improvements in support programs like education, economical development and research.

We identified three time periods: Immediate through 2009, intermediate through 2014 and long term through 2024 and provided detailed implementation schedules for all proposed programs.

We modeled a lot of our work on the City's comprehensive solid

waste management plan of 1992, an extensive effort that I was also involved in that, actually produced many volumes of analyses and information for planning, some of which I still have. It's quite voluminous, it's many boxes of information.

Tonight I will primarily address the issues of importance to the Zero Waste Campaign and Consumers Union that are contained in the SWMP, while touching on issues of importance to Staten Island.

Please note there will be many others testifying in days to come on behalf of OWN and the Zero Waste Campaign. And written comments will be submitted in January.

So, I am very, bottom line, I'm very disappointed in this so-called comprehensive solid waste

management plan and draft EIS. The City has failed since 1996, when the closure of Fresh Kills was announced, to ever produce an analysis of alternatives to export for disposal. Such an analysis sorry, of alternatives is required by the State Solid Waste Management Act. Yet since 1996 despite the work of all five boroughs and the City Council in completing more comprehensive plans of their own, the Department of Sanitation has been almost entirely focused on plans for export and disposal.

This is in total violation of the state act, its intent and DEC implementing regulations. The whole point of the Act requiring municipalities and other entities in the state to do comprehensive planning for solid waste, is that such analysis and planning makes environmental and economic sense.

In 2000, the Department said that the SWMP they produced had to be focused on long term export portion because of the critical time constraints. At that time, the Department promised that the next SWMP, the next solid waste management plan would be more comprehensive, focusing on real analysis of various alternatives to export like waste reduction, re-use, recycling and composting.

That 2000 SWMP became an immediate failure because of the predominate reliance on the proposal in Linden and the enclosed barge and unloading facility.

Once again in 2004, we are presented with a so-called comprehensive solid waste plan that focuses almost exclusively on disposal and an EIS that fails to adequately examine the viable alternatives.

Other than the promise of a new recycling processing facility in Brooklyn, the SWMP lays out almost no new programs and plans to get us out of the dumps. Not only do we have detailed, do we not have detailed plans for environmentally sound waste management method beyond Hugo Neu, but the plan does not even offer a road map of how the City will plan for sound alternatives in the future.

Unlike the voluminous 1992 SWMP, this plan is so vague, lacking in detail on expanded and new programs that might be considered zero waste programs, that I have started referring to it as SWMP-Lite, like Bud Lite.

The stated goal in the plan of 70 percent recycling by 2015, is actually more ambitious than the zero waste campaign's goal for that date, but with no supporting

substance, no aggressive plans to improve any of these alternatives and therefore, the stated goal of 70 percent rings hollow.

So let's look at some of the most serious issues. I'm going to talk mostly about sustainability.

Is the plan sustainable? In June, when we released our report, we pointed that total disposal costs including transfer costs had risen by 91 percent since the City first started exporting garbage.

We pointed out in terms of economics, this represented a clear unsustainable situation. Earlier in 2000, we described the considerable consolidation in the waste industry with two major multinational companies owning the majority of disposal capacity and potential for ever-increasing cost.

DSNY acknowledged this problem of self-interest and

inadequate competition associated with these waste companies, only as it relates to the handling and processing of recyclables. This was in the recyclable processing and marketing report that was issued with the SWMP.

Simultaneously, DSNY is planning to award private contracts for the entire residential/institutional waste stream.

Some of these contracts will go to private transfer stations, some to companies to manage and receive the waste at the MTSs, and one will go to a private manager, at least according to the SWMP, to the Staten Island facility. Only the contract with the Newark incinerator will be handled differently by the Port Authority.

If disposal costs have risen 91 percent since we first started

exporting, why does the City want to perpetuate this problem by planning to serve up almost ten thousand tons per day of waste to these companies which could have a stranglehold on the City in the future.

If self-interest and lack of competition are a concern of the City's as it relates to the management of recyclables, why would we see the same problem with the other 75 percent of the waste stream that you are planning to send for disposal?

In 2000, the City prepared a generic analysis of costs; we are asking for this same kind of analysis now. It is not there currently in the documents we received. We're also asking for clarification concerning these long term contracts for disposal. Will they be written as "put or pay"

contracts that will prevent the City from developing and expanding the sound alternatives like composting and recycling, because they will require that the City pay for 10,000 tons of waste, whether or not you deliver that amount to the private contractors?

A major theme of our Reaching for Zero Report was that the City should consider the merits of investing dollars within New York City, creating industries that use our waste materials to manufacturer new products, adding jobs and fueling our economy, instead of sending dollars out of the City along with our mixed waste. This plan, this long term proposal contract invests elsewhere, depriving the City of these dollars.

Is it environmentally sustainable? Well, the plan

includes the development of a recycling center in Brooklyn under a 20-year contract agreement with Hugo Neu. This portion of the plan is laudable and we're very happy about that. However, this facility will not be completed until 2007 and while this a positive development which we have been waiting for a very long time, DSNY and the City have not learned the needed lessons.

The City's 1992 SWMP called for the development of 3000 tons per day of recycling processing capacity in the City since 1992. 12 years later, plans today, plans are underway for Staten Island recycling processing facility which the Department cancelled those plans deciding that the private sector could be relied on to manage recycling even though there was almost no modern recycling

facilities in the City.

This Staten Island Borough President and the Staten Island SWAP supported this facility. Citywide, the environmental community also supported the building of recycling infrastructure.

So it was not a surprise then when the big waste company raised the prices for handling recyclables, some processing equipment had even been removed in order to handle the City's export contracts.

So 15 long years after the original plans in '92 for adding the, adding the recycling processing facility, Hugo Neu might actually be up and running, that's supposed to be in the year 2007 and saving the City money.

So the lessons that the Department and the City should

learn is that public policy demands comprehensive and thoughtful planning and follow through on those plans.

So if you have truly learned the lesson that VISY and Hugo Neu should have taught you, this solid waste management plan will offer the promise of a more sustainable future and economically and environmentally, by recommending the construction of composting and resuse facilities and by expanding economic development activities focused on the remanufacture of waste materials, and by expanding waste prevention alternatives in programs.

How long will the City talk about studying composting at Hunt's Point, the Hunt's Point Market without developing any new facilities?

The very small Rikers Island

Project was supposed to be your test facility with commercial scale facilities to follow.

So sustainability; is the plan socially responsible and equitable? The Mayor clearly has attempted to address equity with this plan. We support the efforts to reconstruct the City marine transfer stations system as more equitable and to move waste by barge as less polluting in terms of air quality.

However, the plan has a number of problems when you get to the facilities to handle disposal and export. This becomes apparent when we look at the actual plan for Manhattan.

For Manhattan's residential and institutional waste, the plan proposes only the construction of one marine transfer station, that's at the East 91st Street

station, to containerize waste. Despite the magnitude of waste generated in Manhattan, this MTS is proposed to handle the smallest amount of waste of any of the reconstructed MTSs, only 720 tons per day of residential waste with a possibility of including some commercial waste for a total of 1644 tons.

The largest amount of residential and institutional waste, about 1600 tons, will be continued to be trucked on congested streets and through tunnels and over bridges to the Newark incinerator in New Jersey. The environmentally unsound interim trucking plan would become a long term plan for Manhattan.

Manhattan with a large number of offices and institutions, produces large quantities of waste from the commercial sector and the

majority of the City's commercial waste. Yet Manhattan has almost no infrastructure for processing and transporting this waste out of the City. Instead, waste is picked up and taken over bridges to other boroughs.

The City is proposing to allow the use of the West 59th Street marine transfer station by commercial carters during nighttime hours. We support that.

While the use of 59th Street to handle the commercial waste is a good idea, there is no plan to reconstruct 59th Street to make it more efficient and to enable containerization.

The suggestion of a recycling receiving facility at the Gansevoort Peninsula is a good one that I wholeheartedly support, but this proposal is in the earliest stages of development. Because of

the State legislation creating a park on the West Side, we don't know whether this facility can succeed. And we appreciate the Department's and EDC's efforts to develop this facility.

In summary, the need for adequate waste infrastructure in Manhattan is extremely critical. This was made crystal clear when the City tried to cope with the movement of millions of tons of waste after the World Trade Center disaster. We just hope Staten Island doesn't become Manhattan's means of handling waste and that is a concern.

On the issue of commercial waste handling. The substandard conditions at commercial transfer stations and their concentrations in certain communities are addressed only indirectly in this plan, with a few details. There

are no concrete plans for actually reducing capacity in communities overburdened by the transfer stations and the City is not proposing to create a commercial franchise system in order reduce vehicle miles traveled as opposed to improving commercial waste services.

Now, turning to Staten Island, we have the only brand new transfer station in New York City. And it is designed and built at three times the capacity needed for Staten Island's waste.

Our facility included compaction equipment. None of the new marine transfer stations are planned to have compacting capability, only containerization. Why not and where is the analyses supporting this?

We have always supported sound alternatives to disposal and

have recommended testing certain high tech options for processing organic waste. Now I would like to recommend that the Staten Island transfer station be used to accommodate one or more state-of-the-art composting tunnels with computer controls for regulating air and moisture and temperature. This is the kind of technology the Department should be exploring. The Department has failed to so far study anything more than static pile composting which limits the efficiency of that option.

So we urge the Department to improve its current solid waste management plan and we will be advocating for more sustainability with the City Council as the next step. Thank you."

MR. SZARPANSKI: Thank you very much for your comments.

Barbara, do you have a copy of your comment that you can leave us?

MS. WARREN: Yes.

MR. SZARPANSKI: Thank you. We have two more speakers. The next speaker is John Arntzen.

MR. ARNTZEN: John Arntzen, it's A-R-N-T-Z-E-N. I'm with ACTA, Maritime Development Corporation. I'm a resident and my background is marine transportation and just as a Staten Island resident, I want to wholeheartedly support your efforts. I feel that there's plenty of room in your plan for improvement, but I'm glad to see that the efforts that you made towards this end and I think all of Staten Island should be very supportive of your plan in that you're taking not only Staten Island waste, that's just a great boon for our borough. And I would encourage the further development

of marine transfer stations in the other boroughs, more compaction and containerization in those stations. And again, my background is marine transportation, and any time the city can take trucks and cars off the road and put it on the water which is an extremely cheap method of transportation, that they should do that.

Thank you for the opportunity to speak tonight.

MR. SZARPANSKI: Thank you for your comments.

Helen Bialer.

MS. BIALER: Good evening, my name is Helen Bialer and I'm representing the Staten Island Citizens for Clean Air.

SICCA has been involved with the solid waste issues since the closure of Penn and Fountain Landfills. We have always been strong advocates of handling solid waste responsibly

through waste reduction, reuse, recycling and composting.

While we supported the initiative of exportation of solid waste as a means of closing the horrific Fresh Kills Dump, we have lost sight of our goals to promote and increase the City's recycle world.

This City is always focused on the quick and easy methods of ridding ourselves of our solid waste from dumping at Fresh Kills, out of site, out of mind, to wanting to incinerate the garbage on the floors and the impacts to the communities, to exportation. Again, out of site, out of mind.

The Department of Sanitation always criticizes relying on the recyclables and they used cost as a reasons for avoiding this process. Now, if current expenses involved with the exportation the City needs

to strongly review that whole process.

The current homes of our solid waste, Virginia, Pennsylvania, Ohio, will not tolerate the never-ending flow of our garbage coming into their communities, would you? We need to act responsibly and address the solid waste through waste reduction, reuse, recycling and composting and bring New York into the 21st Century. Thank you.

MR. SZARPANSKI: Thank you for your comments.

Mr. McMahon.

MR. MCMAHON: I want to amend what I said before and talk about the unsung heroes who work so hard to get the Fresh Kills Landfill closed, I didn't recognize Helen sitting here and certainly here we are and S-I-C-C-A, we're together with Barbara and on the

solid waste advisory board, they're visionaries and all of the stars aligned correctly and they deserve a lot of credit, I just wanted to add that to what I said before. Thanks (applause.)

MR. SZARPANSKI: Thank you.

Is there anybody else here who wishes to make a statement?

MR. VALENTIN: I just like to ask some questions. Are we looking for --

MR. SZARPANSKI: Can you please stand up and state your name for the record.

MR. VALENTIN: My name is Joe Valentin.

MR. SZARPANSKI: I'm sorry, it's not an opportunity to ask questions that we will respond to on the spot, but you can certainly make a comments and ask that we answer the question.

MR. VALENTIN: This is

something that we did together, I think I was part of this group for 20 years. As Barbara said, you know, we're trying to build up and we finally succeeded on it, but one of --

MR. SZARPANSKI: Just spell your name.

MR. VALENTIN: My spelling? V-A-L-E-N-T-I-N, Valentin.

MR. SZARPANSKI: Thank you.

MR. VALENTIN: One of the reasons, one of the reasons I got here, I wanted to find out one of the questions that was asked basically is, I don't think there was any answers, I didn't hear it, are you finding out betters ways to recycle, you know, re-use garbage that, instead of. And also instead of shipping out a certain amount of garbage out, is there any other way to, are we finding other ways to recycle other things other than the

items that we already have on the recycle, you know, improving the recycling. Because I think that's one of things that we want to see in addition to having Barbara and Helen making that point of it. But I don't know, if the agency is looking for ways or they have already.

We still -- I mean, just what we're looking for in the future?

MR. SZARPANSKI: Just as a point of information, I would urge you to look at appendix F to the SWMP. It looks at the need to look at emerging technologies, we have consultants do an analysis of whatever is out there, we are aware of. The council I think is holding a hearing on the 8th of December on that specific subject so read that and the council hearing we will know.

MR. VALENTIN: Thank you.
MR. SZARPANSKI: Thank you. Is there any other -- Nick.
MR. DMYTRYSZYN: Good evening, Nick Dmytryszyn, environmental engineer to the Borough President. D-M-Y-T-R-Y-S-Z-Y-N.
I didn't plan on saying something this evening but I just want to pass a couple of comments along that I think kind of captures kind of what you're hearing this evening, both from a global to a local, from an unbiased to a biased.
The fact that, as has been mentioned earlier that the City has rethought that garbage has to be basically handled by the borough, it's nice to see that that has kind of come back, that it's not being looked at the way we had the, originally it was going to be five

in each borough handling its own, and then it was going to be this. So we're glad to see that, because from my boss's standpoint, everybody has to share the burden and that's what we call the City's fair share. Not like the way it was in the bad old days.
But from a very narrow kind of perspective, if the State begins with its solid waste management plan, then I think that it should be implemented, in fact, I don't recall reading that there is no plan in the 20-year plan and an ultimatum. There is no such thing like that, and I think it will behoove the City to put that in there, because at a minimum, the administrations come and go, but the fact still remains that we have a lawsuit that basically allows Staten Island to go back into court without prejudice. And we're not

asking to put that in the plans, but I think an acknowledgement of the fact that the landfill is not part of any reconsideration. If a statement like that's not in there, then at a minimum we request that the statement be put in there.
And lastly, Jim Oddo made a couple of good points about the truck traffic. While I know that the garbage plans is not necessarily ready to go through the minutia of where trucks go in each borough, but now this is a little biased aspect.
I'm not certain, I know it's difficult to ask the Department to tell me the trucks routes, where they're going to go. But I think it will be worth studying that wherever a truck route ends from picking up garbage from Staten Island to bring it to the transfer station, if it is next to a

highway, don't use local roads, use the expressway, use the West Shore, but don't use the local roads. And also leave the transfer station by using the highway. To go through the Travis area, Victory Boulevard, Arthur Kill Road or wherever the trucks are allowed to go where they can get perhaps easily by the highway aspect, I think it should be part of that consideration.
And I thank you very much.
MR. SZARPANSKI: Thank you. Any final comments by anybody?
Thank you all for coming. There will be copies of my statement as well as copies of my presentation in the back.
Thank you.
(Time noted: 7:03 p.m.)

1
2 C E R T I F I C A T E
3 STATE OF NEW YORK)
4 : ss.
5 COUNTY OF NEW YORK)
6
7 I, Marc Russo, a Notary Public
8 within and for the State of New York,
9 do hereby certify that the within is a
10 true and accurate transcript of the
11 proceedings taken on December 1, 2004.
12 I further certify that I am not related
13 to any of the parties to this action by
14 blood or marriage and that I am in no
15 way interested in the outcome of this
16 matter.
17 IN WITNESS WHEREOF, I have hereunto set my
18 hand this 20th day of December, 2004.
19
20 _____
21 MARC RUSSO
22
23
24
25

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Comments on the New Comprehensive Solid Waste Management Plan by the Environmental Law Committee of the Association of the Bar of the City of New York -- see attached letter. Thanks.

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January 24, 2005

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RE: COMMENTS ON PROPOSED SOLID WASTE MANAGEMENT PLAN AND THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

INTRODUCTION

The Committee on Environmental Law (Committee) of the Association of the Bar of the City of New York respectfully submits the following comments on the New Comprehensive Solid Waste Management Plan (SWMP) and its Draft Environmental Impact Statement (DEIS).[1] The scope of the 20-year Proposed Action, and therefore the potential impact of it, is great. For that reason, it is the Committee's belief that this is an opportunity to prepare a thoughtful, thorough and innovative response for dealing with the City's solid waste that can establish New York City as a model for the rest of the world. The Committee offers these comments in order to assist the Department of Sanitation of the City of New York (DSNY) with its development of a solid waste management plan that is consistent with the goals of the Solid Waste Management Act (SWMA), that properly identifies the significant environmental issues related to the Proposed Action, and considers appropriate alternatives to mitigate environmental impacts associated with the Proposed Action, consistent with the State Environmental Quality Review Act (SEQRA). As this Proposed Action will likely face significant public scrutiny, our comments are intended to identify existing legal vulnerabilities in both documents as well as to offer specific recommendations in areas where DSNY exercises policy discretion. For these reasons, we offer these comments with an appreciation that the SWMP provides an important and irretrievable opportunity to create a plan that manages the City's enormous quantity of waste in a manner that is not only lawful, but also sustainable, effective and fair.

[1] The Committee recognizes that, as a formal matter, it is the DEIS and not the SWMP that is open to public comment. The two sets of documents, however, cannot be separated due to their interrelated nature and the fact that the New York State Department of Environmental Conservation (DEC) and the City Council will have to approve the SWMP.

EXECUTIVE SUMMARY

Overall, we commend DSNY for recognizing many of the problems with the current system and for taking significant steps to address several of its most troublesome aspects. We support the Proposed Action's long-term commitment to recycling, and its intent to develop infrastructure to allow a shift from truck transfer of solid waste to barge transfer. We are concerned, however, that the Proposed Action is inconsistent with the objectives of the SWMA in that it: (1) relies exclusively on long-term export of waste, while ignoring the Act's placement of higher priority on reducing and reusing waste; (2) fails to adequately provide a comparative economic analysis of the present plan, the Proposed Action and other alternative solid waste management approaches; and (3) does not provide adequate alternatives for the management of the City's commercial solid waste. For these reasons, we recommend that DSNY expand its consideration of these alternatives in a manner consistent with the broad scope and long-term nature of its Proposed Action.

These deficiencies regarding the consideration of alternatives to the Proposed Action are problematic not only in terms of compliance with the SWMA, but with the legal requirements of SEQRA, as they extend into the adequacy of the SWMP's DEIS. Accordingly, the DEIS should be modified and expanded to address the deficiencies highlighted above, as well as to include: (1) a project wide or cumulative analysis of the Proposed Action impacts on the environment, and specifically with regards to air pollution impacts (including ozone) from diesel truck and barge exhaust; (2) alternatives to the Proposed Action that reduce significant increases in air emissions; and (3) alternatives that would improve recycling rates, increase municipal composting, and adequately address emerging challenges, including the proper disposal of increasing amounts of toxic-laden home electronics. A full discussion of these issues is provided in the remainder of our comments.

A. EXISTING STATE SOLID WASTE AND ENVIRONMENTAL QUALITY REVIEW LAWS REQUIRE THAT THE SWMP AND ITS DEIS PROVIDE FULL CONSIDERATION OF ENVIRONMENTALLY-BENEFICIAL ALTERNATIVES TO SOLID WASTE MANAGEMENT AND DISPOSAL.

1. REDUCING AND REUSING SOLID WASTE ARE KEY POLICY PRIORITIES UNDER NEW YORK STATE'S SOLID WASTE MANAGEMENT ACT

Consistent with the federal Solid Waste Management Act, New York State adopted the Solid Waste Management Act of 1988 (SWMA), a comprehensive overhaul of the initial State waste planning law.[2] The SWMA was based in part on findings that "[w]aste reduction is a key strategy in the state solid waste management policy" and that "the state must identify and encourage the implementation of effective waste reduction techniques."[3] Thus, the SWMA was designed in part to achieve sustainable waste practices by encouraging the reduction of the amount of waste for ultimate disposal. The SWMA formally adopted a Solid Waste Management Policy (state policy) and made it the central organizing principle of solid waste planning.

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[2] L.1988, c.70, amending L. 1980, c.552 and L. 1980, c.560.
[3] L.1988, c.70, § 2 (reprinted in N.Y. Environmental Conservation Law ("ECL") § 27-0106, note (McKinney's 2004)).

The act prescribes a hierarchy of policy goals which, "after consideration of economic and technical feasibility, shall guide the solid waste management programs."[4] These goals, in order of priority, are:

1. Reduce the amount of solid waste generated,
2. Reuse materials for their original purpose, or recycle materials that cannot be reused,[5]
3. Recover, in an environmentally acceptable manner, energy from solid waste that can not be economically and technically reused or recycled and
4. Disposal of remaining solid waste in sanitary landfills or other approved facilities.[6]

The SWMA encourages local governments to adopt solid waste management plans for a period of ten years or more through grants and other incentives. Local plans must "take into account" the state policy and should reflect "sound principles of solid waste management, natural resources conservation, energy production and employment creating opportunities."[7] Specifically, the SWMA requires the local plans, among other things, to:

1. Characterize the solid waste stream to be managed,
2. Assess existing and alternate proposed solid waste management programs and facilities, and
3. Address comments by governmental, environmental, commercial and industrial interests and the public.[8]

Local plans must also select an "integrated system" for the management of each stream of waste from minimization at the point of generation through collection, treatment and disposal.[9] Integrated systems must "provide for or take in to account management of all solid waste within the planning unit."[10]

2. STATE AND CITY ENVIRONMENTAL QUALITY REVIEW LAWS

The State Environmental Quality Review Act (SEQRA) "insures that agency decision-makers — enlightened by public comment where appropriate — will identify and focus attention on any environmental impact of proposed action, that they will balance those consequences against other relevant social and economic considerations, minimize adverse environmental effects to the maximum extent practicable, and then articulate the bases for their choices. Moreover, unlike its Federal counterpart . . . SEQRA is not merely a disclosure

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[4] N.Y. ECL § 27-0106(3). See also 6 NYCRR § 360-15.9(n) (requiring local plans to assess overall costs of the integrated management system and corresponding financing mechanisms for capital investments insurance, operation, maintenance, administration and financing).
[5] See also N.Y. General Municipal Law § 120-aa(2)(A) (requiring municipalities to adopt recycling and reuse laws for waste components "for which economic markets for alternative uses exist"); N.Y. Economic Development Law § 181(5)(j)-(l) (charging economic development agencies with evaluating the supply and demand for recovered material and developing and facilitating waste end markets).
[6] N.Y. ECL § 27-0106(1).
[7] Id. § 27-0107(c).
[8] Id. § 27-0107(b).
[9] 6 NYCRR § 360-15.9(l).
[10] N.Y. Environmental Conservation Law § 27-0701(1)(c).

statute; it imposes far more action-forcing or substantive requirements on state and local decision makers than NEPA imposes . . ."[11] The act further requires that, these considerations be raised "[a]s early as possible" at "the inception of the planning process . . . ."[12] The cornerstone of SEQRA is its mandate that agencies "shall act and choose alternatives which, consistent with social economic and other essential considerations, to the maximum extent practicable, minimize or avoid adverse environmental effects . . . ."[13] That mandate is enforced through the requirement that agencies prepare a "detailed" environmental impact statement that sets forth "the environmental impact of the proposed action including short-term and long-term effects," "alternatives to the proposed action" and "irreversible and irretrievable commitments of resources . . . ."[14] SEQRA explicitly states that environmental impact statements should analyze "reasonably anticipated" environmental impacts and should contain a level of detail that is "appropriate considering the nature and magnitude of the proposed action and the significance of its potential impacts."[15] Finally, an environmental impact statement should identify and discuss "reasonably related short-term and long-term impacts, cumulative impacts and other associated environmental impacts."[16] The City Environmental Quality Review laws (CEQR) impose similar restrictions, and for the purposes of these comments, all reference to SEQRA should be understood to incorporate CEQR.[17] Thus SEQRA, like SWMA, encourages good policy choices by providing "the basis for a decision whether or not to undertake or approve [the Proposed Action]."[18]

B. Recommendations To Improve the SWMP's Consistency With the SWMA

1. The SWMP Needs to Better Manage Commercial Solid Waste

As previously noted, state law requires that the local SMWP select an integrated system for the management of each stream of waste that manages all solid waste within the planning unit. The City SWMP, however, includes very few present commitments for improving commercial waste management. The SWMP recognizes that the current system for managing commercial waste, which is based on a network of private land-based transfer stations (PTSs), is problematic because: (1) the majority of PTSs are clustered in low income communities of color, thereby creating a grossly inequitable concentration of harms, and (2) the PTS system is dependent on the use of hundreds of long-haul trailer trucks – with their attendant contribution to air and water pollution, traffic congestion and infrastructure decay - to export the waste. Accordingly, the SWMP aspires to "accelerate the conversion of the City's private transfer network towards a barge and/or rail-based system that will have long-term economic and environmental benefits for the City." However, the plan falls short of this goal because, (1) it fails to create enough alternative capacity for managing the City's commercial waste, (2) it

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[11] (Citations omitted; internal quotation marks omitted.) *Jackson v. N.Y. Urban Dev. Corp.*, 67 N.Y.2d 400, 414-415, 503 N.Y.S.2d 298, 494 N.E.2d 429 (1986).
[12] N.Y. Environmental Conservation Law § 8-0109(4).
[13] N.Y. Environmental Conservation Law § 8-0109(1).
[14] N.Y. Environmental Conservation Law § 8-0109(2)(b), (d).
[15] N.Y. Environmental Conservation Law § 8-0109(2).
[16] 6 NYCRR 617.9(b)(5)(iii)(a).
[17] 43 RCNY § 6-01 et seq.; 62 RCNY § 5-01 et seq.
[18] N.Y. Environmental Conservation Law § 8-0109(2).

fails to ensure that the alternative capacity that *is* created will be used by private waste collectors and (3) it fails to discourage the use of, and prepare for the phasing out of, clustered and unnecessary PTSs.

First, the current plan does not create enough alternative capacity to relieve growth pressure on the existing PTS network or substitute municipal capacity. DSNY estimates that the daily throughput of commercial waste is approximately 18,600 tons per day (tpd). This figure includes roughly 9,900 tpd of putrescible solid waste (PSW) and 8,700 tpd of construction and demolition debris (C&D).[19] Under the most generous estimate, the plan would create approximately 9,261 tpd of "potentially available capacity" for commercial waste. This would come from three potential sources. First, the plan envisions retrofitting and reopening four of the City's eight marine transfer stations (MTS). After taking into account the DSNY managed waste that the MTSs would handle, they would have 3,915 tpd of capacity potentially available for commercial waste. Second, the plan envisions contracting with private companies to operate five private rail and/or barge transfer stations. This action would create approximately 3,231 tpd of capacity that would potentially be available for commercial waste. Finally, the plan promises to "assess the feasibility of providing the West 59th Street MTS site for commercial waste transfer through procurement or other means." That station would have the capacity to handle approximately 2,115 tpd of commercial waste. The total potential capacity from all sources would be approximately 9,261 tpd – less than half of the required 18,600 tpd.

Second, the plan fails to ensure that private waste collectors will use the alternative capacity that *is* created. Regarding the MTSs, the plan says that, "[t]he City intends to develop policies that will result in the processing of commercial waste at the four converted MTSs." Regarding the private rail/barge transfer stations and the West 59th Street MTS, the plan has no provision for requiring or encouraging private waste collectors to bring commercial waste to these facilities. Nor does it require or encourage that the commercial waste brought to these stations be redirected from neighborhoods that currently bear a disproportionate burden of the commercial waste flow. Finally, the plan does nothing to discourage the use of, and prepare for phasing out, clustered PTSs where that would be environmentally beneficial. The plan makes a vague promise to, "explore ways to reduce the daily permitted putrescible capacity in the two or three communities with the greatest concentration of transfer stations as new putrescible transfer station capacity becomes available . . . ." This promise is further qualified by the caveat that, "DSNY may also work with the City Council, as necessary, to amend Section 16-131 of the Administrative Code to clarify that DSNY has the authority to reduce permitted capacity at transfer stations." There is no description of what methods the City intends to explore, how the City will determine the "two or three" most burdened communities, or why this reduction in capacity should not include C&D and fill material.

The plan also relies on the recently promulgated transfer station siting regulations and the forthcoming transfer station operating regulations to minimize the concentration and impacts of the PTSs. Local Law 40 specifically mandated that DSNY, "adopt rules establishing . . . requirements appropriate for protection of public health and environment concerning siting of dumps, non-putrescible solid waste transfer stations, putrescible solid waste transfer stations and/or fill material operations in relation to other such facilities and

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[19] Also included in the overall estimate of commercial waste is fill material. However, fill capacity is measured in storage capacity, not throughput capacity. Therefore, the estimated 19,000 tons of fill represents the maximum amount stored amount on any given day, not the amount that is moved on any given day. Furthermore, most fill is reused within the City, and thus does not present the same management problems as PSW and C&D.

residential premises."[20] However, the siting regulations not only fail to remedy clustering, but actually permit the siting of new PTSs and the expansion of existing ones in already burdened neighborhoods.[21] At best, the new regulations will slow the expansion of commercial waste capacity at PTSs. More likely, they will create an unintended incentive for existing stations to increase capacity instead of encouraging improvements or relocation.

As the SWMP is intended to be a comprehensive 20-year solid waste management plan, it should address these solid waste management issues by including and examining alternative approaches to (1) create adequate capacity for the City's commercial waste; (2) increase the use of alternative capacity by private waste collectors; and (3) address the problems identified with the present PTS system. Along with these specified goals, the SWMP should set out at the outset specific measures to achieve the overall goal and milestones to assess the progress of the SWMP in achieving its overall goals. Such milestones will ensure that DSNY places appropriate resources toward achieving the plan's specific goals during the implementation of the SWMP over the next twenty years.

2. THE SWMP INVERTS, RATHER THAN IMPLEMENTS, THE STATE'S SOLID WASTE MANAGEMENT PLANNING PRIORITIES

A major shortcoming of the Proposed SWMP is that it predominantly relies on the last priority of the state policy – land-based disposal – for managing the City's waste, and includes no specific plans to achieve the state policy's top priority – waste prevention. Also, the Proposed SWMP does not contain essential details on how it promotes the state policy's second and third priorities – reuse and recycling. Other than its commitment to a 20-year contract with Hugo Neu to handle the City's recycling materials, the SWMP leaves many of the details regarding improving residential and commercial reuse and recycling rates to be worked out in the future.

Regarding the first tier of the State policy hierarchy - reduction before waste is generated - the SWMP contains little discussion of proposals to reduce waste, despite the State Plan's recognition that "pay-as-you-throw or pay-per-bag programs are becoming much more popular and are a very effective waste reduction initiative . . . ."[22] Also, the SWMP contains few concrete plans to reduce the increasing toxic component of municipal waste, such as increasing the frequency of collection of household hazardous waste and the increased use of "special waste" drop-off sites for common, yet toxic household items. In light of the SWMP's reliance on continued incineration of its solid waste in nearby Newark, every reasonable effort should be made to divert toxic materials from the solid waste stream prior to disposal.

Regarding the second tier of the State policy hierarchy - reuse or recycling - the SWMP includes a very limited consideration of potential future projects to improve reuse and recycling rates, including public

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[20] See also *Neighbors Against Garbage v. Doherty*, 245 A.D.2d 81, 665 N.Y.S.2d 640 (1st Dept. 1997) (ruling that DSNY had not met their obligation under Local Law 40 because the siting regulations they had promulgated failed to remedy clustering); *OWN v. Carpinello*, Index No. 103661/99 (Sup. Ct. N.Y. Co., Oct. 18, 2001) (new siting regulations must remedy the, "infirmities of the challenged [1998] regulations," including the failure to address the clustering of transfer stations).

[21] 16 RCNY §§ 4-31 through 4-35.

[22] State Plan, p. 13. For example, Seattle, Washington and Bloomington, Indiana require residents to dispose of waste in special bags for which there is a graduated, increasing fee scale.

education and outreach initiatives. Similarly, while the plan does recognize the potential of municipal composting to significantly reduce the amount of noxious, or putrescible waste, the SWMP contains no commitment to continue or expand municipal solid waste composting pilot projects, despite an earlier DSNY report recommending such action. The only significant action for "Waste Prevention and Recycling" is the proposal to enter a twenty-year contract with the Hugo Neu Corporation to construct a metal, glass and plastic recycling facility at the 30th Street Pier in Brooklyn. While this measure ensures that the City will continue to recycle, absent complimentary efforts directed toward increasing recycling rates, the overall SWMP fails to ensure improvements in the City's recycling rate in the future.

Future improvements in the City's recycling rate are also put into question by the City's plan to significantly modify the City's central recycling law, Local Law 19, by replacing tonnage-based diversion mandates with percentage-based diversion goals. Such a change to Local Law 19 is a major undertaking and can have profound and unforeseeable consequences on recycling efforts in the City. Unfortunately, the rationale given by the City for this change is not to improve recycling rates, but to "avoid costly litigation" arising if DSNY is unable to recycle the mandated tonnage due to a reduction in the overall amount of waste. However, this approach is an inappropriate way of dealing with noncompliance and seems unjustified given DSNY's projected increase in waste. The Committee recommends that proposals to amend Local Law 19 should not be taken lightly, and should only occur if, after adequate studies are completed, a clear need is shown to amend Local Law 19 to improve the City recycling program.

Regarding the third tier of the State policy hierarchy – waste-to-energy – the only discussion of this method is in the plan to send Manhattan's 1,680 tpd of residential waste to the Essex County Incinerator. While technically a waste-to-energy method of managing the waste, this action is inconsistent with the implicit requirement that the recovered energy be available to the planning unit or the state. Sending waste to an out-of-state incinerator has the same impact as any other method of out-of-state disposal, namely, treating the waste purely as a burden to be externalized. Also, this method may contribute to pollution in the City and State when the air pollution emitted by the facility travels into the area. While the creation of waste to energy capacity in the City would likely be environmentally and politically difficult to achieve, the SWMA calls for a full analysis of the options.

3. THE SWMP SHOULD INCLUDE A COMPARATIVE COST ASSESSMENT OF THE INTERIM PLAN, THE PROPOSED ACTION AND OTHER REASONABLE ALTERNATIVES FOR MANAGING COMMERCIAL AND RESIDENTIAL SOLID WASTE AND RECYCLING.

The three-page "Economic Analysis of Long Term Export Scenarios," contains insufficient detail and analysis to reasonably inform the planning process. The analysis sets forth only the overall estimated costs of two variations on exporting waste to other states – the Proposed Action to revamp four marine transfer stations at a cost of $85 million each and to take other measures for a total cost of $388 million, and the conversion of all eight marine transfer stations for a total estimated cost of $473 million. The analysis does not describe the underlying calculations or assumptions for these two estimates, even though the cost estimates of anticipated contracts with private haulers for DSNY-managed waste in Bronx, Brooklyn and Queens may vary by ten percent. The disclosure of cost components would allow the public and decision-makers to compare the additional $85 million for renovating all eight stations to potential savings in health costs from the reduced reliance on truck hauling for DSNY-managed waste in large parts of the City. The plan should also consider the

economic impacts of the converted marine transfer station for commercial waste at 59th Street, the barge staging area and any incentives or other methods that will be used to encourage private carters to use the dedicated 59th Street marine transfer station and surplus capacity at the other four converted marine transfer stations.

A comprehensive economic analysis and comparison with a wider range of viable alternatives would allow the City and public to make a clear-eyed choice to export waste through renovating all or some marine transfer stations or whether to pursue alternate options. Estimates in the SWMP put export costs at anywhere from $70 to $85 per ton, and note that they are expected to rise to $95 per ton. The SWMP states that the cost of the Proposed Action will be about $100 per ton, but does not state whether these costs will decrease over the twenty-year planning period. Nor is it clear whether these figures account for potential increases in exporting costs arising from consolidation, concentration and/or other limitations on disposal markets.
In light of the risk of rising costs and diminished capacity in export markets, the SWMP should give greater consideration to self-sufficiency on a State-wide, if not City-wide, basis.

C. Recommendations To Improve the DEIS's Consistency With the State Environmental Quality Review Act

1. The SWMP and DEIS should Fully Analyze and Compare the Impacts of the Interim System, Proposed Action and a Range of Reasonable Alternatives

In order to ensure that the City chooses a solid waste management plan that will best minimize adverse environmental, social and economic impacts, the SWMP and DEIS should provide the public and elected officials with comprehensive information regarding the impacts of the interim system, the Proposed Action and a range of reasonable alternatives that would reduce the amounts of solid waste generated, improve recycling, increase composting, and control and reduce new sources of toxic materials into the waste stream, and reduce the City's reliance on long-term trucking of its solid waste to landfills in neighboring states. However, the SWMP and DEIS provide little or no baseline information about the totality of environmental impacts of the interim system, inadequate information about the impacts of the Proposed Action and inadequate consideration of and comparison with alternative actions.

2. The DEIS Should Include Alternatives to the Present Management of Commercial Solid Waste

As the DEIS is required to consider reasonable alternatives to the Proposed Action that are more environmentally-benign, the DEIS should be expanded to include a broad range of alternatives to the present system of commercial solid waste management, including alternative management approaches that address the problems the Committee identified above with the present commercial waste management system not addressed by Proposed Action. Such an analysis is needed to demonstrate whether the Proposed Action will, as claimed, improve environmental conditions for the communities in which the land-based stations are located. The need for a broader range of alternatives is apparent from the SWMP's admissions that the siting and operational regulations are an incomplete remedy to the environmental and social effects of the commercial waste system.

For example, there are several actions that the SWMP and DEIS should fully explore for managing commercial waste. One alternative that was discussed, but not fully explored, was retrofitting and reopening all eight City-owned MTSs. According to the City's Commercial Waste Management Study, retrofitting and reopening all eight City-owned MTSs, along with the new transfer station on Staten Island, will provide for a total capacity of approximately 29,250 tpd. This represents 7,139 tpd more than the current proposal, and would be sufficient to handle all of the DSNY-managed waste, all of the commercial PSW and most of the C&D. The remaining C&D (approximately 2,750 tpd) could easily be handled by a reduced network of smaller PTSs. Also, according to the plan's admittedly cursory economic analysis, revamping all eight MTSs would only cost $85 million more than revamping just four. In addition, that option would provide the City with added revenues from tipping fees, further lowering the net cost, and providing greater control over the flow of waste.

In terms of addressing problems with the present PTS system, the plan should also consider alternatives for redirecting the flow of commercial waste from the PTSs to the MTSs. One alternative is for the City Council to enact flow control legislation requiring that all waste collected within a particular wasteshed be brought to a particular MTS. In order for this legislation to pass constitutional muster, the facilities to which waste is directed must be publicly owned.23 Such an action would be possible if the eight City-owned MTSs are retrofitted and reopened, but it is not possible under the current plan. Short of flow control legislation, the City could also encourage the shift by amending § 16-131(c) of the City's administrative code to raise PTS permit fees and/or subsidizing the tipping fees at the MTSs.24 DSNY could, pursuant to its power to specify the kinds of waste to be collected by the City and the manner in which it is collected, enter franchising agreements granting private waste collectors licenses to collect waste from particular wastesheds.25 The plan should also consider and compare the cost of financial incentives to encourage private haulers to use excess capacity at the converted marine transfer stations, with the costs and environmental benefits of subsidizing modern private collection vehicles.

Finally, the plan should consider methods for phasing out the clustered and unnecessary PTSs. One option would be to stop permitting new capacity and allow existing permits to expire.[26] This could be done by amending City and State law to include, as a ground for refusing to issue or renew a permit, the determination that the capacity is not needed,[27] and amending State regulations to remove the automatic permit extension.[28] These actions would also dovetail nicely with the capacity and control provided by retrofitting all eight City-owned MTSs. All of these alternatives for managing the City's commercial waste should be fully explored

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[23] See *United Haulers Ass'n v. Oneida-Herkimer Solid Waste Management Authority*, 261 F.3d 245 (2d Cir. 2001), cert. denied, 534 U.S. 1082 (2002) (holding that where facilities to which waste is channeled are publicly owned, the laws do not discriminate in favor of economic interests to the disadvantage of out-of-state economic interests and will be upheld unless burden imposed on such commerce is clearly excessive in relation to putative local benefits).

[24] As previously noted, these options should be subjected to a detailed economic analysis.

[25] NYC Charter § 753.

[26] According to a comparison of self-reported data from in-City transfer stations with DSNY permitted capacity, the current system has approximately 30,000 tpd of excess capacity.

[27] Administrative Code of the New York City § 16-131.1 and N.Y. Environmental Conservation Law §27-0703.

[28] 6 NYCRR 360-1.8(f)(2).

before the City commits to a plan that may result in uncontrolled costs, legal challenges and/or unwieldy management problems in the future.

3. THE DEIS'S ASSESSMENT OF THE IMPACTS OF THE PROPOSED ACTION ON WASTE REDUCTION AND RECYCLING, AND CONSIDERATIONS OF ALTERNATIVES, NEEDS TO BE IMPROVED

While the SWMP relies almost exclusively on a twenty-year contract with the Hugo Neu Corporation to handle recycling, a discussion of certain environmental impacts and the pricing and other terms of that contract are deferred to the future. Specifically, the total cost per ton for metal, glass and plastics recyclables that the City will pay under the contract has not yet been negotiated. There is also no information on whether the proposed long-term contract is flexible enough to adapt to the changing technologies and characteristics of the City's solid waste generation, or is rigid and will preclude innovation and adoption of more environmentally sound and efficient recycling collection approaches as they become practicable. Furthermore, it is unclear whether there will be adequate incentives for Hugo Neu to maintain and upgrade facilities with state of the art technologies in the future if the value of the contract is diminished by changing economic circumstances in the City or region. Comparing today's New York City to the New York City of 1985 highlights how much the City can change over a 20-year period. For that reason, it is important that the plan and DEIS adequately describes and considers the ramifications of the Proposed Action, along with alternatives to the Proposed Action, over the entire 20-year period.

In addition to answering these fundamental questions, the DEIS and SWMP should discuss additional alternatives to certain elements of the proposed recycling plan and its greatest cost component, collection, such as the use of dual bin trucks or the sorting of mixed recyclables at the processing facility - both of which may result in fewer collection runs - or the use of neighborhood recycling drop-off bins for high traffic areas, or at least discuss why such alternatives were rejected. The plan should also fully analyze the impacts of the solid waste composting pilot project to determine whether it could significantly reduce the amount and noxiousness of the waste to be transferred and disposed of and thereby mitigate many of the City's waste management challenges. Other alternatives to consider might include: (1) permanent drop-off centers for household hazardous waste (batteries, etc.) and electronics; (2) more frequent special collections of hazardous household waste, programs to exchange household mercury thermometers and other toxic items for non-toxic alternatives; (3) recovery of mercury switches from junked cars or (4) comprehensive producer-sponsored programs for dedicated returns of computer monitors, cell phones and other consumer electronics and (5) use of new technologies for "end-of-the pipe" management of municipal solid waste that allow for the possibility of more environmentally-friendly and locally-sited disposal methods.[29]

4. THE DEIS SHOULD CONTAIN A PROJECT-WIDE ENVIRONMENTAL ASSESSMENT OF THE INTERIM ACTION AND PROPOSED ACTION.

Both the present plan and Proposed Action for exporting waste involves numerous facilities and disposal sites, a numerous diesel-powered collection and transport vehicles, and an extensive network of trucking routes

[29] In Middletown, NY, one such facility will recycle or beneficially use over 90% of the municipal waste and sewage sludge, leaving only a small residue for landfilling, at a cost to the city of $55-65 per ton.

connecting the various facilities and disposal sites. The DEIS, however, does not set forth the project-wide, or cumulative environmental impacts of the present system for comparison with the impacts of the Proposed Action, and therefore provides an inadequate baseline against which to compare the impact of the latter. Rather than providing a project-wide analysis, the DEIS consists mainly of separate environmental analyses for each waste processing facility, each in its own separate chapter. For the 17 facilities studied, most environmental impacts are analyzed only within a ¼ mile radius, with impacts to open space and cultural resources analyzed within a ½ mile radius. The DEIS should, but does not, contain a project-wide impacts analysis over the entire area affected by the project. Such a cumulative analysis would combine both the site-specific impacts of each facility (analyzed in the DEIS), and the impacts of collecting and transporting solid waste between each facility and to final disposal sites (presently not analyzed in the DEIS). Such an approach would improve the DEIS's assessment of the cumulative impacts of the plan.[30]

The ramifications of such a limited site-specific scope of analysis are significant, in that they cause the DEIS to (1) overlook potentially significant environmental impacts of the plan resulting from the transportation of solid waste in diesel trucks or by diesel tugs, and (2) omit consideration of environmentally-beneficial alternatives to mitigate such impacts. The use of diesel trucks in upwind states – and disposal in an incinerator in Newark, only six miles upwind – can be reasonably anticipated to cause significant effects in New York through the downwind transport of pollutants. Regional transport of air pollutants is a well-document phenomenon, and most areas of the tri-state metropolitan area are in non-attainment for particulate matter ($PM_{2.5}$, PM_{10}) (lower Manhattan only) and ozone (O_3). Yet the DEIS does not contain any analysis showing the environmental impacts on a regional basis for particulate matter. Indeed, the DEIS explicitly omits any analysis of the impacts of the Proposed Action's nitrogen oxides (NO_x) and volatile organic compounds (VOC) emissions' contribution to ozone pollution in the region, yet claims it is not significant.[31] The metropolitan region is a non-attainment area for the one-hour and eight-hour ozone standard, with a compliance deadline of 2010. As a non-attainment area, the DEIS should include a cumulative analysis of air quality effects, which the present DEIS does not contain.

C. Conclusion

The Committee's comments center around the proposition that management plans – especially one for the largest waste market in the United States over 20 years – should provide detailed, forward-looking analysis of a wide range of alternatives for moving towards sustainable and economical waste management. The SWMP and DEIS are complex undertakings that generally will improve solid waste management in the City. In certain key areas, however, the documents fall short of fulfilling the Legislature's purposes of promoting fully informed decision-making and minimizing the adverse impacts of the Proposed Action. Policy-makers and the public need to understand the overall environmental impacts of a wide variety of actions and technologies and the conflicts or congruence with economic costs so that they can make informed decisions from the full range of alternatives.

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[30] Chapter 34, entitled "Evaluation of the Proposed Plan" is a one-and-one-half page conclusion that the project will not have significant cumulative impacts. This is insufficient to comply with the requirements of SEQRA.
[31] DEIS at 3-69.

Consistent with our comments, we highlight the key recommendations for improving the quality, usefulness, and legal consistency of the SWMP and its DEIS with the SWMA and SEQRA:

Recommendations regarding SWMA consistency

1. The proposed SWMP and its Proposed Action should include additional measures to promote reduction and reuse of solid waste over long-term export and disposal, consistent with the priorities of the state Solid Waste Management Act,
2. The SWMP should consider alternative approaches for the management of commercial waste that increase capacity and promote the use of MTS over PTS by private waste collectors.
3. The SWMP should consider approaches to reduce the clustering and potential expansion of PTS facilities.
4. The SWMP should include a comparative cost analysis of the interim plan, the Proposed Actions, and other alternatives to manage and dispose of commercial and residential solid waste.
5. The SWMP should consider alternative approaches for controlling and reducing the amount of hazardous household waste that enters the solid waste stream.

Recommendations regarding SEQRA consistency

1. The DEIS should complement the present site-specific analyses of each facility, with a project wide or cumulative environmental impact analysis of the interim plan and the Proposed Action over the entire area affected by the SWMP.
2. The DE IS should consider alternatives to the interim plan and Proposed Action's approach toward commercial waste management, to address capacity issues, promote the use of MTS over PTS by private waste companies, and reduce sources of hazardous household waste entering the waste stream.
3. The DEIS should provide a project -wide or cumulative analysis of the Proposed Action's environmental impacts, including a project-wide analysis of its contribution to air pollution, specifically ozone – as the City and region are exceeding regional federal air quality standards.
4. The DEIS should consider alternatives to retrofit diesel trucks and barges to reduce exhaust emissions of NO_x, SO_x, and PM_{10}.

Incorporation of these recommendations in the SWMP and its DEIS will improve their quality and usefulness, better incorporate state priorities toward waste management and environmental conservation into the City's solid waste management plan, and reduce legal vulnerabilities in both documents. Thank your for your consideration of these comments.

Sincerely,

Christine A. Fazio, Secretary

1285661.1

cc: Steven N. Brautigam
Assistant Commissioner
Department of Sanitation
Bureau of Legal Affairs
125 Worth Street, Room 708
New York, NY 10013

1285661.1

Carrieri, Donna

From: joseph acosta [dakidjoey@yahoo.com]
Sent: Wednesday, December 15, 2004 10:50 AM
To: miller@counsil.nyc.ny.us; DSNY, Commissioner

NEW YORK CITY IS ACCEPTING COMMENTS ABOUT THE SOLID WASTE MANAGEMENT PLAN.

WE WANT TO ADDRESS THE ENVIRONMENTALJUSTICE ISSUES THAT HAVE LED TO POLICIES THAT HAVE DISPORPORTIONATELY IMPACTED OUR SOUTH, SOUTH BRONX COMMUNITIES.

FACT: MANHATTAN MAKES 7,000 TONS PER DAY OF GARBAGE, AND DOESN'T HANDLE IT. IDEA: THAT THE EAST 91ST STREET TRANSFER STATION BE OPENED IN FAIRNESS.

FACT: SOUTH, SOUTH BRONX HAS NO OFFICIAL WATERFRONT ACCESS

IDEA: CREATE SHORE LINE PARKS AND ACCCESS POINTS NOW!

FACT: NYC HAS THE HIGHEST RATES OF ASTHMA IN AMERICA

IDEA: CONVERT TRUCKS TO BIO-DIESEL (LIKE OLYMPIA & TACOMA) & ELIMINATE POLLUTION

FACT: NYC DOES NOT Reduce waste suffifciently.

IDEAS: Pass legislation that requires businesses to accept packaging from copnsumers, this will lead to less packaging from the manufactuers. And INCREASE COMPOSTING!

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Carrieri, Donna

From: justin munoz [justinmoney@hotmail.com]
Sent: Wednesday, December 15, 2004 11:24 AM
To: miller@council.nyc.us; DSNY, Commissioner
Subject: NO MORE BASURA(garbage)!!!

NEW YORK CITY IS ACCEPTING COMMENTS ABOUT THE SOLID WASTE MANAGEMENT PLAN.

WE WANT TO ADDRESS THE ENVIRONMENTALJUSTICE ISSUES THAT HAVE LED TO POLICIES THAT HAVE DISPORPORTIONATELY IMPACTED OUR SOUTH, SOUTH BRONX COMMUNITIES.

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Carrieri, Donna

From: brian pagan [lilseanjaun193@yahoo com]
Sent: Wednesday, December 15, 2004 11:48 AM
To: miler@council.nyc.us; DSNY, Commissioner
Subject: NO MORE GARBAGE!!!!!!!!!!!

NEW YORK CITY IS ACCEPTING COMMENTS ABOUT THE SOLID WASTE MANAGEMENT PLAN.

WE WANT TO ADDRESS THE ENVIRONMENTALJUSTICE ISSUES THAT HAVE LED TO POLICIES THAT HAVE DISPORPORTIONATELY IMPACTED OUR SOUTH, SOUTH BRONX COMMUNITIES.

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Carrieri, Donna

From: davon richardson [davon1012003@yahoo.com]
Sent: Wednesday, December 15, 2004 11.02 AM
To: DSNY, Commissioner
Subject: garbage in the bronx

NEW YORK CITY IS ACCEPTING COMMENTS ABOUT THE SOLID WASTE MANAGEMENT PLAN.

WE WANT TO ADDRESS THE ENVIRONMENTALJUSTICE ISSUES THAT HAVE LED TO POLICIES THAT HAVE DISPORPORTIONATELY IMPACTED OUR SOUTH, SOUTH BRONX COMMUNITIES.

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Carrieri, Donna

From: Luis Rodriguez [madchasty@yahoo com]
Sent: Wednesday, December 15, 2004 11.40 AM
To: miller@council nyc ny us; DSNY, Commissioner

NEW YORK CITY IS ACCEPTING COMMENTS ABOUT THE SOLID WASTE MANAGEMENT PLAN.

WE WANT TO ADDRESS THE ENVIRONMENTALJUSTICE ISSUES THAT HAVE LED TO POLICIES THAT HAVE DISPORPORTIONATELY IMPACTED OUR SOUTH, SOUTH BRONX COMMUNITIES.

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http://promotions.yahoo.com/new_mail

Sarah Dolinar

From: Sarah Dolinar [sarahjd@verizon.net]
Sent: Wednesday, January 19, 2005 12:31 PM
To: 'lilseanjaun193@yahoo.com'
Subject: Your e-mail to Commissioner Doherty

Dear Mr. Pagan: The undersigned has responded to your recent e-mail, as follows:

January 18, 2005

Via e-mail

Mr. Brian Pagan
lilseanjaun193@yahoo.com

Dear Mr. Pagan:

I am writing in response to your December 15, 2004 e-mail message to City of New York Department of Sanitation (DSNY) Commissioner John J. Doherty regarding the Draft New York City Comprehensive Solid Waste Management Plan for the next twenty years (New SWMP).

Your comments will be considered in the development of a Final Environmental Impact Statement (Final EIS) for the New SWMP and during the approval process for the New SWMP, along with the testimony and written comments received during the extended public comment period (October 22, 2004 through January 24, 2005). The New SWMP Final EIS is expected to be issued in February/March 2005.

Thank you for your comments.

Sincerely,

Harry Szarpanski

sd/HS

c: Commissioner John J. Doherty

Sarah Dolinar

From: Sarah Dolinar [sarahjd@verizon.net]
Sent: Wednesday, January 19, 2005 12:33 PM
To: 'dakidjoey@yahoo.com'
Subject: Your e-mail to Commissioner Doherty

Dear Mr. Acosta: The undersigned has responded to your recent e-mail message, as follows:

January 18, 2005

Via e-mail

Mr. Joseph Acosta
dakidjoey@yahoo.com

Dear Mr. Acosta:

I am writing in response to your December 15, 2004 e-mail message to City of New York Department of Sanitation (DSNY) Commissioner John J. Doherty regarding the Draft New York City Comprehensive Solid Waste Management Plan for the next twenty years (New SWMP).

Your comments will be considered in the development of a Final Environmental Impact Statement (Final EIS) for the New SWMP and during the approval process for the New SWMP, along with the testimony and written comments received during the extended public comment period (October 22, 2004 through January 24, 2005). The New SWMP Final EIS is expected to be issued in February/March 2005.

Thank you for your comments.

Sincerely,

Harry Szarpanski

sd/HS

c: Commissioner John J. Doherty

Sarah Dolinar

From: Sarah Dolinar [sarahjd@verizon.net]
Sent: Wednesday, January 19, 2005 12:35 PM
To: 'davon1012003@yahoo.com'
Subject: Your e-mail to Commissioner Doherty

Mr. Richardson: The undersigned responds to your recent e-mail, as follows:

January 18, 2005

Via e-mail

Mr. Davon Richardson
davon1012003@yahoo.com

Dear Mr. Richardson:

I am writing in response to your December 15, 2004 e-mail message to City of New York Department of Sanitation (DSNY) Commissioner John J. Doherty regarding the Draft New York City Comprehensive Solid Waste Management Plan for the next twenty years (New SWMP).

Your comments will be considered in the development of a Final Environmental Impact Statement (Final EIS) for the New SWMP and during the approval process for the New SWMP, along with the testimony and written comments received during the extended public comment period (October 22, 2004 through January 24, 2005). The New SWMP Final EIS is expected to be issued in February/March 2005.

Thank you for your comments.

Sincerely,

Harry Szarpanski

sd/HS

c: Commissioner John J. Doherty

Sarah Dolinar

From: Sarah Dolinar [sarahjd@verizon.net]
Sent: Wednesday, January 19, 2005 12:37 PM
To: 'madchasty@yahoo com'
Subject: Your e-mail to Commissioner Doherty

Mr Rodriguez: The undersigned responds to your recent e-mail, as follows:

January 18, 2005

Via e-mail

Mr. Luis Rodriguez
madchasty@yahoo.com

Dear Mr. Rodriguez:

I am writing in response to your December 15, 2004 e-mail message to City of New York Department of Sanitation (DSNY) Commissioner John J. Doherty regarding the Draft New York City Comprehensive Solid Waste Management Plan for the next twenty years (New SWMP).

Your comments will be considered in the development of a Final Environmental Impact Statement (Final EIS) for the New SWMP and during the approval process for the New SWMP, along with the testimony and written comments received during the extended public comment period (October 22, 2004 through January 24, 2005). The New SWMP Final EIS is expected to be issued in February/March 2005.

Thank you for your comments.

Sincerely,

Harry Szarpanski

sd/HS

c: Commissioner John J. Doherty

Sarah Dolinar

From: Sarah Dolinar [sarahjd@verizon.net]
Sent: Wednesday, January 19, 2005 12:38 PM
To: 'justinmoney@hotmail.com'
Subject: Your e-mail to Commissioner Doherty

Mr Munoz: The undersigned responds to your recent e-mail, as follows:

January 18, 2005

Via e-mail

Mr. Justin Munoz
justinmoney@hotmail.com

Dear Mr. Munoz:

I am writing in response to your December 15, 2004 e-mail message to City of New York Department of Sanitation (DSNY) Commissioner John J. Doherty regarding the Draft New York City Comprehensive Solid Waste Management Plan for the next twenty years (New SWMP).

Your comments will be considered in the development of a Final Environmental Impact Statement (Final EIS) for the New SWMP and during the approval process for the New SWMP, along with testimony and comments received during the extended public comment period (October 22, 2004 through January 24, 2005). The New SWMP Final EIS is expected to be issued in February/March 2005.

Thank you for your comments.

Sincerely,

Harry Szarpanski

sd/HS

c: Commissioner John J. Doherty

JOV THEODORE SOMESFALEAN

Developer
170 West End Avenue
New York, New York 10023
212/595-2511
FAX: 212/580-8698 E-Mail: JOVTS@aol.com

2004 NOV 15 P 6:17
DEPARTMENT OF SANITATION
COMMUNITY AFFAIRS

October 18, 2004

Mayor Michael Bloomberg
City Hall
New York, NY 10007

Comprehensive Plan for Processing the Hydrocarbon as Oil and Coal, Municipal and Industrial Garbage and Gasification and Atomo-molecular Decontamination of Most Pollutants Produced by Modern Industrial Society With Special Consideration for Processing New York City Fresh Kills Old Landfill on Staten Island and Daily Production of 25,000 Tons of Garbage Produced by All Boroughs of New York City

Dear Mayor Bloomberg:

Over a long period of years I have been watching the agony of the city of New York on issues of municipal and industrial garbage and the landfills that the city historically created within its limits. Those landfills should never have been built so close to such heavily populated areas, especially since it was known by scientists and the public as well how catastrophically dangerous the toxicity of the garbage was. The history of the garbage of New York mirrors absolutely the agony and the morality and the immorality of the society that produces it. But this is true anywhere in the world; for example, the garbage of the city of Manila is disposed of, to a high extent, into the Bay of Manila, especially that of the areas closest to the Bay, that found it economically more acceptable to dispose of their highly toxic municipal and industrial garbage in that manner, and still do so today. This illustrates very well that Manila has the lowest morality and dignity in this world. But New York City over a long historic period did the same -- disposing of the garbage in the ocean -- until the international protocols changed this criminal practice. But New York City disposing the garbage in the ocean also mirrored the morality and lack of morality, as well. Historically the disposition of garbage has been at the mercy of the mayors and organized crime, but the landfills created by the modern industrial society contaminated most of the underground water of the American people throughout this vast land. The underground water is the most precious resource of any nation. Now the American people drink water from the surface, equally contaminated, and pay an astonishing price, such as having the highest rates of cancer in the world. This grim picture frightened the Congress of the United States so they created the Federal Solid Waste Disposal Act that became the most comprehensive and severe act in American life. Later on the Congress amended this Act and attached the Alternative Science and Technology Amendment that completely and unequivocally takes the responsibility from the mayors and organized crime and gives it to the scientist that masters the knowledge of processing the garbage as a resource for energy and converting it into electricity. This event illustrates very clearly

that the Congress did not trust the elected officials nor the mobsters to manage the number one threat to public health.

In 1992 a decision was made to close the Fresh Kills landfill in Staten Island. It had been active for many decades. This landfill killed numerous people who lived nearby for three generations and the latest lawsuits of the victims are in the courts now against the city. These victims were waiting for 15 years to be able to address their tragedies. This also illustrates that justice was not done and illustrates very well the corruption of the justice of our democratic society. Ever since the closure of the landfill, New York City hired mobsters to transport the garbage to New Jersey and Pennsylvania, where the garbage is incinerated. No account of these abominable crimes against the American people was given to the public. The garbage cannot be incinerated because the toxic substances that society produces for whatever noble purposes are released unchanged since they do not disappear with fire. In one word, they cannot be burned. When the garbage is exposed to fire, regardless the intensity of the fire, you just convert it from a solid state to vapors, magnifying exponentially the pollution tragedy. In this process of incineration, the molecules of the toxic substances remain completely unchanged. The incineration is an engineering process of oxidation in presence of the flame and oxygen. This presence of the flame and oxygen impedes scientifically and effectively the destruction of the toxic substances and any form of hydrocarbon. For example, burning the hydrocarbon, oil, coal and the rest, you burn barely a fraction from this material and 96% will be ashes that were converted from the hydrocarbon toxic into ashes of super toxicity. The ashes as a byproduct of burning to create, for example, electricity needs a landfill to be monitored for eternity. This landfill will contaminate the air through the toxins it releases, will contaminate the ground, the river, and the underground water for millions of years. This illustrates very well the perplexing issues that stand before us in finding solutions for this major issue of converting the landfills into electricity free of pollution and also creating electricity from hydrocarbon oil and coal as well, free of pollution and ending the existence of the landfills. This project I am introducing in America and I was successful with the Los Angeles Department of Sanitation, Federal Government Contaminated Sediment of United States Ports, Waste Management and by all accounts I was fully reviewed scientifically at the Department of Sanitation and the Economic Development Agency of New York City. My project was presented as a Comprehensive Plan for Processing the Hydrocarbon as Oil and Coal, Municipal and Industrial Garbage and Gasification and Atomo-molecular Decontamination of Most Pollutants Produced by Modern Industrial Society. Through this process I produce a gas that is the most effective fuel that we use next door to the generator to create tremendous amounts of megawatts of electricity. Another byproduct is char carbon free of pollution. In this process of producing the gas there will be zero emission and zero pollution. Scientifically my project is a conversion of hydrocarbon into gas. In this process I am converting the energy from one solid state to the gasified state 100%; that means no losses of energy will occur. The Congress of the United States understood very well that scientifically the municipal and industrial garbage and the landfills are an extraordinarily valuable store of energy and they were right because they listened to the scientists and because of that the municipal garbage and the landfill were given by the Congress to the scientists. Transporting the daily production of the garbage to New Jersey and Pennsylvania for incineration is a monumental crime against the people of this region and the American people, as well. The reasons above explain that the garbage cannot be incinerated and also the dangers

the society is facing. New Jersey has been incinerating their garbage for over 20 years. Now that state has the highest rate of cancer in America. The municipality of Newark incinerates the garbage produced by approximately four million people and emerges as having the highest rate of cancer and cancer-related deaths in the state and the nation. A federal study released earlier this year depicts a very grim picture that New Jersey and others are paying for their crimes and their road to the cemetery is insured. Incinerating the New York City garbage in New Jersey is a monstrous crime because the pollutant will be blown by the winds daily to New York City and we are next to be found in the same statistics as New Jersey. Newark incineration of the garbage contaminates New Jersey tremendously as well as Harlem, because the wind brings the pollutants into Harlem from there daily. Thousands of children in Harlem are suffering from asthma and high numbers of blacks from this area are dying of cancer. The Federal Solid Waste Disposal Act once and for all took away the garbage from the mayors and from the gangsters. Now the garbage is mine and it is written in the law. Anything against this is a crime and a costly one. The City Council is also a partner in this crime to dispose of the garbage in New Jersey and Pennsylvania. This plan economically is a ruinous one when you take into consideration that I offer to the city in my plan $179 per ton to be paid at the processing plant that will process as well the toxic substances of the hospitals and hospital waste and whatever industrial toxic waste would be available. If somehow my plan was not totally understood I am willing to meet you and the Comptroller who supported this monstrous plan. I am also interested to meet the City Council and the most dignified lady in the city, Betsy Gotbaum, Public Advocate.

I am profoundly, gratefully yours,

Jov Theodore Somesfalean

DEPARTMENT OF SANITATION
COMMUNITY AFFAIRS
2000 NOV 15 P 6 17

Incineration - A Poisonous Technology and a Hoax

Incinerators represent a special environmental threat, because the combustion process releases and combines toxic materials in household and medical waste into super-toxic air emissions and tons of super-toxic ash. It is also a wasteful technology, as it destroys a huge source of reusable and recyclable materials. Overall, the typical volume reduction accomplished by incinerators is 60-70%, which could be accomplished easily and cleanly by comprehensive recycling.

The EPA estimates that more than 80% of the dioxin produced in the U.S. is from municipal and medical waste incinerator air emissions. Tons of mercury, lead, and other heavy metals are emitted in vapor form as well from incinerator stacks. "Modern" pollution controls on these poison factories just move some of the toxic emissions from the air to the ash.

Incineration is really a hoax: it does not even eliminate landfills. Ash landfills (called ***monofills***) are far more dangerous and toxic than raw trash landfills. Incinerator ash is extremely hazardous, containing dioxin and heavy metals such as lead, mercury, and cadmium. Ash landfills are a legacy of poison that must be monitored for eternity. They never can become non-toxic, because most of the toxic materials in them - the heavy metals - do not bio-degrade.

The incinerator industry has known all these facts for years. Analyses of dioxin and other emissions from municipal waste incineration, overall efficiency of incineration as compared with comprehensive recycling, and the toxicity of ash were published early in the development of "modern" incinerators. The incinerator industry, however, chose to continue promoting its technology as an alternative to landfills, and often negotiated expensive, one-sided Guaranteed Annual Tonnage contracts, ensuring that communities that used incinerators were given a dis-incentive to recycle their trash.

Because of community opposition to incineration and the pollution and economic disaster that it brings with it, most of the incinerator proposals developed in the last five years have been abandoned, and many incinerators have been shut down due to violations of the Clean Air Act. The industry and their bond sellers are continuing, however, to find ways to re-invigorate the industry. The latest public relations campaign promotes incineration as a "renewable" energy source.

The idea that incinerators are "renewable" energy sources - promoted by the media - is ludicrous. The energy consumed in the creation of the materials - most of which is conserved if comprehensive recycling is pursued - is of course lost if they are incinerated, and this loss is far greater than the energy in the combustible materials.

It is the position of Toxic Alert that all incinerators - municipal solid waste, medical waste, hazardous waste, and Superfund mediation, should be closed and that incineration should be banned worldwide.

For a sample news article about an incinerator, see the NESWC article.

DEPARTMENT OF SANITATION
COMMUNITY AFFAIRS
2004 NOV 15 P 6: 17

sanitation

CENTRAL CORRESPONDENCE UNIT
137 Centre Street, Room 503
New York, NY 10013
Telephone (917) 237-5207
Fax (917) 237-5222

November 22, 2004

Mr. Jov Theodore Somesfalean
Developer
170 West End Avenue
New York, NY 10023

Dear Mr. Somesfalean:

I am responding to your letter to Mayor Michael Bloomberg regarding a Waste Management issue.

Your correspondence was referred to Mr. Harry Szarpanski, Assistant Commissioner, Bureau of Long-Term Export, Department of Sanitation, 44 Beaver Street, 12th Floor, NY 10004 for his review.

Thank you for writing.

Sincerely,

Elissa Werbin
Supervisor

EW/MN
E1343K

cc: H. Szarpanski, Assistant Commissioner

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS is based on a false assumption about its use. It is not possible to believe that DSNY intends to use only one third of the capacity it intends to build. Accordingly, the impact statement vastly underestimates a host of environmental impacts, including traffic, air quality, neighborhood character, open space, noise and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

DSNY's promises of likely mitigation are inadequate, impractical and unenforceable for identified impacts.

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Signature

Joan Adams
Printed Name

Address: 531 East 88th St
NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Casey Angelo
Printed Name

Address: 515 E 89 ST · NYC NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

LAUREN ANGELO
Printed Name

Address: 515 EAST 81th ST

GRACIE POINT COMMUNITY COUNCIL

January 24, 2005

Mr. Harry Szarpanski
Assistant Commissioner
44 Beaver Street, 12th Floor
New York, NY 10004

East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

The following comments address that part of the draft solid waste management that pertain to the transfer station referenced above.

Without a final plan for the ultimate disposition of the city's solid waste and with the uncertainty surrounding the use of the West 59th Street facility, any representations about how the East 91st Street facility might be used are little more than conjecture. Accordingly, any environmental impact statement is likewise conjectural. In view of these extraordinary flaws, our legal counsel has filed specific comments on the draft environmental impact statement. Other people in our community with specific expertise have done the same, I will not repeat their comments here.

Gracie Station
P.O. Box 1648
New York, NY 10028-9998
info@GraciePointCC.org
www.GraciePointCC.org

I do, however, express on behalf of the people who live, work, play and go to school in this community our determined opposition to the burden DSNY proposes to impose on it. A facility of this sort should never be placed in a residential neighborhood. Any representations about mitigation of the risks to health and safety lack credibility. That is because of the flaws in the overall plan, the reluctance of the department to seriously consider alternative sites and methods, and the continuing failure over a period of years of the department to effectively address the complaints of communities in other boroughs about the conditions and operation of transfer stations located there.

It is clear to us that the department's draft environmental impact statement has been written to justify the plan, not evaluate it. Accordingly, we will continue to oppose the adoption and implementation of the plan, using all means at our disposal.

Sincerely,

Anthony E. Ar[illegible]

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks

Hadara Arkin
Signature

HADARA ARKIN
Printed Name

Address: 1725 YORK AVE - 35D
N.Y. N.Y 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Signature

DAVID ATKIND

Printed Name

Address: 200 EAST END AVE NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Jacqueline Auerbach
Signature

Jacqueline Auerbach
Printed Name

Address: 535 E. 86 St NYC 10028

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Pat Baker

Agency/Organization, if applicable:

Address: 428 E. 89th St. 1C N.Y.C. 10128

Email:

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: Mr. Szarpanski, –
The reactivation of the 91st Marine Transfer Station would further degrade my quality of life. I say further because I am already dealing with a noise issue on my block. Also, I currently have asthma.
It is unacceptable to have an MTS open in a heavy residential neighborhood, with a heavy volume of children & facilities they utilize.
The quality of life for everyone in the area would be severely impacted!
Thanks for your consideration.

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

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DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Signature

Patricia A. Baker
Printed Name

Address: 428 E. 89th St. NYC

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Babette Bandler
Signature

BABETTE BANDLER
Printed Name

Address: 510 E 86 ST. (9C)
New York City, N.Y. 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

SCOTT BARTLETT

Printed Name

Address: 351 E 84TH ST, APT 18F, NY 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Deborah H Baum
Signature

Deborah H BAUM
Printed Name

Address: 1725 York Ave 10B

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Ilene Bauer

Agency/Organization, if applicable:

Address: 1700 York Ave
New York, NY 10128

Email:

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: I remember the last time that garbage trucks lined up in front of my building and it was extremely unpleasant. I do not want to experience that again! I also use the jogging track at the Asphalt Green and am aware of the many groups who also enjoy this wonderful outdoor track and field (the majority of them school children). Nobody wants to exercise and have to breathe in fumes and smell foul odors while doing so. There must be a better place for this - a place that is NOT in a residential neighborhood. If Mayor Bloomberg lived in Gracie Mansion, I daresay this would not even be a remote possibility.

(Over)

PETER BELINA

January 14, 2005

TO: Harry Szarpanski, Asst. Commissioner, NYC Dept of Sanitation

Dear Assistant Commissioner:

Following the Mayor's unilateral proposal to reopen the 91st St. Marine Transfer Station, we have become fearful for the safety of our children who attend classes at the Asphalt Green Sports Center. The countless garbage trucks coming in and out of the MTS will inevitably cause serious traffic accidents and fatalities among the children.

It appears that the Mayor continues to ignore the informed views of thousands of city residents and members of the city government suggesting a wiser course of action. He should prepare himself for a host of lawsuits stemming from this irresponsible plan. We sincerely hope that the City Council stops this dangerous plan from ever going into effect.

Sincerely,

Peter Belina

360 EAST 88TH ST., APT 14D • NEW YORK, NY 10128
PHONE (212)235 6675

Robert Maki & Nathalie Blachère
200 East End Ave #3i
New York, NY 10128

19 January 2005

Harry Szarpanski
Assistant Commissioner
NYC Department of Sanitation
44 Beaver St, 12th Floor
New York, NY 10004
By Fax: 212 269 0788

Dear Mr Szarpanski and staff:

We are writing to add to the mounting voices opposing re-opening of the East 91st St Marine Transfer Station and new SWMP. The proposal to open this site will literally and figuratively trash a residential neighborhood and may affect both Carl Schurz Park as well as the Asphalt Green, two of the jewels of the Upper East Side. Having lived in the area before the Marine Transfer Station was closed, we recognize that upper York Avenue will be filthy, and put children, seniors, and local residents alike at risk for a variety of ailments, be they respiratory- or infection-related.

There are other alternatives. For one, the restoration of full recycling will help minimize volume of refuse in New York. Why not identify a suitable non-residential, industrial site for such a facility, such as exists at the cement plant north of northern end of 1st Avenue? This would then not jeopardize any residential neighborhood. It would still be an East Side facility. Everyone must do their share to bear the burden of necessary services. However, the re-opening of the MTS is punitive.

Thank you for accepting our comment on this site.

Sincerely,

Robert Maki and Nathalie Blachere

cc: Gifford Miller, City Council Speaker, by fax, (212) 937-2230

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

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The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

DSNY's promises of likely mitigation are inadequate, impractical and unenforceable for identified impacts.

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks

Signature

Roberta D. Bleasi

Printed Name

Address: 200 East 84th Ave NYC 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Signature

JOHN B LAU
Printed Name

Address: 440 E 77th St

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Clifford Bleustein, MD

Agency/Organization, if applicable:

Address: 180 East End Avenue
Apartment 11H
New York, NY 10128

Email: cbleustein@aol.com

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS:

Dear Harry Szarpanski:

Please look at the relationship between Asphalt Green, the ramp to the marine transfer station @ 91st Street, and the playing field in the attached picture. Even the DOS admits that it will be using at least the ramp to queue garbage trucks. Small exposures to diesel exhaust from these trucks can trigger an asthma attack, especially in children during exercise. How many fatal childhood asthma attacks will it take to convince you that this site is not

(Over)

Ramp for Garbage Trucks
Marine Transfer Station
(Garbage Dump)
School Buses
Asphalt Green
Municipal
Asphalt
Center
Children

Clifford Bleustein, M.D. response to the

DEPARTMENT OF SANITATION (DSNY) PUBLIC HEARING
TO CONSIDER
THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
FOR THE
NYC SOLID WASTE MANAGEMENT PROGRAM (SWMP)

The evaluation performed of the impact of marine transfer stations on public health came to the surprising conclusion that "None of the air quality, noise or odor impacts predicted in this DEIS are believed to be of public health significance." This conclusion is severely flawed even if you only used the data presented in Chapter 33. The report is clearly biased with the intention of signing off on the project without a real evaluation and critical thought of the current literature. Unfortunately, I do not have the time or resources to write a point by point response, but I will try to highlight some of the concerns that this report writes off as meaningless.

In chapter 33, section 33.2.2.4.1, the DEIS correctly quotes "USEPA[11] stated that these statistical associations reflect cause and effect, and has established the PM NAAQS primarily on the basis of these associations." Stated another way, the United States Environmental Protection Agency, set standards for air pollutants based upon sound scientific evaluation of the literature that demonstrated that particulate matter has a detrimental effect on health. These effects are so convincing that our government established laws governing maximum allowable levels. The following is a direct quote about the long and short term effects of particulate matter both on the health of people and the environmental effects from the official US EPA website.

"Health Effects

Exposure to particles can lead to a variety of serious health effects. The largest particles do not get very far into the lungs, so they tend to cause fewer harmful health effects. Coarse and fine particles pose the greatest problems because they can get deep into the lungs, and some may even get into the bloodstream. Scientific studies show links between these small particles and numerous adverse health effects. Long-term exposures to PM, such as those experienced by people living for many years in areas with high particle levels, are associated with problems such as decreased lung function, development of chronic bronchitis, and premature death. Short-term exposures to particle pollution (hours or days) are associated with a range of effects, including decreased lung function, increased respiratory symptoms, cardiac arrythmias (heartbeat irregularities), heart attacks, hospital admissions or emergency room visits for heart or lung disease, and premature death. Sensitive groups at greatest risk include people with heart or lung disease, older adults, and children.

Environmental Effects

Fine particles are the major source of haze that reduces visibility in many parts of the United States, including our national parks. PM affects vegetation and ecosystems by settling on soil and water, upsetting delicate nutrient and chemical balances. PM also causes soiling and erosion damage to structures, including culturally important objects such as monuments and statues."[http://www epa gov/airtrends/pmreport03/pmunderstand pdf#page=1]

As can be clearly seen by our own government's evaluation of the literature, even exposure to particulate mater pollution in terms of hours or days can have a detrimental effect of our health.

As appropriately stated in the DEIS evaluation, 33.2.2.4.2, diesel exhaust is generally small enough to be counted as $PM_{2.5}$. A good review of the effects of air pollution by Berstein et al reports on the effects of diesel exhaust. "Recent epidemiologic, human, and animal model studies have demonstrated that diesel exhaust particulates (DEPs) increase airway inflammation and can exacerbate and initiate asthma and allergy. Diesel combustion results in the production of DEPs, nitrogen oxides, and precursors of ozone, all of which are harmful to the lung.[Bernstein JA, Alexis N, Barnes C, et al Health effects of air pollution, J Allergy Clin Immunol, Nov 2004] I am surprised by the conclusion of the DEIS that "For the purposes of public health assessment, application of typical safety factors to these data from laboratory rodents suggest that current ambient concentrations of diesel engine exhaust in New York State are not harmful." This statement addresses diesel engine exhaust in New York **State**, not New York **City.** It certainly does not address the situation at a marine transfer station where 50 or more garbage trucks will be lined up continuously with their engines running. These garbage trucks, with engines running, in a concentrated area, will certainly affect the air quality. **Unfortunately, the DEIS is reporting that the MTS at 91st street will not have any harmful effect on ambient concentrations of diesel engine exhaust on the state. This statement is probably true, but what is important is what effect will there be on ambient diesel engine exhaust concentrations at the marine transfer station and the surrounding area. This question has NOT been assessed.**

The DEIS summary reports that "current ambient concentrations of DPM typically average about 1 to 10 μg DPM/m^3. The Proposed Plan Facilities analyzed would add less than 1 μg DPM/m^3, as measured by $PM_{2.5}$, on an annual basis."[33.2.2.4.2 page 33-8] The problem with this analysis is that it is based upon several false assumptions.

1. The maximum number of sources analyzed to be operating at one time is based only upon the design capacity of the MTS at 91st street and not the analyzed truck arrival rates. This means that the analysis only accounted for trucks inside the MTS and not trucks that arrived and are queuing on the street.
2. The analysis of the air quality analysis of trucks outside of the 91st MTS was limited to 6, since that is the capacity of trucks on the ramp. Based on their own analysis, "the 3-hour value should be no less than one-third of the peak 1-hour value (18)". So the analysis should be of at least 18, probably more trucks, not only 6 trucks. **The analysis by the DEIS fails to recognize that when trucks arrive but can't queue on the ramp, they must queue on the street. The queuing of trucks on the street, which their own analysis demonstrate will happen, were ignored as a source of pollution.**
3. See Criteria Pollutants (33.2.3.1): "For the $PM_{2.5}$ analyses, the incremental concentrations contributed by traffic related to the Proposed Plan Facilities were modeled, but not added to existing background levels." **This**

analysis by the DEIS distorts the impact of particulate matter. If you look at the $PM_{2.5}$ for New York City the annual average last year was 14 $\mu g/m^3$. Any additional particulate matter will put NYC into a level that is above USEPA regulation of 15 $\mu g/m^3$. The analysis was not added because the DEIS knew that this would place it in a danger area. Even with ignoring all of the trucks that arrive and are queuing in the street, the current 91st street MTS will place NYC in violation of current USEPA regulations.

4. As the lawyer for DOS himself said, the FDR highway makes us have a lot of pollution already (therefore the noticeable effect, only as the increase, is not a "fair" way to assess the suitability of and risks associated with sitting a garbage facility in a given neighborhood). A better measurement is the CUMMULATIVE effect of particulate matter pollution in the area surrounding the MTS at 91st street.

With respect to the response from the DOS that they do not anticipate any queuing of trucks on the street as a result of activities related to the MTS at 91st street. I don't understand how this is possible. The NEW MTS will be 4 times larger than the old one. When the old MTS was in operation, trucks had to queue on the street, throughout the day. It is self-serving to report that this will not occur. As the report in chapter 6 states, "The highest net increase in trucks in the ingress or egress direction was 28. The highest net increase in any one intersection was 56 trucks. Both of these net increases occurred at the intersection of York Avenue and East 91st Street."[Chapter 6, page 107] This is over a 1 hour period at 9 am when 56 trucks per hour are arriving. Where are all of these trucks going? The last time I checked, 56 trucks will not fit on the ramp. Recently, the DOS reported that any extra trucks will be sent to a "garage". What "garage", how will they get there/ return, etc?

Sincerely,

Clifford Bleustein, MD

Clifford Bleustein, M.D.

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS is based on a false assumption about its use It is not possible to believe that DSNY intends to use only one third of the capacity it intends to build. Accordingly, the impact statement vastly underestimates a host of environmental impacts, including traffic, air quality, neighborhood character, open space, noise and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

DSNY's promises of likely mitigation are inadequate, impractical and unenforceable for identified impacts.

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks

CBleestein
Signature

Clifford Bleestein
Printed Name

Address: 180 East End Avenue, Apt 11H
NY, NY 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Sheri Bleustein
Signature

Sheri Bleustein
Printed Name

Address: 180 East end Ave. Apt. 11 H
NY, NY 10128

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Susan Brand

Agency/Organization, if applicable:

Address: 1675 York Avenue (88th/9th Street)
APARTMENT 14K
NY, NY 10128

Email: SUEBROBJ@aol.com

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS:

We have two young ~~that~~ children that play at Asphalt Green. That facility is a vibrant part of our yorkville neighborhood and would not be a healthy place for our children to continue to play and learn.

The noise, air and water pollution is a big concern

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Ellen J Braverman
Signature

Ellen J. Braverman
Printed Name

Address: 407 E 91st St

Please respect our "neighborhood." Don't trash it. This is our home.

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

BRYERS
Printed Name

Address: 1755 York Ave #22F

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Ariel Bulna
Signature

Ariel Bulna
Printed Name

Address: 455 E. 86th Street Apt 308, NY, NY 10028

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Gail Bulua

Agency/Organization, if applicable:

Address: 455 E. 86th St. #30B
NY, NY 10028

Email:

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: Garbage stinks. Nobody should be expected to live with the smell of garbage 24/7 in their home. Garbage increases the rodent population. Rodents should not be brought into areas where people live. Garbage brings germs. This type of unhealthy environment should not be found in a densely populated residential area. Garbage trucks bring noise. Noise pollution should not be brought into a residential area. Garbage trucks increase traffic congestion. Traffic congestion brings toxic fumes which increase asthma + other upper respiratory ailments. These additional fumes should be kept out of residential communities, not brought into them.

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Gail Bulva
Signature

Gail Bulva
Printed Name

Address: 455 E 86th St.

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Stan Bulua

Agency/Organization, if applicable:

Address: 455 E. 86th Street, Apt. #30B
New York, NY 10028

Email:

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: I am strongly opposed to the proposed Marine Transfer Station on East 91st Street. This garbage facility will create health hazards in a densely populated residential neighborhood. This neighborhood has taken its fair share of garbage facilities. In fact, the former garbage facility operated from 1940 to 1999. The DEIS seriously underestimates the impacts of operating the facility because it analyzes an amount of throughput that is far less than the site's capacity. The DEIS is deficient in many other respects, including failure to address why this site was chosen and failure to address significant adverse impacts to the surrounding residential neighborhood and adjacent parks.

(Over)

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Scott J Balaa

Printed Name

Address: 455 E 86 St, New York, NY 10028
Apt. 30B

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Signature

Wendy Burrell

Printed Name

Address: 554 E 87 St

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

JESSE CARRIER
Printed Name

Address: 530 E 90th St. NYC 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

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Signature

Robert Gulli

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Donald Chadwick
Signature

Donald Chadwick
Printed Name

Address: 1725 York Ave Apt 29-E

Please stop the garbage
KNOX 1225
York ave

Knox Chadwick
1725 York Avenue Apt 29E
New York, New York 10128

1725 York Ave. Apt. 25F
New York, New York 10128
December 20, 2004

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street - 12th Floor
New York, NewYork 10004

Dear Commissioner Szarpanski:

We are strongly opposed to the proposed reactivation of the East 91st Street Marine Transfer Station. Such a facility would be disastrous for a densely populated residential neighborhood such as ours. Having lived through the noise, congestion, and odors of several years ago when this enterprise last was active was bad enough. But today we face an even more heavily populated area with increased traffic. Waste being delivered six days per week throughout the day by trucks traveling on local streets and directly through Asphalt Green, a city park, is unimaginable.

Currently, our side streets are jammed with all sorts of vehicular traffic and noise - trucks, moving vans, cars, school buses, cabs, and construction equipment. We are home to three major bus routes. We have a large assortment of schools in the vicinity, with children being bused in and out routinely. The Asphalt Green, a local recreation center, serves a diverse community with various programs, none of which should be hostage to a garbage compacting plant.

Add to our already strained environment the accumulation of diesel emissions from idling trucks, plus the effects of increased rat and vermin populations and you have a recipe for a public health menace. Would anyone send their children to a day camp next to a garbage facility?

The Department of Sanitation should be studying alternative methods of waste disposal as well as alternative MTS sites. All new residential construction should contain garbarte disposals within each kitchen. More strenuous recycling should be implemented. A study of effective plans in other cities, regions and countries is in order.

Sincerely,

Norman E. Chase, M.D.

Joan Chase

December 20, 2004

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Signature

Katherine J Chou

Printed Name

Address: 444 E 84th St. Apt 9B

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Thomas Chang
Signature

Tom Chang
Printed Name

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NY NY 10128

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Charles Charrow
Printed Name

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Sandra Christe
Signature

SANDRA CHRISTE
Printed Name

Address: 530 E. 90th St. #3K, NY NY 10128

DSNY needs copy

[redacted] Testimony [redacted] for DSNY Hearing 12/20/04
On Comprehensive Solid Waste Management Plan

By Maggie Clarke, Ph.D.
mclarke@hunter.cuny.edu
December 15, 2004

OPERATIONS

Desirability of Siting MTSs close to areas served / garages

The current proposal for transporting recyclables from Manhattan to the new Brooklyn MRF is via a new MTS at Gansevoort. This means that for recyclables originating in upper Manhattan, trucks filled with recyclables will have to travel up and down a limited number of avenues (truck routes) the length of Manhattan and back for every truckload. This means more congestion and more air pollution. There is what appears to be an abandoned barge slip at 216th Street and the Harlem River, adjacent to a salt shed in the DSNY garage complex for four districts – M12, M8, Bx 7 and Bx 8. This 4-district garage complex – 4 square blocks at 215th Street and the Harlem River in upper Manhattan, contains two office / garage buildings, an incinerator that hasn't been used in at least 25 years, and a salt shed, each occupying a block. In order to reduce the number of truck trips going twice the length of Manhattan carrying recyclables carried by trucks garaged at this facility, it would be desirable to do a feasibility study of renovating this barge slip for transporting recyclables to Brooklyn. If there are other garages close to locations where one or two barges could be docked to transport recyclables to Brooklyn, or non-recyclables elsewhere, these should be evaluated for feasibility as well. Smaller facilities will be easier to site, particularly if the net effect is reduced truck traffic.

M8 garage

Because of the location of the 4-district garage at 215th St Manhattan, there is considerable truck traffic along the already congested Broadway corridor in Inwood and south of Inwood from trucks deployed to M8, located more than five miles from the garage. It has come to our attention that a garage is in the planning stage for M8. Since Inwood garage is home to a disproportionate number of garbage trucks from four districts, and next door to the garage is a large MTA garage for buses from the Bronx and Manhattan, it is imperative that this M8 garage be built as soon as possible to reduce traffic impacts to M12 from M8 trucks and correct the inequity. Finishing the M8 garage quickly would also ease the impact felt by M12 of making permanent the trucking of garbage from Manhattan's west side up the congested Broadway corridor through Washington Heights across the GW Bridge to Newark Incinerator.

Queueing of trucks

One of the chief complaints of residents against MTS' is the long queues of idling garbage trucks waiting to enter. If there were no queues, it would go a long way to reducing complaints, reducing traffic congestion and reducing air pollution. We recommend that DSNY plan to reduce and eventually eliminate the queueing of garbage trucks at MTS' by staggering shifts of truck deployment. If trucks were to be going out on their routes on a more continuous basis, it is logical to assume that they would arrive at the MTS at different times as well. We recognize that there may be union issues involved with changing the times of shifts. However, in 1988 there were union issues involved with asking DSNY personnel to pick

up recyclables. There have been union issues involved with reducing truck staff from three to two and also increasing productivity. All of these have been solved, and they are more onerous than merely shifting the start and end times of shifts. We are sure that if it were a priority, DSNY could optimize shift times to minimize queueing, congestion and pollution.

Truck emissions

We recommend that to reduce emissions from trucks that DSNY seek to procure vehicles that emit less pollution and achieve greater gas mileage. Purchasing fuel with reduced sulfur is one method that can be done now, but as new trucks are purchased, DSNY should specify capability for burning alternative fuels (biodiesel, natural gas, etc) that produce less pollution, and more fuel-efficient vehicles (which will result in less pollution as well).

Making MTS and other facilities good neighbors

Regarding the proposed E. 91st Street MTS, there are likely to be protests, partly because of the queueing of idling trucks (see above), and partly because of the increased air pollution associated with more truck trips to the facility. The Asphalt Green park would be bisected by a road with garbage trucks preventing easy passage from one part of the park to another, spewing diesel emissions.

Picture an alternative vision, that bisecting this park is not a road, but a beautifully landscaped linear hill, a ridge, if you will, shaped to look natural, with solar panel-powered waterfalls cascading down the sides, flowering trees, flowering perennial plants, evergreen groundcovers, and stairs made out of natural stone climbing over the ridge right next to the cascading waterfalls. Picture that inside this ridge is actually a road, vented to the river, where garbage trucks move, unnoticed, to a new facility on the river, with a lovely tree windbreak hiding it from view. This would cost very little and at the same time would provide the community with a lovely amenity. Maybe those who might protest the new MTS at E91 might like this vision?

91st Street and other locations for MTS reconstruction

We propose that DSNY look for opportunities to evaluate the feasibility of a number of small sites for barging recyclables and garbage, rather than on asking communities to accept truck traffic from several districts many miles away. Combined with more enlightened scheduling (reduced queueing), more beautiful facilities and access ramps (as above), such locations as West 135th could be one of the several sites considered, but a smaller facility than it had been perhaps, or with the truck access buried under a park and vented to the river as described for E 91, and of course 216th would be a good spot for moving recyclables since it is located at a garage. Are there any other garages near water? These would be good locations to evaluate for mini-barging sites.

Evaluations of Cumulative Emissions from Alternate Trucking Schemes

With the objective of minimizing truck traffic and emissions, we recommend that the EIS associated with the SWMP delineate cumulative emissions in all parts of New York City from the "no action" alternative, the DSNY proposed alternative, and an additional scheme whereby truck queueing and idling is minimized

and truck route mileage is minimized via changes in operations and optimized locations of garages and barging facilities, as recommended above.

Methods of reducing the disproportionate impacts felt by M12, due to the large garage and the Broadway and GW Bridge corridors for collection and export from many of Manhattan's districts, should be evaluated (e.g., increased barging from the west side).

For each of these three cumulative analyses, we recommend that diesel particulate and dioxin TEQ be added to the usual compliment of criteria air pollutants which are evaluated, since governmental agencies such as USEPA and the California Air Resources Board have determined in past studies that automotive sources produce these carcinogenic and toxic substances.

These studies should be correlated, using Geographical Information Systems (GIS) to asthma rates, which have been shown by studies at Lehman College (Maantay, et. al.) to be high in trucking corridors in New York City, particularly the South Bronx and Washington Heights. These studies can assist DSNY in reducing deleterious impacts to public health from its collection and transfer system.

Waste Prevention, Reuse, Recycling and Composting ➔ Zero Waste

Goals: How to reach 70% in 10 years, nearly 100% in 20 years
We commend DSNY for establishing a goal of 70% diversion from waste export in 10 years. Setting goals and establishing mini-steps to achieve the goals is the best way to make progress. However, since DSNY counts such heavy, recyclable items as car bodies, construction and demolition waste, and lot cleaning soil as well as commercially-generated recyclables, which are a large percentage of commercial discards, this should be achievable without much problem.

However, the more challenging parts of the waste stream need much greater attention and commitment than has been listed on pages 2-21 and 2-22 – DSNY's only milestones for 20 years of programs in "recycling" which also includes waste prevention, reuse and composting.

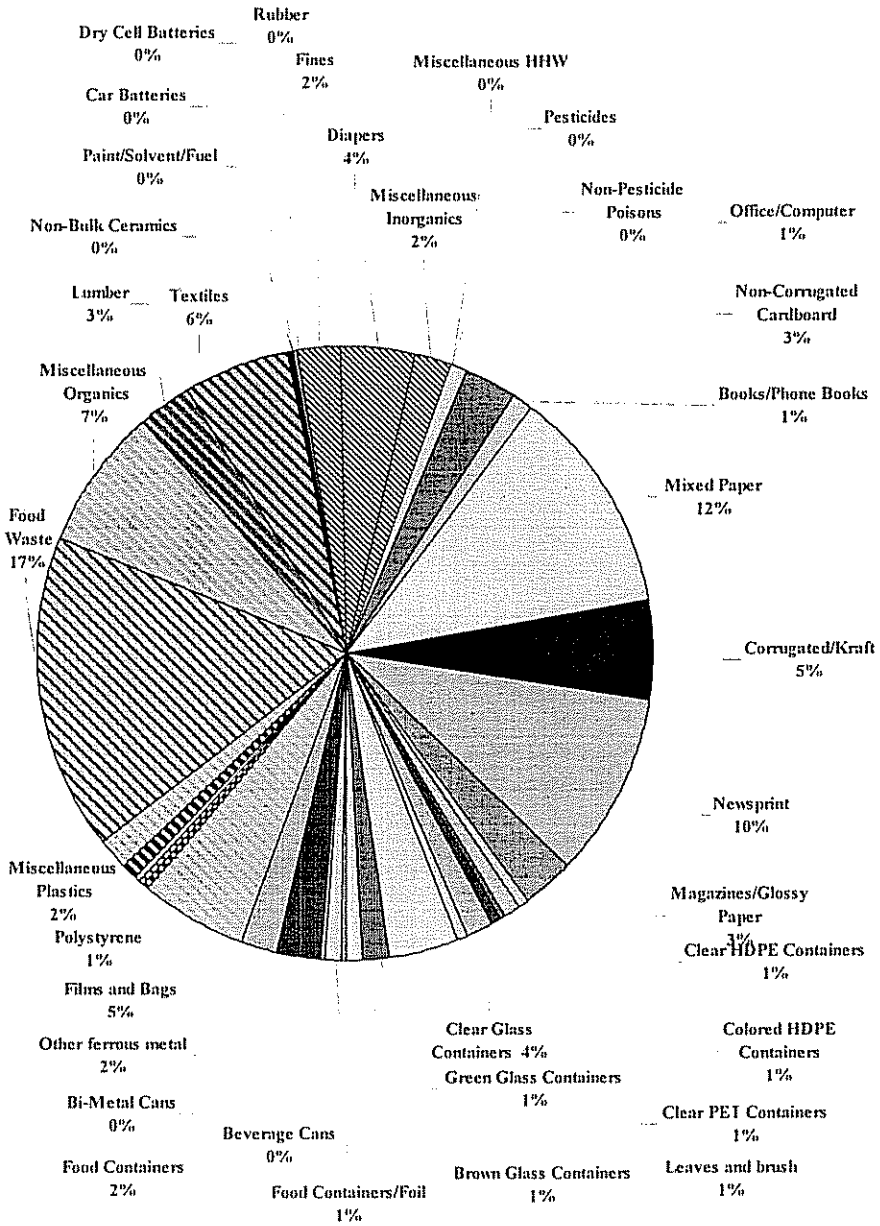
Zero Waste
We recommend that the DSNY resolve to strive towards zero waste as a first step in planning for a time when the City no longer disposes of its products, packaging, and materials, but instead chooses to prevent, repair and reuse, recycle and compost them. A coalition of organizations issued a Zero Waste Plan for the long-term which details how to implement these waste prevention, reuse, recycling and composting initiatives. We hope that DSNY will familiarize itself with it and will support its inclusion in the City's Comprehensive Solid Waste Management Plan.

You might, at first, think that Zero Waste is folly, an unachievable goal, and that to talk about it is a waste of time. But it is a pretty straightforward roadmap to get close to zero waste, and DSNY has already taken the first important step.

1. Target Half the Waste Stream

At this point, we're targeting 50% of the waste stream, and DSNY is about to enter into contract for a state-of-the-art facility to sort and market targeted recyclables.

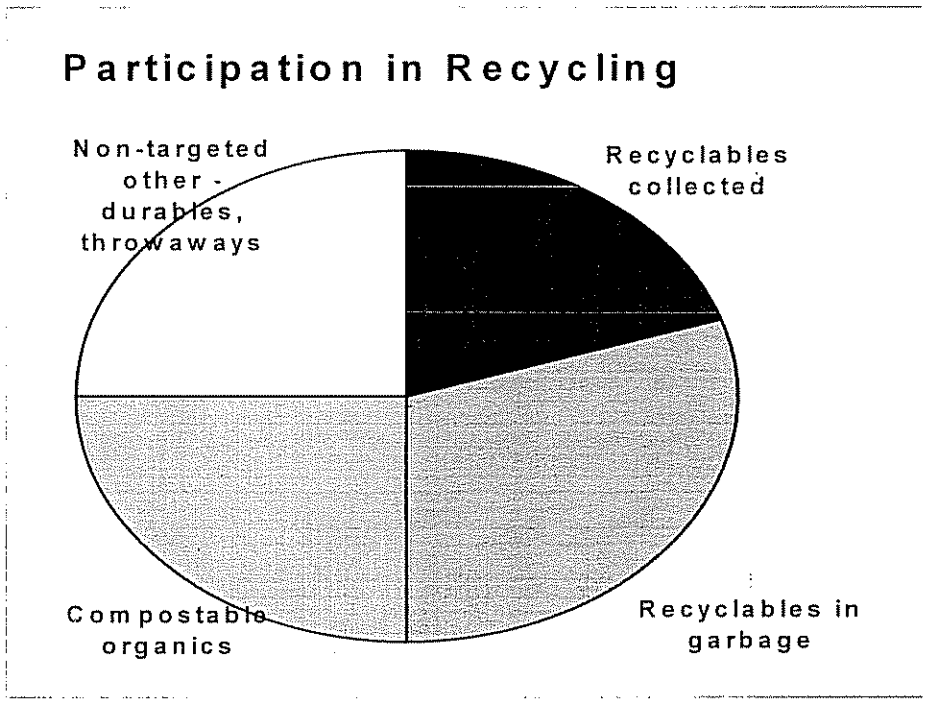
NYCDOS 1990 Waste Characterization study results
Pie Chart by Marjorie Clarke, Ph.D. 2004



Solid sections on the right (roughly 50% of the MSW) are targeted for recycling as of April 1, 2004.

2. Markedly Increase Recycling Participation

We need to actually collect all of the recyclables that we target. The City diverts around 17% or between 9% and 30% of its waste as recyclables, depending on which neighborhood you're looking at, despite targeting 50%. That means that not everyone is participating in the recycling program all the time.



Research is needed to discover what is required to bring the capture rate from 45% closer to 100%, thereby diverting those recyclables now exported as garbage (the orange slice above) into the recycling stream (bringing the diversion rate to 50%). Preliminary research (3,000 questionnaires and dozens of evaluations of street cleanliness) in the good and poor recycling diversion neighborhoods of NYC conducted by Prof. Marjorie Clarke with students at Lehman and Hunter Colleges may show the reasons for the differences in recycling participation amongst the different neighborhoods.

- Many people in good and poor diversion rate neighborhoods are saying they forget to recycle; others are confused. They have indicated they would recycle more if given more reminders. Some mention flyers, others, TV and radio.
- Despite DSNY's issuance of recycling information in many languages, many people do not know what is recyclable, and language appears to be a problem
- Despite City requirements for every residence to have a recycling area, many do not.
- The locations of recycling areas are cited as being inconveniently located; this is particularly true in poor diversion neighborhoods.
- Recycling areas in poor diversion neighborhoods are often cited as messy or unsafe, with too few recycling bins, and overflowing bins. DSNY requires that recycling areas must be kept to certain standards, even in apartment buildings, but they don't enforce their regulations.
- Some say that they would recycle more if they had to pay for not recycling. Clearly they don't know there is a law because it's not being enforced.

- Some say they would recycle more if recycling were offered on more days.
- The level of litter on the streets and frequency of overflowing corner garbage cans correlates with recycling diversion rate.

Therefore, not only is it necessary for DSNY to substantially improve its educational programs in several respects, my research also indicates that enforcement of residential recycling regulations needs to be substantially expanded in all parts and in all housing types in the City, and that street sweeping and public space collections need to be improved. It is undoubtedly true that public space recycling (i.e., having container recycling bins next to all corner garbage bins) would increase diversion rates for targeted recyclables.

DSNY clearly needs to do much more to make recycling mainstream in all areas of the City. Once these barriers to recycling are removed, participation rates will increase.

3. **Target Organics for Composting; Textiles and other plastics for Recycling; Plan and Institute Infrastructure**

The next step towards zero waste is to target new materials for recycling: organics are almost 25% of the waste stream, textiles are another 5%, and plastics other than PET and HDPE are another few percent. San Francisco and other congested urban cities have collected organics at curbside for some time. We could learn from them and save valuable resources as compost for our City parks, street trees, and green spaces, which are typically very low in organic content.

4. **Implement Waste Prevention and Reuse Programs, Incentives, and Infrastructure**

Finally, we add the panoply of reuse programs to target repairing durables (which are 15% of the waste stream nationwide) –

- vocational training to increase trained repairmen, experts in reuse
- Reuse Complexes (housing under one roof large reuse organizations, e.g. Materials for the Arts, Per Scholas, Goodwill, Recycle A bicycle, etc),
- Reuse PERFs (Product Evaluation and Repair Facilities) with a truck fleet;

We recommend DSNY implement programs and legislation to reduce generation of nondurables and packaging via better design, environmental procurement (e.g., Intro 29) and product labelling legislation, etc. The Zero Waste Campaign's Reaching for Zero has many more specific recommendations for waste prevention.

We recommend DSNY implement a phased-in approach to instituting Pay as You Throw, to make the financing of solid waste management more equitable should be planned. PAYT has been shown by USEPA to reduce waste generation by six percent (which in the case of NYC would amount to 600-700 tons per day), increase diversion for recycling and composting of an additional six percent each. A straightforward phased-in approach: (1. Advise tax-payers of their portion of the cost of solid waste management, 2. pilot test PAYT in outer boroughs / less densely populated areas with education on environmental shopping, use of repair and thrift stores, Stuff Exchange, 3. retest with modifications if necessary , 4. roll out PAYT in low density areas, 5. pilot test PAYT in apartment complexes with educational program, 6. retest with modifications if necessary, 7. roll out citywide PAYT.

December 20, 2004

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Michael A. Cohen
Signature

Michael A. Cohen
Printed Name

Address: 1700 York Avenue, PR, NJ NY

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NICK COSIO

Printed Name

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Marina da Costa

Signature

MARIA da COSTA

Printed Name

Address: 535 E 86th ST, NY

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Annie Costello
Signature

Annie Costello
Printed Name

Address: 530 E. 90 2F NYNY 10128

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DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Signature

GREG COSTELLO

Printed Name

Address: 530 E. 90th NYC 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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Jake Cowan
Signature

Printed Name

Address: 1725 York Ave 32F

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

James A Curtis Jr
Printed Name

Address: 531 E 88th # 1A NY NY 10128

To: Harry Szarpanski, Assistant Commissioner, NYC Dept. of Sanitation

I am writing to voice our extreme opposition to the opening of the 91st MTS. My colleagues at WebMD, our families and our community of friends in NYC stand beside my wife Rachel and myself in the belief that opening the MTS will have terrible environmental, residential, traffic and safety effects. I agree the UES needs to be responsible for our own waste, however this plan is not the correct way to take responsibility. If it passes our elected officials will hold responsibility for increased instances of asthma, vermin and noise pollution. Don't let that go on your permanent record. Support NOT opening the 91st MTS.

Thank you.

James A Curtis Jr
Rachel N Curtis
531 E88th St. 1A
NY, NY
10128
jcurtis@webMD.net

My wife and I were married 18 months ago and bought our first apartment 7 months ago. We were excited to live on e88th street as it was so close to a historic landmark like Gracie Mansion. The river and parks also gave a peaceful suburban feel to Manhattan. The shops, deli's and cleaners on York avenue offer convenience and Asphalt green is a great place to exercise in an out of doors.

When we learned that the MTS was planned for reopening we were shocked. The thought of seeing and smelling barges full of trash go up and down the east river while we walk on the Carl Shurz boardwalk was sad to say the least. The thought of the value of our first apartment plummeting due to the 24 hour roar and traffic of garbage trucks 1/2 block away everyday of the week was heartbreaking. However our strongest opposition is not against making a historical landmark a dump and the thought of tourists viewing NYC as dirty or the traffic, it is against the bisection of Asphalt green and the danger that will put hundreds of children in.

Please oppose the 91st MTS as my wife, friends, family and company, WebMD.com, do.

Best,
James Curtis
531 east 88th street #1a
NY,NY
10128

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531 east 88th street #1a
NY,NY
10128

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Judith Cutler
Signature

JUDITH CUTLER
Printed Name

Address: 530 E 84TH ST (1L) NYC 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Peggy E. Davis
Signature

PEGGY E. DAVIS
Printed Name

Address: 130 E. End Ave., #9B
NYC 28

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Terri Davis
Signature

Printed Name

Address: 180 East End Ave. #15C NY NY 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

LAURA DELANO
Printed Name

Address: 530 E. 90TH ST. #4H
NYC 10128

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Sherla DeCosse

Agency/Organization, if applicable:

Address: 1735 York Ave

Email: sdecosse@rcn.com

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS:

If mayor Bloomberg honored the memory of Greene's previous mayors - he would realize why previous mayors chose this beautiful site for a home. This garbage - should not be at the mayor's home - The world looks to New York -

Then, consider the children + activities at Ryan Chelsea.

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Dolores M. Desilets
Signature

DOLORES M. DESILETS
Printed Name

Address: 515 E 85th St #6F NYC 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Christine Donovan
Signature

CHRISTINE DONOVAN
Printed Name

Address: 229 EAST 79 ST
NYC 10021

PATRICIA DUFF
437 E 87TH STREET · NEW YORK, NEW YORK · 10128
PHONE: 212-410-6501 · FAX: 212-410-9539

December 14, 2004

Department of Sanitation
Harry Szarpanski
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor,
New York, NY 10004
Fax: (212) 269-0788

Dear Mr Szarpanski:

I am writing in opposition to the re-opening and expansion of the waste transfer station located in the middle of the Asphalt Green complex.

I have lived in the area for almost four years. My daughter attends the Brearley School nearby. Already the area has very clogged traffic because of the bridge and FDR traffic going out of town. With the new operation and increased truck traffic to our streets, the amount of traffic will be truly unsupportable. There are many schools here and lots of children walking around this area. We have already had someone killed on our corner this year crossing the street

It would be a terrible mistake to put the operation here. My neighbors on this street are all in opposition. I hope you will cease consideration of this area for these operations.

Sincerely,

Patricia Duff

PATRICIA DUFF
437 E. 87TH STREET • NEW YORK, NEW YORK • 10128
PHONE: 212-410-6501 • FAX: 212-410-9539

January 24, 2005

Harry Szarpanski,
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor, New York, NY 10004

By Fax: (212) 269-0788

Dear Mr. Szarpanski:

As a resident of the Gracie area and a mother of a child at the Brearley School, I am writing to express my serious concerns about the environmental impact and the threat to traffic safety and hazardous waste contamination that might result from the enlargement and re-opening of the marine transfer station at 91st Street and the East River.

I understand the difficulties the city has with respect to waste disposal. However, I do not believe the solution proposed to put such a facility in this densely populated residential area is a safe, non-disruptive response to the problem. Furthermore, I and others are not convinced that that the City has met its burden of ensuring that the proposed method of disposing of garbage does not adversely affect the health and safety of the residents and the children who attend the public and private schools in this densely populated area.

My concerns reflect the current understanding of the proposed operation of the facility, as described in the Draft Environmental Impact Statement for the City's Comprehensive Solid Waste Management Plan (DEIS, October 2004). While I recognize that the facility may not operate exactly in the way described or at the maximum levels of activity contemplated, I must nonetheless voice the following concerns about air quality, poisons, noise pollution, and traffic and pedestrian safety, as detailed below:

The diesel exhaust and emissions produced by hundreds of moving and idling garbage trucks, each making a round-trip into and out of the facility, pose a health risk for all residents and the children in this neighborhood. Furthermore, fumes will seriously impact the use of Carl Schurz Park, where students and other neighborhood children enjoy sports and fitness programs, recreational activities and fresh air. Odor, fumes and particulate matter will blow onto the Park and the playing fields at Asphalt Green, a potential 2012 Olympic venue. The health risk is heightened for children with asthma and other respiratory conditions, which are already at historically high incidence levels.

Rats and other vermin are already a problem in the Gracie Point neighborhood. Students attending Brearley and other neighborhood schools, as well as very young children, are frequently exposed to exterminating poisons when playing in Carl Schurz Park. Locating a waste processing facility on East 91st Street with associated storing, sorting and compacting of garbage will increase numbers of rodents and related transmissible diseases.

With many truck trips in and out of the facility and the capacity to process up to 4,200 tons of garbage each day, noise will be a serious threat to the auditory health of all who live and work in the neighborhood and to the education of students in the area. On the playing fields, the noise of the idling trucks

and the diesel engines being turned on and off will make it difficult for students to concentrate and for adults to communicate with them, which puts the safety of all participants at risk.

Adults on their way to work, the elderly, homemakers, and students travel along York Avenue and the side streets near East 91st Street every business or school day. The circulation along these thoroughfares of hundreds of large sanitation trucks with limited visibility will pose a major danger to the children on their way to and from school. In addition, for those who travel to and from school by bus or car, some from very long distances throughout the city, local congestion will lead to longer travel times and increased air pollution. In addition, the possible movement of sanitation trucks at the facility poses a vehicular danger to students participating in athletics at the Asphalt Green, particularly when students arrive or leave in the early morning or evening.

Last year, on our own corner at York and First, a woman was killed crossing the street in the cross walk by a truck that did not even notice she was there. It is too horrifying a thought that hundreds of trucks will be in an area with so many children and elderly and that they may face such risks in the future. It would be unconscionable if even one person loses their life because too many trucks have been put into a residential area already straining with traffic to and from the FDR drive.

I believe that the potential adverse effect on the health and safety of the neighborhood residents and the commuting schoolchildren in the area of the marine transfer station must be considered by the City in assessing the merit of the proposed project.

I hope you will address these concerns as you continue your deliberations and vote this misguided proposal down.

Sincerely,

Patricia Duff

Patricia Duff

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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David Edelstein This is a bad idea!

Signature

David Edelstein

Printed Name

Address: 180 East End Ave 10B
New York NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Gary Edelstein
Signature

Gary Edelstein
Printed Name

Address: 525 E. 86 St #8A
NY NY 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Printed Name

Address: 1725 York Ave Apt 9E
NY, NY 10128

January 24, 2004

Kathryn R. Edmunds
530 E. 90th St.
Apartment 5H
New York, NY 10128

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street --- 12th Floor
New York, New York 10004

Re: Opposition to the proposed MTS at E. 91st Street

Dear Mr. Szarpanski,

While I have numerous objections to the planned use of the E. 91st Street site, my main concerns are: population density; EJ policy guidelines and their implementation and insincere consideration of alternative sites. These are in addition to concerns expressed in other letters.

1.) Population Density

a) As you have heard before, the E. 91st Street site is much more densely populated than others currently considered as part of the SWMP. The 13,417 people in the primary study area for E. 91st Street is three times as many as the number of people at the next most densely populated site (using DSNY/ CEQR methodology for establishing primary study area).

b) Population density does matter (despite Commissioner Doherty's claim to the contrary). Population density is one of the main considerations involved in zoning policies. In addition, if population density does not matter, then why did the Commercial Waste Management Study of March 2004 include population density maps in the "Neighborhood Character Summary" (Appendix A --an appendix which includes only four sites: Hunts Point, Bronx; Port Morris, Bronx; Greenpoint, Brooklyn; and an area of Jamaica, Queens). Finally, the CEQR Technical Manual guidelines advise the agency (i.e. DSNY) to consider the "number of people potentially affected" when assessing the significance of certain potential impacts (Chapter 3T page 2).

2.) Alternative Sites

Commissioner Doherty stated at the January 12, 2005 ULURP meeting with Community Board 8 in Manhattan that they had not really considered any alternative sites in Manhattan because they already have existing ones.

However, it turns out that DSNY did consider Manhattan alternatives by reference. The October 2004 DEIS introduction states that four Manhattan sites evaluated by the Commercial Waste Management Study of March 2004 are incorporated by reference.

July 8, 2004

Kathryn R. Edmunds
530 E. 90th St.
Apartment 5H
New York, NY 10128

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street --- 12th Floor
New York, New York 10004

Re: Opposing the opening and expansion of the E. 91st Marine Transfer Station

Dear Mr. Szarpanski,

I strongly oppose the creation of converted MTS at E. 91st Street because of the negative impacts it would have on the surrounding community, including especially the Asphalt Green recreational facility and the residences and businesses along the truck routes closest to the MTS. In addition, I oppose the creation of a similar facility at W. 135 Street but have submitted that letter of opposition separately.

I live in the building designated as the "nearest sensitive receptor" and work-out nearly daily in the Asphalt Green facility.

Below are just a few of my concerns (no order of priority)

1.) As you have learned from dozens of responders, the statement that there are "no City, state or nationally **designated landmarks or historic districts** within ½ mile radius of the E. 91st site (page 38) is false. Making such a statement undermines the credibility of the entire document. (Plenty of others have submitted the historical landmarks to you and they are for the most part listed in the Commercial Waste Study of March 2004 anyway).
2.) As many others have stated, I believe the city/ DOS has to conduct the study as if the MTS were operating at **full capacity.** All analyses—including but not limited to on- and off-site noise, air quality, odor, and traffic—need to make the assumption that the MTS is operating at full capacity. This recommendation (with respect to air quality) is also promulgated by the EPA 40CFR Part 51 in Federal Register/ Volume 68. No. 72 (April 14, 2003) where, in section 9.1.2 it says: "**As a minimum, the source should be modeled using the design capacity (100 percent load).**"
3.) **Regarding traffic:** The assumed peak hour vehicle trips used for the traffic analysis and the conversion factor of 1 collection vehicle/1.5 passenger car equivalent may yield the conclusion that you do not need to do a traffic analysis

for most intersections near E. 91 Street. However, in addition to adjusting your model to assume that the number of trucks will increase with MTS operating at full capacity, I believe that you need to reconsider the **conversion factor of 1.5 PCE**, even though it is the one used in the CEQR Manual 2001 (Section 3-O, page 2). The CEQR manual's designation of a garbage truck as a light vehicle contradicts nearly every professional document on the subject that I can find. **The weight of a fully loaded garbage truck is far beyond the weight requirements of a light truck** (defined by you in Noise section of Draft Scope as under 9,900 pounds) and likely even meets the requirement of a heavy truck, assuming a weight of roughly 4 tons when empty (according to "historical average peak day throughput" charts in the Commercial Waste Study, trucks are often carrying roughly 11.3 tons or 22,600 pounds—and sometimes even 14 tons—, which combined with the vehicle weight would make a garbage truck a "**heavy vehicle**"). According to the US Department of Transportation, Federal Highway Administration guidelines for analysis of signalized intersection capacity, a heavy vehicle is equated to **2 PCE**, (even when the analysis is of traffic flow, not just emissions and noise) (http://www.fhwa.dot.gov/ohim/hpmsmanl/appn5.htm).

4.) As others have also stated, the traffic analysis must include **weekend traffic**. Saturday traffic at E. 91st is affected by the use of Asphalt Green, especially during baseball and soccer seasons. Moreover, the analysis must consider **seasonal traffic variation** as well, since the summer day camp traffic at E. 91 may more than compensate for any reduction in traffic due to summer vacation.

5.) **Off-site analysis of odor** should be included and the odor considered should **include not only that of emissions from the trucks but also from the waste they contain**. The comment "Off-site odor sources will not be evaluated; vehicles will not idle at off-site locations for extended periods of time" in the "Public comment Draft of for commercial waste study" (March 2003) is unprofessional. A **field study including interviews** with residents and businesses knowledgeable of the conditions during the prior operation of the MTS would quickly challenge this statement. At the very least, the trucks will idle at red traffic lights and given the fact that the overwhelming volume of traffic will necessitate more idling than anticipated, it is negligent and irresponsible on the part of the DOS to suggest that there will be no extensive idling (not only of waste vehicles but also increased idling of vans, delivery trucks—of which there are an ever increasing number due to growing grocery-delivery services—, normal city buses, articulated city buses, school buses, taxis as well as passenger cars, including those entering and exiting the FDR via York Ave/ 96th St.). Literally dozens of people who lived, worked or shopped along York Avenue during previous operation have told me about the **stench, the rats, the flies, as well as the malodorous refuse leaking or falling onto the streets.** Some neighbors were afraid to walk their dogs; some were so afraid of rats that they required help from security personnel in walking themselves from Asphalt Green recreation center to the bus stop across the street. The issue of off-site odor cannot be dismissed lightly.

6.) The cost/benefit analysis of the proposed action versus the current interim procedures and vs. alternative actions should include accurate assessment of demolition costs of existing MTSs including the possibility that **the current MTSs may have included asbestos as a construction material**. Similarly, the ecological impact of demolition has to be accurately evaluated.

7.) The Fact Sheet No. 3 presented at the June 28 meeting with drawing of the proposed converted MTS looks like the new MTS would **exceed the property limits**. A non-economically interested party should have to assess whether this is legal and whether it is safe (both for the natural environment and for the boat/barge traffic at this part of the river). (If this was addressed orally in the DOS presentation, I did not hear it as I was waiting outside for a chance to come in to the meeting.)

8.) The scope fails to analyze the projected indirect **socioeconomic impact on surrounding residential and commercial entities.** According to CEQR technical manual (Section 3B, particularly 322.2 and 321.1), such analyses are recommended if the proposed action has direct or indirect effect on socioeconomic conditions. Every resident, store-owner, pedestrian, as well as every elected official and sanitation worker knows that there is a negative socio-economic effect caused by extensive presence of garbage trucks and the concomitant stench, traffic jams, impediment to pedestrian traffic, etc.) Although displacement analysis may typically be required when a neighborhood becomes unaffordable for its current residents and businesses, the CEQR guidelines also indicate that such analysis is needed when **any** socioeconomic trend is introduced or accelerated (see particularly CEQR Manual 322.2 un-numbered bullet point 6, page 3B-6: "it introduces a land use that could have a similar indirect effect, **through the *lowering* of property values...**"). Among the business and institutions that would be enormously negatively affected: Asphalt Green and the Murphy Center, Conte's Market, York Grill and Eli's Vinegar Factory come immediately to mind: some if not all of these "contribute substantially to a defining element of neighborhood character" (CEQR page 3B-4). In addition, since the neighborhood around the E. 91st Street site has a higher trend toward poverty than Manhattan as a whole and than NYC (35%, vs. negligible and 21%, respectively; Commercial Waste Management Study, Volume III, Appendix A, page 10-17), and since this trend would be accelerated by the proposed MTS and truck routes (perhaps particularly among the elderly whose economic status may be linked disproportionately to the value of their home), then a thorough unbiased analysis and presentation of socioeconomic facts to the public are necessary.

9.) The potential impacts of re-directed traffic and increased construction waste due to the work on the **2nd Avenue subway** should be included in the analyses. We note that the proposed 2nd Avenue subway was not included in the future no-build conditions used in the analysis of traffic in the Commercial Waste Study (March 2004).

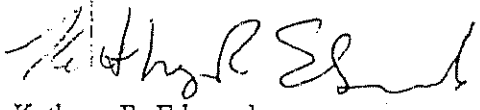
In addition, I fully support any substantive comments submitted by neighbors opposing the site. If nothing else, it should be apparent that we will fight this and we will examine your proposals looking for flaws (in assumptions and in methodology),

with the unfortunate suspicion that the City/ Mayor/ DOS is trying to deceive the populace.

On a positive note, wouldn't this be an opportune time for the City to educate the city residents, visitors and businesses about the ever-increasing need for waste reduction?

Thank you for your attention.

Sincerely,



Kathryn R. Edmunds

2

These sites four sites include the Gansevoort site DSNY currently proposes be used for recycling facilities. However, the CWMS acknowledges that there are impediments to re-opening this site including amending the legislation that created the Hudson River Park Trust (CWMS Volume V, page 22). Since DSNY is at least stating that it hopes to get permission to re-open this site, then impediments complicating the suitability of other alternatives should also be re-visited, in particular the site at Pier 42. This site has characteristics quite like the E. 91st Street site in so far as it is zoned M1-4 and is within 400 feet of a playground and park. The proposed design for the E. 91st St. Site could likely be easily modified for Pier 42 and the discussed limitations on space could be rectified the same way DSNY proposes to rectify them at E. 91st. The concerns about the intersection being signalized and South Street not being a truck route apply to E. 91st St as well. Finally a 1994 Memorandum of Understanding among the City, State Assembly leader Sheldon Silver and Gouverneur Gardens Housing Corporation ought to be revisited. Even if it turns out that Pier 42 site is indeed not a better solution than E. 91st, the site should be subject to serious consideration by the city.

Finally, and cursorily, the Environmental Justice Policy presents the method of using census block groups as a means of assessing the presence of an EJ community as a first guideline. It says if an EJ community is not apparent from this method, then there is not likely to be one. However, some people have brought to your attention that there is an EJ community within the primary study area and that it is of a size equal to that of other EJ communities at other proposed sites for which the DSNY provided more outreach and began such outreach earlier in the process. Therefore, outreach to this population within the primary study area for E. 91st Street should have been conducted as aggressively, as thoroughly and as promptly as it was for other neighborhoods.

Thank you for your consideration.

Sincerely,

Kathryn R. Edmunds

Date: January 23, 2005

To: Mr. Harry Szarpanski, Assistant Commissioner of DSNY (by hand);
Mr. Thierry Garcy, Ecology & Environment (by e-mail)

Re: Opposition to the draft new Solid Waste Management Plan proposals for the use of the site at E. 91st Street and the East River.

As you know, my letter from July 8, 2004—which you have in your files and which you have on record as having been received by hand delivery on July 9, 2004—did not make it into the comment section for the E. 91st site (and neither did my letter for W. 135th Street make it into the comment section for that site). I am therefore resubmitting that letter (along with this "preface" to it) for inclusion in the current set of comments. This will be followed by an additional letter including information I have gathered in the mean time.

Please note that in my July 8 letter I used the abbreviation DOS erroneously to refer to Department of Sanitation, New York. I did not mean the Department of State in what I wrote below. Also, I have since learned that the estimation of an empty garbage truck as weighing 4 tons is grossly inadequate and I now assume they weigh slightly under 10.5 tons if the weight stated on every DSNY collection vehicle is referring to unloaded weight, as I believe it must be, since the 25 cubic yards refers to capacity and would convert to 12.5 tons of waste. Thus a DSNY fully loaded (as it would be, when coming to the site) weighs about 23 tons and is without a doubt a heavy vehicle.

Thank you very much for your thoughtful consideration of these comments.

From: Kathryn Edmunds

cc: Mr. Tony Ard, Gracie Point Community Council (by e-mail)
Mr. Richard Leland, Kramer Levin Naftalis & Frankel LLP (by e-mail)

[redacted]

From: outgoing agency
Sent: Wednesday, December 15, 2004 8:42 AM
To: DSNY- CCU
Subject: City of New York - Correspondence #1-1-145723010 Message to Agency Head, DSNY - Service Issues

Your City of New York - CRM Correspondence Number is 1-1-145723010
DATE RECEIVED: 12/15/2004 08:27:37
DATE DUE: 12/29/2004
SOURCE: 3-1-1 Call Center

The e-mail message below was submitted to the City of New York via NYC.gov or the 311 Call Center. It is forwarded to your agency by the Mayor's Office of Operations. In accordance with the Citywide Customer Service standard, your response is due in 10 business days.

****

If this message is to a Commissioner / Agency Head and needs to be re-routed to another agency or cc to another agency, forward the email to outgoingagency@customerservice.nyc.gov. Do not make any changes to the subject line. Include any comments and it will be processed by The Mayor's Office of Operations.

All other web forms are to be handled by the receiving agency.

****

File
Comments
Solid Waste Mgt

Message Type: Agency Issues

Topic: Service Issues

First Name: LAURIE

Last Name: ELDELSTEIN

Street Address: 1725 YORK AVENUE

City: MANHATTAN

State: NY

Postal Code: 10128

Country:

Work Phone #: 9177833765

Email Address:

Message: caller wants to know what the mayor is thinking putting a marine terminal station on 91st right in the middle of a residential community. caller says she is in outrage. it will destroy a whole community even gracey manson. caller has read the final scoping document and all other sites zoned heavey industrial as it should be . why is 91 street site even considered. caller wants to know if the mayor has visited the site which is populated with children, babies and elderly. caller would like a response personally. Caller says she considers bloomberg a intelligent man. if he looks into this he would see how ridiculious this is.

cc: Long Term Experts

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS is based on a false assumption about its use. It is not possible to believe that DSNY intends to use only one third of the capacity it intends to build. Accordingly, the impact statement vastly underestimates a host of environmental impacts, including traffic, air quality, neighborhood character, open space, noise and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

DSNY's promises of likely mitigation are inadequate, impractical and unenforceable for identified impacts.

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Signature

BENJAMIN C. ELKIES

Printed Name

Address: 622 EAST 89th ST

December 20, 2004

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44 Beaver Street, 12th Floor
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Signature

MARK ELLIS
Printed Name

Address: 340 EAST 64th ST. NYC 10021

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Peggy A Ellis
Printed Name

Address: 340 East 64 St NY 10021

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Signature

CHARLES FAIRA
Printed Name

Address: 530 E 90 ST

DSNY needs copy

CHARLES KING EMMA, Inc.

530 East 90 Street-New York, NY 10128-Tel. (212) 722-4625

December 20, 2004

Re: Final Scoping Document dated October 2004

Attached are notes that I had prepared for comments that I made at the last meeting regarding the proposed rebuilding of the 90th Street MTS building. I did not however see any reference to those comments in the Final Scoping Document regarding a possible MTS site on Wards Island. Since one of the Mayors main requirements was that no garbage was to be transferred to another borough I wish to point out how eminently suitable the proposed site would be in that regard. The garbage would be removed from Manhattan and still not dumped into another borough.

RANDALL S

An additional benefit would be that it would practically be impossible to outgrow any facility built on Wards Island. Of course a whole list of additional benefits would accrue that are well documented in the objections that have been made regarding the attempt to reuse the existing impracticable building site.

I urge that serious consideration be given to "thinking outside of the box" in the manner that is suggested here.

Sincerely

Charles King Emma

Charles King Emma

Charles Emma - 530 East 90 Street June 28, 2004

MARINE TRANSFER STATION SCOPING DOCUMENT CRITIQUE

My name is Charles Emma and I have lived on 90th Street opposite the Asphalt Green area for over 40 years. My remarks are divided into two parts. My first comment is that the design of the Scoping Study may inhibit development of a realistic measurement that operation of the Marine Transfer Station will have on the community. My second comment suggests that an alternate location exists that may be seen from the present 91st. Street MTS.

The proposed study outlines an imposing investigation into the basic decision that has already been made to use the existing city facilities. My remarks are limited to an observation concerning the unit of measurement in the Study that is expressed as a "truck load." This appears to be a rather gross measurement when the garbage is already segregated into components and collected on different truck trips.

It would be reasonable to examine the characteristics of each of the components in the stream of garbage. Then it would then be possible to determine the impact of each category of garbage rather than use a "one size fits all" approach. Opportunities may be detected that are masked when the parts are lumped together. This would appear to be important in view of the inclusion of commercial garbage going to the MTS.

The garbage problem would then have the characteristics of an Operations Research study. These studies frequently result in opportunities to choose from alternatives making it possible to maximize a desirable result. The study could then investigate the garbage components including;

1. Amount and rate of change over time
2. Frequency of collection
3. Destination
4. Salability and time/value changes
5. Effect of volume changes on building and equipment requirements
6. Impact of commercial garbage on all of the above.

My second comment is based on a ten-minute drive I recently took from 90th St. to the Triborourgh Bridge. I drove down the ramp, located just past the tollbooths, onto the combined Randall and Wards islands. A few minutes later, south of the closed Psychiatric Hospital, I stopped alongside the East River. I stood there on the shore and looked directly across the river at the 91st St. MTS that is about a mile away. On the way back to the bridge ramp I passed a large Fire Department training facility and a New York City Department of Sanitation Water Treatment Plant. Perhaps this area should be seriously investigated to see if it could <u>also include</u> a replacement for the 91st Street Marine Transfer Station.

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Marilyn Fassberg
Signature

MARILYN FASSBERG
Printed Name

Address: 520 E. 86th St. 15B

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Amelia Flaster

Signature

AMELIA FLASTER

Printed Name

Address: 1775 York Ave Apt. 24A N.Y. 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Barbara Feinberg.
Signature

BARBARA Feinberg
Printed Name

Address: 535 E 86th St. New York.

Barbara Jane Feinberg
535 East 86th Street
New York, New York 10028-7533

December 13, 2004

Harry Szarpanski
Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Dear Sir:

In lieu of testimony at the December 20th meeting—which I shall certainly attend—please accept the following in the spirit of the season.

'Twas the night before Christmas, when all around the block
The neighbors were stirring because things were amok.
Petitions were signed and letters were stamped
In hopes that the garbage plan would soon be revamped.

Later parents and children were nestled snug in their beds
With visions of sanitation trucks lined up in their heads.
Seeing row upon row, smelly with trash,
Made dreams of sugar plums disappear in a flash.

Then out on the street there arose such a clatter
Neighbors sprang from their beds to see what was the matter
Away to the windows, they flew like a flash,
Tore open the shutters and threw up the sash.

The moon on the breast of the new–fallen snow
Gave a luster of midday to objects below
When what to our wondering eyes should appear,
But a line of idling garbage trucks, instead of reindeer.

What will become of the field and the Green
With trucks invading the York Avenue scene?
There are so already vehicles around that we claim
We can whistle, and shout, and call them by name:

Now M31, Now M86
Now X90, too!
On schoolbuses
On private buses to subways on through.
To 91st or the FDR Drive
How much more traffic will the DOS contrive?

'Tis a pity that Clement Moore's jolly St. Nick
Can't keep boys and girls from getting sick
When sanitation truck exhaust makes the air far clean
As the children play and practice at the Asphalt Green.

Why not send ALL trash to the 59th Street pier
Or reroute the trucks to keep the Green clear
And build a new overpass, just a few blocks North of here
Crossing East River Drive but protecting the parkland and people we hold dear.
Then as Santa drives out of sight,
He might indeed wish a "Happy Christmas to all and
To all a good night!"

On a more serious note, I was motivated to parody this poem because of personal concerns. I am a mature woman with chronic obstructive lung disease who depends on the Asphalt green classes and pool to keep my lungs from further deterioration. I also worry about the children I observe who are bussed here for swimming lessons and camp programs, and everyone who deserves clean air!

Sincerely
Barbara Jane Feinberg
Barbara Jane Feinberg

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Seymour Finkelstein

Signature

SEYMOUR FINKELSTEIN

Printed Name

Address: 1755 YORK AVENUE APT. 35-B N.Y. 10128

December 20, 2004

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44 Beaver Street, 12th Floor
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Signature

NORMAN FLASTER

Printed Name

Address: 1775 YORK AVE APT 24A NY NY 10128

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: EVA FLEISCHER

Agency/Organization, if applicable:

Address: 1745 York Ave #35B
NYC 10128

Email: eva.fleischer@verizon.net

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: Scheduling a public meeting on Dec. 20th is more than grueling.

Even thinking about a garbage facility in the middle of a park frequented by thousands of children is homicidal.

Placement in a residential neighborhood is outrageous

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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Eva Fleischer
Signature

EVA FLEISCHER
Printed Name

Address: 1725 York Ave, NYC 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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NORMAN FLEISCHER
Printed Name

Address: 1725 York Ave #35B
NYC 10128

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Mark K. Fliegel
Signature

MARK K. FLIEGEL
Printed Name

Address: 512 E. 87 10128

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Scott Flieger

Agency/Organization, if applicable: Resident

Address: 512 E 87th St
NY NY 10128

Email:

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS:

Mr. Szarpanski;

With all due respect, This is just a terrible place for a Transfer Station

I would be more than happy to work with you to find an alternative site

Regards
Scott

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Sharon Floyd

Printed Name

Address: 501 E. 79th St, 6C
NYC NY 10021

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

SAL FORENO

Printed Name

Address: 1725 YORK AVE NY NY 10128

Lawrence N. Friedland
180 East End Avenue – 9B
New York, New York 10128
(212) 744-6878

December 20, 2004

New York City Department of Sanitation
310 East 67th Street
New York, New York

Re: Proposed East 91st Street Garbage Dump (the "Project")

Gentlemen:

Other speakers will justifiably stress the environmental degradation of the neighborhood that will be caused by the Project

Rather than repeat their justified arguments, I would like to bring to the attention of the Department the following facts:

1. Within a small area surrounding the Project there is probably something like $2 Billion dollars worth of cooperative, condominium and rental apartments.

2. The Project will obviously cause a deterioration of value of these apartments, probably ranging in the area of 10 – 30%.

3. If we adopt an average of 20% this would mean a $400 Million dollar economic impact.

4. I have seen no justification in any report for placing this sort of a burden on a residential community which is vibrant and contributes to the City life.

5. The economic impact as detailed above does not include the loss of the current use of the Asphalt Green by all sections of the City due to the problems which are bound to arise from the Project.

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Lawrence N Friedland
Printed Name

Address: 180 East End

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Jean D. Friedlander
Signature

Jean D. Friedlander
Printed Name

Address: 535 East 86 Street, #8C
NY 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Ed Friedman
Signature

Ed Friedman
Printed Name

Address: 535 East 86th St NY 10028

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New York, NY 10004

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Signature

Emily Friedman
Printed Name

Address: 1725 York 10128

Sincerely yours,

Elaine R. Friedman

Elaine Russo Friedman

Grant Friedman, age 6; Halle Friedman, age 3
"On the stoop" at 525 East 89th Street

KEEP IN MIND THAT YOUR PROPOSED GARBAGE DUMP WILL HARM <u>REAL</u> PEOPLE AND <u>REAL</u> CHILDREN !!!!!

ELAINE R. FRIEDMAN
525 East 89th Street, Apt. 6A
New York, New York 10128

December 20, 2004

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street, 12th Floor
New York, New York 10004

RE: Letter in Opposition to Reopening the East 91st Street Transfer Station

Dear Mr. Szarpanski:

My family and I live in Gracie Point, the residential neighborhood surrounding the East 91st Street transfer station (MTS). My husband, Gary, and I are attorneys as well as concerned parents. I am a member of the board of directors at Gracie Gardens, a neighborhood apartment complex.

My family uses the neighborhood's parks and recreational spaces extensively. Both children take numerous classes at Asphalt Green. We bike along the Greenway and go sledding in the wintertime in Carl Schurz Park. Our children love to have playdates outside with their friends in the playgrounds at Asphalt Green and Carl Schurz.

The Sanitation Department, the Mayor, and environmentalists favoring the reopening of the MTS argue that every borough should process its own waste. This is a laudable goal. But it is nonsense to conclude that "environmental fairness" mandates that a monster garbage dump must be located in a densely populated residential neighborhood, home to thousands of children and elderly people.

Even a child can grasp that supposed "barriers and trees planted" alongside the facility and a purported "sophisticated odor-control system" will not mitigate in the slightest the serious health consequences from pollution, filth and vermin associated with transfer station operations. Significant public green spaces, namely Asphalt Green and Carl Schurz Park, will be significantly compromised should the transfer station reopen. The DEIS is wholly inadequate in addressing the effects of this proposed ten-story monstrosity on the neighborhoods' residents, traffic patterns and parks.

Garbage dumps clearly do not belong in any neighborhoods where children live and play. The health and well-being of our children and other vulnerable residents by far outweighs the political gamesmanship on this issue. Solving the city's garbage crisis should not place children at risk and cost upwards of $85 million (borne by city taxpayers) to satisfy a highly politicized concept of "fairness."

GRANT ETHAN FRIEDMAN
525 East 89th Street, Apt. 6A
New York, New York 10128

December 20, 2004

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street, 12th Floor
New York, New York 10004

RE: Opposing the
Reopening of the East 91st Street Marine
Transfer Station (MTS)

Dear Mr. Szarpanski:

I am 6 years old. If that garbage dump is reopened, there will be no place to play or ride bikes in my neighborhood because it will smell so bad. I play at Asphalt Green and Carl Schurz Park all the time, and I love those places.

One garbage truck smells bad and pollutes the air. What will it be like with many, many garbage trucks lined up on the streets?

Once I passed by some garbage on the street, and it smelled so bad I wanted to throw up. That's what it will be like all the time if you open up that garbage dump. Please don't do it.

Sincerely,

GRANT

Grant Friedman

HALLE KATE FRIEDMAN
525 East 89th Street, Apt. 6A
New York, New York 10128

December 20, 2004

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street, 12th Floor
New York, New York 10004

RE: Don't Reopen the East 91st Street Marine Transfer Station

Dear Mr.Szarpanski:

I am 3 years old. I don't like garbage dumps. My friends don't like garbage dumps. They smell. My friends won't come here to play with me. I won't be able to play at Asphalt Green and Carl Schurz Park anymore.

Bad smells make me sick. Garbage trucks are big and stinky and scary. It won't be safe to cross the street. Please don't open up the garbage dump.

Sincerely,

Halle Friedman

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Erin Gaffaney
Signature

ERIN GAFFANEY
Printed Name

Address: 520 E 90th street Apt 4C NY NY 10128

December 20, 2004

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44 Beaver Street, 12th Floor
New York, NY 10004

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Kristine Gaffaney
Signature

KRistine GAffAney
Printed Name

Address: 520 E. 90th St. #4C NY NY 10128

December 20, 2004

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44 Beaver Street, 12th Floor
New York, NY 10004

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Lauren Gaffaney
Signature

LAUREN GAFFANEY
Printed Name

Address: 520 E. 90th Street #4C NYNY 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Lawrence Gaffney
Printed Name

Address: 520 E. 90th st Apt 4C NY NY 10128

December 20, 2004

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Eve

Signature

Eve Galen

Printed Name

Address: 1 Gracie Square

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

TIMVR F GALEN

Printed Name

Address: 76 ALIE SQ 11-C NY NY

December 20, 2004

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New York, NY 10004

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Linda Generex
Signature

LINDA GENEREUX
Printed Name

Address: 7 GRACIE SQ #11C

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Signature

Mort Conrad
Printed Name

Address: 415 E 86 St Apt 1H

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Gail Geronemus
Signature

GAIL GERONEMUS
Printed Name

Address: 1725 York Ave
NYC NY 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Roy G Geronemus MD.
Signature

Roy Geronemus MD.
Printed Name

Address: 1725 York Ave #21B
NYC NY 10128

Roy G. Geronemus, M.D.
317 East 34 Street
New York, New York 10016
(212) 686-7306

November 29, 2004

John J. Doherty
Commissioner
New York City Department of Sanitation
125 Worth Street
New York, New York 10013

Dear Mr. Doherty:

I am writing in reference to the plan to reopen and expand the 91st Street Marine Transfer Station. As a physician I am very concerned about the potential health impact of the large volume of diesel trucks that will congregate in a densely populated residential community and this concern is further compounded by the fact that these trucks will traverse a park where thousands upon thousands of children and young adults congregate per year for outdoor play and activities.

I hope that you are aware of the data that exists within New York City that notes that the incidence of childhood asthma is significantly greater in areas where there are higher pollutants. This concern regarding asthma and related pulmonary diseases is further compounded by the allergens that will permeate the community as a result of the vermin that will be present with such a large waste facility. It has been proven that there are environmental allergens that are released from vermin that also act as allergens which can be adversely contributory to additional diseases within this population.

The likely addition of pesticides in this area will again compound the problem. It is also important to know that across the street from the Asphalt Green there is a geriatric community in the Stanley Isaacs Center, which will also be susceptible to these environmental pollutants.

As a consequence of these concerns, I feel that it is important that the plan to reopen and expand the 91st Street Marine Transfer Station be scrapped from a health perspective.

Thank you for your consideration.

Sincerely,

Roy G. Geronemus, M.D.
Clinical Professor
New York University School of Medicine

RGG/jm

xc: File

LASER & SKIN SURGERY CENTER OF NEW YORK
ROY G. GERONEMUS, M.D., P.C. LEONARD J. BERNSTEIN, M.D. KAREN H. KIM, M.D.

December 22, 2004

Harry Szarpanski, P.E.
Assistant Commissioner
Bureau of Long Term Export
44 Beaver Street, 12 Street
New York, New York 10004

Dear Mr. Szarpanski:

Enclosed are my comments from the December 20th Draft EIS public hearing for the 91st Street Marine Transfer Station.

Sincerely,

Roy G. Geronemus, M.D.

RGG/jm

xc: File

MOHS MICROGRAPHIC SURGERY LASER SURGERY DERMATOLOGIC SURGERY
317 EAST 34TH STREET, NEW YORK CITY, NEW YORK 10016
212-686-7306 www.laserskinsurgery.com Email: mail@laserskinsurgery.com 212-686-7305 fax

Accredited by
Accreditation Association
for Ambulatory
Health Care Inc

Good Evening
Thank you

My name is Dr. Roy Geronemus. I am a Clinical Professor at the New York University School of Medicine. I have reviewed the issues related to the Marine Transfer Station regarding its expansion and I have multiple concerns as it relates to the health and welfare of the residents and visitors of this community.

Simply stated, the City of New York's solid waste management plan will create a public health crisis. Let me explain who will be effected by the plan to re-open and expand the Marine Transfer Station at 91st Street, and why they will be effected. Those who will be effected will include (1) children and (2) adults, (3) geriatric adults, (4) pregnant women and their unborn children. As I am sure you are aware, this densely populated residential area includes a broad cross section of the populous, including families and geriatric adults. Multiple families live within this community and an even greater number visit the athletic facilities involving the Asphalt Green from not only this residential area, but from other parts of the city including other boroughs because of the unique services provided by the Asphalt Green, particularly as is it relates to *Learn to Swim* which are not available widely throughout the City. There are also geriatric communities within the Stanley Isaacs and John Holmes Centers. While a Marine Transfer station may make sense when this facility was built decades ago, the present community is significantly different with a much larger populous and a widely used athletic

complex that did not exist when the facility was first built. Consequently, the impact of the proposed reopening and significant expansion of this facility will have a much greater impact upon this community than it would have had upon the community that existed when the Marine Transfer station was first built.

The categories of susceptible and endangered residents and visitors to this community will be based upon multiple concerns. I would like to run through the list of concerns that I have.

(1) Diesel exhaust that will emanate from the dramatic increase in the number of the diesel emitting garbage trucks in this community.

(2) Secondly, allergens from vermin that will populate in this Marine Transfer station.

(3) Thirdly, poisons from the insecticides that will be required to control the vermin.

(4) Fourthly, bacteria from dewatered grit.

(5) Effective odor neutralizing agents

(6) The concern regarding access of ambulances to and from this community, particularly where there are a larger number of geriatric residents that have not been recognized in any of the reports that I have read regarding this particular location.

The effect of diesel exhaust upon the development of pulmonary

diseases, including asthma and emphysema, as well as the potential for miscarriage amongst pregnant women has been well documented in the medical literature. In fact, the Department of Public Health at Columbia University has published extensively on the environment impact of diesel exhaust and has even demonstrated that there are certain areas of Manhattan where the instance of asthma is significantly higher, but **not** in other areas where the exposure of diesel exhaust does not exist. It notes that in areas of New York where diesel exhaust is the highest there is a 25% incidence of asthma. Of course in these areas there are also allergens to vermin that will contribute to the incidence which is something we will also see surrounding the 91st marine transfer station. The incidence of asthma of 25% are significantly abovethe national incidence which is approximately 5%. There is no question that this 500% difference in our own city will have clinical significance. Associated with this increase of asthma are higher hospitalization rates which in Harlem and East Harlem are three times that of Manhattan. There are in fact 5 studies that have been published showing that children who live or attend school near highways with high truck and auto traffic are significantly more likely to have symptoms of asthma and diminished lung capacity. It is also of importance to note that in these studies it is found that within diesel exhaust are particles that make our immune systems more susceptible to inhaled allergens like pollens and mold. These studies have also shown high levels of exposure to PAH, polycyclic

aromatic hydrocarbons which one finds in diesel and gasoline exhaust is actually present in the blood of children and their mothers. These toxins are associated with lower birth weights, lower birth lengths and an increased incidence of miscarriage. I strongly suggest that you review these articles and consider the impact of diesel exhaust upon the health of the residents and visitors of this community, particularly in view of the young and old ages of those residing in this community and those choosing to utilize its unique athletic facilities.

It has been suggested that in fact the garbage trucks will not queue and that the ramps and holding facilities are large enough that the effect of the diesel exhaust will be minimized. But let me remind you that this is not Star Trek, these trucks will not be beamed or vaporized into the Marine Transfer station, they will have to travel on the streets, stop at lights and deal with traffic issues that we all face in any community.

The impact of allergens from vermin that will populate this Marine Transfer station have also been demonstrated in studies in the John Hopkins University Medical Center to further exacerbate the effect on pulmonary diseases and those susceptible to those pulmonary diseases. Those are also available for your perusal and should be seriously considered, as it provides evidence to reject the opening of this particular Marine Transfer station.

Other factors that will contribute to the health of the community will

include the impact of odor neutralizing agents, the bacteria and the allergens that disseminate from the bacteria that will occur from de-watered grit. All of these factors together, not to mention the impact of the noise within this community will present a public health concern to the residents and businesses of this community.

In addition, I would like to have your office review the Worker's Compensation claims as it relates to emphysema, asthma and other lung diseases amongst those Sanitation workers in New York City. While adult males are not the most susceptible to pulmonary diseases, this information should be very revealing as potential health impact upon this community and its visitors. So far to date your office has failed to reveal this claim information.

As an additional point I am sure you are aware of the concept of environmental justice. Environmental justice is a concept designed to protect the health of the communities based upon the impact of issues relating to transportation which would clearly be applicable here. The Stanley Isaacs and John Holmes communities fulfill criteria for environmental justice consideration. But this is not just about protecting the health and the rights amongst the racial and ethnic minorities even though many racial and ethnic minorities visit the Asphalt Green. The concept of environmental justice should be egalitarian and at the health of those living and visiting the area on 91st Main Transfer Station should be considered no less valuable

than the health of those in other communities where your department has chosen not to open marine transfer stations.

Considering the indisputable facts regarding the impact of diesel exhaust and other toxins, why would you want to put a facility such as this in the middle of a residential community and right directly in the middle of a well utilized athletic complex where children and pregnant women congregate and place this community at risk?

Thank you for your consideration.

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

As the small business owner of Glaser's Bake Shop I want to express my opposition to the Sanitation Department's plan to expand and reopen the East 91st Street Marine Transfer Station.

Our family has provided baked goods from our Yorkville store to families throughout the Upper East Side for three generations, dating back to 1902. Our business, and other small businesses in the neighborhood, are very concerned that the Department seriously underestimates the negative effect that increased truck traffic will have on the health of our businesses, as well as our customers.

A garbage facility should not be located in the middle of a residential neighborhood. Over the last 102 years our family has watched and participated in Yorkville's growth into a vibrant area that is home to many families, singles and seniors citizens. It would be a travesty for the Department to destroy the character and health of the neighborhood. Other alternatives must be considered that do not affect any densely populated residential area.

The four avenues from Third Avenue to York Avenue are home to many small businesses. They are also already heavily traveled by buses, trucks, taxis and cars moving north and south through Manhattan. The addition of 800 garbage truck trips per day to and from the transfer station (if it is used to capacity) will make the neighborhood more dangerous than it is now. It will also increase the difficulty of managing deliveries to our businesses. The east/west streets will become impassable with garbage trucks queuing up wherever they can to approach the transfer station. The neighborhood is at risk of becoming gridlocked.

I urge you to take the East 91st Street Marine Transfer Station out of the solid waste management plan.

Sincerely,

Herb Glaser
Owner, Glaser's Bake Shop

1670 1st Av

10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Bodi Garden
Printed Name

Address: 435 E. 79th St NY 10021

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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N. Terrell Grace
Signature

N. TERRELL GRACE
Printed Name

Address: 530 E 76TH St /23G NY 10021

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Eileen Koritz Giampaolo
Signature

EILEEN KORITZ GIAMPAOLO
Printed Name

Address: 515 E. 89th ST NYC 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Printed Name

Address: 520 E 90 St Apt 2B NY 10128

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Signature

ERIK L GRAY
Printed Name

Address: 1775 YORK AVE, APT 33E
10128

December 20, 2004

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New York City Department of Sanitation
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New York, NY 10004

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Signature

L. S. Greenberg
Printed Name

Address: 7 Gracie Sq.

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Andrew M. Grieco

Agency/Organization, if applicable:

Address: 325 East 81th St
N.Y. N.Y. 10028

Email: amgrieco@cs.com

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: There is no justification for this waste management plan to be in the neighborhood of York Ave to 92nd St. It is dangerous to everyone, especially children and the elderly, of which there is a great number in this area. In addition, the asphalt plant, which serves thousands each year, is directly in the path of the trucks. It's totally unacceptable.
There are many areas which are not so highly ~~[illegible]~~ congested. Move the project!

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Andrew M. Grieco
Signature

Andrew M. Grieco
Printed Name

Address: 525 East 84th St. N.Y. N.Y. 10028

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Signature

THOMAS A. GUARNERA
Printed Name

Address: 55 EAST END AVE, APT. 12D N.Y., N.Y. 10028

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44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

ROBERT HAGEL

Printed Name

Address: 530 E 90th 6D

1/3/05

Mrs. Betsy Hall

Dear Mr. Szczepanski

I am hopeful that this will be one of the last of a deluge of letters that you have been receiving about the proposed reopening of the Mass Transit Station at Asphalt Green. I am a relatively new resident of Yorkville, but I have been there long enough to deeply appreciate the relaxed residential character of the neighborhood - a quality that would be significantly diminished if the transit station were enlarged and reopened. Instead of the cheerful sounds of the soccer & ball games at Asphalt Green which drift up to our apartment on weekend mornings, we would be subjected to the grinding gears of trucks. Instead of the occasional whiffs of Elis baking, the air would carry the smell of diesel and instead of drifting leaves, we'd have plastic debris wafting into the trees.

Ours is now the only residential

THE BREARLEY SCHOOL

BOARD OF TRUSTEES

The Honorable Michael R. Bloomberg
Mayor of New York City
City Hall
New York, NY 10007

December 14, 2004

Your Honor,

As members of the Board of Trustees of the Brearley School, responsible for the education, health and safety of our students, we are writing to express our serious concerns about the environmental impact, threat to traffic safety and hazardous waste contamination that might result from the enlargement and re-opening of the marine transfer station at 91st Street and the East River.

We acknowledge that we live in a crowded city and that, on occasion, all New Yorkers are required to accept necessary yet undesirable activities in our neighborhoods. However, we do not believe that the City has met its burden of ensuring that the proposed method of disposing of garbage does not adversely affect the health and safety of the children who attend the public and private schools in this densely populated area.

Our concerns reflect our current understanding of the proposed operation of the facility, as described in the Draft Environmental Impact Statement for the City's Comprehensive Solid Waste Management Plan (DEIS, October 2004). While we recognize that the facility may not operate exactly in the way described or at the maximum levels of activity contemplated, we nonetheless voice the following concerns:

AIR QUALITY

The diesel exhaust and emissions produced by hundreds of moving and idling garbage trucks, each making a round-trip into and out of the facility, pose a health risk for all the children in this neighborhood. Furthermore, fumes will seriously impact the use of Carl Schurz Park, where our students and other neighborhood children enjoy sports and fitness programs, recreational activities and fresh air. Odor, fumes and particulate matter will blow onto the Park and the playing fields at Asphalt Green, a potential 2012 Olympic venue. The health risk is heightened for children with asthma and other respiratory conditions, which are already at historically high incidence levels.

POISONS

Rats and other vermin are already a problem in the Gracie Point neighborhood. Students attending Brearley and other neighborhood schools, as well as very young children, are frequently exposed to exterminating poisons when playing in Carl Schurz Park. Locating a waste processing facility on East 91st Street with associated storing, sorting and compacting of garbage will increase numbers of rodents and related transmissible diseases.

NOISE POLLUTION

With many truck trips in and out of the facility and the capacity to process up to 4,200 tons of garbage each day, noise will be a serious threat to the auditory health of all who live and work in the neighborhood and to the education of our students. On the playing fields, the noise of the idling trucks and the diesel engines being turned on and off will make it difficult for students to concentrate and for adults to communicate with them, which puts the safety of all participants at risk.

TRAFFIC AND PEDESTRIAN SAFETY

Students commute to school along York Avenue and the side streets near East 91st Street every school day. The circulation along these thoroughfares of hundreds of large sanitation trucks with limited visibility will pose a major danger to the children on their way to and from school. In addition, for those who travel to and from school by bus or car, some from very long distances throughout the city, local congestion will lead to longer travel times and increased air pollution. In addition, the possible movement of sanitation trucks at the facility poses a vehicular danger to students participating in athletics at the Asphalt Green, particularly when students arrive or leave in the early morning or evening.

We believe that the potential adverse effect on the health and safety of schoolchildren in the area of the marine transfer station must be considered by the City in assessing the merit of the proposed project. We hope you will address these concerns as you continue your deliberations, and we look forward to working with you in the future.

Very truly yours,

David T. Hamamoto
President
for the Brearley School Board of Trustees

cc:
Commissioner John J. Doherty, New York City Department of Sanitation
Carol Tweedy, Executive Director, Asphalt Green
Pria Chatterjee, Chair, Brearley Parents' Association

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS is based on a false assumption about its use. It is not possible to believe that DSNY intends to use only one third of the capacity it intends to build. Accordingly, the impact statement vastly underestimates a host of environmental impacts, including traffic, air quality, neighborhood character, open space, noise and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

DSNY's promises of likely mitigation are inadequate, impractical and unenforceable for identified impacts.

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Brooks Hambletti
Signature

BROOKS HAMBLETT
Printed Name

Address: 85 EAST END AVE
NY NY 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Beth Haroulas

Printed Name

Address: 100 W 70 St NY NY 10023

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Jane Harrison
Signature

Jane Harrison
Printed Name

Address: 520 East 86th St Apt. 4C NY, NY 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

ROBERT S. HARRISON
Printed Name

Address: 520 E. 86TH ST. (4C)
NEW YORK, NY. 10028

HAVENS
Advisors
600 Lexington Avenue, 29th Floor
New York, NY 10022

January 10, 2005

Harry Szarpanski
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Assistant Commissioner:

I am writing to express my opposition to the conversion and reopening of the East 91st Street Marine Transfer Station. While much of your solid waste management plan is worthy of support, opening an MTS at East 91 Street is an environmentally and fiscally unsound proposal.

Of the four MTS sites chosen, only this one is situated in a densely populated residential neighborhood where people live, work, play and go to school. It spans the Upper East Side and East Harlem and comprises families with children, older adults and a significant community of African-American, Spanish-speaking and Asian residents. I understand that Mayor Bloomberg would like to make a statement to the outer boroughs by placing the station next to Gracie Mansion. As he doesn't appear to live there, this is a completely empty gesture.

The station is located directly behind Asphalt Green, one of the city's most widely used recreational facilities. Asphalt Green serves 42,000 New Yorkers a year, most of whom are children and 1,500 of whom are public school students who learn to swim free of charge. Asphalt Green is built on parkland owned by the city and includes the only outdoor playing field between 96th Street and the Manhattan Bridge.

Operation of the station, and the inevitable queuing of collection trucks along streets lined with residential buildings, will create the very risks to the health and safety of our children, older adults and disabled that have been complained about, with apparent justification, by other communities. Thoughtful policymakers would surely conclude that the health of a child in one neighborhood is no more or less important than the health of a child in another.

Access to the station would be at an intersection already congested by two city bus lines, motorists, school buses and delivery trucks. A station here will further endanger the many pedestrians who walk the streets to and from their homes, schools, parks and workplaces.

Expanding recycling, exploring other technologies, and using barge and rail transportation where appropriate are ideas we can all support. Placing an MTS where it will be environmentally destructive to its surroundings is not. I ask that you reconsider including the East 91st Street Marine Transfer Station in the city's plan and direct the Department of Sanitation to devise a more cost-effective, less harmful solution.

Sincerely,

Nancy Havens-Hasty
President

Telephone (212) 355-1956 - cking@havenspartners.com - Facsimile (212) 355-0599

Nancy Havens-Hasty
Two Montague Terrace, 9th Floor
Brooklyn, NY 11201

January 12, 2005

Harry Szarpanski
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Sincerely,

Nancy Havens-Hasty
President

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Lila Heilbrunn
Signature

LILA HEILBRUNN
Printed Name

Address: 60 East End Ave 28C
NY 10028

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: martin & hilla Heilbrunn

Agency/Organization, if applicable: East 79th St. Neighborhood Assoc.

Address: 60 East End Ave. Apt 28A
New York, NY 10028

Email: lrheilbrunn@nyc.rr.com

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: THIS THE WRONG PLACE TO USE FOR GARBAGE RE-ASSIGNMENT – IN THE MIDDLE OF BOTH LOW & HI INCOME AREAS; NEAR HIGHWAY ENTRANCE & EXIT POINTS. IT IS ALSO TOO CLOSE TO THE OPENING ACCESS PT ON 92ND ST & 2ND AV ~~FLAL~~ SUBWAY CONSTRUCTION. IT CLOSER TO THE PARK & ASPHALT PRESENTS HAZARDS TO PEDESTRIANS, ESPECIALLY CHILDREN. A BETTER SOLUTION IS IMPERATIVE.

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

M. HEILBRUNN
Printed Name

Address: 60 EAST END AV APT 28C
NY NY 10028

December 20, 2004

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44 Beaver Street, 12th Floor
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Signature

Rhoda H ELKIES
Printed Name

Address: 522 E 89 St

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Jacqueline Helleis
Signature

JACQUELINE HELLEIS
Printed Name

Address: 525 E 89 ST, 3B, NYC 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Carol S Hoffman
Signature

CAROL S Hoffman
Printed Name

Address: 520 E. 90 St #4A
NYC 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Jack Hoffman
Signature

Printed Name

Address: 520 E. 90th St.

December 20, 2004

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New York City Department of Sanitation
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Thomas Holzheu
Signature

Holzheu
Printed Name

Address: 519 East 86th St. 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Lucia Hoghen
Signature

LUCIA HOLZHEU
Printed Name

Address: 519 E 86th St 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Scott P. Hunze

Printed Name

Address: 519 E. 86th St #5B

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

LINDA Huntington
Printed Name

Address: 59 East 86 St. Apt. 3C NYC. 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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P. M. Ilchas

Printed Name

Address: 75 E E A NYC

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Hannah Ingber
Signature

Hannah Ingber
Printed Name

Address: 1755 York Avenue #28C

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Joan Japha
Signature

JOAN JAPHA
Printed Name

Address: 75 East End Ave. (apt. 18B)
NY, NY 10028

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44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

C.L. JENKINS
Printed Name

Address: 525 E86

December 20, 2004

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New York City Department of Sanitation
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New York, NY 10004

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Douglas S Johnstone
Signature

Douglas S Johnstone
Printed Name

Address: 300 E 93rd

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T. Kahara

Signature

T. KAHARA

Printed Name

Address: 1688 York Ave NYC 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Joan Kallman
Signature

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Printed Name

Address: 55 East End Ave NYC 10028

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Signature

HOWARD KAPLAN

Printed Name

Address: 520 E 90 ST NYC 10128

M. Howard Kaplan
520 East 90th Street, Apt. 4E
New York, N.Y. 10128 E-mail Howjoykap@aol.co

JANUARY 5,2005

Assistant Commissioner Harry Szarpanski
N.Y.C Dept. of Sanitation
44 Beaver Street, 12th Floor
New York, N.Y. 10004

Dear Mr. Szarpanski:

As a 33 year resident of 520 East 90th Street, just across from the M.T.S, I have seen a lovely neighborhood evolve from a semi-slum with gas stations on every corner and junker cars parked on the streets . The M.T.S was just another mess we had to endure. One of the rules in raising a child here, was not to allow the child to play across the street , even after the Asphalt Green was developed, because of the ever present rats.

Today, the rats are gone as are the gas stations. The neighborhood has become densly populated, and home to a great many families. We no longer fear the rats, but we do fear the Department of Sanitation's hair-brained plans for expanding the MTS; plans based upon false premises and a dishonest Scoping Document.

I hope that you and the mayor, come to you senses and leave our neighborhood alone.

Yours truly,

Howard Kaplan

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Joyce Kaplan
Signature

Joyce Kaplan
Printed Name

Address: 620 E 90th St

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44 Beaver Street, 12th Floor
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Laird A. Kaplan

Signature

LAIRD A. KAPLAN

Printed Name

Address: 520 E 90 ST, NEW YORK 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Julie A. Kang
Signature

Julie A. Kang
Printed Name

Address: 1725 York Ave 9D

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Janet A. KASSAR
Printed Name

Address: 200 East End Avenue NY NY 10128

December 20, 2004

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Michal Katcher
Signature

MICHAL KATCHER
Printed Name

Address: 180 East End Ave, #3G, NYC, NY 10128

The Gillen Brewer School
1190 Park Ave., New York, NY 10128
(212) 831-3667

Mr. Harry Szarpanski
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th floor
New York, NY 10004

January 12, 2005

My name is Donna Kennedy, I am the Head of School of The Gillen Brewer School, and I am writing on behalf of the 90 special needs children who will be moving into 410 e. 92nd in September of 2005. Six months ago we contracted to purchase 2 floors of the community facility building presently under construction and connected to what will be a Marriott Hotel going up on the corner of 92nd street and 1st ave.

We have been looking for a permanent home for almost three years. The church we are renting space from offered to renew our lease at double the rent, and since the space cannot accommodate twice the number of children, we knew we would have to relocate. We began our search on the Upper West side and worked our way down through Dewitt Clinton, Chelsea, Tribeca, the Meatpacking District, and the Lower East Side. When the opportunity to acquire a long-term home in this neighborhood arose, we pursued it – why? Because of its location. Access to a clean, walkable neighborhood. Access to nearby athletic facilities and parks. Access to friendly neighborhood merchants and businesses.

You should know who these "special needs" children are.

Our children are 2.7 to 10 years of age. They come to us with learning, developmental, language, and emotional disabilities. Many are medically fragile. A few examples may be helpful: we have children with tuberous sclerosis, cerebral palsy and seizure disorders including epilepsy. We have a child with both cancer in remission and a major heart problem. We have "failure to thrive children" and children with asthma and severe allergies. 30% of our children are on the autistic spectrum and have compromised immune systems.

Where do these children come from? From all over the city – 75% of them DO NOT live in this neighborhood. They come from Riverdale, the Bronx, Harlem, the Upper West Side, Downtown, Long Island City and other neighborhoods in Queens and Brooklyn. They are African American, Hispanic, white, Indian, and Asian. Gillen Brewer is a New York State approved non-public school whose children's educational mandates are determined by the New York

City Board of Education (that is the CPSE and the CSE) and whose tuition is paid for by the state. The city relies on institutions such as ours to meet the needs of the children they cannot serve in the New York City public school system.

I'd like to return for a moment to the "walkability" factor of this neighborhood and what that means to our children. More than 50% of our children are sensory impaired and receive a kind of therapeutic treatment known as Sensory Integration. This means that our children are particularly sensitive to sound, noise, and touch and they react to these stimuli in atypical ways. In the design of our space, we have incorporated sound-proofing materials to reduce ordinary internal noise and thus distractability – our ceilings will be fitted with a special acoustical tile known as "Ecophon"; our classroom, gym, and therapy office walls will be double sheet-rocked. Please don't tell us this will all be for naught as an endless stream of garbage trucks endlessly circle our block.

Part of our program literally requires our children to be out in the neighborhood, interacting with the sights and sounds of a city that is already challenging and overwhelming for them. We teach them street safety; how to read the traffic lights and cross safely. We go into stores and teach them how to interact with sales clerks and manage money. Life Skills is a big part of what we do. If this Transfer Station project is implemented, there is no doubt that this will make a misery of what is supposed to be wonderful aspect of our program.

We are small school that makes a huge impact – we beg you to continue to research a more suitable location for this Transfer Station and allow us to do the job that New York City and New York State so overwhelmingly endorses.

Sincerely yours,

Donna Kennedy
Head of School
The Gillen Brewer School
212-831-3667 ext. 19
donna@gillenbrewer.com

Noel Koeppel
130 East End Ave.
Apt.1B
New York,N.Y.10028
Dec.27,2004

The new SWMP Garbage Planners
Dept. of Sanitation
New York
44 Beaver St.
12 Fl.
New York,N.Y. 10004
To whom it may concern,

The new SWMP NY which creates a garbage processing plant adjacent to the Asphalt Green Playing Field and recreation area park near East 91 St. is a menace.This area is residential, not commercial. The residents,particularly the children,will be adversely affected.The health and life quality of the community will be harmed by foul odors,waste spillage and leakage,rodents, spread of disease,and toxic truck traffic exhaust fumes.
This is not the area for the proposed facility.Please stop this unconscienable plan.There are other solutions for garbage disposal. The medical and environmental harm to humans,especially children, is far more costly than the possible savings of the new SWMP.

Respectfully yours,

Noel Koeppel

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Apt.1B
New York,N.Y.10028
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CC HARRY SZARPANSKI ASST COMMISSIONER
& JOHN DOHERTY COMMISSIONER

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Alice Konorezov
Signature

A. Konorezov
Printed Name

Address: 55 East End Ave
NYC 10028

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Signature

MARSHALL M. KROSSNER

Printed Name

Address: 525 EAST 86th ST NYC 10028

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The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

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DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Paul Kronish
Signature

PAUL KRONISH
Printed Name

Address: 131 E. 86th ST NY 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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Jacqueline I. Kroschwitz
Signature

JACQUELINE I. KROSCHWITZ
Printed Name

Address: 515 E. 85th St, NYC, 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Naomi Kronish

Signature

NAOMI KRONISH

Printed Name

Address: 535 E 86 St 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Craig Lader
Printed Name

Address: 200 East End Ave Apt 17 N

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Melissa Lader
Printed Name

Address: 200 East End Ave Apt#17N, NY NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Kathy Lai
Signature

Kathy Lai
Printed Name

Address: 205 E. 95th St. #27d
NY, NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Carol Lane
Printed Name

Address: 180 EEA #15C

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Mark Lane

Printed Name

Address: 180 East Gracie Avenue NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Address: 180 EEA #15 C

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Suzanne Lawson
Signature

Suzanne Lawson
Printed Name

Address: 360 E 88th St

Jay Lefer, M.D.
525 E.86th St
New York,NY.10028

2 january,2005
To: Harry Szarpanski
Department of Sanitation

During the time the garbarge was on 91st street, it was difficult to drive along York Avenue since there was a stream of garbarge trunks waiting their turn.Speeding drivers would swerve in and out and accidents were many. However, during that terrible time, my son suffered from severe asthma. We have no genes for asthma in the family, nor immunoglobulin, yet the pollution, the dirt and filth coming in microparticles, brought out an allergic diathesis that would not have occurred if the air was better. After the removal of the 91st street station his lungs cleared. I also suffered from wheezing during the highly polluted time,and this cleared after the station was abandoned.Also the rats and roaches streaming into apartment houses necessitated using poisons and insecticide bombs frequently. Why the station is being placed into a residential neighborhood sounds like the Germans using mustard gas against the Americans and English at Ypres during the first world war.It is sadistic to harm the lungs of children and adults. I hope a compromise can be worked out and this irrational proposal going against all public health understanding will be stopped immediately.

Sincerely,

Jay Lefer, M.D.

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

DOROTHY B. LEMON
Printed Name

Address: 24 E 80th St NY NY 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Gerson Lessa

Printed Name

Address: 85 East End Ave #15F
NY NY 10028

180 East End Avenue
Apartment 10B
New York, NY 10128
January 18, 2005

Harry Szarpanski, P.E.
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, New York 10004

Re: Comments on New York City Comprehensive Solid Waste Management Plan Draft Environmental Impact Statement (New SWMP DEIS)

Dear Mr. Szarpanski,

I am enclosing a copy of comments regarding the proposed East 91st Street Converted Marine Transfer Station which I had intended to make at the public hearing on the New SWMP DEIS held on December 20th. Unfortunately, I did not get a chance to speak before the hearing had to end at 9 pm. I would appreciate it if you could please arrange for my statement to be submitted for review and consideration by the Department of Sanitation as part of its preparation of a Final EIS.

Thank you in advance.

Sincerely,

Eve G. Lesser

Eve G. Lesser

Enclosure

CC: Commissioner John J. Doherty

Testimony Prepared for the December 20th, 2004 Public Hearing on the New York City Comprehensive Solid Waste Management Plan Draft Environmental Impact Statement (New SWMP DEIS) for the East 91st Street Community

My name is Eve Lesser and I am here tonight to speak in opposition to the Department of Sanitation's plan to construct a new Marine Transfer Station on East 91st Street. My opposition to this plan is based on my experience running the Environmental Services investment banking franchise at Goldman, Sachs & Co. for over ten years. In this capacity, I worked with all of the major publicly traded municipal solid waste companies in the US as well as many smaller private haulers. Among others, my clients included the two largest garbage companies in the country: Waste Management with annual revenues of over $11 billion and Allied Waste with annual revenues of close to $6 billion.

I am extremely familiar with the solid waste market in the New York metropolitan area, having worked with both companies which are active in the commercial carting business, such as IESI, and with companies which provide disposal capacity for New York City waste, such as American Ref-Fuel. As a result, I am well aware of the many issues involved with trash disposal in the City and am deeply sympathetic to the challenges which the Department of Sanitation faces in this regard. I believe that the DOS's overall plan to change the method of waste transport is an appropriate approach to the long-term disposal problems faced by the city. I do not feel, however, that East 91st Street represents an appropriate location for a major transfer station given that it is in a densely populated residential area and is next to a major recreational facility.

In the course of my work with solid waste companies, I had the opportunity to visit many transfer stations. Thus, I have seen first hand the environmental hazards, such as odor, diesel fumes, windblown trash and vermin that are associated with even the best run facilities, which is why transfer stations do not belong in residential neighborhoods such as the Gracie Point community. Indeed, it is presumably to prevent these hazards from impacting the quality of life for city residents that the Department of Sanitation's own siting laws prohibit the construction of transfer facilities within 400 feet of a park or residence.

It is my professional judgment that no commercial garbage company would choose to build a new transfer station at the proposed East 91st Street site due to both liability and logistical concerns. Two of the most important factors that solid

waste companies take into consideration when seeking to construct new facilities are (1) the character of the neighborhood involved and (2) the nature of the traffic pattern in the immediate area. East 91st Street would clearly be disqualified as a potential site with respect to both of these criteria.

First, no responsible commercial company would attempt today to site a new transfer station in any residential neighborhood. Given the public health hazards associated with trash facilities, such as increased asthma rates, no company would want to take on the liability associated with building a new site in such a densely populated area as Gracie Point where, by definition, large numbers of people will be exposed to these hazards. Nor would any company want the negative publicity and financial liabilities associated with the inevitable accidents that will be caused by having a steady stream of sanitation trucks traveling to a transfer station located in a residential community. Indeed, if a development officer at Waste Management or Allied Waste were seriously to propose building a transfer station right in the middle of a recreational facility that serves thousands of people each year, such as Asphalt Green, he would, at a minimum, be laughed out of the room and, most likely, would be fired. To put it bluntly, no commercial company would want to take the risk of having one of their trucks hit a senior citizen crossing the street to swim at the Aqua Center or colliding with a school bus bringing children to play on the Astroturf. Yet the Department of Sanitation seems to be willing to take these risks with the health and safety of city residents.

Second, no commercial company would choose to build a new transfer station in an area as prone to congestion as the East 91st Street site. One of the most important considerations to any garbage company is how fast and efficiently it can get trucks in and out of a transfer station. Obviously, the faster it can turn a truck around and get it back on the street, the higher their capacity utilization and the greater the company's profit margin. Thus, commercial haulers pay particular attention to the ease with which trucks can access the site of any potential new facility. In all fairness, it is not easy in such a densely built area as Manhattan to find sites without any traffic issues. Yet, as any one who spends five minutes in the area can attest, the corner of York Avenue and East 91st street is already subject to greater than normal congestion due to (1) its location near the 92nd street South and 96th street North entrances to the FDR Drive, (2) the fact that it is just a block from where York Avenue narrows from three lanes to two lanes going North and (3) that it is right where the York Avenue bus routes begin and end so that the new articulated buses block off the entire street at regular intervals as they turn on and off of York. Add to this mix fifteen or more garbage trucks an hour trying to get in and out of a small ramp and the result is likely to be dramatic -- with bus, car and

truck traffic all slowing to a snail's pace. Furthermore, given the equally congested nature of the narrow side streets in the local area, routing the sanitation trucks away from York Avenue will not help matters unless the City is prepared to eliminate all parking on the side streets being used, which would clearly result in a further blow to the quality of life for residents in the neighborhood. Finally, no commercial company would be comfortable building a facility with only one source of access to the street. Just imagine what would happen to traffic if a garbage truck were to breakdown on the proposed facility's sole access ramp at 5:30pm in the middle of the peak evening rush hour! Clearly, the East 91st Street site does not have the type of rapid, easy in, easy out, 24 hour a day access that a commercial company would require before building a new transfer station which will cost $100 million of shareholders' money. Yet the Department of Sanitation is proposing to go ahead and spend taxpayers' money in such a location.

In view of the human health, safety and logistics issues associated with the construction of a new Marine Transfer station at East 91st Street, I do not think that any commercial garbage company would consider the site to be an appropriate location for such a facility. It is incomprehensible to me that a public agency should be more cavalier about the welfare of the City's residents than a for-profit commercial entity. Particularly disturbing to me is my understanding that the DOS did not investigate any alternative sites to use before settling on East 91st Street. Indeed, it seems as if the DOS chose this site simply because it was easy for it to do so -- i.e., the Department already owns the site, it is zoned for manufacturing use and has an existing state permit. To my mind, these facts do not justify constructing the MTS here without first doing the work to see if there might not be a more appropriate site somewhere else in Manhattan -- one which would be less harmful to the health and welfare of so many city residents. While it might turn out that East 91st St. is, in fact, the best of all the alternatives available in Manhattan, for the City to have selected it without first investigating any other potential locations strikes me as being both a violation of the public trust and an example of extremely poor public policy in action.

Therefore, I would urge the Department to reconsider and abandon its plan for the 91st Street Marine Transfer Station.

Eve G. Lesser
180 East End Avenue, #10B
New York, NY 10128

December 21, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski:

I strongly oppose the conclusions of the DEIS, as well as the underlying policy upon which the statement is based.

No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The DEIS is based on a false assumption about its use. The facility will be capable of processing 4,290 tons per day (tpd) of waste (or is it 5,200 tpd??), yet the DEIS only analyzes the environmental impacts of 1700-1800 tpd. This is a complete violation of State Environmental Quality Review Act (SEQRA), which mandates analysis of the reasonable worst case scenario -- which in this case is operation of the facility at its full capacity. As a result, the starting point upon which all other analyses in the DEIS are based is false and unsupportable, and has lead the DOS to underestimate a host of environmental impacts, including, but not limited to, traffic, air quality, neighborhood character, open space, noise, and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS does not describe how the facility will look or what its dimensions will be. Noise barriers will be added to the ramp, but again there is no description of the barriers. Based on other documents prepared by DOS, it appears that the facility will be more than twice the size of the existing facility. Yet, the DEIS concludes that it will cause no visual impacts. Such an unsupported conclusion, without any photosimulation, would not be acceptable if this project was being developed privately. This is one of many examples of the DOS trying to get away with something that a private developer could never do. Why should the DOS be held to a lesser standard?

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

DSNY's promises of likely mitigation are disingenuous, inadequate, impractical and unenforceable for identified impacts.

Sincerely,

Gerson Lesser
85 East End Avenue
NY NY 10028

HAVENS
Advisors
600 Lexington Avenue, 29th Floor
New York, NY 10022

January 7, 2005

Harry Szarpanski
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Council Member:

I am writing to express my opposition to the conversion and reopening of the East 91st Street Marine Transfer Station. While much of your draft solid waste management plan is worthy of support, opening an MTS at East 91 Street is an environmentally and fiscally unsound proposal.

Of the four MTS sites chosen, only this one is situated in a densely populated residential neighborhood where people live, work, play and go to school. It spans the Upper East Side and East Harlem and comprises families with children, older adults and a significant community of African-American, Spanish-speaking and Asian residents.

The cost of the station is estimated at $80 million. Since it involves complete demolition and reconstruction at a complicated site, a cost of $100 million is more likely. When put into service, waste would be trucked from throughout Manhattan, placed on barges, towed back down the East River and across to New Jersey. This is an inefficient route.

Operation of the station, and the inevitable queuing of collection trucks along streets lined with residential buildings, will create the very risks to the health and safety of our children, older adults and disabled that have been complained about, with apparent justification, by other communities. Thoughtful policymakers would surely conclude that the health of a child in one neighborhood is no more or less important than the health of a child in another.

Access to the station would be at an intersection already congested by two city bus lines, motorists, school buses and delivery trucks. A station here will further endanger the many pedestrians who walk the streets to and from their homes, schools, parks and workplaces.

The station is located directly behind Asphalt Green, one of the city's most widely used recreational facilities. Asphalt Green serves 42,000 New Yorkers a year, most of whom are children and 1,500 of whom are public school students who learn to swim free of charge. Asphalt Green is built on parkland owned by the city and includes the only outdoor playing field between 96th Street and the Manhattan Bridge.

Expanding recycling, exploring other technologies, and using barge and rail transportation where appropriate are ideas we can all support. Placing an MTS where it will be environmentally destructive to its surroundings is not. I ask that you reconsider including the East 91st Street Marine Transfer Station in the city's plan and direct the Department of Sanitation to devise a more cost-effective, less harmful solution.

Sincerely,

Calleen King Letaconnoux
Managing Director

Telephone (212) 355-1956 - cking@havenspartners.com - Facsimile (212) 355-0599

ALLEN LEVINE

212 289-4621 PHONE
212 289-4621 FAX
917 838-7867 CELL

11 East 88th Street New York, NY 10128

January 21, 2005

Harry Szarpanski
NYC Department of Sanitation
44 Beaver Street 12th Floor
NY, NY 10004

Re: Marine Transfer Station @ 91 Street and FDR Drive

The new Marine Transfer Station, which has been proposed by the Department of Sanitation and endorsed by Mayor Bloomberg is a bad idea.

The (10) Story Site is surrounded on (3) sides by residential housing and small residential oriented business, restaurants, convenience stores, etc. 13 and ½ Thousand people will witness the flow of (400) fully loaded garbage trucks rumbling down the streets toward the site (6) days a week, day and night. Their Quality of Life will be greatly compromised.

The neighborhood is considered a middle class, to moderate middle class, ethnically integrated neighborhood. Considering that the area is a bus ride (M86) from the Lexington Avenue Subway the neighborhood was affordable to many and offered a quiet, purely residential neighborhood to live and raise families.

If 91st Street is chosen as a building site for a Marine Transfer Station to be built the city will guarantee that this site remains active for (20) years. Once a (10) story Marine Transfer Station is built and (400) Garbage Trucks roll through the streets on a daily basis, people are not going to want to live or dine in this neighborhood. The York Grill, on 89th and York, which offers excellent food and atmosphere, will start loosing customers. Others will follow suit. Space for Rent signs will start appearing. People will not want to buy apartments in this neighborhood to live. The price of housing will start to drop. This will begin the downhill cycle. People who believed and invested in this neighborhood will be financially and spiritually devastated

It is a Mayor's obligation to the people who he works on behalf of to achieve a balance between the quality of their living conditions and its cost. Mayor Bloomberg knows it is financially beneficial to place the Marine Transfer Station at 91st Street. Mayor Bloomberg has opted to ignore the burden, which he is placing upon the people who live around the impending Station, in favor of the financial benefit to the City coffers.

You can maintain harmony and restore confidence to the residence in Gracie Point Community. I am asking you to put on hold the construction of the Marine Transfer Station @ 91 Street & FDR Drive. Please be there for these people and businesses who have built homes and businesses in the Gracie Point Community. They need you.

Sincerely yours,

Allen Levine

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS is based on a false assumption about its use. It is not possible to believe that DSNY intends to use only one third of the capacity it intends to build. Accordingly, the impact statement vastly underestimates a host of environmental impacts, including traffic, air quality, neighborhood character, open space, noise and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

DSNY's promises of likely mitigation are inadequate, impractical and unenforceable for identified impacts.

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Signature

EDWARD LEVY

Printed Name

Address: 530 E 90th St 3J

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Lindy Linder

Agency/Organization, if applicable:

Address: 500 East 77th Street, #1936
New York, NY 10162

Email: LL1212@aol.com

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: I recently attended an open hearing held at the New York Blood Center. I do not believe that you or any of the other representatives of the Department of Sanitation, are either liars or purposely misleading.

HOWEVER I do believe you've been placed in the untenable position of representing a ridiculous proposition! If the world were a perfect place or every promise were always kept, perhaps the presented proposal would be trustworthy. BUT as so many of our public officials suggested, there is truly no way that the City will be satisfied in using half

(Over)

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Signature

Lindy Linder

Printed Name

Address: 500 East 77th #1936
New York, NY 10162

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44 Beaver Street, 12th Floor
New York, NY 10004

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Joseph Litman
Signature

Joseph Litman
Printed Name

Address: 345 W. 88th

December 20, 2004

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44 Beaver Street, 12th Floor
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Signature

F. ARTHUR LIVINGSTON
Printed Name

Address: 180 EAST END AVE NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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M Flannigan MacLachlan
Signature

Marjorie Flannigan MacLachlan
Printed Name

Address: 180 East End Ave NYC 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Louis A. Magnani
Signature

LOUIS A. MAGNANI
Printed Name

Address: 180 EAST END AVE
NY. NY 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Evelyn Malina
Signature

EVELYN MALINA
Printed Name

Address: 1755 YORK AVE, N.Y. 10128

CAROLYN B. MALONEY
14TH DISTRICT, NEW YORK

2331 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-3214
(202) 225-7944

COMMITTEES:
FINANCIAL SERVICES

GOVERNMENT REFORM

JOINT ECONOMIC COMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515–3214

DISTRICT OFFICES:

☐ 1651 THIRD AVENUE
SUITE 311
NEW YORK, NY 10128
(212) 860-0606

☐ 28-11 ASTORIA BOULEVARD
ASTORIA, NY 11102
(718) 932-1804

WEBSITE: www.house.gov/maloney

Testimony of Congresswoman Carolyn B. Maloney
On the Draft Environmental Impact Statement
Concerning the Proposed East 91st Street Marine Transfer Station
December 20, 2004

I am U.S. Representative Carolyn Maloney, and I represent New York's 14th Congressional District, in which the proposed site of the East 91st Street Marine Transfer Station is located. This is the only MTS planned for a heavily residential neighborhood. Not only will the stench foul the air of this community, but it will be located near a park that serves tens of thousands of children from around the city. I hold serious reservations about the Draft Environmental Impact Statement on the proposed East 91st Street Marine Transfer Station, which I believe contains significant flaws that reflect the proposal's heavy deference to political rather than policy concerns.

First, the DEIS clearly does not reflect the realities of operating a Marine Transfer Station in a densely populated residential community, such as the Gracie Square and Yorkville neighborhoods. Specifically, the impact of the proposed site on local air quality, traffic management, pediatric health, neighborhood open space, and public health are examined in cursory detail, if at all. Because the site is located within blocks of Community Board 11, where the rates of asthma and other respiratory ailments are among the very highest of any neighborhood anywhere in the United States, these impacts must be studied extensively before such a massive and seemingly permanent facility is located at this site.

PRINTED ON RECYCLED PAPER

When the original marine transfer station located at this site was first built in 1940, the neighborhood was very different. This was still a manufacturing district. Since that time, the residential population has increased exponentially, manufacturing has ended Asphalt Green became a park. Indeed, under the current Department of Sanitation siting rules, a private transfer station would be not be permitted within 400 feet of a park. It is wrong to set aside those rules to allow a massive public marine transfer station at the East 91st Street location adjacent to the Asphalt Green building and playing fields.

Reopening the MTS at the East 91st Street site is not a question of merely flipping a switch and starting up the previous MTS, or even simply retrofitting it. The City wants to completely demolish the current MTS and create a new facility that would handle more than four times the solid waste that could be managed by the station's current capacity. The Department of Sanitation has given no justification for why this site is suitable for a massive, brand-new Marine Transfer Station. If the City intends to proceed with a new MTS, it should make every concerted effort to examine exhaustively the possibility of erecting such facilities at waterfront sites in non-residential neighborhoods.

This DEIS fails to examine many factors that would have a major impact on the surrounding community. Most significant, the proposed facility will be built to process 4,290 tons of garbage per day. The DEIS, however, only considers the environmental impact of 1700-1800 tons of garbage per day, thereby violating the State Environmental Quality Review Act, which mandates analysis at full capacity. It strains credibility to assume the City will really use less than half of its capacity.

The DEIS also ignores the possible negative impacts on air quality and vehicular traffic caused by the proposed demolition and construction of the current MTS. Similarly, it fails to address specifically how the siting of this massive new facility would affect public usage of the Asphalt Green recreational facilities. To suggest that there would be no effect on activities taking place at Asphalt Green while construction is underway is either disingenuous or naive. In

addition, the DEIS fails to analyze possible odor pollution inflicted by the proposed MTS on recreational facilities and vital open space such as Asphalt Green, Carl Schurz Park and the John Finley Walk on the East River Esplanade, all of which abut the proposed site. The DEIS presents only vague descriptions of the dimensions and appearance of the new MTS and goes so far as to suggest that, although it is projected to be twice the height of its predecessor facility, it will exert no visual impact on the community. The blithe ignorance of these factors lends itself to the conclusion that the DEIS was drafted to fit a preordained conclusion in a manner reminiscent of the trial court in *Alice in Wonderland.*

New York City faces unique problems in dealing with the problems of waste disposal. We live in one of the largest and most highly developed regions of the country. Yet somehow, we have to find a way to dispose of the thousands of tons of waste generated each day by New York's residents, institutions and businesses. Given the current situation, I am glad this Mayor has taken on the task of devising a solid waste management plan for entire the city. But in striving for fairness by having a Marine Transfer Station in each borough he has created a nightmare for this residential community and a result that is distinctly unfair.

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

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DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

James I. Magid
Signature

JAMES I. MAGID
Printed Name

Address: 530 East 86th St, New York NY 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Caryn L Magid
Signature

Caryn L Magid
Printed Name

Address: 530 East 86 St. Apt 10C
10028

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Signature

CAROLINE MARLIN
Printed Name

Address: 535 E. 86 St. NYC 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Signature

Richard Martin

Printed Name

Address: 535 E 86 St NYC

450 East 81st Street #21
New York, New York 10028
January 10, 2005

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street 12th Floor
New York, New York 10004

Dear Commissioner Szarpanski,

RE: 91st Street Marine Transfer Station

I attended the hearings held on June 28 and December 20, 2004 regarding proposed plans to open a marine transfer station immediately adjacent to the Asphalt Green sports and recreation complex.

I oppose the opening of an MTS at that location.

Many people at the two hearings spoke eloquently about the many reasons that the 91st Street MTS should not be opened. I support their comments.

I note with dismay that the studies of the environmental impact of the new MTS analyzed the effects of the facility operating at only one-half of its capacity. Such an analysis is logically inconsistent and intellectually fraudulent.

Transfer stations in the city should not be built in the middle of dense residential areas. It defies zoning standards and common sense that trucks should be continuously driving through, or more likely, waiting in line in the middle of a playing field, swimming pool and gymnasium facility used by thousands of adults and children from the immediate neighborhood and elsewhere in the city.

Please reconsider your planning for the 91st Street MTS. The vitality and health of our community would be damaged severely by that plant.

Sincerely yours,

Deborah M McCandless

Deborah M McCandless

cc: Mayor Michael Bloomberg
The Honorable Gifford Miller

450 East 81st Street #21
New York, New York 10028
January 11, 2005

Mayor Michael R. Bloomberg
City Hall
New York, New York 10007

Re: 91st Street Marine Transfer Station

I have read about, and have attended two public hearings about the proposed marine transfer station to be opened adjacent to the Asphalt Green sports complex.

I strongly oppose a facility at that location.

An MTS at that location would be a disaster to the vitality and health of a densely-populated residential community and a major sports and recreation facility used by thousands of children and adults both from the immediate area and elsewhere in the city.

No MTS in the city should be located in a residential area.

Please reconsider the plans for an MTS at the 91st Street site. It will prevent doing irreversible harm to a neighborhood that has increasingly grown and prospered in the past decade.

Sincerely yours,

Deborah M McCandless

Deborah M McCandless

cc: Honorable Gifford Miller
Assistant Commissioner Harry Szarpansky
Honorable C. Virginia Fields
Honorable Eva S. Moskowitz
Honorable Jonathan Bing
Honorable Alexander "Pete" Grannis

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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K. McGuire

Signature

KEVIN McGUIRE

Printed Name

Address: 10 E.END AVE. / APT. 2B
NY NY 10021

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: KEVIN P. McGUIRE

Agency/Organization, if applicable:

Address: 10 E. END AVE. / APT. 2B
NY, NY 10021

Email:

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: HARRY, DON'T DO IT. TOO MANY KIDS ARE TOO CLOSE TO THE DIESEL FUMES & OTHER EXHAUST PRODUCTS. THE SCOURGE OF ASTHMA IS JUST BEGINNING TO BE DEALT WITH. WHY REVERSE THIS POSITIVE PROCESS?

THERE'S TOO MUCH RESIDENTIAL TOO CLOSE BY, TO BOOT! TRAFFIC CONGESTION, NOISE, SAFETY: HOW MANY MORE QUALITY OF LIFE (& DEATH!) ISSUES DO YOU NEED TO IGNORE, NAY, TRAMPLE ON!!!

GET W/ THE PROGRAM, HARRY: DON'T DO IT.

(Over)

STEPHEN P. McCANDLESS
130 EAST END AVENUE 5-B
NEW YORK, NEW YORK 10028
(212) 737-4002 Fax (212) 717-7465
spmcc110@aol.com

January 10, 2005

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street 12th Floor
New York, New York 10004

Dear Commissioner Szarpanski,

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We oppose the opening of a MTS at that location.

Many people at the two hearings spoke eloquently about the many reasons that the 91st Street MTS should not be opened. We support their comments.

We note with dismay that the studies of the environmental impact of the new MTS analyzed the effects of the facility operating at only one-half of its capacity. Such an analysis is logically inconsistent and intellectually fraudulent.

Transfer stations in the city should not be built in the middle of dense residential areas. It defies zoning standards and common sense that trucks should be continuously driving through, or more likely, waiting in line in the middle of a playing field, swimming pool and gymnasium facility used by thousands of adults and children from the immediate neighborhood and elsewhere in the city.

Please reconsider your planning for the 91st Street MTS. The vitality and health of our community would be damaged severely by that plant.

Sincerely yours,

Carolyn K McCandless
Stephen P. McCandless

cc: Mayor Michael Bloomberg
The Honorable Gifford Miller

CAROLYN K. McCANDLESS
STEPHEN P. McCANDLESS
130 EAST END AVENUE 5-B
NEW YORK, NEW YORK 10028
(212) 737-4002
Fax (212) 717-7465
spmcc110@aol.com

January 11, 2005

Mayor Michael R. Bloomberg
City Hall
New York, New York 10007

Re: Our Opposition to the 91st Street Marine Transfer Station

We have read about, and have attended two public hearings about the proposed marine transfer station to be opened adjacent to the Asphalt Green sports complex.

We strongly oppose a facility at that location.

An MTS at that location would be a disaster to the vitality and health of a densely-populated residential community and a major sports and recreation facility used by thousands of children and adults both from the immediate area and elsewhere in the city.

No MTS in the city should be located in a residential area.

Please reconsider the plans for an MTS at the 91st Street site. It will prevent doing irreversible harm to a neighborhood that has increasingly grown and prospered in the past decade.

Sincerely yours,

Carolyn K McCandless
Stephen P McCandless

cc: Honorable Gifford Miller
Assistant Commissioner Harry Szarpansky
Honorable C. Virginia Fields
Honorable Eva S. Moskowitz
Honorable Jonathan Bing
Honorable Alexander "Pete" Grannis

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS is based on a false assumption about its use. It is not possible to believe that DSNY intends to use only one third of the capacity it intends to build. Accordingly, the impact statement vastly underestimates a host of environmental impacts, including traffic, air quality, neighborhood character, open space, noise and odor.

The DEIS is deficient in its analysis of alternatives It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

DSNY's promises of likely mitigation are inadequate, impractical and unenforceable for identified impacts.

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

C. Mead

Signature

CATHERINE MEAD

Printed Name

Address: 519 E 86th St. 2E

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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519 E 86th St. 2F Robert MEAD

Printed Name

Address: _____

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Signature

Ronny F. Lipitz-Mehlberg

Printed Name

Address: 525 E 86

NY NY 10028

Earth Engineering Center
Columbia University *New York City, N.Y. 10027, U.S.A.*

Comments on NYC's Solid Waste Management Plan
December 20, 2004

Good evening. My name is Benjamin Miller. I am a research associate at Columbia University's Earth Engineering Center and I am providing these comments on behalf of the Center.

There is much in the Solid Waste Management Plan that deserves applause. For example:

- Recycling: The plan to encourage the expansion of the number of plastics types recycled by the Neu Company by offering economic incentives is a good one. To maximize the recycling rate we should be asking citizens to separate *all* plastic, then allowing market conditions to determine when it is cost-effective to recover and market those materials as opposed to leaving them in the residue stream for disposal. As we learned when the recycling of glass and plastics was turned off, it is difficult to train our citzenry to start and stop recycling particular materials; the easiest and best system is to collect for recycling anything that is likely to have the potential for marketability over time and to let market dynamics take over from there. Markets *can't* develop until the materials are first accessible in the recycling stream.

- Composting: The feasibility of the proposal to develop an in-vessel facility for the Hunts Point food market is supported by the city's successful experience with the Rikers Island composting plant. More such facilities are needed in the city, for both public and private source-separated kitchen waste from institutions and restaurants.

- Transfer/transport: The proposed reliance on rail and barge transport will produce major environmental benefits both locally and regionally due to a reduction in truck miles travelled. The proposed dispersion of transfer facilities throughout the city, including the proposed use of the 91st Street MTS for waste generated within nearby areas, will also produce significant reductions in truck miles travelled, relative to current conditions. The use of additional transfer facilities—such as using the 135th Street MTS to load metal, glass, and plastics onto barges for shipment to the Neu plant on the Brooklyn waterfront, as suggested below—would offer further environmental and cost benefits over the course of this long-term plan.

- Control over facilities: The fact that the City will maintain control over the South Brooklyn waterfront property that will be used by the Neu materials recovery facility will help to allow the possibility of market competition after the initial

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e-mail: earth @ columbia.edu - WorldWide Web Home Page: http://www.columbia.edu/cu/earth/

contract term has expired. Such competition is essential if the city is to maintain any control over future pricing. For that reason the maintenance of City control over several of its proposed transfer facilities—the Marine Transfer Stations—should also prove beneficial to the City. But to the extent that the City proposes reliance on private transfer facilities on sites to which it will not have fair-market access at the end of the contract term, it is facing the risk that there will be no effective competition over time, so that winning vendors will have an indefinite virtual monopoly for those waste sheds.

But there are important areas in which the plan at present is inadequate.

The most important of these is that, with the exception of the proposed long-term government-to-government contract for access to the Port Authority's Essex County Waste-to-Energy Facility, it fails to address facilities for disposing of that portion of the city's waste stream that it will not be feasible to handle through prevention, recycling, or composting.

In the absence of any proactive plan to develop or acquire disposal capacity, the city will be forever dependent on the private landfill market. The greatest problem with this is that it will mean a constant escalation of prices, which it will be beyond the city's power to control. A second problem is that, while we will always require access to a certain amount of landfill capacity for wastes that cannot be processed by other means, landfilling will not only be, in the long-run, the most expensive waste disposal alternative, but is also the most damaging to the environment and the most threatening to public health.

Between 1996, when the decision to close Fresh Kills was announced, and the present, landfill prices in the East Coast region most accessible to New York have increased dramatically. They are projected to increase another 60% for the period between 2002 and 2010.[1] The average per-ton contract price that NYC has paid to export its waste to these landfills has increased by a third since we started exporting in FY98, from $52 a ton to $69 in FY04, while the private sector's costs increased 50% by 2003. For next year, the Sanitation Department has accepted four bids to dispose of Manhattan's waste. The highest of these, at $90 a ton, is 73% higher than the city's first contract bid, in 1997. The lowest—at $75 a ton, which is only 44% higher than our first contract 7 years ago—is for the Essex County Incinerator.[2]

In 2002, Pennsylvania imposed a tax of $4 on every ton of waste disposed of in the state. Last year, although it has not yet been adopted, an additional $5/ton fee was proposed. Such levies are one means at states' disposal for restricting the amount of waste they accept from other states. There are other means as well. Landfills in the states of Rhode Island and Delaware are closed to out-of-state waste because these states have taken the prudent step of creating statewide waste-management authorities so that they can control their own waste-disposal destinies. New Hampshire has considered doing the same. South Carolina has instituted regulations that, by capping landfill capacity, impose limits on the amount of waste that can be imported.[3] National legislation to restrict interstate

importing a barrel of oil. Energy recovered from waste-to-energy facilities produces fewer emissions than does energy produced by burning coal or some grades of oil. And because combusting waste avoids the production of the landfill methane that would otherwise be produced, each ton of waste that is burned produces a net *reduction* of greenhouse gases by the equivalent of 1.3 tons of carbon dioxide.[6]

Unlike a landfill, a waste-to-energy facility *could* be developed within New York City. But it needn't be—just as we must procure landfill capacity outside the city limits, we could also develop or procure additional waste-to-energy capacity outside the city, as we are already doing in the case of the Newark facility. Even if it isn't within NYC, it is likely that WTE capacity can be obtained that is significantly closer to NYC, thus offering the potential for a significant decrease in the economic and environmental costs of transporting waste hundreds or thousands of miles to a landfill.

In order to reduce the cost of transporting waste to remote landfills, it is essential that the City contract directly for freight service with the railroads, rather than simply relying on the waste-management companies to act as middlemen. The city's long-term volume will offer the negotiating clout needed to lower prices, while increasing competition for both transfer and landfill bids.

The plan should also include economic incentives for reducing the amount of waste generated. As the experience of thousands of US towns and cities has demonstrated, the most effective way to reduce waste generation is by instituting some form of "pay-as-you-throw" system. Since property owners would receive a reduction in their property taxes equivalent to the amount they now pay for their pro rata share of the city's overall waste-management bill, and instead pay only for disposing of the volume of wastes that they themselves produced, such a system, as Councilman Michael McMahon has pointed out, should more properly be referred to as "*save*-as-you-throw." While implementing this critically important waste-prevention system will require some time, an immediate step that could—and should—be taken is forbidding the collection of grass-clippings and yard waste. This measure alone could reduce the city's waste-disposal budget by millions of dollars a year.

Because of the critical importance of minimizing truck miles travelled over the course of this long-term plan for reducing congestion, emissions, and costs, we should do everything possible to reduce the distance between the end of the collection route and the dump site. Among other things, this means that rather than hauling recyclables all the way from the tip of northern Manhattan to Gansevoort Street, we should take advantage of the excellent existing transfer station at West 135th Street for transferring recyclables. Similarly, in addition to using the 59th Street MTS for commercial waste, we should provide for the transfer of recyclables collected in the adjacent Community Boards.

As for the question of how commercial waste should be drawn to the 59th Street MTS—a proposal that will produce significant benefits from reduced truck miles travelled—the ultimate answer (since flow control would be problematic) is a franchise system for commercial waste collection, under which franchise winners would be required to

transfer waste there. Franchising is the best long-term option for doing this because of the other potential benefits it offers, the most important of which is the possibility of rationalizing private collection routes so that multiple trucks from multiple firms would no longer make stops on the same block, thus significantly reducing truck miles. Franchising would also offer the opportunity for instituting other controls on carting companies (such as requiring the use of clean-fuel vehicles and restricting waste collection and transfer to specified hours), as well as offering a more-formal competitive structure that could reduce the price businesses pay for waste removal. Since establishing a franchise system could take some time, however, in the near-term the City may well find that the benefits of reducing truck miles by attracting commercial waste to West 59th Street may outweigh the cost of providing subsidized transfer and disposal services to private carters.

Another source of savings could come from adjusting the DS's collection system to take advantage of the potential efficiencies offered by different neighborhood conditions. Just as the two-compartment recycling trucks are a source of cost-savings in lower-density areas, the type of semi-automated ("robot-arm") collection systems that are widely used in other localities would allow less-expensive collection in neighborhoods where single-family housing predominates. Such a semi-automated collection system would also make volume-based save-as-you-throw systems easier to implement in these areas.

Thank you for the opportunity to offer these comments on behalf of the Earth Engineering Center. We would be happy to be of assistance to the City in any way that we can as New York moves ahead with efforts to address its pressing waste-management needs.

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[1] Johnson, Kirk, "To City's Burden, Add 11,000 Tons of Daily Trash," *NYT*, 2-28-02

[2] Elizabeth Franklin, NYC Independent Budget Office, telephone interview 12-17-04, and NYC Comptroller (Chris Boyd, author), *No Room to Move: New York's Impending Solid Waste Crisis*, October, 2004.

[3] Ibid., p. 42

[4] Kiser, Jonathan V. L. and Maria Zanes, "The 2004 IWSA Directory of Waste-to-Energy Plants," Integrated Waste Services Association, http://www.wte.org/2004_Directory/IWSA_2004_Directory.html

[5] Kaufman, Scott M., Nora Goldstein, Karsten Millrath, Nickolas J. Themelis, "The State of Garbage in America, *Biocycle*, 1-2004, p. 36.

[6] Themelis, Nickolas J., "An Overview of the Global Waste-to-Energy Industry," *Waste Management World*, July/August 2003, pp. 40-47 (http://www.seas.columbia.edu/earth/papers/global_waste_to_energy.html)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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Elinor Miller

Signature

ELINOR MILLER

Printed Name

Address: 305 E 79 (GL) NY 10021

December 17, 2004

Honorable Michael R. Bloomberg
Mayor
City Hall
New York, New York 10007

Re: East 91st Street Marine Transfer Station

Dear Mayor Bloomberg,

I am writing in response to the attached Department of Sanitation mailing claiming they "want to hear" from me. First, as a New York City resident and taxpayer I question the financial judgment of the Department of Sanitation and of your office for allowing taxpayer dollars to be wasted on such a mailing. As a local resident, I am insulted at the department's use of this public relations flyer that gives the attempt of holding a dialogue with the public. Do you really think graphics, fonts and high quality paper will sufficiently disguise the fact that you wish to open up a large, major refuse station in my neighborhood? And holding a major environmental hearing the week of Christmas when residents juggle schedules full of holiday parties, shopping and vacations doesn't give the appearance of wanting to really hear from the community. This flyer is such a waste of hard-earned taxpayer dollars and trees. If you truly wish to tackle the garbage problem in our city, I suggest you first start within your own Department of Sanitation.

So many of the facts regarding the reopening of this station in this propaganda piece are misstated. The architectural drawing on the back cover fails to identify that the driveway of the station runs through and divides Asphalt Green, a local athletic facility that serves the entire community, as well as 40,000 New York City children. A bus stop directly across the street from the station entrance is missing. Thousands of residents gather at 91st and York to take public transportation via two different express busses downtown, the cross-town local M86 and the M31 which local school children take every morning to attend either elementary school PS 158 further down York Avenue or PS 290. Also missing from the drawing are Carl Schurz Park and Gracie Mansion. Finally, bullet two of the propaganda piece states that the converted East 91st MTS will accept the same amount of waste as in the past. First, residents were told that commercial as well as residential garbage would be processed at this facility, so either the published statement is a lie or there is miscommunication within your agency. And second, if the facility is to accept the same amount of garbage as in the past, why does it need to be torn down and replaced with a facility ten times it's current size?! I cannot believe you would allow for such ineptitude and carelessness from an agency under your command. And this group is guiding your decision to reopen this facility?

I still cannot understand your thinking in wanting to reopen the transfer station. This neighborhood and our park serve as a model for various waterfront communities within New York City that you are currently trying to rehabilitate. Why do you wish to turn our community into a dump? I've actually driven to the transfer stations in both Queens and Brooklyn. There is not a single residential home or apartment building near those facility entrances and both are zoned for commercial use. What will it take, a child getting run over by a sanitation truck while trying to catch a bus or on the way to Asphalt Green for you to question the logic in opening such a high traffic facility in a residential neighborhood and through a recreation center?

I also question your political motives in allowing for this facility to be reopened, yet deciding not to reopen a facility in Harlem that was in a similar residential community. Too risky for your re-election campaign? Remember to tell your aides that you will need to add a qualifier to your statement that "all communities should be responsible for their own garbage." You should know that both my husband and I supported and voted for you in 2001. My husband attended a fundraiser in your honor, I am an educator who supports your education initiatives and changes, my husband is a Jets season ticket holder who supports your west side stadium project. We will not vote for you if you choose to seek re-election in 2005 because of your decision to reopen the 91st Street MTS and will support any candidate who opposes the opening of any transfer station within a residential community.

I do not expect our two votes to change your thinking regarding the reopening of this facility and I doubt your aides will even let this letter get to your desk. But I had to express to you my disappointment in your choice to abandon Asphalt Green, Carl Schurz Park and our community, all of which were built, revitalized and nurtured through the support of past city administrations and residents and will be ruined because of the Bloomberg administration. What a legacy. Are you happy you heard from me?

Sincerely,

Maria Mischel
525 East 89th Street, #2G
New York, New York 10128

cc: John J. Doherty, Commissioner, Department of Sanitation

sanitation

HARRY SZARPANSKI, P.E.
Assistant Commissioner

Bureau of Long Term Export
44 Beaver Street, 12th Floor
New York, New York 10004
Telephone (917) 237-5501
Fax (212) 269-0788

December 22, 2004

Re: New York City Comprehensive Solid Waste Management Plan Draft Environmental Impact Statement (New SWMP DEIS) Public Hearing For the East 91st Street Community

Dear Interested Party:

You may have been among those prospective speakers that attended the Department of Sanitation's December 20th New SWMP DEIS Public Hearing who were unable to speak before the hearing ended. As I indicated in my closing remarks and as stated in the published Notice of DEIS Hearing and Extension of Public Comment Period, an opportunity to comment is available to you through the end of the DEIS public comment period. You are urged to submit mailed or faxed comments directly to me at the address/fax number on the letterhead. Your comments must be received by 5 pm on January 24, 2005.

Please be assured that DSNY will review and consider all comments received during the DEIS public comment period as part of its preparation of a Final EIS, whether those comments are received in writing or were presented orally at the December 20th Public Hearing. Note that all comments received will be given equal consideration. DSNY will review and consider comments on any aspect of the New SWMP, DEIS and State permit applications for the Converted Marine Transfer Stations.

We appreciate your attendance at the December 20th New SWMP DEIS Public Hearing and regret that you were not able to make a statement on the hearing record. We hope that you instead take advantage of the opportunity to submit your comments in writing during the next month, by 5 pm on January 24, 2005.

Sincerely,

Harry Szarpanski

c: Commissioner John J. Doherty
R. Orlin

December 17, 2004

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Mayor
City Hall
New York, New York 10007

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Sincerely,

Maria Mischel
525 East 89th Street, #2G
New York, New York 10128

cc: John J. Doherty, Commissioner, Department of Sanitation

We want to hear from you!

In October 2004, the Department of Sanitation (DSNY) issued a Draft Comprehensive Solid Waste Management Plan, referred to as the "New SWMP." The New SWMP describes how all the waste generated in New York City will be managed over the next twenty years. The New SWMP continues existing programs, but also proposes changes. The way City residential waste will leave the City will change. Now it goes out mostly in transfer trailers, but under the New SWMP most waste would exit by barge or rail. Where recyclables will be processed and how the City's commercial waste will be managed is also slated to change. These changes are referred to as the "Proposed Action." Key elements of the Proposed Action are to:

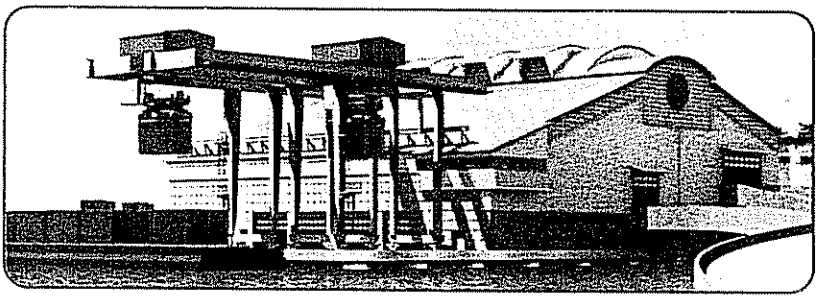
- Require the City's recycling processor to build a recycling processing facility in the City and to receive most recyclables by barge.
- Build, on existing Marine Transfer Station sites, four new Marine Transfer Stations at which waste would be loaded into containers and placed onto deck barges (Converted MTSs). The Hamilton Avenue and Southwest Brooklyn Converted MTSs in Brooklyn, the North Shore Converted MTS in Queens, and the **East 91st Street Converted MTS** in Manhattan would handle the community district waste they accepted in the past.
- Enter into as many as five contracts with private transfer stations for barge or rail export of the City residential waste formerly handled by the South Bronx MTS or the Greenpoint MTS.
- Provide a site (the existing 59th Street MTS in Manhattan) for barge export of commercial waste (putrescible waste from City businesses, not fill or construction and demolition debris).
- Encourage the export of City commercial waste (putrescible only) by barge from the four Converted MTSs.

The East 91st Street Converted MTS, located in Manhattan Community District 8, is proposed in the New SWMP to be a City-owned facility, built on the site of the demolished existing MTS. The Converted MTS would accept the residential waste generated in Manhattan Community Districts 5, 6, 8 and 11, as in the past, containerize it and send it out by barge.

A Draft Environmental Impact Statement (DEIS) was issued along with the New SWMP. The DEIS evaluates and discloses the environmental consequences of the Proposed Action.

You are invited to review the DEIS and the New SWMP and to provide comments. DSNY will hold a total of eight public hearings on the DEIS. The public hearings will be held in the communities of the four proposed Converted MTSs, the five private transfer station alternative sites, and in Staten Island.

Land Side View



The DEIS Public Hearing for the East 91st Street Converted MTS community is scheduled as follows:

Monday, December 20th, at 5:30 pm
New York Blood Center (Auditorium)
310 E. 67th Street (between 1st and 2nd Avenues)
New York, NY

Copies of the DEIS, the New SWMP and other project materials will be available for review at the public hearing. This information is also on DSNY's web site at **www.nyc.gov/sanitation**, and in your community at:

96th Street Regional Public Library
112 East 96th Street, New York, NY
Hours: Mon. and Thurs. 12-8pm; Tues. and Fri. 1-6pm; Wed. 10-4pm; Sat. 10-5
(212) 289-0908

Community Board 8 Office
505 Park Avenue, New York, NY
Hours: call (212) 758-4340

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

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Signature

Maury Mistel
Printed Name

Address: 525 E 89th St Apt 26

December 20, 2004

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44 Beaver Street, 12th Floor
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S Morgulas
Signature

S. Morgulas
Printed Name

Address: 207 E. 74th St, NY 10021

GEORGE MORIN

1725 York Avenue, Suite 5G, New York, New York 10128-7808
H: 212 831-0221 C: 917 991-7055 Fax: 212 831-5530
E-mail: GMorin@aol com

January 4, 2005

Mr. Harry Szarpanski
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th floor
New York, NY 10004

Dear Mr. Szarpanski:

I'm attaching a copy of my letter to Mayor Bloomberg expressing my opposition to the proposed reopening of the 91st Street Marine Transfer Station.

In my letter I point out that the mayor's plan is not just a bad idea for the Yorkville residents who will be directly impacted, but a bad idea for the city as a whole. The mayor's plan is only a band-aid where state-of-art intensive care is required. New York's garbage problem has been served by half measures for far too long. Today we need vision and leadership to put forth a solution worthy of the world's greatest city.

I know you are strongly in favor to the mayor's plan so I urge you to take a second look. Remember the city's misbegotten plans of the past: the NYC garbage barge chugging up and down the East Coast looking for someone to take our garbage; the Fresh Kills landfill that nearly suffocated half the residents of Staten Island with its stench; and the lines of Department of Sanitation trucks waiting on neighborhood streets to enter riverfront transfer stations all over the city.

You and the mayor can, and must, do better.

Sincerely yours,

1725 York Avenue, #5G
New York, NY 10128
January 4, 2005

Honorable Michael R. Bloomberg
Mayor
City Hall
New York, NY 10007

Dear Mayor Bloomberg:

New York City has had a garbage crisis for more than 20 years. And in all that time, no politician has done anything good about it.

Your current proposal is no exception.

Instead of developing a plan to really solve the city's garbage crisis, you're putting it off for another 20 years. Or at least that's your plan's optimistic prediction. More likely, you're just putting it off for the next mayor to solve.

What New York City needs is a world-class, state-of-the-art processing and recycling system that will be a model for the world.

Instead, you're proposing a series of Marine Transfer Stations in the five boroughs that will pack the putrescible, i.e., stinky, garbage into containers and send it by barge, rail and long-haul trucks to – where?

Well, for the time being to landfills in New Jersey, Pennsylvania and Virginia, but no one knows how long those sites will be willing or able to receive the lovely stuff.

Much has been written about this aspect of your plan, most notably by the City Comptroller, William Thompson in a 27-page white paper entitled "No Room to Move. New York City's Impending Solid Waste Crisis."
http://www.comptroller.nyc.gov/press/2004_releases/pr04-10-059.shtm

But despite it all, you're charging forth with your mishmash of Sanitation Department trucks, transfer stations, barges and long-haul trailer trucks.

One of your more insane ideas is to rebuild Yorkville's old 91st Street Marine Transfer Station on the East River. The really certifiably insane part comes from the access ramp to the station at York Avenue and 91st Street. The ramp cuts through the Asphalt Green park and recreation complex. With a toddler's playground on one side and a large playing field used by kids and adults from all over the city on the other, the stinky loads will queue up day and night for, according to your plan, the next 20 years.

Of course the neighborhood is up in arms as well as every elected official within earshot of the project, most notably City Council Speaker Gifford Miller, New York State Senator Liz Krueger, State Assembly Members Pete Grannis and Jonathan Bing, Manhattan Borough President Virginia Fields and Council Member Eva Moskowitz.

But you stand staunchly against us, waving our protests aside claiming that it's the expected "not in my backyard" mentality. In response, we scream back, "Not in anyone's backyard." How can any responsible person put such a burden in any residential neighborhood? Even when three other Manhattan sites were up for consideration, Yorkville residents and elected officials made it clear we were against any plan that encroached on residential neighborhoods.

So, what's the alternative? Well, there's that railroad yard over on the West Side that you seem determined to redevelop. Sort of a "redevelop the West Side and undevelop the East Side" bent.

Your proposal to put up a new football stadium for the Jets while tackling one of the city's really major problems with a patchwork-quilt of bad ideas could – and should – become your political epitaph.

So while the reopening of the 91st Street Marine Transfer Station seems like a local problem affecting only one Manhattan neighborhood, in fact it's a key part of an unsatisfactory attempt to solve an enormous city problem – a problem that will only get worse unless it's tackled on a scale equal to it.

Sincerely yours,

George Morin

cc: The New York Times
Harry Szarpanski, Assistant Commissioner,
NYC Department of Sanitation

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Marlene Muskin

Signature

MARLENE MUSKIN

Printed Name

Address: 200 EAST END AVE
NY NY 10128

December 20, 2004

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Signature

Katherine Nea
Printed Name

Address: 136 E. 81st, NY NY 10016

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New York City Department of Sanitation
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Leon Negrin
Signature

Leon Negrin
Printed Name

Address: 523 East 84th street Apt. 3B
N.Y., N.Y. 10028

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Henry Nowak
Signature

HENRY NOWAK
Printed Name

Address: 240 E 76 street apt R
10021

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Peter Ongkeva

Printed Name

Address: 447 E. 87th, #3W, NY, NY 10128

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Philip Opher
Signature

PHILIP OPHER
Printed Name

Address: 1725 YORK AV. NY 10128

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Jenny Osman
Signature

Jenny Osman
Printed Name

Address: 360 E 88th st #8F 10128

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Jane Owen

Signature

Jane Owen

Printed Name

Address: 530 East 84th St.
Apt. 2-S
NY NY 10028

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Randy Owen
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Printed Name

Address: 520 East 86th St. Apt. 2S
New York NY 10028

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Joseph Grampato
Printed Name

Address: 515 E 89th ST NYC 10128

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Terri Passick

Printed Name

Address: 530 E 90th St #3F

NYC 10128

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DAVID J. PANZICA
Printed Name

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NY, NY 10128

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Emily Pazzaglia
Signature

Emily Pazzaglia
Printed Name

Address: 1725 York 32F NY 10128

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Printed Name

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Wendy Perchick
Signature

WENDY PERCHICK
Printed Name

Address: 520 E 90 ST 5B

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No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS is based on a false assumption about its use. It is not possible to believe that DSNY intends to use only one third of the capacity it intends to build. Accordingly, the impact statement vastly underestimates a host of environmental impacts, including traffic, air quality, neighborhood character, open space, noise and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

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DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Signature

DANIEL PEREZ
Printed Name

Address: 128 W. 116 St. N.Y. 10026

December 21, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski:

I strongly oppose the conclusions of the DEIS, as well as the underlying policy upon which the statement is based.

No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The DEIS is based on a false assumption about its use. The facility will be capable of processing 4,290 tons per day (tpd) of waste (or is it 5,200 tpd??), yet the DEIS only analyzes the environmental impacts of 1700-1800 tpd. This is a complete violation of State Environmental Quality Review Act (SEQRA), which mandates analysis of the reasonable worst case scenario -- which in this case is operation of the facility at its full capacity. As a result, the starting point upon which all other analyses in the DEIS are based is false and unsupportable, and has lead the DOS to underestimate a host of environmental impacts, including, but not limited to, traffic, air quality, neighborhood character, open space, noise, and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS does not describe how the facility will look or what its dimensions will be. Noise barriers will be added to the ramp, but again there is no description of the barriers. Based on other documents prepared by DOS, it appears that the facility will be more than twice the size of the existing facility. Yet, the DEIS concludes that it will cause no visual impacts. Such an unsupported conclusion, without any photosimulation, would not be acceptable if this project was being developed privately. This is one of many examples of the DOS trying to get away with something that a private developer could never do. Why should the DOS be held to a lesser standard?

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

DSNY's promises of likely mitigation are disingenuous, inadequate, impractical and unenforceable for identified impacts.

Sincerely,

Debbie Peters
85 East End Avenue, #15F
NY NY 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Debbie Peters
Printed Name

Address: 85 East End avenue #15E
NY NY 10028

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Signature

JOHN PHILLIPS

Printed Name

Address: 1725 YORK AVE 11C
NYC 10128

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New York, NY 10004

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Signature

Jennifer Pitman

Printed Name

Address: 530 E 90th St NY 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Monica R. Pliniack

Signature

MONICA PLINIACK

Printed Name

Address: 345 E 86 TH -6B

NYC 10028

MONICA PLIMACK
345 East 86th Street - 6B
New York, New York 10028

December 29, 2004

Mr. Harry Szarpanski
Department of Sanitation
44 Beaver Street – 12th Fl.
New York, New York 10004

Dear Mr. Szarpanski:

It was with great interest that I attended the public meeting last week to listen to the draft for the new solid waste terminal at 91st Street. I sincerely hope that the comments you heard will be noticed by you and taken into serious consideration. The draft as written leaves one wondering whether the author has visited the area, had his eyes open or if he/she looked around at all.

I wonder whether a deeper concern to the environment would have been taken if instead of humans residing in this area, a few red hawks or peregrine falcons would be the adorable residents. Perhaps we could borrow the pair living on Fifth Avenue, both of which, do circle this neighborhood!

Sincerely yours,

Monica Plimack

Monica Plimack

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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MJ Dugley
Signature

MJ DUGLEY
Printed Name

Address: 100 EAST END AVE
THE CHAPIN SCHOOL
NY NY 10028

DSNY needs copy

Comments on the Draft Environmental Impact Statement for the New York City Solid Waste Management Plan

Prepared by Andrew D. Racine, M.D., Ph.D.
December 20, 2004

Good evening Mr. Szarpanski and members of the commission. Let me thank you for the opportunity to add my comments to those offered by other members of the public regarding the Draft Environmental Impact Statement concerning the proposed reopening of the East 91st Street converted Marine Transfer Station.

I have come here this evening in two capacities. As a resident of the neighborhood directly affected by the proposed reopening I have a clear interest in the outcome of the city's deliberations in this regard. But I am not hear to comment on the broad impact that such a project will have on the majority of residents of the surrounding area. I have come to comment specifically on the impact that the reopening will have on a vulnerable segment of this population: the infants, children, and adolescents of the community and specifically their pulmonary health.

I am a Professor of Clinical Pediatrics at the Albert Einstein College of Medicine and the Director of the Section in General Pediatrics at the Children's Hospital at Montefiore. In my capacity as a faculty member of a distinguished medical school and a practicing pediatrician at what we like to refer to as the best children's hospital between New York and Boston, I have had the privilege of working with some of the poorest children and families in the United States for many years and have come to appreciate the strength and resilience of these children as well as the particular challenges faced by many of them. As is well known children from the Bronx suffer disproportionate rates of morbidity from a variety of causes including respiratory diseases. Many of the lessons I have learned practicing in the Bronx regarding the relationship of ambient air quality to the rates of respiratory disease in children have direct bearing on the project being proposed for east 91st street. Indeed it is the experience I have gained in working with the families who come to my practice that has led me to comment on the reopening initiative under consideration by the city.

I also serve as the Chair of the Youth Advocacy Committee of the American Academy of Pediatrics for Chapter 3 that encompasses the areas in New York City of the Bronx, Manhattan and Staten Island. As you may know the American Academy of Pediatrics is a national organization representing over 60,000 child care specialists and 34,000 board certified pediatricians, whose mission is to attain optimal physical, mental and social health and well-being for all infants, children, adolescents and young adults. An important part of this mission is accepting the responsibility on the part of pediatricians to actively advocate for their patients and families in the exam room, at the institutions where they work, in their communities, and in local, state and national legislatures. We in the American Academy take this aspect of our responsibilities very seriously.

I have read in some detail the draft EIS issued by the Department of Sanitation and while I have concerns regarding many aspects of the document, I will confine my remarks this evening to my own particular area of expertise: that of children's health, and in particular the likely impact of air quality that the proposed

reopening of the 91st street MTS is bound to produce. I commend the authors of the EIS on having authored a substantive review of some of the literature regarding the affect of airborne toxicants on pediatric pulmonary health. Chapter 33, Section 6 in particular reviews many of the empirical studies that summarize these effects. The difficulty is that the EIS as a whole does not adequately take into account the implications of the studies it has reviewed.

I would begin by summarizing the problem as stated in the EIS itself. The community adjacent to the 91st street MTS is a highly residential area of the city. As described in the beginning of Chapter 6:

> *... the site is surrounded primarily by parks and recreational areas, transportation infrastructure and dense residential developments.* [1]

The specific census tracts adjacent to the proposed site (tracts 152 and 144.02) contain a population some 16% of which is under the age of 20. Of the families in the area fully 42% have children under the age of 18. Within the primary and secondary study areas that will be affected by the reopening there are 7 day care centers and 13 schools. Eleven parks and open spaces are in the immediate vicinity of the proposed site including Asphalt Green and Carl Schurz Park as well as the George Washington Houses playground and the Stanley Isaacs Park.[2] All of these features mean that significant numbers of children from the neighborhood and beyond, since many of these facilities attract children from distant areas in the city, will be directly exposed to the environmental impact of the station itself and the diesel traffic that will accompany its operation.

This brings me to the heart of my remarks. Trucks bearing solid wastes to this site are scheduled to traverse the neighborhood 24 hours a day six days a week discharging a variety of airborne toxicants into the air. The Environmental Protection Agency has established National Ambient Air Quality Standards (NAAQS) for six major air pollutants including carbon monoxide, nitrogen dioxide, ozone and particulate matter less than 10 microns in size, PM_{10}, and those less than 2.5 microns, $PM_{2.5}$, that have a specific predilection for depositing themselves deep into lung tissue. In addition to these chemicals, diesel powered vehicles emit a collection of what are termed non-criteria toxic pollutants some of which are known carcinogens. benzene, 1,3 butadiene, acetaldehyde and others.

These emissions from diesel powered vehicles are known to be particularly noxious to the lungs. The U.S. Environmental Protection Agency states on its website that,

> *..[the] EPA has concluded that diesel exhaust ranks with the other substances that the national-scale assessment suggests pose the greatest relative risk. First, a large number of human epidemiology studies show increased lung cancer associated with diesel exhaust. Furthermore,*

exposures in these epidemiology studies are in the same range as ambient exposures throughout the United States. In addition to the potential for lung cancer risk, there is a significant potential for non-cancer health effects as well, based on the contribution of diesel particulate matter to ambient levels of fine particles. Exposure to fine particles contributes to harmful respiratory and cardiovascular effects, and to premature mortality.[3]

Now as it happens, children are particularly vulnerable to the effects of these pollutants. I will be submitting with this statement an article that appears in the December issue of *Pediatrics*, the premiere clinical journal devoted to children's health published in the United States. In the current issue, the Committee on Environmental Health of the American Academy of Pediatrics has issued a Policy Statement entitled, "Ambient Air Pollution: Health Hazards to Children,"[4] that nicely summarizes the specific issues confronted by children with respect to many of the pollutants under question in the operation of diesel vehicles. Children, as you may have noticed, live closer to the ground than adults where many airborne elements tend to be more densely concentrated. As a direct result, the ambient air receptors used in the DEIS analysis that are located 1.8 meters above the ground probably underestimate the exposure experienced by infants in strollers, toddlers and school aged children. In addition, infants and children have higher minute ventilation which means that they breathe faster than grown-ups do and therefore take in greater concentrations of pollutants for their size than do older individuals. They tend to have higher levels of physical activity and spend more time out of doors. In this respect, the concentration of parks and outdoor play areas directly adjacent to the proposed site poses a particular set of hazards for children. Finally, children are developing organisms who continue to grow new alveoli or air sacs in their lungs for up to 10 years after birth. Thus the effects of air pollution on developing lungs are likely to have permanent irremediable consequences that persist throughout adulthood.

Chapter 6 of the DEIS, the specific chapter that deals with the 91st street station runs 154 pages. In it you can find discussions of socio-economic conditions of the neighborhood, cultural resources, urban design, water quality, natural resources, traffic, air quality, odor and noise. Seven pages alone are devoted to aspects of the ecosystem including potential effects on finfish larvae, polychaete worms, and peregrine falcons. What you will not find in these 154 pages, however, is a single mention of the physiologic vulnerabilities of children with respect to adverse air quality or the importance of this issue with respect to the 91st street MTS. This omission is shameful.

The DEIS as it is currently written does not adequately address the concerns of pediatric health. There are two reasons for this omission. First, it appears that the authors of the document are not convinced of the direct causal relationship between exposure to diesel exhaust and deteriorations in children's lung

functions. While the chapter devoted to summarizing the current epidemiologic evidence on this association rightly concludes that:

> *Overall, most studies of traffic and children's respiratory health find some associations between traffic characteristics (such as distance to roads, traffic volumes or truck traffic volumes) and respiratory morbidity measures (such as allergic rhinitis, wheezing or cough), although results can vary a good deal from study to study.*[5]

the same chapter goes on to lament the cross-sectional design of most of the reviewed studies concluding that causal relationships are impossible to derive from these design inadequacies.

In this regard I am submitting with this statement a recent article from the *New England Journal of Medicine* pertinent to this very question. Dr. W. J. Gauderman and his colleagues from the U.C.L.A. Department of Preventive Medicine report in this article their findings from an 8 year prospective study of over 1,700 school aged children in California.[6] These children had annual measurements of their lung function conducted and correlated with the ambient exposures to ozone, acid vapor, nitrogen dioxide and particulate matter. The authors found significant deficits in lung function growth associated with exposure to nitrogen dioxide, acid vapor and $PM_{2.5}$ that were robust to the inclusion of several potential confounders and effect modifiers. They concluded that current levels of air pollution have chronic, adverse effects on lung development in children from 10 to 18 years of age. It should be noted that average annual PM_{10} concentration estimated for the 91st Street site and its adjacent intersections of 37 $\mu g/m^3$ is well within the range of concentrations studied in this article. Based on the findings of this investigation, there is a significant likelihood that adoption of the current proposal will result in the permanent stunting of lung development among children in the adjacent neighborhood.

The second important misapprehension of the authors of the DEIS regards the use of thresholds to measure the impact on air quality. To begin with the NAAQS used in the DEIS are likely to be inappropriate for children, for reasons I mentioned previously. Indeed when commenting on the current EPA standards for particulate emissions from diesel vehicles, the previously cited Policy statement from the American Academy of Pediatrics asserts that:

> *...recent studies suggest that even the current federal standards for $PM_{2.5}$ (24-hour standard = 65 $\mu g/m^3$; annual standard 15 $\mu g/m^3$) and PM_{10} (24-hour standard = 150 $\mu g/m^3$; annual standard 50 $\mu g/m^3$) should be lowered to protect public health. In 2002, California adopted more stringent standards for particulate matter: the annual average standard for $PM_{2.5}$ is 12 $\mu g/m^3$ and for PM_{10} is 20 $\mu g/m^3$.*[7]

But beyond the issue of whether or not the DEIS is using the appropriate thresholds, the very reliance on thresholds is itself an inadequate method for capturing the effect of air quality deterioration on the public health. The Gauderman study just cited clearly indicates a linear rather than a threshold effect of exposure to air pollution. This feature of the study's findings is highlighted in an accompanying editorial[8] by C. Arden Pope III who notes that:

> *...in the Children's Health Study, the exposure – response relationships appear to be nearly linear, without discernible safe thresholds.*

This is an extremely important point to bear in mind. Whether or not the proposed 91st street MTS opening meets or exceeds adult level thresholds used by the EPA, the operation of this facility will without question place thousands of children for years to come at increased risk of permanent lung damage the effects of which will follow them into adulthood.

None of these effects are addressed in the current draft of the EIS. One is left with the inescapable conclusion that this draft EIS is a deeply flawed document that must not be used as a basis for deciding upon the proposed reopening of the 91st street MTS. The pulmonary health of the children of this or any other neighborhood of New York City must not be sacrificed on the alter of political expediency.

I thank you for your attention.

---

[1] New York City Department of Sanitation. "Draft Environmental Impact Statement for the New York City Comprehensive Solid Waste Management Plan." CEQR No. 03-DOS-004Y October, 2004.
[2] Ibid. Ch. 6.
[3] http://www.epa.gov/ttn/atw/nata/perspect.html
[4] American Academy of Pediatrics Committee on Environmental Health. "Ambient Air Pollution: Health Hazards to Children." *Pediatrics* 2004; 114:1699-1707.
[5] Op.cit. Chapter 33, Section 6.
[6] Gauderman WJ, Avol E, Gilliland F, Vora H, Thomas D, Berhane K. et al. "The effect of air pollution on lung development from 10 to 18 years of age." *New England Journal of Medicine* 2004; 351:1057-67.
[7] Op.cit. p. 1701.
[8] Pope C.A. "Air pollution and health – good news and bad." *New England Journal of Medicine*. 2004; 351: 11132-4.

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

CAROL RATNER
Printed Name

Address: 60 EAST END AVE NY 10028

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Signature

Jennifer Ratner
Printed Name

Address: 525 E. 86th St. /#8A
NY, NY 10028

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Judith P. Rich
Signature

Judith P. Rich
Printed Name

Address: 535 E 86 St
NY NY 10028

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Sandra Richner

Signature

SANDRA RICHNER

Printed Name

Address: 520 EAST 90th St.

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Leroy E. Rodman
Signature

Leroy E. Rodman
Printed Name

Address: 535 E. 86 St. NYC 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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Signature

Jonathan Rodriguez
Printed Name

Address: 2318 Gleason Ave.
Bronx, Ny 10462.

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: DANIEL ROSE

Agency/Organization, if applicable:

Address: 525 E. 89th ST Apt. 3G
New York NY 10128

Email: drose@kreindler.com

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: Mr. Szapanski,

The ~~idea~~ notion of justifying this ~~idea~~ plan to RE-OPEN the transfer station through a "study" ~~is~~ would be laughable were the consequences not so severe.

We don't need a "study" to know the adverse impact of this plan, we had the real life experience upto '99. That experience was so negative it established the need to CLOSE ~~close~~ the xfer station. The "study" does not and cannot ~~change~~ change this reality.

I ask you to find a true, city-wide fix to our garbage problem, -- DOT CREATE ANOTHER PROBLEM THROUGH THIS BANDAID.

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Annette Roth
Signature

Annette Roth
Printed Name

Address: 1725 York Ave Apt 14E N.Y. NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

CAROLYN ROTH

Printed Name

Address: 55 EEA 91ST NY NY 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Ernie Roth
Printed Name

Address: 55 East End Ave. 14K NYC 10028

Public Hearing on the Draft Environmental Impact Statement (DEIS)
For the Re-opening of the Marine Transfer Station at East 91 Street
Monday December 20 2004, at NY Blood Center Auditorium

Comments by Seymour M. Roth, Civil Engineer

To start with, I would like to thank the City and the DOS for showing their true colors in encouraging a counterdemonstration at our community's recent rally at Asphalt Green's playfield which opposed the re- opening of the adjacent Marine Transfer Station. There is nothing like your good will and concern for our neighborhood...

1) **When will the DOS stop the devious subterfuge in the licensing process of this facility?**
We are being asked to consider the environmental impacts for a re-opening of the 91 Street site for a single daytime shift operation, whereas the DOS is really is planning the near future use of the proposed MTS for three shift night and day operation involving handling of commercial wastes. Is this the old bait and switch game?

2) **Consideration of alternative sites and processes**
Up to now, he DOS has made absolutely no serious effort in investigating other sites, processes or technologies all of which are requirements for the DEIS.
They simply have been ignoring us. Tell us where the ultimate disposal site for the barged solid waste is located. Tell us what the unloading facility costs will be and the final disposal costs. Lets see some real effort and transparency in these areas.

3) **Whose property are you proposing to use for the siting of the proposed MTS?**
The proposed facility's footprint extends beyond the currently existing property line of the City's lot. Whose property are you planning to grab, and what are the environmental impacts of occupying navigable waters?

4) **Objectionable Noises**
The proposed MTS will be major source of noise in the community:
- We can count on significant noise from collection vehicles entering the proposed MTS from adjacent congested streets. We can count on high levels of truck noise when negotiating the steep access ramps entering and leaving the MTS.
- We can count on significant noise emanating from the large open entry doorways of the proposed MTS
- We can count on significant noise emanating from the open loading deck during transfer operations of containers entering and leaving the proposed MTS. Empty containers are especially noisy boom boxes when making contact with other solid objects.
- High noise levels will be generated by heavy front end loaders and bucket excavators used for moving compacting loose solid waste into containers. The anticipated noise levels will constitute a significant heath hazard to all personnel on the loading floor and to the adjacent community. The noise from the loading floor will well out through large open doorways that cannot be conveniently opened and closed for each collecting truck that enters and leaves the proposed MTS.

5) **Objectionable Odors.**
A large tonnage of putrefying solid waste has to be surge piled on the loading floor of the proposed MTS in order to meet needed throughput capacity goals. Large volumes of malodorous gases released by the putrefying solid waste will be mixed with other large volumes of diesel engine exhaust gases to produce a potent and noxious atmosphere on the loading floor. This mix constitutes a significant health hazard to all staff working on the loading floor, and if exhausted will impact the health of adjacent residents, especially the younger children. We demand that all health impacting noxious gases be fully eliminated or neutralized before being exhausted from the MTS. We also demand that community representatives be fully involved in vetting the adequacy of remediation process proposed.

6) **Rat and Vermin Infestation**
The proposed stockpiling of solid wastes on the Loading Floor of the proposed MTS will be an irresistible invitation to rats and vermin to re-establish them selves in the MTS itself and in the neighboring Asphalt Green playing field area. Spreading poisons in this area would constitute a serious health hazard to all users, especially to the children and adolescents who are the primary users of this area.

7) **Questionable Design and Operating Details of the Proposed MTS**

In my opinion the proposed MTS design appears to be lacking in durability and reliability in the containerization process. The proposed containers are easily damaged, the lidding operation is dangerous to the work crew and the wheeled transfer platforms are susceptible to malfunction. Any operations that must be performed on the open deck during rain, snow or icing conditions are subject to service interruptions and/or higher risk of injury to the operating staff,

8) **Environmental Justice Issues**
It may be of interest for counter-demonstrators to note that our community has a substantial minority population residing in the Stanley Isaacs housing project that is located within a quarter mile radius of the proposed MTS site.

9) **Control of Incoming Illegal Solid Wastes & Security Issues.**
Good luck on that one

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Sheldon Rothenberg
Signature

Sheldon ROTHENBERG
Printed Name

Address: 535 E 80th ST NEW YORK 10026

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

S H Rubenfeld

Printed Name

Address: 172C York Ave 10128

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44 Beaver Street, 12th Floor
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Signature

STEPHANIE RUBIN
Printed Name

Address: 10 EAST END Ave 10021

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Signature

LESLIE RUSSO

Printed Name

Address: 520 E. 90th St NY 10128

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: EDITH SALTON

Agency/Organization, if applicable:

Address: 535 E 86 ST NYC 10028

Email: ES@CORCORAN.COM

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS:

In this neighborhood, which is one of the most densely populated in the US, we do need protection from our representative to keep a halfway healthy environment. As one of the boardmembers in the past of the Asphalt Green, we fought very hard to create some good clean spaces for our children. I hope you will

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Edith Salton

Signature

EDITH SALTON

Printed Name

Address: 535 E 86 ST #10F
NYC 10028

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New York City Department of Sanitation
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Laura M Savino

Signature

LAURA SAVINO

Printed Name

Address: 447 E 87th St #3W
NY, NY 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Signature

Ellen M Schachner

Printed Name

Address: 400 E. 85th St

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
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Signature

BARRY SCHNEIDER
Printed Name

Address: 340 E. 64th St, 10021

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Judith E. Schneider
Signature

Judith E. Schneider
Printed Name

Address: 340 E. 64th St. NYC 10021

Judith E. Schneider

December 20, 2004

Commissioner John J. Doherty:

As stated in the DEIS on page 38, "Immediately west of the site is a small M1-4 zoned area that is situated east of York Avenue and encompasses most of the Asphalt Green Recreation Center". Immediately north and south of the site are high-density residential districts R7-2 and R10A."

I would like to address the first sentence. Asphalt Green is more than a Recreational Center; it is a public park. We have precious few public parks in our Community District 8M. In order to get to the proposed MTS, the garbage trucks must transverse a road which bisects the park. The noise and the pollutants of garbage trucks rumbling through the park while the children are playing in unacceptable to the community. Where in this DEIS do you address the fact that the law states that a MTS is not supposed to be within 500 feet of a public park?

The second sentence says immediately North and south of the site are high-density residential districts. That also applies to the west! This is a residential community and living with garbage trucks 24 hours a day is not what people choose. Or for that matter the vermin they bring. Anyone living in the area when the prior MTS was in existence can talk about this egregious problem.

Lastly, I believe the community believes there will be much additional truck traffic on First and Second Avenues. It is just not conceivable that all this garbage coming from the neighboring Community Districts will only travel on York Avenue. First and Second Avenues already have more truck traffic then they can handle.

I respectfully suggest that you find and alternate site for a MTS in Manhattan to serve the needs of the Upper East Side Community.

Judith E. Schneider

340 East 64th Street
New York, NY 10021
Tel 212 980-4937 Fax 212 688-5044 E-mail jes24@verizon.net

M. Barry Schneider

December 20, 2004

Commissioner John J. Doherty:

In the opinion of many, myself included, any densely populated residential neighborhood is the wrong place to build and operate a Marine Transfer Station. The Gracie Point community is a densely populated residential neighborhood with public parks, historic landmarks, private and public housing, schools, religious institutions, shops, and, of course, Asphalt Green, a city park used by thousands of children, the disabled and others who come from all parts of the city, including East Harlem. The entrance road to the proposed MTS directly bisects Asphalt Green, running alongside open playing fields on the south side and the main entrance and a children's playground on the north side. Hundreds of garbage trucks rumbling through the streets of Gracie Point, then queuing along York Ave. and this ramp would have serious negative impacts on what is an already overcrowded community. The MTS itself, designed to accept thousands of tons of garbage each and every day, garbage that would then be lowered into river barges, would create additional catastrophic impacts.

I respectfully suggest that you find an alternate site for a Marine Transfer Station to serve the needs of the Upper East Side community.

M. Barry Schneider

340 East 64th Street
New York, NY 10021
Tel 212 755-1296 Fax 212 688-5044 E-mail mbs16@pipeline.com

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Louis Schumacher Schumacher
Signature

Louis Schumacher
Printed Name

#8E

Address: 1700 York Ave. NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

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Signature

Susan M. Szelja
Printed Name

Address: 515 East 89th #50 NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

GREGG SELTON
Printed Name

Address: 510 E. 86th St. #8C NYC 10028

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: ADELE SELTZER

Agency/Organization, if applicable:

Address: 520 E. 90th ST., APT 6E
NY 10128

Email:

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: I WOULD LIKE TO KNOW HOW YOU MANAGED TO ARRANGE THIS MEETING ON A NIGHT THAT THERE WOULD BE POOR ATTENDANCE.

I WOULD ALSO KNOW WHY THE MAYOR DOES NOT LIVE IN THE RESIDENCE DESIGNATED FOR THE MAYOR OF NEW YORK

I WOULD MOST OF ALL LIKE TO KNOW

(Over)

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Seek and listen... Vox Populi!
HS.

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HAROLD I. SELTZER

Printed Name

Address: 520 E. 90 St Apt 6E

December 20, 2004

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Signature

Mart Seltzer
Printed Name

Address: 522 E 20th St 10009

December 20, 2004

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New York City Department of Sanitation
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Signature

SUSAN SENK
Printed Name

Address: 155 York Ave 33F

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: SUSHAN SENK

Agency/Organization, if applicable:

Address: 1755 York Ave 33F 10128

Email: SSenk@aol.com

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

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COMMENTS: How ~~an~~ can you possibly ~~who~~ want to wreck a neighborhood

(Over)

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Barbara R. Sepulow
Signature

BARBARA R. SEPLOW
Printed Name

Address: 535 E 86th St

December 20, 2004

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Signature

Kenneth F. Seplow
Printed Name

Address: 535 E 86 St NY C10028

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Signature

STEPHEN SHOLINSKY
Printed Name

Address: 515 EAST 89 ST. APT 1A N.Y. 10128

200 East End Ave., # 15A
NY, NY 10128
1/1/05

Mr. Harry Szarpanski
Assistant Commissioner
NYC Dept. of Sanitation
44 Beaver St., 12th Fl.
NY, NY 10004

Dear Mr Szarpanski,

It is inappropriate to open an East 91st St. Marine Transfer Station given the dense population of the area. In addition to being entirely residential, the neighborhood attracts people from outside the immediate community to enjoy the Asphalt Green and Carl Schurz park. There is a heavy flow of pedestrians around this area, and the presence of sanitation vehicles in large numbers in front of the Asphalt Green / York Ave / Transfer Station would be very dangerous.

Terminals such as this one should reside in areas that are better suited to commercial development.

Sincerely,
Barbara Shragan

The Case Against the New 91st Street Marine Transfer Station

The proposed 91st Street MTS does not belong in any residential area.

Especially it does not belong

1. where it is surrounded by a densely populated neighborhood,
2. where its trucks will pass directly along two edges of a playing field and past a major athletic facility that is used by an immense number of children, and elderly adults,
3. on the edge of a park that serves people from a very densely populated area of about 100 city blocks.

The only way to suppose that placing a government-authorized heavy-industry operation that deals 24-6 with noxious substances, might somehow not cause substantial damage to the people of the neighborhood, the users of the athletic facility, and the innumerable users of the park, is to accept with childlike trust, all of the most imaginative, non-credible, rosy sales pitches that have been made about how the MTS can somehow be what it clearly cannot be: quiet, sweet-smelling, safe, unintrusive, a model citizen. Based on even the slightest common-sense based level of respect for regular people, and the slightest ability to envision its actual impact, it does not belong here.

Consider its planned specifications:

1. Ten stories high. Footprint approaching football field size. Gantry cranes like a container port. Huge container-barges docked alongside.
2. Operates 24 hours a day, six days a week.
3. Announced operating capacity 1200 tons per day.
   a. Dumping 1200 tons per day takes about 800 truck-trips.
   b. That is about 260 DSNY trips in the daytime (20+ per hour), and over 500 trips by unregulated commercial trucks at night.
   c. For about 12 hours, that is over 40 per hour, <u>one every 90 seconds.</u>
4. Built capacity 4300 tons per day.
   a. Dumping the planned built capacity, 4300 tons per day, will take about 3.5X as many truck trips: <u>*2800+ per day*</u>.
   b. About 70+ DSNY trucks per hour in the daytime (one every 50 seconds) and 140+ per hour by unregulated commercial trucks at night.
   c. For about 12 hours, that is <u>one every 35 seconds.</u>
5. Supposedly with no queuing on York Avenue. But the plan announces queuing of 19 trucks at a time on the entry ramp, presumably 24/6: already a very substantial concentration of vehicles, noise and exhaust.

Even at its lower capacity, the MTS is clearly an immense, high-volume, heavy-industry operation that will have an intensely destructive impact on the neighborhood, in ways that have been completely verified by residents who experienced the operations of the previous MTS, which had a maximum capacity of 1000 tons per day, and in recent years operated below that level.

Experts in the field of waste management services confirm that even the most modern and well-equipped waste transfer facilities are unable to eliminate the following problems, which will have a very destructive impact on the neighborhood:

1. Noise- from truck engines and horns, and the operation of the facility's cranes, loaders and other machinery, 24 hours per day, six days a week.
2. Truck exhaust fumes, especially diesel from unregulated commercial trucks. We are told that the trucks will ascend and descend in a ramped space, inside the MTS. The proposed negative-pressure ventilation system will have to vent to the outside, which must spill additional exhaust and garbage fumes into the neighborhood.
3. Noxious, even revolting, garbage smells.
4. Vermin.

Its impossibly poor location will cause additional destructive impacts on the neighborhood:

5. Congestion on York Avenue and nearby cross streets, which will increase the traffic exhaust level in the area, and will interfere with the substantial use of York Avenue for ambulances on emergency runs to the several major hospitals on and near it.
6. Serious hazards for residents, including the elderly, and especially children, large numbers of whom are picked up and dropped off daily by schoolbuses on York between 90th and 91st.

The MTS will also have an intensely destructive impact on its immediate neighbor, Asphalt Green, which provides very heavily used sports fields and other facilities to 42,000 New Yorkers a year, mostly children, mostly not from this neighborhood, as well as many elderly residents.

1. Truck exhaust fumes will spill over the playing field.
   a. Trucks will queue along the west side of the field.
   b. The MTS service ramp runs along the long north side.
   c. From 260 to 900 times during the daytime, when the fields are in use, very heavy trucks will accelerate up that ramp, and another 260 to 900 times the same trucks will decelerate down the ramp. In total, from 520 to 1800 times per day, six days a week, the trucks will spew exhaust fumes onto Asphalt Green's playing field.
2. Garbage fumes will again cause Asphalt Green to have to cancel playing field activities and will reduce utilization of its other facilities, which will damage Asphalt Green's viability.
3. The heavy truck traffic, truck queuing, and increased congestion close to Asphalt Green, will endanger the children who cross the street near the facility.

The portion of the plan that supports opening the 91st Street MTS, and the review process that has been carried out so far, are deeply flawed.

1. The MTS plan is overly abstract and lacking in specifics. Such concrete details as have been stated or presented to the public have been variable, inconsistent, and not presented in the formal plan, especially with regard to many of the most critical parameters.
2. In public presentations, DSNY representatives have misrepresented elements of the MTS plan, by presenting fragments as though they were the whole picture- for example:
   a. Presenting estimates of truck impact based on DSNY's trucks alone, while omitting the impact of unregulated commercial trucks.
   b. Presenting a rendering of the new facility that dramatically minimized its size relative to familiar foreground structures.
3. The MTS plan is not backed up by any enforceable commitments that constrain it. There is nothing contractual about the plan. It apparently is perfectly feasible for the city government to review and approve an abstract, general plan and then to implement whatever it wants, within the broad, abstract scope.

4. The MTS plan proposes trivial and minimal steps to mitigate its potential impact, as though the potential impact itself must be minimal. It does not in any way propose to commit to measurable, enforceable impact limits, thresholds, corrective actions, time limits and other performance requirements.
5. The Environmental Impact review process (presented in the Draft Environmental Impact Statement) glosses over any issue that could indicate an adverse impact.
6. There is no evidence of exploration of non-destructive or less destructive alternatives. The most obvious of these is to continue the present system of trucking the waste, a substantial portion of which comes from Lower Manhattan, to landfill operations in New Jersey.
7. Tactics for reducing the amount of trash and other environmentally sound waste management approaches also appear not to have been considered.
8. The MTS will have an intensely destructive impact on the quality of life of the Stanley Isaacs Houses residents, a diverse, substantially minority community in one of the neighborhood's largest and densest residential concentrations, just a few hundred feet away. As such it will continue the callous, racist policies of the past.

There is evidence of a concerted effort to manipulate the plan-review processes, to ram the plan through, by using government and political resources to overwhelm the voices of the community that is most directly affected.

1. The difference between the announced (but not contractually limited) operating capacity of 1200 tons per day, and the planned built capacity of 4300 tons per day, puts an extreme strain on the plan's credibility. All the more so in a time of budget deficits.
2. Timing of important public meetings to occur as close as possible to Christmas, for many people a time of year that becomes so busy as to be almost unmanageable.
3. Several organizations from outside the neighborhood have positioned Gracie Point Community Council as a NIMBY effort. There is some question as to whether some of the groups that want to see the 91st Street MTS opened may be using this as a device to further the Mayor's agenda, for their own political gain.
4. Notification from the Parks Department to Asphalt Green to remove signs announcing the GPCC's November rally (on the playing field), as being in violation of their regulations.

The selection of the 91st Street location for the MTS is so blatantly ill-conceived and superficially executed as to provoke a theory that its real purpose is to serve an agenda that has nothing at all to do with finding the best solution for the city's trash problem.

Who has the opportunity and the motive to push such a blatantly ill-conceived and poorly executed plan as though it had some legtitimacy? Perhaps Mayor Bloomberg supposes he might gain votes somewhere if:

1. The MTS issue can distract City Council Speaker Gifford Miller, a likely contender for Bloomberg's job.
2. Bloomberg can try to claim that somehow it is just to impose the MTS on a neighborhood.
3. Bloomberg can position Miller as the callous defender of an imaginary NIMBY constituency, and himself as the opponent of that divisive, destructive stereotype
4. He can thereby avoid being seen as what he is: a billionaire who knows media exceptionally well, and has the private wealth to buy a public job.

December 20, 2004

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New York City Department of Sanitation
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New York, NY 10004

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A SILVERSTEIN
Signature

AL SILVERSTEIN
Printed Name

Address: 530 E 90 ST.

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Collin Sippel
Signature

Collin Sippel
Printed Name

Address: 150 E 34th St.

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John S. Sise

Printed Name

Address: 520 E 86th St NYC 10128

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Hugh Smyser
Signature

Hugh Smyser
Printed Name

Address: 538 E 89th St #5, NY, NY 10128

In considering our grievances about the MTS, we need to ally ourselves with our brothers and sisters from other neighborhoods. We are all in this together.

There are organizations from outside our neighborhood that support opening the new MTS here. Some take the position that it is justified by factors that are more important than its destructive impact on a single neighborhood. Some of their members have experienced real pain from inordinate concentrations of sanitation and other city operations, situations where disruptive, industrial government facilities have been placed in or very close to residential neighborhoods. There may be a feeling that of the many neighborhoods that never had to put up with this, one should now serve its turn.

We all know that two wrongs don't make a right. And the old ways- forcing obnoxious facilities onto neighborhoods that couldn't fight them off- were horribly wrong, brutal, unworthy of all of us, and always will be.

Those of us who live close to the 91st Street MTS site never had anything to do with the siting of the facilities that have diminished other neighborhoods. In fact we sympathize greatly with the concerns of the people of those neighborhoods. We will very energetically support their efforts to stop and correct such abuses in their own neighborhoods.

Placing the MTS in our neighborhood does not right past wrongs, solve past problems, or solve future problems elsewhere. It just continues the old, wrong ways.

We oppose placing such facilities in any neighborhood. Those who try to position the people of our neighborhood as NIMBY are playing the destructive politics of division, setting people against each other to further their private goals, instead of bringing them together for public benefit. In this they are failing to fulfill the fiduciary duties with which the public has entrusted them.

It is time to rise above that, for our leaders to lead, and for all of us to work together, to protect all of our neighborhoods, and the quality of all of our lives, and to actively, emphatically, vocally, forever reject the efforts of those who would like to divide us for their own political ambitions.

The MTS does not belong in any neighborhood.

Not yours, not ours.

We must support each other.

It must be rejected.

It must be stopped.

Hugh Smyser
538 East 89th Street #5, New York, NY 10128
hsmyser@nyc.rr.com

December 20, 2004

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44 Beaver Street, 12th Floor
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Laura A. Staiger
Signature

LAURA A STAIGER
Printed Name

Address: 501 E 87 St
NY 10128

Dear Assistant Commissioner Szarpanski:

I am opposed to the expansion and reopening of the E. 91st St. Marine Transfer Station, and agree with the oral and written testimony submitted by others on this subject.

16 DEC 2004

Gracie Point is a densely populated residential neighborhood with public parks, historic landmarks, public housing, and, of course, Asphalt Green, a city park used by children, the disabled and others who come from all parts of the city, including East Harlem. The entrance road to the proposed MTS directly bisects Asphalt Green, running next to open playing fields. Hundreds of garbage trucks and an MTS would have serious negative impacts on this already overcrowded community.

Any residential neighborhood is the wrong place for an MTS, but particularly this neighborhood.

Signature Laura A Staiger

Print Name LAURA A Staiger

Address 501 E 87th St 10F
NY NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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Patricia Stickney
Signature

PATRICIA STICKNEY
Printed Name

Address: 515 E 89 ST. 6D
NY 10128

New York City's Draft 20-Year Comprehensive Solid Waste Management Plan
Environmental Impact Statement Hearing
December 20, 2004
By Shannon Stone

My name is Shannon Stone and I will speak as the Recording Secretary of the NYC Waste Prevention Coalition and the NYC Group of the Sierra Club's Solid Waste Committee Co-Chair. A lot of people here tonight are not aware that as much as 22% of their property taxes goes towards handling our waste. DSNY's budget has swelled to over a billion dollars annually because the cost to export waste has risen 91% since 2000. The city is so preoccupied with exporting their garbage, they are not focused on where they are exporting it to in 20 years. People in communities outside NYC and in New York State are just like you in that they don't want garbage in their back yard. They will not accept it at any price and hence the cost of landfilling will continue to rise.

Fortunately, there are many opportunities to reduce the size of our garbage problem. We can reach zero export and landfilling of waste—or Zero Waste—in 20 years through aggressive waste prevention, reuse, recycling, and composting. Already 44% of our waste is targeted through DSNY's paper and metal/glass/plastic collections. More than a quarter of our waste is made up of organic materials that can be collected separately and composted into valuable soil amendments rather than dumping it in a landfill or overburdening our sewer systems as some lobbyists have advocated here tonight. The remainder of our waste is made up of organic materials that can be dealt with through reuse infrastructure, such as bulky goods collection and reuse performance and evaluation centers, and the rest can be dealth with through waste prevention education and legislation, such as extended producer responsibility. Afterall, think of how your waste was created in the first place—it was producers who designed waste into their products. Ask yourself if you really want all that cadmium and lead in your television or computer. And why should your taxes pay for its burial or burning?

The idea of zero waste is not new. Cities such as San Francisco and Toronto are working towards zero waste. Last fall (2003) a coalition of over 40 local organizations got together and wrote a 200-page book describing in fine detail how NYC can reach Zero Waste in 20 years through aggressive waste prevention, reuse, recycling, and composting. You can find a copy of the report at www.whywastenyc.org. Please join the Zero Waste Campaign in demanding an end to all this waste. There is also a chapter devoted to transportation issues of the Department of Sanitation. People concerned about DSNY's trucks should join me in my demand that DSNY phase out its diesel trucks with cleaner fueled vehicles and put that in the SWMP.

Thank you.

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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Signature

Deborah Strober

Printed Name

Address: 25 East 92nd St, NYC NY 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Printed Name

Address: [illegible]

December 20, 2004

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44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Printed Name

Address: 530 E 90 2B

130 East End Avenue
New York, New York 10028

January 18, 2005

Harry Szarpanski,
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, New York 10004

Dear Commissioner Szarpanski:

I oppose the proposed Sanitation processing facility at 91st Street and the East River. I believe the impact it would have on the community would be highly negative, including:

- The sheer size and scope of the building (3 blocks long, 10 stories high with a license to operate 24 hours a day).
- Clogging the neighborhood streets (already busy) with waste trucks carrying in 11,000 tons of garbage per week and personnel cars of sanitation workers.
- Congesting the East River, already an active spot for commercial and pleasure vessels.
- Potential for erosion, spillage and pollution of the East River.
- Increased noise, odors and vermin.
- Diminished pleasure in using Carl Schurz Park, Robert Wagner Way and Asphalt Green.

It makes no sense to situate the transfer station so close to a densely populated residential community, when other viable alternatives exist but have not been seriously considered.

Yours truly,

Melite Sweet

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Doria Tenca
Signature

Doria Tenca
Printed Name

Address: 125 E 87 NYC 10128

400 East 85th St. 16D
New York, NY 10028-6323
24 October, 2004

A.C. Harry Szarpanski
DSNY
44 Beaver St, 12th Floor
New York, NY. 10004

Re: Final Scoping Document for the City of New York Comprehensive Solid Waste Management Plan
Draft Environmental Impact Statement
Attachment C, page 32
Comment & Response 32 V

Dear A.C. Harry Szarpanski:

You obviously misunderstood my question "Would you let your children or grandchildren play within 20 feet of a garbage dump?" Since you didn't understand the question, you did not answer it.

A garbage truck moves through neighborhoods for several hours a week. The garbage dump - or as you prefer to call it "the 91st Street Marine Waste Transfer Station" will be in place 24 hours a day, seven days a week.

I have been a neighborhood resident for more than forty years. When the transfer station was open, garbage trucks were often queued from 72nd Street and York all the way up to the 91st Street station. The noise and stench were particularly noxious in the summer.

Therefore, I ask that you respond to my question, "Would you let your children or grand children play within 20 feet of a garbage dump."

Thank you for your consideration.

Sincerely,
Judith Toby

JUDITH TOBY
400 E. 85TH St. 16D
NYC NY 10028-6323

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Signature

GREESMAN, TODD
Printed Name

Address: 1725 York Ave - Apt 3F NYC 10128

December 20, 2004

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New York, NY 10004

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Signature

Alisa Torres
Printed Name

Address: 360 E. 17th Street 10024

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Amy Tepper
Printed Name

Address: 530 East 90th St
NYC
10128

Asphalt Green
555 East 90th Street
New York, NY 10128-7803
212 369 8890
212 722 1701

Asphalt Green
Sports and Fitness for a Lifetime

AquaCenter
Fitness Center
Delacorte Olympic Pool

Murphy Center

AstroTurf Field

Comments on the Draft Environmental Impact Statement
Hearing on the 91st MTS
December 20,2004

My name is Carol Tweedy. I am Executive Director of Asphalt Green. Thank you for the opportunity to comment on the Draft Environment Impact Statement.

In previous testimony I have described the role of Asphalt Green. For the purposes of brevity tonight, like me give just a few brief facts. We serve over 40,000 people every year. We are not just a neighborhood facility; we are a city-wide facility. Last year 124 different institutions used our campus. We provided services for free to 11,000 people, most of them public school children and most of them from our near neighbors in East Harlem. Our tagline – sports and fitness for a lifetime, says it all. We are concerned with providing lifetime health through sport and fitness and affecting the 70 billion in health care costs that could be avoided it people were physically active.

No one is affected more than Asphalt Green should this plan be implemented.

I think if I were a politician I would understand what is happening better. But, since I am not, I am totally befuddled by the inclusion of the 91st garbage dock in the Solid Waste Management plan.

Asphalt Green has been a partner with the City. The City owns the land and the buildings in which we operate. The City has invested 10million in capital rehabilitation projects on the campus. The City has benefited from the additional 30 million that has been invested privately. So this is the City's own asset which it is choosing to devalue.

Between 1999 and today, Asphalt Green has grown 33%. We believe that this would not have happened had the marine transfer station been operating. We know that when it was open, the smells were so awful that parents withdrew their children from day camp. A current review of our operations and some preliminary focus interviews

suggest that our users will go away with the increased traffic, smells and dirt from a newly build garbage dock.

This economic impact will affect the 250 people who work at Asphalt Green, who come from all boros of the City.

The City acknowledges the impact of transfer stations and in the SWMP talks about new initiatives to take into account "sensitive locations such as residential districts, parks and schools" (Executive Summary p 9) So while private carters cannot locate a garbage facility within 400 feet of a sensitive receptor the City chooses to ignore this rule in the siting of 91st street right in the middle of a park, right in the middle of Asphalt Green.

The DEIS fails to do an analysis of traffic on Saturdays, failing to recognize that that is the biggest traffic day at Asphalt Green. The general traffic situation is discussed but minimized. It is recognized that there may be as many as 4 school buses an hour and 63 buses (50% of which are articulated). But this does not seem to have any impact on the plan.

There is no analysis of odors on York Avenue, or at Asphalt Green, confining the analysis to the facility roads–the ramp, and nearby residences which are further away and enclosed. It is assumed, that the high, prison like walls erected on the ramp, 12-14 ft, will contain odors. But those fumes will rise and go somewhere – right onto the field and into the vents of our HVAC system.

The construction of the expansion of the ramp is particularly problematic. There is no way the building of this highway can be staged without disrupting the walkway into the AquaCenter and the field itself. If people can't get into the building and can't use the field, what happens to Asphalt Green? And all those children we would normally serve during that time will age out.

On a policy level the rebuilding is incomprehensible. 43% of public school children are overweight or obese. Asphalt Green is one of the few institutions dedicated to addressing this problem. And we do it now beyond the campus. We reach out to communities at risk of diabetes, obesity and asthma. We are just beginning a new initiative with the Department of Health, which will bring increased physical activity into schools in Bushwick, Harlem and South Bronx. The damaging impact of the garbage dock on our operations will limit our ability to provide these programs.

So I believe that the plan is flawed from a technical point of view in failing to sufficiently evaluate the impact. I believe the plan is flawed from a policy point of view in that it fails to look at the role of Asphalt Green in the context of the health of City children. So, from my point of view this plan doesn't make any sense. But, as I said, I am not a politician.

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

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Sydelle Weinberger
Signature

Sydelle Weinberger
Printed Name

Address: 180 East End Ave NY 10128

Charles S. Warren
Chair

Elizabeth McKee
District Manager

505 Park Avenue
Suite 620
New York, N.Y. 10022
(212) 758-4340
(212) 758-4616 (Fax)
info@cb8m.com- E-Mail
www.cb8m.com – Website

The City of New York
Manhattan Community Board 8

December 17, 2004

Mayor Michael Bloomberg
City Hall
New York, New York 10007

Dear Mayor Bloomberg:

At the December 15, 2004 Full Board Meeting of Community Board 8M, the following resolution was adopted by a vote of 25 in favor, 0 opposed and 0 abstention;

Whereas: The City of New York has presented the Comprehensive Solid Waste Management Plan Draft Environmental Impact Statement and specifically the Draft Environmental Impact Statement for the reopening of the Marine Transfer Station at 91st Street.

Be it resolved Community Board 8 has the following comments to make to the Draft EIS.

1) The MTS at 91st Street will be built with a capacity of 4,290 tons per day of waste, yet the DEIS only analyzes the environmental impact of 1700-1800 tpd. Why would the City build a bigger site than necessary, and if the expanded site will be used to capacity none of the analysis in the DEIS will be accurate. All things studied; traffic, noise, odor, health will have a greater impact then what is studied in the DEIS.

2) There has never been a sufficient alternative analysis. The Marine Transfer Station at 91st Street is being reopened only because it already exists. Other alternatives were denied because they were sighted close to a park whereas the 91st MTS cuts through Asphalt Green and is near Carl Schurz.

3) There does not seem to be a comprehensive cost benefit analysis. There is mention of RFP's being solicited to determine costs, and mention of revenue from permitting fees but there are no revenue or expense projections for the MTS at 91st Street. There is no mention of construction costs, operating costs, will the 60 people who work there be new hires? None of these questions are answered.

4) Mention is made of traffic studies done in a model of 2003 data. Does this model consider the construction of the Second Avenue Subway? The articulated buses which often come two together and take up a whole block?. What about an actual simulation of sanitation trucks running during the three peak periods? Several residents complained about the length of time it takes to travel in our neighborhood on any given day, surely the sanitation trucks will make it worse. The draft EIS also mentions that Eli's and the Vinegar factory would not be impacted as most customers walk. What about delivery trucks? How are Sanitation trucks to pass them as they are making deliveries?

5) There is mention of the potential for odor if sanitation trucks are not kept neat and don't allow for spillage. Is there a clean sanitation truck in operation? They all will smell all 800 of them. A DEIS should not say if the garbage trucks are kept clean and neat there will be no odor..

6) There have been several discussions of fair share and why this concept demands a Marine Transfer Station at 91st Street. What about the Restaurants, and places of business and entertainment that are used by people from all over the City and World. Yes the garbage is in the CB8 area but not all created by us. ,

7) There will be more noise then currently exists. Even if the noise falls within EPA guidelines that is not the issue. The issue is that this is one of the quietest neighborhoods in the city, and the MTS with its cranes, front-end loaders and waste delivery systems will have to create more noise, especially at night.Noise mitigation measures include such thing as noise walls at residential property lines, the installation of replacement windows and air conditioning units. The mere suggestion of such things guarantees noise much greater then currently occurs.

8) The twenty-year plan has been lauded by some as taking diesel trucks off the road, and using waterways to transport garbage. If the 91st MTS has to take the residential waste from CDs 5,6,8,11 will we not have just as many diesel garbage trucks transporting garbage through lower Manhattan up to 91st Street.

Please advise this office of any action taken regarding this matter.

Sincerely,

Charles S Warren mc

Charles S. Warren
Chair

Jacqueline Ludorf mc

Jacqueline Ludorf
Chair, Environment and Sanitation Committee

Cc:

Hon. A. Gifford Miller, Speaker of the New York City Council
Hon. C. Virginia Fields, Manhattan Borough President
Senator Elizabeth Krueger, NYS Senator
Hon. Alexander B. Grannis, NYS Assemblyman
Hon. Jonathon Bing, NYS Assemblyman
Hon. Eva S. Moskowitz, Ny City Council Member
Commissioner John Doherty, Department of Sanitation
Mr. Harry Szarpanski, Department of Sanitation
Ms. Maria Termini, Office of Community Affairs

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Signature

Louise Wasserberg
Printed Name

Address: 510 E 86 St

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Carol Wasserman

Signature

CAROL WASSERMAN

Printed Name

Address: 510 E 86th St
NY NY 10028

JACK GUMPERT WASSERMAN
ATTORNEY-AT-LAW
510 EAST 86TH STREET
NEW YORK, NY 10028

ADMITTED TO PRACTICE IN THE
SUPREME COURT OF THE UNITED STATES
STATE OF NEW YORK
STATE OF FLORIDA
DISTRICT OF COLUMBIA

TEL: 212-288-6464
FAX: 212-288-2244
BYRON@CUSTOMS.COM

October 25, 2004

Hon. Michael Bloomberg
Office of the Mayor
City Hall
New York, NY 10007

Proposed Expansion and Reopening of East 91st Marine Transfer Station

Dear Mayor Bloomberg:

I am a New York City born and bred resident, and have lived with my family at the above address for 25 years. (I also hold, ahem, a Graduate Diploma in Advanced International Studies from Johns Hopkins.)

The number of new residential towers constructed in our area during the past 20 years is astounding (and well-documented), but there has been no increase in any public transportation service. At the York Avenue bus stop, it literally requires 15 to 20 minutes to board the 86th Street crosstown bus in the mornings. The double parking of large food delivery trucks and the movement of the new articulated busses reduce traffic on York Avenue, again literally, to one lane. And a new 38-story tower is being completed at 92nd Street and 1st Avenue, a new Marriot Hotel is being commenced on 92nd Street between 1st Avenue, and York, and a new tower is rising at York Avenue and 83rd Street!

The present proposal concedes that dozens of sanitation trucks will line up daily on York Avenue to enter the proposed facility. This action will create significant, and possibly intolerable traffic, noise, and pollution in our materially under-serviced residential neighborhood. In my view, the proposal is a scary example of misguided government decision-making. I am not adopting a NIMBY response, but I have not seen any financial, environmental, or similar data which supports the decision or illustrates the absence of other reasonably cost-efficient, less obstructive sites. I urge you to take action to defeat this grossly misplaced proposal.

Sincerely,

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based

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DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks

Lynne Wax
Signature

Lynne Wax
Printed Name

Address: 245 E. 93rd St.
NY, NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

A. Weinberger
Printed Name

Address: 180 East End Ave NY

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Hazel I. Weinberger
Signature

Hazel I. Weinberger
Printed Name

Address: 525 E 86 St

December 20, 2004

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44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Molly Weinberger
Printed Name

Address: 510 E. 86th Street.

December 20, 2004

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44 Beaver Street, 12th Floor
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Signature

Peter Weinberger
Printed Name

Address: 510 E. 86th St

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Signature

Steven Weinfeld

Printed Name

Address: 1725 York ave apt 8B NY NY 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Tammy Weinfeld
Signature

Tammy Weinfeld
Printed Name

Address: 1725 York Ave #8B
NY, NY 10128

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44 Beaver Street, 12th Floor
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JEROME WEINSTEIN

Printed Name

Address: 755 YORKVILLE 29G NY 10128

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Rosalie C. Weir
Signature

ROSALIE C. WEIR
Printed Name

Address: 239 E. 79 St (12C) 10021

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Susanne White
Signature

SUSANNE WHITE
Printed Name

Address: 531 E 88 St. #1C NYC 10128

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Kristen Wilcox
Printed Name

Address: 180 East End Avenue NY NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Mary-Elizabeth Wise
Signature

MARY-ELIZABETH WISE
Printed Name

Address: 518 E. 84th Apt 2A

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

Rosemary C. Witten

Printed Name

Address: 535 E 86 ST NY 10028

WINNIE WONG

January 14, 2005

TO: Harry Szarpanski, Asst. Commissioner, NYC Dept of Sanitation

Dear Assistant Commissioner:

Following the Mayor's unilateral proposal to reopen the 91st St. Marine Transfer Station, we have become fearful for the safety of our children who attend classes at the Asphalt Green Sports Center. The countless garbage trucks coming in and out of the MTS will inevitably cause serious traffic accidents and fatalities among the children.

It appears that the Mayor continues to ignore the informed views of thousands of city residents and members of the city government suggesting a wiser course of action. He should prepare himself for a host of lawsuits stemming from this irresponsible plan. We sincerely hope that the City Council stops this dangerous plan from ever going into effect.

Sincerely,

Winnie Wong

360 EAST 88TH ST. • NEW YORK, NY 10128
PHONE (212)423-0129

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

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Signature

Rumi Yasuda
Printed Name

Address: 108 E 82 St NYC 10028

December 20, 2004

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New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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Signature

LOUISA YOUNG
Printed Name

Address: 501 E. 87 ST. 10A, N.Y., NY 10128

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

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R. Zanghellini
Signature

R. Zanghellini
Printed Name

Address: 519 E. 86th St.

December 20, 2004

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Signature

Tammy Zazos

Printed Name

Address: 610 E. 83rd St 10021

December 20, 2004

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New York City Department of Sanitation
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New York, NY 10004

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DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Samantha Zimmer
Signature

Printed Name

Address: 130 East End Ave NYC 10028

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS is based on a false assumption about its use. It is not possible to believe that DSNY intends to use only one third of the capacity it intends to build. Accordingly, the impact statement vastly underestimates a host of environmental impacts, including traffic, air quality, neighborhood character, open space, noise and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

DSNY's promises of likely mitigation are inadequate, impractical and unenforceable for identified impacts.

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks.

Virginia Zimmer
Signature

Virginia Zimmer
Printed Name

Address: 130 East end Ave NY NY 10028

CITY OF NEW YORK
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WALTER MANKOFF
Chair

ANTHONY M. BORELLI
District Manager

January 24, 2005

Harry Szarpanski
Assistant Commissioner
Department of Sanitation
Bureau of Long Term Export
44 Beaver Street, 12th Floor
New York, NY 10004

Re: Draft Environmental Impact Statement for New Comprehensive Solid Waste Management Plan

Dear Mr. Szarpinski,

Manhattan Community Board No. 4 dutifully participated in the hearings and comment period for the Scoping Document for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan. But as you are aware, the new DEIS released in October 2004 has mapped out an entirely new plan for Pier 99, one that has much greater and different impacts on our district.

We understand that a supplemental environmental impact statement will be required for Pier 99 once the actual plans for the pier are determined. When that environmental review is done, we ask that the relevant problems from the current review be corrected (see below). Because any plan for disposal of only commercial waste will be very different from either of the studied uses, and because the neighboring area is changing rapidly, the environmental review should be largely *de novo*, rather than a simple rehashing of that which has already been done. That EIS must of course consider alternative locations for a commercial waste transfer facility, so that such use of West 59th Street is not a foregone conclusion.

In addition, we must register our dismay with the current DEIS, its inaccuracies and its faulty conclusions. In fact, despite our comments in the scoping, the current DEIS shows no regard or knowledge of the current conditions at the Pier 99 site, and it makes us question either the capability or the intentions of the EIS team. We say this with the utmost seriousness and sincerity, and we expect to see much greater attention to detail and accuracy in the final EIS. We would also like to point out that the proposed use of the Gansevoort Peninsula, and the expansion of the West 59th Street facility, would require amendments to the Hudson River Park Act. Therefore, studying alternatives for these sites is particularly important.

To follow are our general comments regarding the methodology used to prepare the DEIS. Following that are more specific comments on the sections of the DEIS. Please note that this letter contains comments on Community District 4 only, although this board acknowledges that many of the same issues apply within the boundaries of Community District 7, and in fact, that

district is experiencing much of the same commercial and residential growth that is bringing a drastic transformation to this neighborhood

METHODOLOGY

General Comments

Because the build year for many of these facilities is 2006, the DEIS does not consider any developments that will occur after that point. It considers only future park projects that are currently funded and only future developments that have environmental and regulatory approvals in place. This is unacceptable for two reasons. First, since the West 59th Street and Gansevoort facilities are not yet planned, they will likely be built at a later date than other facilities anticipated in the DEIS. Analysis of these facilities should therefore incorporate a later build year. Second, given the long life of these facilities, it is inexcusable that they would be studied without reference to the anticipated additions to parkland and the expected residential growth of the surrounding areas, particularly given the anticipated series of rezonings of the far west side that will encourage development at densities greater than what is now allowed. Much of the change in our neighborhood in the next few years is being actively planned for and can be anticipated. As we will have to live with these waste management facilities for decades, their planning should reflect this knowledge.

We are also concerned about the standard used to trigger a detailed analysis of noise impacts. Routing garbage to the Gansevoort and West 59th Street facilities will require sending many large trucks down residential streets at night. However, the DEIS only considers this to be an "impact" if the existing volume of "passenger car equivalents" (PCEs) would be at least doubled. Residents are likely to experience an "impact" at a lower threshold, especially considering that one heavy noisy truck bouncing over uneven streets or potholes at 3:00am is far more of a nuisance than even 47 light cars humming by (the PCE of one heavy truck is 47 cars). A detailed noise analysis of off-site noise impacts is required even without the PCE doubling trigger being met.

GANSEVOORT MARINE TRANSFER STATION

General comments

The insertion of the inactive Gansevoort Peninsula Marine Transfer Station (MTS) as part of the plan was a surprise to this board, which was presented with a rough draft of a plan for Gansevoort earlier this fall as a distant possibility. The current DEIS shows little flexibility in its proposal for a Manhattan acceptance facility for recyclables, despite regularly referring to Gansevoort as an "option."

We ask this simple question: What are the other options for recyclables?

And that leads us to this statement: The DEIS must study other locations in Manhattan as an acceptance facility for recyclables.

Community Board No. 4 has a vested interest in the Gansevoort Peninsula, and considers it the anchor of the Hudson River Park for the southern part of our district. For that reason, we can in no way support the use of Gansevoort as an active facility for the Department of Sanitation. When the Hudson River Park Act was signed into law in 1998 it reflected City and State negotiations which determined the location of several municipal and commercial uses within Hudson River Park. The City cannot now change the Act to accommodate more municipal uses

What would stop a future amendment to the Act at other locations if this were to establish a precedent?

The Solid Waste Management Plan to date accommodates the Hudson River Park Plan as drawn preliminarily by the Park's Segment 5 architects, but adds a large facility in the water at the end of the Gansevoort Peninsula. But NYC's Economic Development Corporation (EDC) has not presented any concrete proposal for financially supporting the park development, so it is still unclear what benefit the Solid Waste Management Plan has to the park or the community. In addition, representatives of DOS have stated that accommodating the recycling facility would not accelerate the removal of DOS uses on the pier and therefore accelerate park construction. Again, this does not provide any benefit to the community in return for accepting this facility and compromising the Hudson River Park Act.

To restate, the Board insists that the DEIS study other locations for a Manhattan Marine Transfer Station (MTS) for recyclables, including Pier 76, which is already designated for commercial use.

Specific comments

2.1.1: Overview

We are very concerned about Footnote 3 on page 2-2 which states that a full environmental review will not be conducted for a recycling facility on the Gansevoort Peninsula. First of all, the text throughout refers to a future environmental review of this facility, and it is completely inappropriate to bury the fact that one will not be conducted in a footnote. Secondly, any waste management facility operating in the middle of parkland is likely to have serious on-site environmental, odor, noise, and traffic impacts, and not studying them is unacceptable.

18.1: Introduction

Although the Gansevoort recycling facility has not yet been designed and will not be built for at least seven years, this section of the DEIS considers the off-site traffic, air, and noise impacts of rerouting trucks to this facility. This is completely premature. Without specific knowledge of the facility's design and operation, assumptions about its related truck traffic are likely to be wildly inaccurate. Anticipated truck routes and volume could be different when we know more. If, where, and when trucks will idle depends on the design of the facility. Furthermore, as stated before, it is utterly ridiculous to use 2006 figures for measuring the effects of traffic that won't even exist before 2012.

18.14.3: Traffic: Future no-build conditions

The Gansevoort Peninsula will be developed entirely as parkland with no industrial uses on it at all. The DEIS must acknowledge that this site will be parkland and not, as stated in 18.15.3, a "commercial/ industrial" area. In addition, a traffic analysis at the site MUST be conducted with a focus on the effect of trucks on the users of the park and especially the bikeway/walkway, regardless of the CEQR thresholds.

18.17: Noise

Although the DEIS predicts that trucks will be routed down residential sections of West 14th and West 15th Streets, noise analysis is only done on Route 9A and on West 14th Street between Washington Street and Route 9A. Noise analysis must be done farther east, on the residential streets that are most likely to be negatively affected by this additional truck traffic.

PIER 99 MARINE TRANSFER STATION

General comments

The current proposal for Pier 99 is to handle about half of Manhattan's commercial waste. This Board at no time opposed the reuse of the Pier 99 MTS for DOS-controlled residential waste However, the use of the site for commercial rather than residential waste must be studied *de novo*, not considered an adaptation of the original proposal.

The analysis that was prepared would allow for the construction and operation of a Converted MTS for residential and commercial waste. In case the plan to create a commercial-waste-only facility fall through, we are providing the following comments on the studied facility We expect that all errors would also be corrected in the eventual EIS for the planned commercial facility.

We are particularly concerned by the mischaracterization of the area surrounding Pier 99 as an area "with active industrial uses and municipal operations." The DEIS lists the most significant use in the area as the Con Edison plant, and identifies the site as part of an M2-3 manufacturing zone However, the Con Ed facility far from characterizes the area on whole and in addition to M2-3, several R districts exist in the area.

This site is surrounded by mapped parkland. And the most significant uses both to the south, north, east, and yes - west - are parks The DEIS must come to terms with this Specifically, any text referring to Clinton Cove Park must include Pier 97 not as an aside, but as part of the park which WILL be built once the DOS removes its uses on both the pier and the upland area. In addition, your own document, flawed and incomplete as it is, notes a dozen new residential and commercial developments, which, when added up, paint this area as a strongly residential area, hardly "industrial" at all. The EIS must at every point note that this is a neighborhood in transition, and, in fact, transformation.

When describing existing and future land use conditions, the socioeconomic conditions, the neighborhood character, urban design, and waterfront revitalization, the DEIS must reference both the Hudson River Park and Riverside South Park first and foremost. It must also acknowledge that the area to the east of the park is going through major change and becoming predominantly residential. These sections and analyses should be revised to properly take into account the uses immediately surrounding the pier as parkland and to reflect the major residential transformation of the neighborhood.

Specific Comments

22.2.1: Land Use: Existing Conditions

The DEIS fails to accurately characterize many of the neighboring sites and leaves out much significant residential development in the area:

The Artkraft Strauss sign factory referred to in the DEIS is in fact vacant and soon to be redeveloped. Most of the block between 57th and 58th Streets, between 12th and 11th Avenues is being developed by the Durst Organization. The Helena apartment building near completion on the eastern edge of the site will have 600 units. The western end of the block is planned to have a commercial tower rising 300 feet (30 stories). The middle of the block is zoned for commercial development.

This section fails to mention two significant neighborhood developments: the Amsterdam Houses, a NYCHA facility between 61st and 65th Streets, from Amsterdam to West End Avenue;

and the planned expansion of John Jay College to 12th Avenue. Future development will soon take place on sites currently being acquired on the western half of the blocks between 59th and 60th Streets, between 11th and 12th Avenue; and between 60th and 61st Streets, between 11th and 12th Avenue

Furthermore, the Foundry, a residential building at 505 West 54th Street which contains 222 units, is not listed. The Nicole, at 400 West 55th Street, contains 149 residential units, and while it is just outside the half mile radius study area, it is across the street from Alvin Ailey, which is included.

Finally, calling the blocks between 10th and 11th Avenue "largely industrial and institutional in nature" is false and it seems, deliberately misleading. Your own document belies this statement, and adding accuracy to your document clearly demonstrates that residential areas of this neighborhood are being strengthened and formerly industrial areas of are quickly converting to residential and commercial uses.

22.2.1.4: Land Use: Existing Conditions: Zoning Plans and Policies
The document erroneously states that a 197-a Plan is in development for South Hell's Kitchen; no such plan is being developed. But, there are massive rezonings currently in the ULURP process which must be included in this study. The Hudson Yards Redevelopment Plan which includes extension of the Number 7 subway line, expansion of the Javits Convention Center, massive upzoning, and a stadium, along with the City's West Chelsea Rezoning Plan, will further encourage high density residential and commercial development of the west side. A number of other rezoning proposals also indicate transformation from low-scale industrial areas to higher density and increasingly residential and mixed-use development.

Immediately north of the site is mapped parkland, not as the study states, an R10 district

22.2.2 Land Use: Future No-build Conditions
Clinton Cove Park is actually between Piers 94 and 97, and includes development of Pier 97. This must be corrected.

RiverCenter is listed here as being the future development of the block between 58th and 59th, west to 12th Avenue. In fact, this site is being developed as a 600,000+ square foot expansion of John Jay College.

In addition, the future no-build conditions must include:

- Encore Senior Residence - 755-765 10th Avenue - 85 units for low-income elderly
- Clinton Green - CURA sites 8 and 9C - (west of 10th, 51st - 53rd Sts) - 627 units

Flats/Old School - 552 & 554 W. 53rd St. - 86 low, moderate and middle income units

These are marked on Figure 22.2-4 Planned Development Sites, enclosed.

22.3: Socioeconomic Conditions
The socioeconomic data in section 22.3 confirms that this is an area of rapid market-rate residential development. The study must reflect this obvious conclusion. One explanation for the growth rates shown between 1990 and 2000 are the Brodsky (and other) towers along 9th Avenue, 58th to 60th streets.

The study used regional projections to say that the populations of Community Districts 4 and 7 will remain about the same. However, the description in the EIS of the area's development, the census data and the City's plans for Hudson Yards and West Chelsea make this an absurd assumption. This must be corrected.

Furthermore, given the small size of the study area, residential units within the ¼ mile study area boundary but located in census tract 135 should be included in the demographic analysis. There is no reason to rely on estimates based on census tracts, and use shorthand calculations when the limited number of nearby residential buildings makes it possible to derive a much more accurate population figure.

Again, we note that the characterization of the side streets that trucks will use as "predominantly industrial in nature" is no longer accurate. The analysis of impacts on nearby residences and businesses must reflect the actual character of the neighborhood.

22.5: Open Space

The DEIS appears to contradict itself several times in recognizing that Pier 99 is between two major park areas, but continuing to characterize the surrounding area as remaining, "largely industrial and transportation-oriented." Recognizing the relatively rapid development of this area, referring to the area as "largely industrial" is misleading.

In addressing the impact of the operational MTS the DEIS states, "Any increase in MTS truck traffic, therefore, could potentially worsen the safety conditions on the bike path. Appropriate measures, developed in coordination with the NYCDPR, would likely resolve this conflict." (22.5.3) How would this be resolved? Why is this not considered a significant adverse impact? Ideally, the design for the MTS would allow the creation of separate bicycle and pedestrian pathways in order to improve safety and to link the Hudson River Park pedestrian pathway to the Riverside South Park pedestrian pathway. We hope that a design change will be considered, and this will be reflected in the Final EIS.

The MTS is an allowable use of Pier 99 according to the 1998 Hudson River Park Act. However, the Act also placed restrictions on uses within the park, which includes the water area designated as an estuarine sanctuary. Any expansion of the footprint of Pier 99 must not be charged to the park in the Army Corps of Engineers permit – it should be treated as part of the project, since it is not a park use. Any enlargement would impinge on Park property and would require State legislative approval – this is not addressed in the DEIS but it should be.

Table 22.5-1, listing public parks and open spaces, must include the Hudson River Park. Its absence makes us question the intentions of the EIS team.

22.7: Urban Design, Visual Resources, and Shadows
22.12.2.8 and 9: Waterfront Revitalization: Policies 8 and 9

Because this facility will be in the middle of extensive and important parkland, the construction of a much expanded facility 20 feet taller in height and accompanied by 80 foot tall cranes is indeed likely to have a negative effect on "visual resources" aka "scenic values" aka "visual quality" aka "visual access" - specifically on water views. These impacts must be studied in greater detail and given real consideration rather than being brushed off so casually. The DEIS must adhere to the policies and sub-policies of the Waterfront Revitalization Program and not

dismiss them as inapplicable. The impacts of the facility on surrounding parkland must not be underestimated.

The design, in addition to increased footprint and height, calls for an 80-foot crane to load containers on to barges. The DEIS states that this crane will be "screened by the Consolidated Edison Pier." (22.7.3) What happens when the lease for this Pier has expired? When Pier 97 is converted to parkland, views from the end of this pier will not be screened by the ConEd Pier How will this be addressed?

The DEIS states, "The existing neon ornament found on the MTS would not be incorporated into the proposed facility design, though the entrance portal will remain undisturbed." (22.7.3) What other considerations have been made in the design? How will these considerations be affected if developed privately? The removal of the neon ornamentation is also a significant impact on users of the neighboring highway and should be seriously considered.

DOS must consider the neighborhood environment and character in developing a design for this working pier - looking to the natural, economic, and social environments surrounding this facility. In particular, DOS must consider the existence of this MTS within and connecting two significant parks. We urge DOS to consider design that is not only efficient and environmentally responsible, but one that promotes public interest and involvement.

The DEIS mentions possible improvements to the existing bulkhead. We remind DOS that the bulkhead is eligible for the State and National Registers of Historic Places and is therefore subject to restrictions.

22.8: Neighborhood Character
We reiterate our objection to the characterization of the neighborhood as industrial. The neighborhood character analysis must be based on the fact that this facility is surrounded by parkland.

22.9: Natural Resources
The EIS states that negative impacts on fisheries from dredging will be temporary. However, since dredging is required to make the channel deep enough for tugboats and barges as well as for construction of the facility, dredging will probably have to be repeated on a regular basis. How often do you believe that dredging will be necessary? What will be the effect on natural resources of this regular dredging activity?

22.14: Traffic, Parking, Transit, and Pedestrians
There is NO WAY there are no significant impacts on traffic, pedestrians, and cyclists. At the very least, the DEIS must evaluate the increase in truck traffic crossing the bikeway/walkway, especially since the current facility uses only 41 trucks per day.

The area designated for traffic analysis is far too limited to fully realize the effects of traffic in this area. By studying only 59th Street and 12th Avenues north and southbound, the DEIS has not adequately assessed the impact of the development to the north, south, and east of the facility. Furthermore, the study does not address the current conditions in the area. For example, 59th Street west of 11th Avenue provides a layover area for commercial buses in addition to staging areas for trucks and vehicles servicing the cruise industry and trade facility on Pier 94. (These buses can clearly be seen in the picture provided in Figure 22.7.3.) How are these conditions going to be addressed?

Although major areas of development were mentioned including: The Time Warner Center at Columbus Circle, Alvin Ailey Dance Theater at 9th Avenue and 55th Street, The Helena (Durst Organization) and additional retail and office development on 57th Street, Riverside South developments, and park developments including the Clinton Cove Section of the Hudson River Park and Riverside Park South; the EIS does not offer analysis of how the increase in traffic will affect these areas, nor does it consider all of the planned developments (e.g. the John Jay College expansion) in its assessment of future conditions.

The West 59th Street facility would receive waste from five CDs in Manhattan with approximately 124 inbound collection vehicles per day (22.14.4). This includes approximately 0 to 10 trips per hour in the late-evening to early morning and late-afternoon to early evening, and 5 to 42 trips per hour in the mid-morning to early afternoon. This leaves peak trips during morning rush hour along a major inbound route by commuters. Yet the DEIS states use of the facility will have no significant adverse traffic impacts. Further analysis must be done.

We are particularly concerned about queuing and routing of trucks through our neighborhoods. The study must include operation controls and design modifications that consider the traffic and queuing during these peak hours with respect to other traffic and sensitive areas must be protected from excessive traffic. The following points must be addressed particularly with respect to commercial waste collection:

- What is the provision for queuing on-site? How will the peak hour vehicle estimation of 21 trucks be addressed with only 10 to 12 vehicles on site advancing only one truck length every 2 minutes at peak efficiency?
- How will operational controls to stagger arrivals be implemented? How will they be enforced with commercial operators?
- The proposed truck routes, particularly routes going south from 57th Street down 9th Avenue add volume to a tremendously overstressed traffic situation. How will this be addressed?
- The study must consider the effects on traffic farther east on West 59th and West 57th Street, since these designated truck routes are in the middle of busy residential and commercial areas.
- Truck routes already have congestion problems and trucks straying off designated routes to avoid congestion has been a problem. Will enforcement be stepped up?

The EIS predicts no change in pedestrian and cyclist conditions, and therefore minimizes any impact the facility will have on these groups. The study must consider the increased use of the bikeway/walkway related to the pending completion of the neighboring parks. Even if everything won't be completed by 2006, the parks must still be included in the analysis in order for it to have any basis in reality.

Furthermore, a Saturday traffic analysis MUST be completed despite collection trucks being at 69% use while other traffic is estimated at 81% of weekday capacity. (22.14.4) Pedestrian and cyclist traffic in the park will increase on Saturdays - particularly during the DEIS "peak hours of mid-morning to early afternoon." Car traffic also increases due to Saturday matinees and cruise ship docking. Analysis should be done to assess the true impacts of this usage on park users and the surrounding community.

22.15: Air Quality

We are concerned about the impact emissions from collection vehicles will have on the air-quality of the surrounding community. Again, the analysis must consider the true nature of the surrounding area. When the analysis of commercial operation is done, the following conditions must also be addressed:

- How will DSNY regulate vehicle emissions of private haulers? The SWMP states that the city will enforce more stringent requirements for operations and maintenance to help minimize the impact of transfer station operations on their surrounding communities. For example, stricter air emissions standards and odor control for stationary equipment and non-road vehicles. What about on-road vehicles? Idling trucks with few emissions standards will decrease air quality.
- What about tugboat and other watercraft emissions?
- How will use of designated truck routes be enforced?

For both Converted MTS and total commercial use, what are the contingency plans when negative air pressure exhaust fans break down?

22.16: Odor

Why is the nearest sensitive receptor for odor analysis at 11th Avenue and 61st Street, when the nearest sensitive receptor for noise analysis is at the adjacent bikeway, as it should be? Like noise, odor must also be studied in the park abutting the facility and at the nearest major development sites: the corner of 58th Street and 11th Avenue, the Helena, the John Jay expansion, and the Durst office building.

Although Chapter 3 describes the methodology for measuring odor, nowhere does the EIS state what the assumed odor output of the Pier 99 Converted MTS, both with and without partial commercial use, would be, or how those figures were arrived at. Given that the waste facilities actually sampled had a very wide range of odor output, how can we know what this facility will smell like? A worst case analysis is in order here. We also note that the air samples taken at commercial waste facilities were deemed particularly offensive, making it especially important to do this analysis *de novo* when the commercial facility is studied. The commercial analysis must particularly rely on air sampled at facilities that process the same proportion of putrescible waste that the planned facility will process.

22.17: Noise

See comments in Methodology section.

We are confused by Section 22.17.3.6 which states that a combined on-site and off-site noise analysis is not required since no sensitive receptor was found within the 55 dba line. There was indeed a sensitive receptor found within the boundary, so the combined analysis must be performed. Given the odd reference to Figure 4.17.1, perhaps this was a misprint?

Given the high level of existing traffic, we are very surprised that the quietest hour was deemed to be the afternoon rush hour. This seems impossible. Is this perhaps also an error? How would the analysis be affected if it was repeated for a nighttime hour?

22.18: Commercial Waste

Given the widely different odor levels sampled at municipal and commercial waste facilities, a more sensitive odor analysis should be performed for this option, rather than just assuming that commercial and residential waste have the same odor impact.

Air quality analysis for commercial vehicles, as was stated before, cannot assume that they use the same low-sulfur fuel as municipal vehicles, nor that the vehicle fleet is of the same age.

The traffic analysis in Appendix D is highly speculative. There is no way of knowing where any commercial garbage would originate, how it would reach the facility, how much would arrive, and at what times. Given that this would be determined by contract negotiations with particular carters, actual figures are likely to be very different from those derived by just taking the averages. For this reason, we are highly suspect of the analysis performed in Appendix D. A worst case analysis would make more sense. This also further highlights the need for a *de novo* traffic analysis for the proposed new all-commercial facility, based on more solid figures, perhaps from actual contracts or memoranda of understanding.

Thank you for your consideration of our comments.

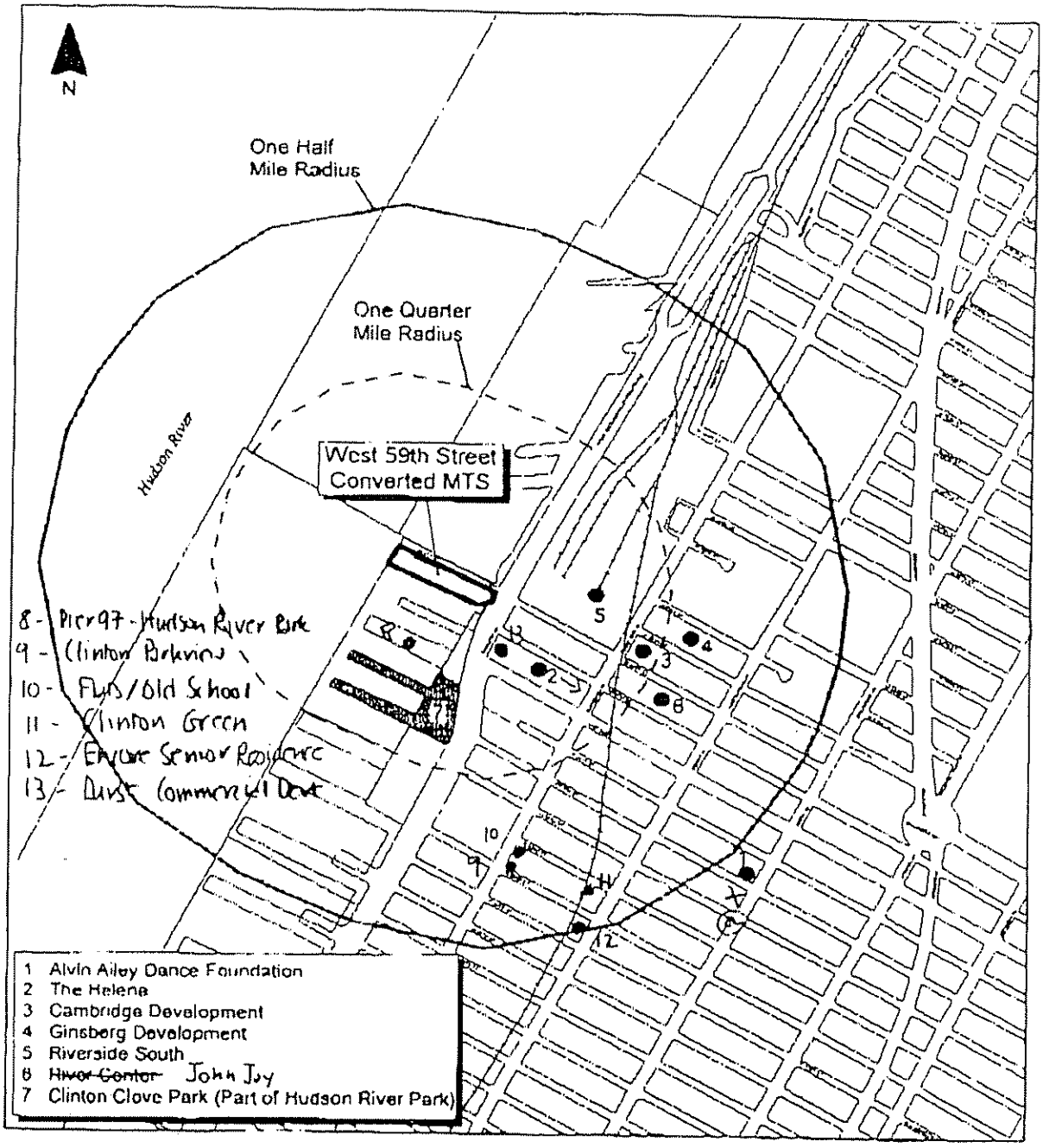
Sincerely,

Walter Mankoff
Chair
Manhattan Community Board No. 4

John Doswell
Co-Chair
Waterfront & Parks Committee

Pam Frederick
Co-Chair
Waterfront & Parks Committee

cc: Elected Officials
Manhattan Community Boards Nos. 2 and 7
Friends of Hudson River Park
Hudson River Park Trust
Friends of Clinton Cove
Riverside South Planning Corporation



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

500 0 500 Feet

Figure 22.2-4 Planned Development Sites

West 59th Street Converted MTS

CITY OF NEW YORK
DEPARTMENT OF SANITATION

DEIS

@ Nicole

The City of New York

Community Board No. 5

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Vincent Arcuri, Jr.
Chairperson

Gary Giordano
District Manager

January 24, 2005

Mr. Harry Szarpanski
Assistant Commissioner
Bureau of Long Term Export
NY City Dept. of Sanitation
44 Beaver Street (12th Floor)
New York, NY 10004

FAX AND MAIL

Re: Draft New Comprehensive Solid Waste Management Plan Concerns

Dear Assistant Commissioner Szarpanski:

Enclosed, please find a copy of the December 8, 2004 letter that I wrote to you regarding the Draft New Comprehensive Solid Waste Management Plan, as it concerns waste transfer station sites, especially at 30-58 Review Avenue, which is CD2Q.

There are very serious concerns that the amount of truck traffic in and around District 5, Queens could be overwhelming, since there will be 3 transfer stations in such close proximity to one another (the other sites being at 485 Scott Avenue and at 72 Scott Avenue, in Brooklyn).

Another serious concern is the possible plan for a Truck-to Truck-to Rail waste transfer plan. Under this plan the LIRR tracks area along Rust Street,at and adjacent to Maspeth Avenue, would be the location where trucks would load containers onto rail cars for export. This plan would mean an extensive number of additional trucks going into and out of the congested West Maspeth Industrial Area. The congestion and air pollution that this additional diesel traffic would bring is very serious.

The Rust Street/Maspeth Avenue LIRR track area is the border of District 5, Queens and District 2, Queens.

These pollution and congestion matters have to be studied very carefully before any final decisions are made.

Sincerely,

Gary Giordano

Gary Giordano
District Manager

CC: Hon. John Doherty, Commissioner, Dept. of Sanitation
Hon. Helen Marshall, Queens Borough President
Local Elected Officials
V. Arcuri & A. Nunziato, CB5Q; Community Board 2, Queens

The City of New York

Community Board No. 5

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December 8, 2004

Mr. Harry Szarpanski
Assistant Commissioner
Bureau of Long Term Export
NY City Dept. of Sanitation
44 Beaver Street (12th Floor)
New York, NY 10004

Re: Draft New Comprehensive Solid Waste Management Plan

Dear Assistant Commissioner Szarpanski:

In response to the Public Hearing scheduled for Wednesday, December 8, 2004 regarding the Queens Alternative to Greenpoint MTS, I believe that Community Board 5, Queens might be in favor of an MTS to serve District 5, Queens at 30-58 Review Avenue, in CD2, Queens, but I believe that the following matters have to be seriously studied first:

- Truck traffic impacts at, around and for travel to and from the proposed site.
- The impact that having 3 transfer station sites located in such close proximity to one another, these sites being a site at 30-58 Review Avenue in Queens, a site at 485 Scott Avenue in Brooklyn and a site at 72 Scott Avenue/598 Scholes Street in Brooklyn. Although none of these 3 waste transfer stations are located directly in CD5Q, they are each in close proximity to the Community Board 5, Queens area.
- Spill mitigation plans at Newtown Creek.
- Waterfront/water traffic as it may affect the planned Greenpoint/Williamsburg waterfront sports facility.
- Water traffic as it may affect the proposed 2012 Olympic venues.

This is a preliminary set of comments on the Draft New Comprehensive Solid Waste Management Plan of the NY City Dept. of Sanitation.

Sincerely,

Gary Giordano

Gary Giordano
District Manager

Community Board 7/Manhattan Comments
on the
Comprehensive Solid Waste Management Plan
Draft Environmental Impact Statement
January 24, 2005

Community Board 7 has a significant stake in the successful implementation of a rational, sensitive, and balanced solid waste management plan (SWMP). We care not only because the West 59th St. MTS (59th St.) has a direct impact on our district, but – given that we are New Yorkers, not just Upper West Siders – because the entire SWMP will shape the ways we live our lives at home, at work, and at play throughout the city.

Our comments on the Draft Environmental Impact Statement (DEIS) fall into two categories: fundamental and specific.

Fundamental Comments

First, the DEIS is technically deficient, because the DEIS fails to assess the potential impacts of the SWMP's actual planned commercial waste use of 59th St. The DEIS should be redrafted now (not later) to reflect the actual planned use. Second, the SWMP and DEIS should describe the analysis underlying the fundamental policy decision to dispose of garbage in the manner described in the SWMP. This description would include an analysis of the alternatives considered (rail transport? Waste-to-energy in New York City? Long-term truck export? others?), as well as a much more comprehensive and complete discussion of plans for diversion of waste to recycling and for reduction of the waste stream Third, the DEIS needs to widen the study zone around 59th St. to adequately assess its potential impact. We believe that there should be a single study zone with a radius of ¾ mile, to ensure that the impacted area up to and including Columbus Circle will be appropriately evaluated. Fourth, the DEIS needs to extend the built year to consider the actual time required to bring the MTSs on line. 2010 would be more realistic than 2006.

1. The use of the West 59th St. MTS evaluated by the DEIS is not the use contemplated by the SWMP. While the DEIS found no immitigable adverse impacts based on certain specified uses, that finding is effectively moot – as the SWMP itself acknowledges – because the SWMP actually calls for a different use (the transfer at 59th St. of commercial waste collected by private carters in Manhattan). Use as a commercial waste transfer station will cause meaningfully different impacts, because it will (i) involve a different type of waste, (ii) increase the volume of traffic (200 trucks per day + District 7's trucks)(iii) require a significantly larger or a non-containerized facility (iv) alter the mix of trucks and hours of operation, and (v) decrease the ability of the city to manage the operation, as the city will have much less control over the private carters and their non-municipal employees(vi)and continue the use of truck export of residential garbage from Manhattan CDs 1,2,3,4,7,9,10, and 12. The SWMP proposes the 59th Street MTS would take residential garbage from Manhattan CDs 1,2,3,4,7. The DEIS should study both proposals and compare their impacts. The DEIS does not study the impacts of keeping paper recycling at West 59th Street until Gansevoort is available, perhaps in 2012.

We should be reviewing a DEIS that is consistent with the SWMP. It is not enough to say that "a supplemental environmental review would assess the potential for adverse impacts." The risk is simply too great that, by the time a supplemental environmental review is conducted, no meaningful options for the transfer of Manhattan's commercial waste would remain. As a result, the conclusions of that supplemental environmental review would be pre-ordained, resulting in tons of putrescible commercial waste passing through the West Side and a gem-like waterfront park, even if community concerns and environmental impacts would dictate otherwise.

2. The SWMP (and DEIS) provide little or no consideration of ways to dispose of garbage other than those specifically described in the SWMP. It is simply not possible adequately to evaluate the SWMP and DEIS in this information vacuum. The goals of the SWMP – to more equitably distribute the burden of solid waste disposal and to make less of an environmental impact – are admirable, but the means may or may not be. The public – which should have a critical voice in the fundamental policy decisions – can only voice its opinion if it has the necessary information. Specifically, was rail transport considered? Were waste-to-energy facilities in New York City considered? Were other alternatives considered? If so, how did these alternatives compare, and why were they dismissed? If they were not considered, the DEIS should study them. If these alternatives were not considered, why not? If Manhattan's commercial waste disposal trucks are added to the West Side export truck traffic, is this an equitable distribution? How will use of commercial land transfer stations outside of Manhattan be reduced? The DEIS should present specific data on these issues.

3. Recycling is a key part of the SWMP, but the discussion of recycling is weak. The SWMP should provide more details on the legislative proposals now under consideration and on new approaches that might require new legislation. We propose that DOS analyze the following additional programs or actions: improvement of commercial and institutional recycling; increase in the "bottle bill" deposit to $0.10; expansion of the "bottle bill" to include non-carbonated water and drinks; establishment of recycling programs at major transportation hubs and at major NYC parks and sports stadiums; passage of State legislation requiring composition labeling on all plastic containers; and passage of State legislation providing tax incentives for use of recyclable plastics vs. non-recyclable plastics in packaging. (Interestingly, these legislative actions would be consistent with DOS's own market research findings that most New Yorkers believe that waste reduction should be "left to manufacturers and legislators.") In addition, the number of collection and distribution sites for special recyclable collections such as hazardous material or new compost material must be increased if the DOS expects greater citizen participation. The DEIS should study impacts of increased recycling and how it would reduce truck traffic and the need for disposal sites.

Specific Comments

We also have a number of concerns and questions concerning the specific terms of the DEIS, as

it applies to the West 59th St. MTS. In order for the DEIS to meet its technical requirements, the DEIS must be changed or supplemented to address the following issues. For these purposes, given that we have no alternative, we take the DEIS at face value and comment on the described environmental impact of a use which we know not to be the use actually contemplated by the SWMP.

1. The DEIS assumes the approval by the State legislature of changes in the Hudson River Park Act and the approval of the East 91st St. MTS. While it is interesting to speculate about the outcome sought by the SWMP, the DEIS must also provide information on the impacts caused by the necessarily different use at 59th St., if the desired approvals are not forthcoming. A DEIS that is entirely predicated on approvals which are far from certain does not meet the requirements of the law.

2. Section 22 does not reflect the current and near-future neighborhood character and should be updated. The DEIS is measuring the future impact of the transfer station based on the current development characteristics of the 59th St. area. As a result, the DEIS does not meet its technical requirements. The DEIS must estimate the future impact of the facility on the future character of the neighborhood. This character is defined by Riverside South, the new Hudson River Park and Riverside Park South the rezoning of the areas between Amsterdam Avenue and West End Avenue to permit over 1000 new residential units, westward expansion of John Jay College, among other dramatic changes.

It would be helpful if the DOS prepared two zoning maps of the expanded Study Area. The first would show the existing development in terms of floor area ratio by permitted or existing use The second map would show developable floor area ratio, by type of permitted use, if the Study Area was fully built out to the maximum levels permitted by the zoning code. These maps would provide the community and the DOS with a better understanding of the impact of the MTS on our community in 2015 and 2025.

While the area in the vicinity of 59th St. may have been industrial in the recent past, it will not be in the near future. By way of example, the DEIS needs to widen the study zone around the West 59th St. MTS to a ¾ mile radius in order to adequately assess the potential impact of additional truck traffic, even if at off-hours, in the context of the rapid development of the West Side both north, south and east of the facility. The DEIS needs to analyze the anticipated increase in traffic from development at Riverside South, Lincoln Center, Columbus Circle and the West End Avenue corridor running south as well as Hell's Kitchen development and the Hudson Yards upzoning.

3. Con Ed's use of Pier 98 for fuel transfer operations is cited as a mitigating factor, because it will screen (and therefore theoretically minimize) the visual impact of the new loading activity at the West 59th St. MTS. This statement is misleading and must be changed, because we do not

actually know what the loading activity at the West 59th St. MTS will look like. As noted above, the loading activity described in the DEIS is not the loading activity actually envisioned for the site and may have a negative impact on ConEd operations. The DEIS should include an analysis of this.

4. The DEIS by its terms contemplates not just continued, but expanded, municipal waste transfer activity. (See p. 22-21: The 59th Street MTS represents the "reactivation of solid waste transfer operations... with added containerization operations.") This expanded use is not adequately addressed by the conclusory statement (See p. 22-29) that "air quality, odor, noise and traffic studies were conducted to determine what the environmental consequences would be on these sensitive [park] uses; no significant adverse impacts were found." (See also p. 22-107: "no air quality, odor, noise or traffic impacts are predicted to result.")

The DEIS should detail what exactly was shown by the studies conducted for the DEIS. The DEIS at p. 22-29 acknowledges that an increase in MTS truck traffic could potentially worsen the safety conditions on the bike path, but these would likely be resolved. The DEIS should indicate how this problem can be corrected.

5. The statement in Section 22.8 "Neighborhood Character" (p. 22-45) that "the character of the immediate environs remains largely industrial and transportation-oriented" is an inappropriately narrow view. It is simply untrue that "no destination in the immediate area... would attract anyone but workers..." (p. 22-45), when the immediate area includes two popular parks that attract an untold number of parkgoers (including Hudson River Park, in which the 59th St. site is actually located). It is misleading to say that "potential operational impacts [on neighborhood character] would be largely contained to the immediate vicinity" (p. 22-47). The DEIS must be amended to reflect the fact that there will be more trucks and more sanitation activity in a newly populated, greened place.

6. It is not possible to reconcile the following two statements: "Potential traffic impacts may result from the increase in DSNY and other agency collection vehicle trips to and from the site during all peak hours" (22-97) and "Although the West 59th Street Converted MTS would remain within the vicinity of several parks, no air quality, odor, noise or traffic impacts are predicted to result" (22-107). The former is much more plausible. The DEIS should be amended to reflect this change and to ensure appropriate scrutiny and remediation. We request data on which and how many agency vehicles? The DEIS should include data on District 7's collection and relay trucks, recycling trucks, and snow operations.

7. According to the DEIS at p. 22-20, regional projections indicate that the population of Manhattan CDs 4 and 7 will remain about the same as current conditions. This statement is simply wrong. Certainly, the many new developments predicted for the area (pursuant to the recently-adopted West Side Development Plan in CD4, and rezoning and development in CD7) will result in a meaningful increase in the residential population in the vicinity of the proposed

MTS. Although the growth in residential space is acknowledged, the DEIS needs to be amended to adequately reflect these numbers and to address the implications of the population growth

8 "Waterfront Revitalization Program" (22-67) still incorrectly identifies several sub-policies as inapplicable. As a result, the DEIS must be changed. It is particularly disingenuous to label sub-policies 8.1 and 9.2 inapplicable. Sub-policy 8.1 reads: "Preserve, protect and maintain existing physical, visual and recreational access to the waterfront." The DEIS responds: "Due to the existing industrial uses at and in the immediate vicinity of the [proposed MTS], public access would not be compatible with the principal use of the site. Therefore, this subpolicy is not applicable." This is wrongheaded and circular logic. The subpolicy only becomes "not applicable" because it is deemed "not applicable," which misses the point entirely. Public use could certainly be compatible with the principal use of the site. (See, for example, the public access proposed as part of the plan for the Pier 52 facility).

In addition, Subpolicy 9.1 reads: "Protect scenic values associated with natural resources." The DEIS responds: "The [proposed MTS] would pose no impact to scenic values associated with natural resources. Therefore, this subpolicy is not applicable." Of course, the proposed MTS would pose a very real impact to scenic values associated with natural resources – namely, the wonderful and dramatic views of the Hudson River.

9. The DEIS should reflect the Riverside South mitigations on West End Avenue that have changed the traffic flow from West 59th Street to West 70th Streets.

10. The DEIS should include analyses of the implications of the anticipated connection of Riverside Boulevard and Route 9A at West 59th Street.

11. The DEIS should reflect the condition of increased traffic in and around Columbus Circle (a designated truck route) resulting from the new Time Warner building.

12 The DEIS should reflect the use of West 59th Street, west of 11th Avenue, as a commercial bus layover and a staging area for trucks and other vehicles that serve the cruise ship lines to the south.

13. The DEIS should analyze the potential for vermin and sea gull infestations in the parklands. Eliminating food resources for rodents in particular should be included.

14. The DEIS should include a study of asthma rates in Amsterdam Houses and Amsterdam Addition and include this NYC Public Housing development and its 1,080 families in Public Outreach Process/Environmental Justice Plan.

15. Table 22.4-1 In the secondary study area, add Lincoln Square Neighborhood Center, 250

West 65th Street, Mabel Barrett Fitzgerald Day Care Center, 243 West 64th Street.

16. Section 22.13.1.2 DEIS should analyze the MTS sanitary sewage and stormwater impacts on North River with data that include the new Hudson Yards rezoning.

The City of New York

Community Board Ten

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January 20, 2005

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Dear Commissioner Szarpanski:

I am writing to comment on the Dept of Sanitation ("DOS") proposal of a new Solid Waste Management Plan ("SWAMP") for the next 20-Year planning period.

Community Board Ten's Environmental Committee reviewed the Draft Environmental Impact Statement on January 4, 2005. Committee Members discussed at length your Agency's plans for improving curbside recycling, implementing a Long Term Export Program through the development of four Converted Marine Transfer Stations; and awarding Contracts for barge or rail export of DOS garbage to various sites.

Committee members raised objection to the potential for the construction of an intermodal barge to rail facility to be placed at the 65th Street Rail Yard The 65th Street Railyard is located within Community District 10 Additionally, the Bay Ridge Towers, a Mitchell Lama complex with nearly 800 families lies adjacent to the 65th Street Rail yard. The 65th Street Railyard is currently leased to New York and Atlantic Railways. Residents have raised concerns about the rail transport of propane and other chemicals because the rail runs beneath their complex and have expressed their opposition for the expansion of its use to include an intermodal barge to rail facility.

For this reason we strenuously object to any siting of any kind of a facility within the confines of CB 10 or immediately adjacent to our borders and will be voting to ratify this position at our full Board Meeting on January 24, 2005.

Sincerely,

Craig A. Eaton
Chair

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THE CITY OF NEW YORK
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Send to: Comm. Bizzarski	From:
Attention:	Date: 1-24-05
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- ☐ Urgent
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Total pages, including cover:

Comments:

Please find attached comments that I rec'd today

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GUY S. LA MONACA

January 24, 2005

Howard Feurer
District Manager
Brooklyn Community Board 11
2214 Bath Avenue
Brooklyn, NY 11214

Dear Mr. Feurer:

I have reviewed the Department of Sanitation DEIS for the New Comprehensive Waste Management Plan for the next 20 years Planning Period (2004-2024) published in October 2004. I have the following comments pertaining to chapter 5 of the DEIS:

1. General Comment:
   The DEIS Notice of Completion dated 10/22/04 maintains that this Draft EIS would comply with the State Environmental Quality Review Act. To analyze the future "no-build" condition the DEIS uses year 2006. In the spirit of SEQR, the EIS must include both short and long-term impact, as mentioned by NYSDEC, SEQR Process, Step 5 – Preparation of the Draft EIS.

   Year 2006 could qualify for the short term impact analysis; however the future "no build" condition must analyze conditions to a forecasted future year, usually associated with the life cycle of the facility, in this case the Southwest Brooklyn Converted MTS. The Estimated Time of Completion (ETC), when the facility will be placed in service, plus 20years (ETC+20), may provide for a reasonable future time frame.

2. Section 5.3.2 Future No-Build Conditions:
   a. The Demographic Characteristics and Economic Conditions and Potential Impact analysis should be done for ETC+20. Demographic characteristics are especially important for estimating waste production, waste disposal and traffic growth.
   b. The New York Metropolitan Transportation Council (NYMTC) has developed new Socio-Economic Data (SED) and forecasts to year 2030 based on updated National Drivers. NYMTC's PFAC (Program, Finance, and Administration Committee) did not approve the 2025 SED reforecast since it was uncertain, due to the 9-11 disaster and recovery.

3. Section 5.13.2 Future No-Build Conditions: Same as comment above (Section5.3.2) all future impacts should be referred to ETC+20 years.

4. Section 5.14.2.3 Existing Traffic Operations.

   a. Par. 3 states that "Manual turning movement counts were conducted between February 5, 2003 and February 11, 2003, while ATR counts were conducted between February 3, 2003 and February 9, 2003." The analysis uses these counts. There is no mention if and when vehicle classification counts were conducted. Since the area has pronounced summer recreational activities (see Section 5.7.1.3), winter traffic may be significantly lower than traffic in other seasons. The DEIS should take the seasonal traffic variation into account before the analysis is conducted.
   b. All figures showing traffic volumes depict ambiguous traffic approach diagrams. The traffic approach diagrams should be turned so that the traffic flow coincides with the street grid.

January 24, 2005

5. Section 5.14.2.4 Existing DSNY-Related Traffic: Sentence 2 "However, DSNY and other agency...on truck routes from Queens CDs 11 and 13 to the commercial...located at 110 50th Street in Brooklyn" We cannot relate the meaning of this sentence to the context of the DEIS, Section 5.

6. Section 5.14.2.6 Pedestrian Activity: "Light pedestrian activity occurs along Cropsey Avenue...during several visits pedestrian activity was a minimal..." As in comment 4.a., the area has pronounced summer recreational character. Pedestrian activities, within the study area (not just Cropsey Avenue), should be accounted and facility's impacts analyzed.

7. Section 5.14.3 Future No-Build Conditions: see comment 2.a. for Section 5.3.2, all future impacts should be referred to ETC+20 years. Additionally, due to the profound impacts of the proposed facility on the area, it is recommended to use NYMTC's demand modeling tools to forecast traffic.

8. Section 5.14.4.1 2006 Future No-Build Conditions:

   a. See comment 2.a. for Section 5.3.2, all future impacts should be referred to ETC+20 years.
   b. Par. 3 – "The need for Saturday analysis was considered...background traffic volumes were approximately 99% of weekday traffic volumes." This statement is too vague, as there is no weekend traffic data shown in the DEIS. Weekend traffic has different characteristics than weekday traffic as trips are made for different purposes. The shopping area at the southern end of Bay Parkway generates several traffic trips. New establishments have located there since traffic counts were taken. The amusement park and other seasonal, park related, activities within the primary and secondary study area generate many trips during summer weekends. Traffic counts should be adjusted for seasonal variations.

I have no other comments regarding this DEIS.

Sincerely,

Guy S. La Monaca, PE

Member of Brooklyn CB 11

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FIRST CLASS MAIL AND FACSIMILE TRANSMISSION

January 24, 2005

Harry Szarpanski, P.E.
Assistant Commissioner
Bureau of Long Term Export
44 Beaver Street, 12th Floor
New York, NY 10004

Re: Comments on the Draft Environmental Impact Statement for the New York City Comprehensive Solid Waste Management Plan

Dear Mr. Szarpanski:

The NYS Department of Environmental Conservation provides the following comments in response to the Draft Environmental Impact Statement for New York City Comprehensive Solid Waste Management Plan, dated October 2004. The DEIS provides a comprehensive analysis of the Solid Waste Management plan and proposed conversion of several marine transfer station facilities however, the focus is on waste transportation and export to primarily remote landfills, without providing any comprehensive analysis of out-of-City impacts.

A. General

1. The DEIS relies heavily on studies and reports prepared earlier which are not significantly summarized, including such documents as the Commercial Waste Study, Manhattan Transfer Siting Report, as well as the 2001 CEQR Technical manual (see references on page 11 of the final scoping document and throughout the DEIS text). The reference to documents generated outside of the DEIS provides some difficulty in reviewing the appropriate sections for adequacy.

2. The DEIS provides reference to and cursory information on the use of private transfer stations for the management of residential waste in boroughs where there is not a converted marine transfer station. The discussion regarding the potential impacts for the use of these facilities is

under developed. The DEIS relies heavily on previous and future decisions by the DEC as part of the environmental review of permit applications. The DEIS should fully discuss any likely impacts that result from use of commercial waste management facilities.

3. The DEIS should consider the likely consequences and probable impacts that develop from the use of the existing 59th Street Marine Transfer Station (MTS) and the use of the converted MTS during non peaking hours.

4. The DEIS should discuss the impacts of NYC municipal garbage containing significant quantities of household hazardous waste and its potential impact on remote landfills and on emissions at Waste to Energy (WTE) plants.

5. NYC proposes a solid waste management plan totally dependant on out-of-city facilities. Absent from the discussion is detailed analysis of potential impacts resulting from unanticipated facility closures and transportation problems.

6. The DEIS Plan fails to explore any in-city disposal alternatives including WTE, yet disposal at three out of City WTE plants is proposed. The discussion should explain why no in-City disposal alternatives are presented and why the City continues transporting waste to out of City WTE facilities, while not considering WTE plant construction within its borders.

7. The DEIS omits traffic, noise, and air pollution impacts along out of city waste routes.

8. Provide an analysis of waste route construction impacts, both in-city and out of city.

9. The DEIS omits significant discussion on the disposal of large amounts of dredge waste. Details of dredge disposal and a list of destination facilities for this material should be included in the discussion.

10. The DEIS emphasizes sorting and pre-manufacturing activity without any discussion of possible in-city reuse or manufacturing alternatives. The discussion should include why the City has been unable to attract additional recycled content goods manufacturers and any probable impacts.

11. Section 1-2 Purpose and Need - Page 1-3: The last sentence states "These Existing Programs and New Initiatives approved pursuant to the Existing SWMP are therefore not part of the Proposed Action that is subject to environmental review in this DEIS." What specific existing programs and new initiatives are being referred to? If the statement is referring to biosolids, medical waste, dredge spoils and Fresh Kills construction and closure, please provide an updated reference for discussion of these issues.

12. Section 2.1.2 General Information, Plan Policies and Key Assumptions - Proposed Plan Long Term Export Facilities - Page 2-6: Please clarify who were the independent utilities that

approved the environmental reviews for the demolition. Also, please describe the environmental remedial program for each of the individual MTS facilities such as page 3-23 for Southwest Brooklyn.

13. All solid waste facilities must be designed to be in compliance with the requirements of Part 360-1.7(a)(2)(ii), which prohibits siting on flood plains unless specific provisions are made as explain therein. Please correct throughout the document.

Rail/Barge Issues:

14. The DEIS discussion relies primarily on barge transport with a lesser emphasis on rail. Inherent in a barge system is the loss of waterfront access, however, rail provides greater flexibility and would require improvements which may attract other industry and possibly trigger additional upgrades to the rail system. Provide an analysis, exploring whether the City would be better served by either a barge /or rail-focused system. The DEIS should provide a comparison of the negative environmental impact of the additional rail/barge traffic versus the reduction of vehicle traffic.

15. The DEIS should incorporate a discussion regarding the feasibility and need of improving the rail infrastructure in NYC and along potential out-of-City waste routes. Include an analysis of the additional track and yard capacity which may be required.

16. The DEIS should include a detailed discussion of the rail and barge systems, currently and proposed, and how the proposed SWMP changes are viable within these systems. Included in this assessment should be the possibility of using float barges from 65th Street or New York Cross Harbor and the possible container unloading facilities in the New York City harbor.

B. Environmental Justice (Chapter 1)

1. The environmental justice section contains no assessment of the potential burden the proposed action(s) may have on identified environmental justice communities. Mapping neighborhood facilities as noted in the scoping document and coupling that with the statement "As such, they are not intended to depict the type or extent of any environmental burden in the EJ community," does not assess any potential impacts or provide an evaluation of the burden to those neighborhoods.

2. The DEIS provides a discussion of how the DSNY will conduct Enhanced Outreach, utilizing DEIS hearing process. The DEIS further suggests the existing outreach complies with DEC's policy on Environmental Justice and Permitting. The DEIS, however, does not provide in draft the required Enhanced Public Outreach Plan, nor does it provide a schedule for such compliance.

3. Examples of public outreach documents should be added to the appendix as attachments.

4. Reference to joint hearings with the DEC should be removed. The reference to DEC's commitment to issue Notices of Complete Applications should be deleted from the discussion.

C. Overview of Study Methodologies for Site-Specific Analyses (Chapter 3)

1. Table 3.16-1 (p. 3-48) is the "Average Peak Day Facility Load Allocation," how is the average peak day defined? Peak generally refers to a maximum. How is an average computed?

2. On p. 3-71, in the second sentence, the phrase " . . . comparison with the $PM_{2.5}$ NAAQS is not **feasible** *(emphasis added)*" should be changed to " . . . is not attempted" as a more accurate representation.

3. The document is sometimes confusing with regard to the differing requirements of NYSDEC as contrasted with those of NYC DEP. For instance, on p. 3-71 the PM_{10} emissions of 15 tons/year is a state threshold, and not a City DEP requirement, but that is not clearly stated. Elsewhere distinctions between city and state thresholds could be better made. The discussion should clarify the separate city and state requirements.

4. Because some aspects of the analysis were begun prior to the general availability of Mobile6.2 in February 2004, Mobile5b was used for some portions of the analysis. In some cases, Mobile6.2 was also apparently used (see p.3-81). While there are representations made that the " . . . most current state and city approved input parameters were used . . . " (p. 3-89), this is contradicted elsewhere by reference to the NYC DEP's Report #34 (Jan. 1982). See p. 3-91 & 3-92. When Mobile6.2 was used, was it consistently applied? The technical backup for the site specific analyses should be included in the appendix.

5. The waste handling (transfer) operations are modeled using AP-42 §13.2.4 Aggregate Handling and Storage Piles, but the DEIS appears to be in error on two counts. This AP-42 method (i.e. §13.2.4) was not revised on 12/03, nor does it contain a correction factor C (see p. 3-83 of the DEIS). The discussion should be revised to correct the errors.

6. Load factors and activity data are not provided to verify the tugboat emission factors presented in Table 3.17-5.

7. For PM_{10} road dust calculations, the latest AP-42 Chapter 13.2.1 (12/03) guidance was not used. The DEIS discussion does not estimate PM2.5 road dust.

D. Descriptions of Facility Sites

1. **59th Street MTS**

   a. The 59th Street MTS is mentioned as a possible commercial waste transfer point. Describe improvements which would be required for the facility to accommodate the commercial waste sector. Describe the impacts which are expected to occur if this facility is used in this manner.

   b. Describe the Hudson River Greenway trail at the point of intersection with the 59th Street MTS. Is the trail diverted in a manner which is safe and does not detract significantly from the trail's aesthetics?

2. **South Brooklyn Marine Terminal (SBMT)**

   a. It is expected that 85% of the inbound recyclables to the South Brooklyn Marine Terminal (SBMT) will be delivered by barge. Where will the material originate and where will it be loaded onto barges? The DEIS discussion should include a description of the recycling support facilities. Provide the names of destination points for processed recyclables.

   b. Were any alternatives to the SBMT available with both barge and rail capability? Is the SBMT rail-accessible? Discuss the potential for shipping recyclables from the SBMT via rail.

   c. On p. 17-4 the section entitled "Environmental Review: Manhattan Curbside Recyclables to 30th Street Pier at South Brooklyn Marine Terminal," states that borings taken close to the SBMT show that the area contains 10 - 25 feet of fill material. Is an investigation planned to determine if contamination is present at the proposed SBMT site?

   d. Please clarify whether all materials from the proposed Gansevoort recyclables transfer facility will be sent to the SBMT. If not, provide a list of destination facilities.

   e. The 30th Street Pier, Brooklyn is included in the list of SWMP Facilities and potential contractors as a recyclables processing facility. The footnote states "As a recycling facility, it is not subject to regulation as a solid waste facility." Please correct this statement to reflect that it is regulated under NYSDEC regulation 6 NYCRR Part 360. Correction should be made to page 2-116 for the Gansevoort facility and in Table 2.5-1.

3. **Review Avenue and 485 Scott Avenue**

   a. It is unclear whether the proposed Review Avenue and 485 Scott Avenue transfer station will be a truck-to-barge or truck-to-truck-rail facilities. Different parts of the document state different scenarios. Please correct.

b. If both scenarios are options, individual environmental reviews should be done for both possibilities. Section 2.1.2.2 Capacities of Private Transfer Stations - Table 2.1-3 Private Transfer Station Capacities: Please explain why the analysis for 485 Scott Ave. capacity analyzed for on-site impacts is "deferred" while Review Avenue is not.

4. **East 132nd Street Transfer Station**

a. Section 2.2.9 East 132nd Street Transfer Station - Page 2-70: Please explain why there is no direct rail connection to this facility.

5. **Hamilton Avenue MTS**

a. Section 4.10.2 Delineation of Area of Concern - Page 4-53: In this section it states that the November 2003 work plan is NYSDEC approved. NYSDEC has not approved the work plan. Please correct.

b. Section 4.10.3 Potential Impacts with Hamilton Avenue Converted MTS - Page 4-54: Please contact NYSDEC for guidance for disposal or reuse of urban fill and the necessary cover layer over exposed urban fill areas at least 90 days before implementation of plan regarding these materials. This applies to potential demolition/construction plans for all of possible facilities.

E. Construction Impacts (Chapter 32 and various sections)

1. The DEIS limits its discussion to short term construction impacts and long term operational impacts. It also refers to proposed construction at eight converted MTSs. The discussion should be augmented to reveal impacts to the local community and any probable impacts from staging of equipment and machinery, road diversions and closures, both upland and to the waterway. The discussion should be revised to focus on those facilities determined to be included under the proposed action.

2. Section 32.2 Construction Impacts - Page 32-2: Please discuss potential construction impacts such as construction traffic, noise, vibration and disruption of services impacts. Also discuss if the construction will impact the use of any off-site properties.

F. Evaluation of the Proposed Plan (Chapter 34)

The DEIS discussion states " . . . as a result, traffic and air quality conditions on City streets would likely improve overall within the City with the implementation of the Proposed Plan". The statement is unsupported by environmental analysis and discussion within the DEIS. The discussion further

omits a comparative analysis to derive at this conclusion, particularly with the exclusion of commercial waste truck traffic analysis.

G. Unavoidable and Adverse Impacts (Chapter 35)

The discussion concludes that "site specific analysis predicts that any impacts identified are capable of being mitigated." The DEIS should provide a comprehensive comparative chart of unavoidable impacts and corresponding mitigation to allow an adequate assessment of this statement.

H. Irreversible and Irretrievable Commitment of Resources (Chapter 36)

As stated the in the DEIS " . . . the soil, shoreline and natural waterway . . . already committed to industrial use as a result of prior industrial activities . . . " implies the waterways are abandoned and non productive, when in fact the littoral zones, tidal wetlands and open water and habitat existing at the shoreline structures, are beneficial and protected for their natural resources benefits. The loss of marine resources habitat and open water should be further detailed and discussed.

I. Alternatives

Although a component of each facility site assessment description provides alternatives, identifying alternatives to the proposed plan and each MTS should be developed for the benefit of public disclosure and impact assessment.

These comments are provided consistent with your notice DEIS Hearing and Extension of Comment Period, dated November 16, 2004. The comments are specific to DEC regulatory authority and are intended to provide clarity in the assessment of various environmental impacts that may result from the proposed action. Please feel free to contact us to discuss these comments in more detail.

Very truly yours,

Michelle M. Moore

Michelle M. Moore
Environmental Analyst

cc:

Brezner, Kenneth, NYSDEC, Division of Solid and Hazardous Materials, Region 2
Cryan, John, NYSDEC, Division of Environmental Permits, Region 2
Keenan, Michael, NYSDEC, Division of Air Resources, Central Office
Menrath, Scott, NYSDEC, Division of Solid and Hazardous Materials, Central Office
Zahn, Steve, NYSDEC, Bureau of Marine Habitat Protection, Region 2

City of New York
Parks & Recreation

Adrian Benepe
Commissioner

The Arsenal
Central Park
New York, New York 10021

Joshua R. Laird
Chief of Planning

(212) 360-3402
joshua.laird@parks.nyc.gov

March 11, 2005

Assistant Commissioner Harry Szarpanski
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: New Comprehensive Solid Waste Management Plan – October 2004
CEQR# 03DOS004Y

Dear Assistant Commissioner Szarpanski,

Parks and Recreation has reviewed the October 24th Draft Environmental Impact Statement for the Solid Waste Management Plan. We are grateful for all of the efforts that your agency has made to date in order to develop an environmentally sound solid waste plan for the City. We offer the following comments for your consideration.

Chapter 22: West 59th Street Converted MTS
Although not selected as a proposed plan facility for the long-term export program for residential waste, we feel compelled to offer the following comments as the DEIS indicates that this site could in the future be used for commercial waste.

22.14 - Traffic Parking, Transit and Pedestrians
With further dense residential development to the south and north and the development of a permanent greenway path between 44th and 65th Streets, we expect the number of greenway users to increase significantly. As missing segments of Manhattan's 9A/Hudson River Valley Greenway have been constructed, the facility saw growth of up to 300 percent in additional users for both weekday and weekend counts, according to the Department of City Planning's New York City Bicycle Lane and Trail Inventory of 2001. On p.22-96, the EIS states that pedestrian activity is not likely to increase under future No-Build conditions. Given imminent plans for completing Riverside Park South and for the construction of a greenway link between the Hudson and East River at Battery Park, it seems highly likely that more pedestrians and cyclists will travel through this area. This reinforces the notion that we must work together to develop a safe crossing for greenway users if the MTS is ever to be reconstructed for containerization.

Additional traffic into a converted W. 59th Street marine transfer station will present the potential for increased pedestrian and bicycle conflicts. On p.22-108, the EIS acknowledges that conflicts between DSNY trucks and greenway users are likely to worsen as a result of a converted MTS, and states that DSNY will work with DPR to resolve them. This is one of the city's busiest greenways, and should the MTS site be upgraded for containerization, we urge DSNY to meet early in the design process with DPR, SDOT, and the Hudson River Park Trust to discuss the design of the entranceway.

22.7 Urban Design
If the MTS is selected for conversion, the façade design of the new MTS structure as it faces the greenway is of concern to Parks. Since this is a critical juncture for HRP and Riverside South, under any scenario we hope that DSNY will consider the possibility of moving the existing entry structure to the west in order to provide a stronger greenway link between the two parks. Additionally, should the DSNY contemplate expanding the footprint of the 59th St. marine transfer station, an amendment to the Hudson River Park Act could be required. Additionally, the land underwater to the pierhead line and immediately north of West 59th Street is mapped as parkland. Any operational activities or permanent structures affecting this designation could trigger conflicts with state protections of public parkland and ultimately require legislative approvals.

22.18 Commercial Waste to the West 59th Street Converted MTS
Please consider the following factors as the assessment of the feasibility of providing the existing West 59th Street MTS site to private waste companies to use for the transfer of commercial waste is in discussions.

22.18.3.2 Off-Site Traffic, Air Quality and Noise
Although the commercial waste delivery to the MTS would be between the hours of 8 p.m. and 8 a.m., you should be aware that the Hudson River Greenway is a 24-hour bicycle and pedestrian facility and potential conflicts could be an issue. As previously stated, we urge DSNY to meet early in the design process with DPR, SDOT, and the Hudson River Park Trust to discuss the design of the entranceway should commercial waste operations continue at the West 59th Street MTS.

Chapter 21: West 135th Street Converted MTS
Although not selected as a proposed plan facility for the long-term export program for residential waste, we offer the following comments.

21.5.3 Open Space
The DEIS notes that the build year for Riverside Walk is 2006. If there are any changes to the selection of MTS sites for the containerization of residential waste, significant design coordination efforts would be needed. We hope to minimize any potential conflicts for open space and greenway users through this area.

We would also like to understand how long-term plans would be developed for the MTS if it is not used as part of the long-term solid waste export program. Given the proximity of the MTS to Riverbank State Park, the Route 9A/Hudson River Valley Greenway, Riverside Park, and the Harlem Piers Open Space Development, we would suggest that an adaptive reuse be considered that would compliment these surrounding uses.

Chapter 18: Gansevoort Recyclables Acceptance Facility

The siting of the recycling facility at this location if commercial waste is handled through the West 59th Street MTS will have implications for Segment 5 of Hudson River Park. In addition to the possible need for an amendment to the Hudson River Park Act, the project must be designed in such a way as to be compatible with the park. Coordination with the Hudson River Park Trust will be imperative.

Please feel free to contact me at (212) 360-3403 if you have any questions about these comments.

Sincerely,

Joshua Laird (CA)

Joshua Laird

EDC

#38 7175456 - Ms. Elena Barere, In ID: 2241905, Out ID: 2239416

From: forelenab@aol.com To: IQE@cityhall.nyc.gov
Date: 1/23/2005 7:15:03 AM
Subject:City of New York - Correspondence #1-1-151084450 Message to Agency Head, CHALL - CASE

Dear Mayor Bloomberg,

I DO NOT support the opening of the 91st Street Transfer Station. Transfer stations should not be in ANY residential neighborhoods.
And I vote.
Sincerely
Elena Barere
170 West End Ave NYC 10023 BT W 66 & 70 STS

==== Original Formatted Message Starts Here ====

Your City of New York - CRM Correspondence Number is 1-1-151084450
DATE RECEIVED: 01/23/2005 07:13:47
DATE DUE: 02/04/2005
SOURCE: WEB

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-----Original Message-----

From: PortalAdmin@doitt.nyc.gov
Sent: 01/23/2005 07:12:34
To: sbladmp@customerservice.nyc.gov
Subject: < No Subject >

From: forelenab@aol.com (Elena Barere)
Subject: Message to the Mayor

Below is the result of your feedback form. It was submitted by
Elena Barere (forelenab@aol.com) on Sunday, January 23, 2005 at 07:12:33

This form resides at

THE ASSEMBLY
STATE OF NEW YORK
ALBANY

JONATHAN L. BING
Member of Assembly
73RD District

COMMITTEES
Health
Housing
Judiciary
Social Services
Tourism, Arts & Sports Development

Testimony to the New York City Department of Sanitation

Public Hearing on the DEIS for the Solid Waste Management Plan

By Assemblymember Jonathan Bing

December 20, 2004

I am here today to speak on behalf of the residents of the Holmes Towers-Stanley Isaacs Houses housing development located in my district near the site of the East 91st Street Marine Transfer Station. The residents of Holmes and Isaacs will be directly and negatively impacted by the activation of this waste transfer station, and I urge the Department of Sanitation to thoroughly and exhaustively examine alternate sites.

Bordering on the neighborhoods of Yorkville and East Harlem, the Holmes-Isaacs complex is home to a diverse population that truly reflects the many walks of life found in New York City. Approximately 2,278 low- and fixed-income residents live in the Holmes-Isaacs complex in five residential towers located between 1st Avenue and the East River from 92nd Street to 96th Street. Senior citizens and children make up the majority of the population of Holmes-Isaacs, with approximately 40% of the population over the age of 60 and approximately 25% under the age of 18.

DISTRICT OFFICE: 360 East 57TH Street, Mezzanine Level, New York, New York 10022, (212) 605-0937
ALBANY OFFICE: Room 827, Legislative Office Building, Albany, New York 12248, (518) 455-4794
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I am extremely concerned about the City's plan to reactivate the 91st Street Waste Transfer Station and its effect on Holmes-Isaacs. This residential complex is located within the primary study area for the City's DEIS. By situating a huge garbage dump less than one block away from so many children and senior residents, I believe that the proposed location is a danger to health and safety of my constituents at Holmes-Isaacs, and it will negatively impact the community facilities and services, pedestrian traffic, open space, health, and aesthetic value of this vibrant community.

Community Facilities and Services

The Holmes-Isaacs development is home to a number of social programs serving the residents of the complex and the surrounding communities of Yorkville and East Harlem. The Stanley Isaacs Neighborhood Center, located on the grounds of the complex, is the administrator of these programs, and is a "neighborhood center" in the truest sense. The Center serves roughly 6,000 community residents per year.

Many of the social programs offered at the Center serve the senior community in the area, focusing on education, recreation and social interaction. Free daily meals are offered. Hundreds of senior citizens participate in these programs at the Holmes-Isaacs complex.

The Center also serves the children and families who live at Holmes-Isaacs. Many of the youth participate in various after-school programs, and students enjoy summer day camp there. Again, the hundreds of children and families served at the Isaacs Center include, but are not limited to, the residents of the complex; many young people travel from East Harlem to participate in the programs at the Isaacs Center.

I am concerned that the re-activation of the 91st Street Transfer Station will negatively impact the operation of programs at the Isaacs Center. The increased traffic, noise, and odor will discourage participants from using the open space available on the grounds of the complex, and could discourage people from traveling to take part in the services altogether.

Traffic and Pedestrian Safety

The southern boundary of the complex is 92nd Street, an eastbound street that will serve as an access route for the huge garbage trucks carting refuse to the station via York Avenue. These huge trucks will rumble their way directly past the open space of the Holmes-Isaacs complex on its southern side, posing a safety hazard to pedestrians.

The traffic congestion along 92nd Street between 1st and York Avenues is already a risk to pedestrians, particularly surrounding a much-utilized bus stop at 92nd Street and York Avenue. Introducing 800 truck trips per day to the neighborhood will deteriorate the situation further to the point of being extremely dangerous. How can the City expect to introduce a traffic increase of this magnitude along a residential street and not foresee tragic accidents in the making?

Open Space, Health and Aesthetics

The residential towers of the complex are surrounded by significant open space along 92nd Street. Currently, residents frequently enjoy the open space by walking, playing games, and congregating on the green grass of the complex grounds. Benches allow residents to rest and enjoy leisure time outdoors.

If the 91st Street site is reactivated, the pungent odors, the noise, and the ugly sight of the trash trucks will certainly make for an unpleasant stroll along the grounds of Holmes-Isaacs. This is not merely a conjecture based upon a guess about the future. The residents of the complex remember the last time the 91st Street site was operational. They remember the trucks hauling trash past their homes. They remember the rats, the noise, and the smell, particularly in the warm summer months. This time, if the site is reactivated, all of these factors will be worse, due to the increased capacity of the station.

The City must also anticipate increased health dangers from the reactivation of this site. Increased emissions will lead to decreased air quality, and an increased risk of asthma for the more than 500 children living at Holmes-Isaacs.

Conclusion

I strongly urge the City to reexamine the need for the reactivation of the 91st Street Waste Transfer Station. The mixture of heavy trash trucks plus a dense population of children and seniors is a dangerous and unacceptable equation.

Thank you.

Riverside South Planning Corporation

January 21, 2005

Assistant Commissioner Harry Szarpanski
New York City Department of Sanitation
Bureau of Long-Term Export
44 Beaver Street, 12th floor
New York, NY 10004

Re: Comments on Draft EIS for Draft New SWMP

Dear Assistant Commissioner Szarpanski:

The Riverside South Planning Corporation, a not-for-profit organization dedicated to the completion of the plan for Riverside South, a large-scale development including a 27.5-acre waterfront park located immediately north of the West 59th Street MTS, previously submitted comments dated July 9, 2004 to the Draft Scoping Plan for the Draft New Comprehensive Solid Waste Management Plan. Since that time, the proposed Converted West 59th Street MTS has been eliminated from the Draft New SWMP, and an as-yet undefined plan to reserve this pier for commercial waste disposal has been substituted.

We believe that this change has rendered wholly inadequate the environmental review conducted to date – including Final Scoping Plan, the Draft EIS, and the separately conducted Commercial Waste Study of March, 2004, which assumed a Converted West 59th Street MTS and is attached as Appendix D to the DEIS – for any new proposal for this site. We understand that the Department of Sanitation has agreed to conduct an entirely new review for any proposed new use for the West 59th Street MTS, and we look forward to participating in that process.

There are, however, several comments which we feel must be made at this time to the DEIS to protect the park and the adjacent neighborhood from errors and omissions in the current analysis, to ensure that they do not reappear at a later time. These include:

1) *Chapter 22.2.1.3.1 and Figure 22.2-3.* The Draft Scoping Plan identified the zoning in the area north of the West 59th Street MTS as M2-3; the DEIS identifies the zoning as R-10 and shows this on Figure 22.2-3. This area is in fact mapped parkland, which has no zone (see attached copy of NYC Zoning Map 8c). This is a significant error, especially given that we pointed out this mistake in our comments to the Draft Scoping Plan. If the preparers of the DEIS cannot even correctly read a zoning map, even after being alerted to the correct information after an earlier mistake, then the analysis in the DEIS of the proposed action is suspect and should be reexamined. See Comment #2.

One Penn Plaza • 250 West 34th Street, Suite 3600, New York, NY 10119
Telephone: 212-896-3876 Fax: 212-695-1250

2) *Chapter 28 5 et al.* This chapter studies the Existing West 59th Street MTS, which currently uses both the south and north sides of the pier for barge tie-up. As noted above, the water area north of the pier is mapped parkland. **Any use of this area for barge tie-up or any other Sanitation use is therefore an illegal alienation of parkland.** In addition, recreational small boating uses will be accommodated in this area of Riverside Park South Phase IV, to be completed in 2006, which will conflict with barge tie-up on the north side. Consequently, the environmental review for the "no action" alternative for this site must study how the existing West 59th Street MTS will operate legally with only the south side of the pier for barge tie-up, and any possible impacts of this change.

3) *Chapter 22.5.3 and Chapter 35.* This section concludes that additional truck traffic to and from the West 59th Street MTS "could potentially worsen the safety conditions on the bike path", which the DEIS acknowledges is a significant open space and transportation amenity in the area. The DEIS then goes on to state, "Appropriate measures, developed in coordination with NYCDPR, would likely resolve this conflict." Such measures, if they exist, **must be disclosed** in the DEIS for public comment, and their potential effects analyzed. Without such information and analysis the DEIS cannot conclude in Chapter 35 – Unavoidable Adverse Impacts – that there are no unavoidable site-specific adverse impacts that cannot be mitigated.

In our comments to the Draft Scoping Plan, we asked that alternatives be studied that would eliminate conflict between users of the Hudson River Greenway bikeway/walkway and trucks going to and leaving the West 59th Street MTS. These alternatives included construction of a flyover on West 59th Street over the Joe DiMaggio Highway, with trucks entering/leaving the West 59th Street MTS at an upper level (as they currently do at the East 91st Street MTS), or a tunnel under West 59th Street for either trucks or a waste conveyer line with an upland tipping facility, perhaps below-grade in Riverside South. The Final Scoping Document Response No. 5A states that "The complexity of the planning and design issues associated with this (flyover) concept is beyond the scope of this project." Given that the DEIS cannot explain how adverse impacts to the bike path at West 59th Street will be mitigated, this conclusion is in error and inadequate. Any future review of a proposal for the West 59th Street MTS for commercial waste or other purposes **must** include consideration of these alternatives.

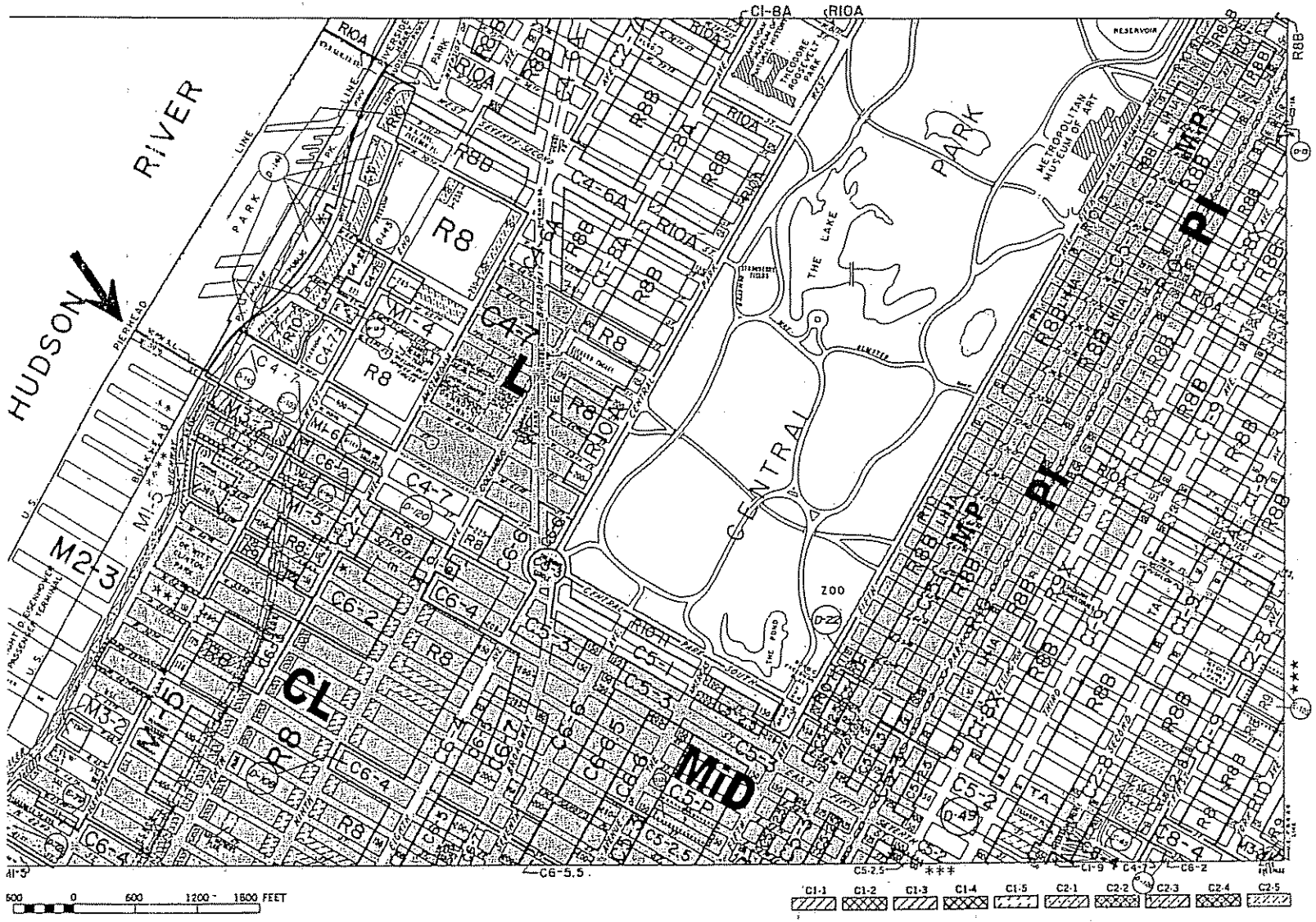
4) *Chapter 1.7.2.1 – Required Actions, Permits, and Approvals, New York State.* Any action affecting the West 59th Street MTS or the Gansevoort Peninsula, which is proposed as a possible site for a recycling facility at Chapter 1.4.2.2, must be determined by the Hudson River Park Trust to be consistent with the Hudson River Park Act, or the act amended.

5) *Chapter 1.4.4* The DEIS identifies only one alternative to a new Manhattan Recyclables acceptance facility at the Gansevoort Peninsula, a no-action alternative of continuation of the existing system of truck delivery to facilities in New Jersey and the Bronx. Other sites in Manhattan should be considered as alternatives for locating a new Manhattan recyclables acceptance facility, including Pier 76 on the Hudson River. This site offers significant advantages over the proposed Gansevoort site, including no need to amend the Hudson River Park Act, no need to seek permits for an entirely new over-water structure from the Army Corps of Engineers and the State Department of Environmental Conservation, and potentially fewer impacts on adjacent parkland. The NYPD tow pound which currently occupies Pier 76 is scheduled to be moved to a new facility at 29th Street between 11th and 12th Avenues, which received site selection approval by the New York City Council on January 19, 2005.

Thank you for your consideration of these comments, and we look forward to participating in the Department of Sanitation's evolving plans for the West 59th Street MTS.

Sincerely,

Michael Bradley, AICP
Executive Director



ZONING MAP

THE NEW YORK CITY PLANNING COMMISSION

Major Zoning Classifications:

The number(s) and/or letter(s) that follows an R, C or M District designation indicates use, bulk and other controls as described in the text of the Zoning Resolution.

R – RESIDENTIAL DISTRICT

C – COMMERCIAL DISTRICT

M – MANUFACTURING DISTRICT

..... AREA(S) REZONED

EFFECTIVE DATE(S) OF REZONING:

***	12-19-2001	C 010547 ZMM
**	12-11-2001	C 010556 ZMM
*	11-20-2001	C 010689 ZMM
****	10-31-2001	C 000354 ZMM
***	07-26-2001	C 010199 ZMY
**	04-25-2001	C 010148 ZMK
*	12-19-2001	C 000649 ZMM
	06-05-2000	C 990440 ZMM

SPECIAL PURPOSE DISTRICT
The letter(s) within the shaded area designates the special purpose district as described in the text of the Zoning Resolution.

(D) – RESTRICTIVE DECLARATION

(E) – CITY ENVIRONMENTAL QUALITY REVIEW DECLARATION

MAP KEY

	5d	6b
8a	8c	9a
8b	8d	9b

N

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ZONING MAP 8c

Transportation ALTERNATIVES

115 West 30th Street Suite 1207 New York, New York 10001-4010
Ph 212-629-8080 Fax 212-629-8334 info@transalt.org transalt.org

NYC's Advocates for Bicycling, Walking and Sensible Transportation

January 19, 2005

Commissioner John J. Doherty
New York City Department of Sanitation
125 Worth Street
New York, NY 10013

Re: Proposed West Side Marine Transfer Station (CEQR #: 03DOS004Y)

Dear Commissioner Doherty,

The Department of Sanitation's work to finalize New York City's Comprehensive Solid Waste Management Plan for the next twenty years is of great value, particularly for citizens who already bear more than their fair share of truck traffic. I am sure you are receiving worthwhile comments from the wide range of neighborhoods and interest groups affected by the plan. As New York City's advocates for bicyclists and pedestrians, Transportation Alternatives (T.A.) is concerned that truck traffic entering and exiting the West Side Marine Transfer Station at West 59th Street and 12th Avenue will endanger bikers, walkers, skaters, joggers and strollers using the Hudson River Greenway. An increase in truck traffic there could spell disaster for greenway users and result in vehicles stopped or parked on the path, blocking through greenway traffic and access.

If the Department of Sanitation makes use of the West Side Marine Transfer Station in the final Comprehensive Solid Waste Management Plan, T.A. asks that your agency **work with the State Department of Transportation, Hudson River Park Trust** and other appropriate government agencies and community groups to make an access plan that **puts the safety of greenway users ahead of the movement of traffic entering and exiting the transfer station**, and that Sanitation create and **enforce policies to ensure that the greenway path is not blocked by vehicles**. T.A. urges your agency to carefully study the proposed fly-over ramp and tunnel to the transfer station.

The Department of Sanitation and State DOT have already had success designing a safe driveway across the greenway at Pier 52. As Sanitation progresses with its Solid Waste Management Plan and the State DOT makes safety improvements on the greenway between Battery Park and 59th Street, we hope both agencies continue to work together to ensure greenway user safety.

The Hudson River Greenway is the most heavily used bike path in the country, and any vehicle that crosses the greenway threatens the safety of bikers and walkers—by nature, large vehicles, like garbage and dump trucks, are more deadly to bikers and walkers than cars. The greenway connects some of the densest residential neighborhoods in the U.S. with the country's largest business districts, Midtown and Lower Manhattan. According to City Department of Transportation bike counts, during an average twelve-hour period on a weekday over 2,600 people bike on the greenway; thousands more walk, jog, stroll and skate there too.

Given the good work of the Department of Sanitation and State DOT at Pier 52, we are confident that the Department of Sanitation will work to maintain and enhance Hudson River Greenway user safety at other locations too. Thank you for your attention to this public safety issue.

Sincerely,

Noah Budnick
Projects Director

Cc's on back

Pratt Institute Center
for Community and
Environmental Development

Steuben Hall
379 DeKalb Avenue
Brooklyn, NY 11205

Telephone
718 636-3486

Facsimile
718 636-3709

www.picced.org

January 24, 2005

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor,
New York, NY 10004.

Via Fax: (212) 269-0788

Re: DEIS for the New Solid Waste Management Program, CEQR # 03DOS004Y

Dear Commissioner Szarpanski:

The Pratt Institute Center for Community and Environmental Development hereby expresses our support of the positions of the Organization of Waterfront Neighborhoods, and of the New York City Zero Waste Campaign concerning the city's proposed Solid Waste Management Plan.

While we applaud the plan's stated goals of reducing New York's reliance on the export of solid waste, and increasing re-use and recycling to capture 70% of the waste stream by 2015, we concur with OWN and with the Zero Waste Campaign that the plan now lacks substance and detail on how these goals are to be achieved. In particular, there is a lack of information on how the City intends to establish the infrastructure necessary for re-use, composting, and recycling. The development of recycling-based industrial parks in each borough would serve not only the goals of reducing exports and minimizing truck-miles traveled to move waste within the city; it would enable the creation of thousands of new, living-wage jobs. A commitment to build recycling parks will nurture entire new industries that will lay the foundation for a sustainable economy for New York City.

We are heartened by the progress this plan represents toward the equitable distribution of the City's solid waste burden. However, a number of projects as described in the SWMP could potentially undermine this fair share principle. The possibility of a barge-to-rail facility at the Harlem River Yards in the South Bronx, which could be used for the transfer of waste from other boroughs, is of particular concern.

The plan does not adequately address waste prevention and diversion in the commercial and construction sectors. The huge volume of redevelopment and new construction that the Administration's rezoning and new development initiatives are intended to stimulate make the adoption of an aggressive approach to C & D waste reduction and recycling all the more imperative. And the tens of millions of square feet of new commercial construction that the Administration's vision contemplates will impose an unacceptable burden on the City's Environmental Justice communities, absent a far more comprehensive plan for commercial waste diversion than the one presented in this plan. The plan's proposal to increase transfer station fees should be linked to expansion of commercial waste prevention and recycling, by dedicating the revenue stream from those fees to the development of those programs.

We call upon the Department of Sanitation to implement the comprehensive program proposed in "Reaching for Zero: The Citizens Plan for Zero Waste in New York City." The plan's goal of reducing exports to Zero by 2024 is far more realistic than the expectation that we can rely indefinitely on exporting both our trash and our tax dollars to remote incinerators and landfills.

We call upon the Department of Sanitation to build upon the increment of progress the SWMP DEIS represents over the status quo, and address New York's stream of commercial, residential, and institutional waste with a plan that is equitable and environmentally sustainable, and that will enhance, rather than undermining our City's economic vitality and quality of life.

Sincerely,

Joan Byron, RA
Director
Sustainability and Environmental Justice Initiative
Pratt Institute Center for Community & Environmental Development
379 DeKalb Avenue
Brooklyn, NY 11205
718-636-3486 ext. 6447
718-636-3709 (fax)

cc: Brad Lander
PICCED Director

Carrieri, Donna

From: outgoingagency@customerservice.nyc.gov
Sent: Sunday, January 23, 2005 2:13 PM
To: DSNY, Commissioner; njohnson@cityhall.nyc.gov
Subject: City of New York - Correspondence #1-1-151127070 Message to Agency Head, DSNY - Other

Your City of New York - CRM Correspondence Number is 1-1-151127070
DATE RECEIVED: 01/23/2005 13:11:47
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To: sbladmp@customerservice.nyc.gov
Subject: < No Subject >

From: mike7arl@aol.com (Arleen Lipstein)
Subject: Message to Commissioner, DOS

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Arleen Lipstein (mike7arl@aol.com) on Sunday, January 23, 2005 at 13:09:56

This form resides at
http://nyc.gov/html/mail/html/maildos.html

Message Type: Complaint

Topic: Other

Contact Info: Yes

M/M: Mrs.

First Name: Arleen

Last Name: Lipstein

Street Address: 2220 Avenue S

City: Brooklyn

State: NY

Postal Code: 11229

Country: United States

Work Phone #: 212-863-5377

Email Address: mike7arl@aol.com

Message: Re: Conversion of the Southwest Brooklyn Incinerator into a Marine Transfer station
I am against this.

REMOTE_HOST: 152.163.100.8
HTTP_USER_AGENT: Mozilla/4.0 (compatible; MSIE 6.0; AOL 9.0; Windows 98; Win 9x 4.90)

****

Carrieri, Donna

From: outgoingagency@customerservice.nyc.gov
Sent: Sunday, January 23, 2005 2:29 PM
To: DSNY, Commissioner; njohnson@cityhall.nyc.gov
Subject: City of New York - Correspondence #1-1-151129590 Message to Agency Head, DSNY - Other

Your City of New York - CRM Correspondence Number is 1-1-151129590
DATE RECEIVED: 01/23/2005 13:23:50
DATE DUE: 02/04/2005
SOURCE: WEB

The e-mail message below was submitted to the City of New York via NYC.gov or the 311 Call Center. It is forwarded to your agency by the Mayor's Office of Operations. In accordance with the Citywide Customer Service standard, your response is due in 10 business days.

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If this message is to a Commissioner / Agency Head and needs to be re-routed to another agency or cc to another agency, forward the email to outgoingagency@customerservice.nyc.gov. Do not make any changes to the subject line. Include any comments and it will be processed by The Mayor's Office of Operations.

All other web forms are to be handled by the receiving agency.

****

-----Original Message-----

From: PortalAdmin@doitt.nyc.gov
Sent: 01/23/2005 13:22:12
To: sbladmp@customerservice.nyc.gov
Subject: < No Subject >

From: sid7syl@aol.com (Sylvia Reznik)
Subject: Message to Commissioner, DOS

Below is the result of your feedback form. It was submitted by
Sylvia Reznik (sid7syl@aol.com) on Sunday, January 23, 2005 at 13:22:11

This form resides at
http://www.ci.nyc.ny.us/html/mail/html/maildos.html

Message Type: Complaint

Topic: Other

Contact Info: Yes

M/M: Mrs.

First Name: Sylvia

Last Name: Reznik

Street Address: 2630 Cropsey Avenue

City: Brooklyn,

State: NY

Postal Code: 11214

Country: United States

Work Phone #: 718-266-0652

Email Address: sid7syl@aol.com

Message: re:conversion of the Southwest Brooklyn incinerator into a Marine Transfer Station
Wedo not want to see the return of people getting cancer,leukemia, or other diseases like what happened when the incinerators were here.
It also increases the chances of rats, mosquitos, and other vermin

from infecting innocent people.Also crossing Cropsey Avenue will make it much more difficult for the elderly and for children.
Thank you for your consideration.
Mrs. S. Reznik

REMOTE_HOST: 152.163.100.139
HTTP_USER_AGENT: Mozilla/4.0 (compatible; MSIE 6.0; AOL 6.0; Windows NT 5.1; .NET CLR 1.1.4322)

****

Carrieri, Donna

From: outgoingagency@customerservice.nyc.gov
Sent: Sunday, January 23, 2005 2:13 PM
To: DSNY, Commissioner; njohnson@cityhall.nyc.gov
Subject: City of New York - Correspondence #1-1-151127070 Message to Agency Head, DSNY - Other

Your City of New York - CRM Correspondence Number is 1-1-151127070
DATE RECEIVED: 01/23/2005 13:11:47
DATE DUE: 02/04/2005
SOURCE: WEB

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-----Original Message-----

From: PortalAdmin@doitt.nyc.gov
Sent: 01/23/2005 13:09:56
To: sbladmp@customerservice.nyc.gov
Subject: < No Subject >

From: mike7arl@aol.com (Arleen Lipstein)
Subject: Message to Commissioner, DOS

Below is the result of your feedback form. It was submitted by
Arleen Lipstein (mike7arl@aol.com) on Sunday, January 23, 2005 at 13:09:56

This form resides at
http://nyc.gov/html/mail/html/maildos.html

Message Type: Complaint

Topic: Other

Contact Info: Yes

M/M: Mrs.

First Name: Arleen

Last Name: Lipstein

Street Address: 2220 Avenue S

City: Brooklyn

State: NY

Postal Code: 11229

Country: United States

Work Phone #: 212-863-5377

Email Address: mike7arl@aol.com

Message: Re: Conversion of the Southwest Brooklyn Incinerator into a Marine Transfer station
I am against this.

REMOTE_HOST: 152.163.100.8
HTTP_USER_AGENT: Mozilla/4.0 (compatible; MSIE 6.0; AOL 9.0; Windows 98; Win 9x 4.90)

****

Geto&deMilly Inc
Public Relations
Governmental Affairs
Community Relations

January 21, 2005

Harry Szarpanski
Assistant Commissioner
Department of Sanitation
44 Beaver Street – 12th floor
New York, NY 10004

Dear Harry:

Enclosed please find comments submitted in response to the Draft Environmental Impact Statement developed by the Department of Sanitation in support of the proposed New Comprehensive Solid Waste Management Plan.

Thank you for your consideration. Please let me know if you have any questions, or need any additional information.

Sincerely,

Kendall Christiansen
On behalf of InSinkErator

130 East 40th Street, 16th Floor
New York, NY 10016-1726
212/686-4551 Fax: 212/213-6850
Email: pr@getodemilly.com

Testimony Regarding the Draft Environmental Impact Statement with respect to the Draft Comprehensive Solid Waste Management Plan

December 20, 2004 - New York Blood Center Auditorium

Good evening, Assistant Commissioner Szarpanski and colleagues. My name is Kendall Christiansen, and my comments tonight are offered on behalf of InSinkErator, a company based in Wisconsin that is represented by the firm of Geto & de Milly, Inc., of which I am Vice President.

My testimony is about food waste. My comments are focused on the unfortunate failure of both the ***Draft Environmental Impact Statement*** *(the* ***DEIS****)*, and the **Draft Comprehensive Solid Waste Management Plan** (the **CSWMP**) to address proven methods for diverting food waste from DSNY collection trucks, transfer stations and distant landfills, instead of capturing food waste as a raw material that can be composted and converted into fertilizer in cost-effective manner.

Although this issue sounds obscure in the context of overall discussions about environmental and other impacts of building four massive new MTS' at a cost that will likely approach $500 million, food waste is the second largest component of the solid waste stream (after wastepaper) and by far the most expensive and problematic component in terms of environmental impact on the public, and all of the systems that are studied in the DEIS.

I want to underscore that on two separate occasions over the past two years, I formally petitioned the Department of Sanitation to closely examine options for managing both commercial and residential food waste. In the first instance, I suggested including a discrete look at food waste as a distinct component of the Department's study of commercial waste (commissioned by the City Council); in the second instance, I suggested that this DEIS do the same.[1] In both cases, I suggested a comprehensive review, fairly examining all known methods for diverting and managing food waste as a critical component of the municipal wastestream.

[1] See Appendix B of the Final Scoping Document for the Draft Environmental Impact Statement.

An attachment to the Final Scoping Document for the DEIS dutifully records that request, and notes that it will be addressed by the CSWMP.[2] However, the CSWMP is essentially silent on the question of managing food waste. Although it does cite a nearly decade-old composting facility for food waste generated on Rikers Island, recommends turning *on* the off- and on-again education programs offered by the city's botanic gardens, and finally building a composting facility at the Hunts Point Terminal Market – more than ten years in the planning, it does nothing to challenge, structure or excite public discussion about current and prospective options.[3]

I will let others make the broader legal points about what the State requires of a comprehensive solid waste management plan, and whether the draft Plan currently proposed meets that standard. Fortunately, there is still time and the opportunity to correct this unfortunate oversight, and make some real progress on this front. That is the purpose of this testimony at this public forum.[4]

So, why is food waste so important, and what should the DEIS and Plan say about it?

First, food waste is the most problematic component of municipal solid waste. Although it "only" comprises approximately 15% of the city's residential waste, food waste creates environmental damage at every step along the way – food waste smells, it leaks in homes, buildings and trucks, it attracts vermin and rodents, and it creates leachate and methane gas at landfills. And, because food waste is heavy (being mostly water), it is *very* expensive to collect, transfer and ship.

Although truck traffic is the primary issue in most of the communities concerned with land-based and marine transfer stations, if food waste was diverted in the manner I will describe, fewer trucks would be needed and the odors associated with the transfer facilities would be reduced.

Second, food waste should not be dismissed as just "garbage." In fact, it is markedly different than other types of solid waste. As an organic material, subject to decomposition, food waste is totally unlike inert materials like glass, metals, wood and plastics, many of which we have learned to treat as recyclables. In fact, food waste is much more like human waste – both are 70%

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[2] See Attachment C of the Final Scoping Document for the Draft Environmental Impact Statement.

[3] See Attachment VI (pp. 17-22) of the Draft Comprehensive Solid Waste Management Plan.

[4] In August 1998, Seattle adopted a new Solid Waste Plan, *On the Path to Sustainability*, establishing a new agenda for managing solid waste in the beginning of the 21st century; see also, "Food Waste Discharge to the Wastewater Collection System," prepared for the King County (Seattle) Department of Metropolitan Services, and "Joint King County/Seattle Food Waste Diversion Marginal Cost Analysis," prepared for Seattle Public Utilities.

water, and contain similar combinations of basic chemicals like nitrogen and carbon that enable it to be processed into reusable products without much difficulty.

Third, residential and commercial food waste management efforts are being aggressively developed in other "lighthouse" cities, most notably San Francisco, Toronto and Seattle. Yet New York's proposed 20-year CSWMP doesn't even propose to study or attempt any such targeted effort to divert food waste from the solid waste disposal system, effectively ignoring what might be learned from its sister cities.

Finally, food waste is arguably more of a problem in New York than elsewhere – as we appear to have twice the national average.[5] Why? Because a simple device known as a food waste disposer is a standard appliance elsewhere in the U.S. – installed in more than one-half of U.S. homes, and 85% of new homes – and increasingly common in restaurants, hospital and school cafeterias, and food markets.

In simple terms, a disposer makes food waste disappear – it goes away, immediately, from the place where it is generated. A disposer involves a grinding chamber that pulverizes food waste into its liquid form, sends it through the sewer where it is combined with human waste, treated at wastewater treatment plants, and processed into fertilizer – known both as biosolids and as compost.[6]

Because they were invented more than fifty years ago, with 50 million in daily use and 5 million sold annually, disposers have been studied exhaustively; as in New York's recent example, municipalities have determined that the public benefits of their wide-scale use are preferable to the converse – collecting food waste as garbage for disposal in landfills or incinerators – and therefore have adopted public policies that allow and promote their use.

But since residential disposers only became fully legal in New York seven years ago, they are not yet common and have not achieved critical mass.[7] In fact, residential developers and building managers tell us that the city's practice of

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[5] Local studies estimate food waste at approximately 15% of residential waste; nationally, the U.S. Environmental Protection Agency estimates food waste at 7% of residential waste.

[6] Markets for biosolids are stable and growing. All (100%) of New York City's biosolids are beneficially re-used, at costs that are substantially below those of a decade ago. See Attachment V (pp. 1-3) of the Draft CSWMP.

[7] Prompted by the City Council's interest, legalization followed several years of study, a modest pilot project, and a comprehensive report issued by the City's Department of Environmental Protection.

providing "free" garbage collection to residential buildings has slowed their installation, both in existing buildings as well as in new construction.[8]

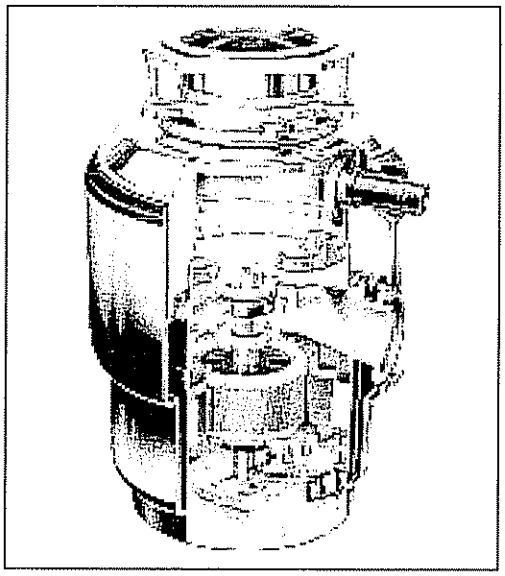
For commercial food establishments, the City Council is now considering how best to test their efficacy, despite the reluctance of the Department of Environmental Protection to allow their use, and counter to the experience of Philadelphia, which requires commercial establishments to use disposers rather than put food waste into dumpsters.

I will save for the public hearings yet to come about the CSWMP itself my specific comments and recommendations about what New York City should do to aggressively encourage the use of residential disposers, and how it might proceed to allow commercial disposers.[9]

To conclude this testimony, for better or for worse, New York City only tackles this critical opportunity to plan seriously for solid waste management every ten or twenty years or so. By failing to recognize the challenges and opportunities associated with aggressive management of food waste, the proposed Plan and the Draft EIS that accompanies it will hold the City back from an honest, challenging discussion about getting food waste out of our garbage, and back where it belongs – onto our land as fertilizer, from when it came.

New York's proposed new plan for our waste management system should be organized around strategies to manage the various components of the solid wastestream in different ways, making the Plan's silence about food waste a significant error of omission.

Thank you for your consideration.



Cut-away view of an InSinkErator food waste disposer
Top flange forms drain in bottom of sink.
Tube on upper right side accepts water discharged from a dishwasher.
Grind chamber (center) pulverizes and ejects food particles and liquid through channel at center-right into waste-line

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[8] Notwithstanding that fact, progress is being made: the Battery Park City Authority requires disposers in the final four residential buildings under development (see http://www.batteryparkcity.org/Site%203%20BPCA%20Res.Env.Guidelines%20v4%20080404.pdf ; the New York City Housing Authority is in its second phase of installing disposers; and Columbia University committed to installing disposers in its new residential buildings.

[9] See City Council Intros 100 and 220, as two examples.

LEGISLATIVE COMMISSION ON SOLID WASTE MANAGEMENT
4 Empire State Plaza, 5th Floor
Albany, New York 12248
(518) 455-3711
FAX (518) 455-3837

ASSEMBLYMAN WILLIAM COLTON
Chair

RICHARD D MORSE
Executive Director

January 24, 2005

Harry Szarpanski
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

FAX Transmission: 212-269-0788

Dear Mr. Szarpanski:

As an Assemblymember representing the southwest portion of Brooklyn and Chair of the Legislative Commission on Solid Waste Management, I submit the following comments on the Draft Environmental Impact Statement (DEIS) for the City's proposed changes to its Solid Waste Management Plan (SWMP). While most of my comments pertain to the impacts of the Converted Marine Transfer Stations (MTSs), my greatest concerns are with the Chapter 5 analysis of environmental impacts of the proposed Southwest Brooklyn Converted MTS which borders my District.

Assessment of Waste Delivery to the Converted MTSs

New York City Department of Sanitation (DSNY)-managed Waste

The Commercial Waste Study (CWS) Summary Report (Table 2.1-1) and the Solid Waste Management Plan (Table 3.4-1) provide **different** numbers for average peak day waste. For example, the CWS states that the average peak day tonnage of DSNY-managed waste for the Southwest Brooklyn MTS is 1,090 tons, while the SWMP states the average peak day tonnage is 1,140 tons. There is no reason for the discrepancy, since both sets of numbers are based on historical (1998) average peak day generation in the respective MTS wastesheds. The DEIS makes no mention of which tonnages were used in its calculations and evaluation.

Furthermore, the DEIS states that a 20% contingency was applied to the average peak daily tonnage figures for DSNY-managed waste in order to build an element of conservatism into the environmental review. However, when a 20% "contingency" is added to either of the numbers from the CWS or the SWMP for average peak day waste tonnages, the result is **not** the contingency-added figures in DEIS Table 2.1-2. Some of the contingency-included figures in Table 2.1-2 are well below the figures that would be derived by adding 20% to the CWS or SWMP average peak day figures. All of these discrepancies must be explained.

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Additional questions arise from the DEIS regarding DSNY-managed waste estimates. For instance, there is more recent data for the amounts of waste generated by waste district than the 1998 data used in the DEIS. Why doesn't the DEIS utilize the most recent data collected from the districts for a more accurate estimate of the incoming DSNY-managed waste at MTSs?

In Table 3.16-1 the DEIS estimate the number of loads each facility would generate on an average peak day. Yet, there is no detailed explanation as to the source or derivation of these numbers. More importantly, the DEIS does not provide detailed explanation as to how the numbers in Table 3.16-2 for projected peak hour collection vehicles were derived. The DEIS states that "...the temporal distribution of waste deliveries to the Converted MTSs was calculated for the average peak day. It was assumed that [the MTSs] would have a waste delivery temporal distribution similar to waste delivery temporal distribution of the existing MTSs when they were in operation in 1998." The DEIS lacks any description of these temporal distributions. Waste generation by community and therefore delivery temporal distribution has likely changed since 1998. Did the DEIS adjust the 1998 temporal distribution numbers to reflect more recent waste collection data?

The projected highest number of vehicles that would deliver to each MTS during one hour is an extremely important number because it is used frequently in determining traffic, air quality, noise, and odor impacts. However, the DEIS does not fully explain how it derived peak hour numbers. How was the maximum number of vehicles that would deliver to the MTSs during an hour determined?

Commercial Waste

The DEIS lacks a detailed discussion of the methodology and the actual analyses that were conducted to evaluate commercial waste impacts. There is no mention of commercial waste within the methodology chapter of the DEIS, and for each MTS there is only a very brief section on commercial waste impacts. Although the Commercial Waste Study Summary Report is attached as Appendix D to the DEIS, the DEIS itself should provide more information.

Furthermore, there are so many uncertainties surrounding the issue of commercial waste processing that it seems reasonable to assume that more commercial waste could end up at the Converted MTSs than predicted. For instance, there is a definite possibility that other parts of the plan might fail or that "upset conditions" might occur more often than expected, resulting in more commercial waste being sent to the MTSs. The DEIS itself states that it is not definitive on the issue of processing commercial waste. Due to these uncertainties, the environmental assessment of the MTSs should assume the worst case scenario in terms of the amount of commercial waste being processed. This scenario would be the operation of the Converted MTSs at their design capacity of 4,290 tons per day.

The environmental analysis for each MTS section on commercial waste includes a brief discussion of off-site noise impacts. For all four MTSs this discussion indicates that the actual number of vehicles delivering commercial waste during the hours of 8 pm and 8 am must be limited to less than the excess capacity available during that time period. Although the DEIS

does provide the maximum tonnage of commercial waste that could be processed at each MTS without causing any significant adverse noise impacts, there is no explanation of how these maximum tonnages were determined. Furthermore, the mere fact that there is a maximum tonnage of waste above which there will be significant impacts raises some serious concerns. For example, can DSNY ensure that these caps will not be exceeded considering the degree of uncertainty surrounding commercial waste processing? Additionally, the DEIS figure for maximum allowable number of commercial waste vehicles is for a 12-hour period. However, some hours during this period are more vulnerable to adverse noise impacts than others, a condition that does not appear to have been taken into consideration.

Environmental Justice Issues

Using the section analyzing the impacts of the Southwest Brooklyn Converted Marine Transfer Station site as a template, it appears that the DEIS is woefully inadequate at evaluating the impacts of the proposed site uses on adjacent neighborhoods.

Although the DEIS goes into what appears to be sufficient detail on the characteristics of the surrounding areas to the SW Brooklyn Converted MTS site, it fails to provide an adequate analysis of the impacts of the MTS site use on these areas. For example, the document mentions the nature of the surrounding area, including industrial and water-dependent recreational uses, commercial establishments and recreational facilities and a dense residential area (Bensonhurst) within 1/4 mile of the site. The document further acknowledges that there will be a reactivation of the solid waste transfer operations with additional containerization operations. However, there is no analysis of the impacts associated with the re-opening and expansion of that facility. It is not sufficient to say that the site will be reactivated for a previous use and therefore will not present any significant adverse impacts. The DEIS must at least look at what issues existed previously, whether these problems are likely to re-emerge with the reactivation of the site, and what the potential impacts of containerization operations will be.

Furthermore, there is no presentation of impact analyses associated with the MTS on community facilities, such as schools, health care facilities, senior residence, etc. These types of facilities service and house vulnerable populations (children, the elderly and the sick) who may be impacted by noise, increased air pollution and other problems at the site. This section (page 5-34) states that "(T)technical studies were performed for potential site-generated environmental impacts and no significant, unmitigatible adverse traffic, air quality, odor or noise impacts were found."

- Where is the data used in these technical studies and what assumptions were made?
- Why were these studies not included in the Appendix?
- What was the basis for determining no significant adverse impacts would occur that could not be mitigated?

Marine Resources Impacts

The Southwest Brooklyn Converted MTS presents a number of marine environment and resource concerns. The DEIS acknowledges the abundance of fish species and presence of essential habitats for fish in Gravesend Bay. Despite the importance of this area, the City plans to conduct

on-going dredging operations to deepen and maintain the site for container barges. There is considerable concern regarding the impact of dredging, which the DEIS fails to consider and evaluate. Unless the most environmentally effective methods of dredging, such as vacuum dredging, are used to contain the contaminants in the bay, aquatic organisms and human populations that use this area for recreational and fishing purposes will be at risk. Furthermore, it is unclear to what extent dredging will be necessary, since the types of vessels transporting the garbage have not been identified.

In addition, the City proposes to construct a 300 foot breakwater that is likely to have significant impacts, particularly in light of existing structures in the area. This proposal must be evaluated in light of other structures that exist or are planned for the area.

Finally, discussion of impact mitigation should be part of the DEIS, not as part of the permitting process. Any mitigation needs to be evaluated within the SEQR process to understand how such actions will interact with the proposed action.

Vermin Impacts

The DEIS does not assess any impacts of vectors in the vicinities of the MTSs. In Chapter 33 (p. 33-21), the DEIS does describe procedures to control vermin such as rats and insects which will be important to minimizing their impacts on the surrounding areas. However, the potential impacts of vermin is an issue that needs to be much more carefully studied and addressed in the DEIS, since transfer stations are likely to create and exacerbate vermin problems in surrounding areas.

While a well-managed facility where the incoming waste is promptly and completely processed would likely minimize vermin activity, some problems could certainly still arise, especially from rats migrating to nearby neighborhoods. The Southwest Brooklyn MTS is immediately surrounded by public recreational areas which are adjacent to residential and commercial areas. Any increase in rat infestation could be detrimental to the health and well-being of the recreational public and residents of the area. Once again, the amounts of waste that will be processed in the facility would directly impact the capacity of the facility to operate reliably. The uncertainty over waste and capacity require that worst-case scenarios be utilized in assessing vermin impacts.

Conclusions

The many discrepancies in the waste estimates undermine the credibility of the environmental and health impact analyses provided in the DEIS and create confusion and uncertainty throughout the DEIS and SWMP. Since the SWMP omits necessary limits on waste and the DEIS is evaluating the impact of a 20-year plan, the DEIS should then be based on the "worst-case" scenario. This would mean assessing all impacts based on the full capacity operation of the MTSs, which the DEIS clearly fails to do.

Given the substantial inadequacies of the environmental analyses provided in the DEIS, I cannot support the establishment of the Southwest Brooklyn Converted MTS. Similar concerns can be

raised with all of the proposed converted MTSs. I recommend that a revised DEIS be prepared to address these issues and that this revised DEIS be reissued with an adequate public comment period. Many of the concerns I have identified with the DEIS originate from deficiencies in the SWMP itself. I plan to provide additional comments on the SWMP at next week's City Council Hearings.

Thank you for your consideration of these comments. If you have any questions on them, please contact me or my staff at the Legislative Commission on Solid Waste Management at 518-455-3711.

Sincerely,

William Colton

William Colton
Member of Assembly

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January 24, 2005

Harry Szarpanski
Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: Draft Comprehensive Solid Waste Management Plan and Environmental Impact Statement

Dear Mr. Szarpanski,

Sustainable South Bronx is pleased to provide comments on the Draft Solid Waste Management Plan (SWMP) and Environmental Impact Statement (EIS). The Plan includes some steps forward in managing the City's solid waste, most notably the creation of export infrastructure located Manhattan, an emphasis on rail and barge-based export citywide, and higher recycling goals.

In spite of these important foci, however, the proposed SWMP will leave the South Bronx, neighborhoods like it, and indeed the entire City suffering from the continued environmental, health, and economic costs of a system that is still largely based on export and old ways of thinking about Sanitation. We urge you to consider the following ways that the SWMP would be strengthened before the final version is prepared

WASTE PREVENTION, RE-USE, AND GREEN JOBS

We wish to emphasize that the real way that the needs of the South Bronx will be addressed with regard to solid waste management is through the aggressive pursuit of Zero Waste. Because even the most equitable waste export system brings negative environmental consequences, there is a great need for environmentally sound manufacturing sector jobs in the neighborhoods where waste handling is concentrated, and because of the potential to create these jobs by reducing the need for garbage export through the pursuit of Zero Waste, waste prevention should play a more prominent role in the SWMP.

Zero Waste is an initiative that requires serious and committed planning and economic support for waste prevention, re-use, and sustainable economic development. Unfortunately, the Draft SWMP does not demonstrate such commitment. By lacking timetables, milestones, an appropriate level of detail, or suggestions for funding mechanisms to support the development of Zero Waste, the Draft SWMP is leaving the door open for NYC to continue to create waste at the current –completely unsustainable— rate

A particular egregious failure to address waste prevention is the Commercial Waste section of the plan. Specifically, no consideration is paid to the Construction and Demolition waste stream, which in the Bronx is responsible for 4700 tons per day of waste, handled at 6 stations clustered closely in one Community Board. There is exciting potential for job creation and improved operating standards by developing and supporting a system whereby C&D would be recycled, re-used and/or re-sold that the draft SWMP ignores

To address this issue and others, the plan should include a discussion of how the City will create Zero Waste infrastructure to support this type of endeavor, especially the borough-based eco-industrial parks that are detailed and outlined in *Reaching for Zero: A Citizen's Guide to Zero Waste*. Again, this is crucial in order to reach the lofty (but unsupported) goal of a 70% diversion rate by 2015. These Parks could be supported on City-owned property that is leased to a cooperative of businesses, community residents,

and labor representatives similar to the structure of the Hunts Point Food Markets In the Bronx, there is an ideal site at the Oak Point rail yard that has barge and rail access whose development the SWMP could begin to address, but there is no discussion of these Parks, let alone how the City might concretely support their development. The plan states an intention to increase transfer station fees; those increased revenues should be dedicated to commercial waste prevention and recycling programs.

Additionally, the SWMP should include much more detail about developing broad-based composting of the organic food waste stream. The Hunts Point Market composting project is a fair start but the City must move more quickly than the timeframe laid out in the plan, especially since the facility has been under discussion and analysis for years already In a similar vein, the reinstatement of the Botanical Garden composting programs is a positive step, but more attention to developing systems to compost food waste is critical to any effort to dramatically increase diversion rates.

Another consideration with regard to Zero Waste that the plan should include is an exploration of technologies that have been shown to be environmentally sound and innovative; the new versions of incineration suggested in the plan do not fit this category. Additionally, the plan should include the City's support for expanding the State's Bottle Bill as a means for increasing the recycling of beverage containers.

EXPORT PRINCIPLES

Currently, the South Bronx is forced to bear the burden of 25% of NYC's waste, an enormous injustice with devastating consequences on the health, well-being, and economic livelihood of the neighborhood We support the opening of the Marine Transfer Stations and private marine and/or rail-based alternatives because we believe it can be an equitable alternative to the current discriminatory system, which overburdens our neighborhood and other low-income neighborhoods of color. To begin to achieve this, the City should open all the MTSs proposed in the draft SWMP. In particular, the Manhattan MTSs are crucial to creating a mechanism for fair distribution of waste; the Gansevoort peninsula for recyclables, E 91st Street for commercial and residential waste from its waste shed, and W 59th Street for commercial waste are all critical to begin to approach equity in export.

Our overall support of the plan is contingent, however, on a reduction in the amount of garbage that is handled in the South Bronx so as to achieve borough fair share for residential and commercial waste, the closure of the land-based transfer stations in the neighborhood, and the elimination of excess permit capacity in the Bronx

Based on figures from Deputy Commissioner Cipollina and accounting for 20% variability, total Bronx putrescible capacity should be reduced to a maximum of 3000 tons per day, down from current capacity which tops 3000 tons per day. The current DEIS and SWMP, while they embrace these principles, do not discuss capacity caps or auxiliary mechanisms that would result in capacity caps. To the contrary, page 11 of the Draft SWMP says that among the long term export program's major advantages is that the, "Use of existing private transfer station ...capacity (i) allows some components to be implemented on a faster timetable; and (ii) avoids City investment in new capital projects." This type of vague language, coupled with the Bronx's history as a regional sacrifice zone, require us to call for more detail in the SWMP that would indicate how capacity will be reduced, land-based stations will be closed, and include an absolute commitment to borough self-sufficiency for commercial and residential waste and a deadline for the accomplishment of that goal

An important prerequisite to acquiring this guarantee would be a meaningful discussion in the SWMP of economic flow control—how it would operate financially and what other incentives and disincentives Sanitation would use to ensure the redistribution of commercial waste.

NEIGHBORHOOD SAFETY, WELL-BEING, AND BENEFIT

In spite of the historic and current burden that the South Bronx has had to bear, it is willing to accept the amount of waste that it creates, provided that the standards of operations of the facilities charged with handling this waste are dramatically improved to truly ensure the safety and well-being of

the surrounding neighborhoods. The safety and well-being of the neighborhood includes that of the workers at the facilities, who deserve living, prevailing wages, uncompromised safety protocols, and other basic rights. Furthermore, these facilities should be required to make significant contributions to the neighborhood so that the neighborhood may see meaningful benefit for housing these facilities. We expect that the City should include this as a requirement for all stations with which it enters into a contract

NO DECISIONS WITHOUT THE PEOPLE OF THE NEIGHBORHOOD

To ensure adherence to these bottom lines, a plan for closing the private land-based transfer stations should be considered at the same time as the plan for opening the MTSs and the alternatives – in this SWMP, and included in the EIS The City should commit to a plan that includes a community advisory group and a timeline with milestones to develop and implement the redistribution of waste capacity from communities with the largest number of land based transfer stations as proposed in the draft SWMP

Only after the details and mechanisms of re-distribution have been worked out to the satisfaction of the group should the City enter into a contract with a private company for DSNY managed South Bronx waste To protect the neighborhood from runaway capacity, only one company should get the contract for DSNY collected waste

CURRENT ANALYSES AND SWMP MUST GO FURTHER TO PROTECT THE SOUTH BRONX:

The analyses presented in the DEIS are insufficient to accurately describe the impacts that the proposed SWMP will have upon this community and to characterize the devastating impacts of the current system in effect. These failings fall into several categories.

Sustainable South Bronx is opposed to the creation of a facility that would allow the Bronx to receive containerized garbage from other boroughs to be railed through the neighborhood. The current documents would allow for a facility to receive containerized garbage from E. 91st St., the North Shore Converted MTS, and W. 59th St

This proposal is problematic from several standpoints. First, it is simply a violation of borough-self-sufficiency Containerizing the garbage elsewhere, but sending it to the Bronx for an extended period of time segments the export process and makes the "intermodal" site little more than a different kind of transfer station

Second, the DEIS' assertion that the creation of such a facility is not subject to any kind of additional review is without basis and exemplifies the worst attempts to sneak another polluter into an overburdened neighborhood without any community input Such an intermodal facility would be accompanied by odor impacts, as well as concerns about vermin. The DEIS also fails to include a discussion of visual impacts to Randall's Island, an emerging recreational center.

Perhaps most significantly, an intermodal facility of this type would trigger serious problems with an already overburdened rail line. The insufficient capacity of rail in the Bronx would lead to other boroughs' waste to sit and begin rotting in the Bronx, creating a de facto landfill at the HRY An intermodal facility in the Bronx handling garbage from outside the borough is absolutely unacceptable.

The DEIS is extremely problematic in other ways The depth of the analysis that the current DEIS offers is insufficient The DEIS makes references to previous studies in 1994, 1997, and 2000 but does not provide updated analyses of the impacts that the existing system has on the community. Refusal to do new studies shows a willingness to perpetuate environmental injustice by depending on historical studies that have discriminated against the people of the neighborhood

In particular, none of these historical studies examined off-site impacts This omission created the current situation, which is used as the baseline for the new analysis.

In examining the MTS alternatives, the DEIS offers no new information with regard to the Waste Management site, and relies on DEC analyses of environmental conditions as opposed to doing its own due diligence to evaluate the site. With regard to the E 132nd St. site, it operations at the proposed Oak Point intermodal site are deemed exempt from review without basis (ignoring the noise, air quality, odor, and other impacts of the Dray Route traveling through areas with residential uses), new truck traffic up the Bruckner, on Leggett Avenue and onto Barry not analyzed. and air quality was only examined at 1 intersection (E. 138th and Bruckner). It does not address the rail limitations that would frustrate the intermodal plan. These limited analyses fail to fairly examine the impacts of the current inequitable system of environmental burdens, and assumes them to be without problem.

For these reasons, as part of the SWMP EIS, it is critical that the environmental impacts of the private land-based waste transfer system be assessed as fully as the environmental impacts of the MTSs and alternatives listed in the SWMP DEIS.

As part of the SWMP EIS, it is also critical that the environmental impacts of the transfer station siting regulations and operational regulations be assessed as part of the environmental review of the SWMP. It is inappropriate for DSNY to separate or segment the regulations governing the private land-based waste transfer system from the environmental review process for the SWMP.

With regard to protections built into the future system, the discussion of the use of alternative fuels in the DSNY should commit to specific goals and targets for the phase out of diesel and the phase in of alternative fuels, such as CNG, BioDiesel, and Fuel Cells. Additionally, the SWMP should include the phase in of permit requirements for private carters' use of alternative fuels beyond federal requirements for the use of ultra low sulfur diesel (ULSD). The city should also enable the use of alternative fuels by providing access to fueling infrastructure.

The DEIS essentially concludes that by changing the traffic signals at 138th and Bruckner Boulevard, the environmental impact of the waste from the entire borough of the Bronx will be mitigated. Many more controls must be installed at all operating facilities to even begin to protect the neighborhood. These include:

1) Separate from air permits required by NYSDEC, the permit applications must include analysis of the impacts of PM 2.5 and H2S. There must be a demonstration that:

for H2S, the facility must demonstrate impacts are below:

- 1 ppb one-hour average maximum impact at sensitive thresholds based on City Council Resolution Nos. 2113-2114
- 10 ppb/hour ambient air (NYSDEC)

for PM 2.5

- ug/m3 annual neighborhood average (NYCDEP's impact threshold for annual impact)
- 0.3 ug/m3 maximum annual impact (NYSDEC impact threshold)
- 5 ug/m3 maximum 24-hour impact (NYCDEC impact threshold)

The PM 2.5 analysis must include all vehicular emissions: include on-site processing vehicles and trucks during the time they are present on-site and idling adjacent to the site.

2) Affirmative particulate/dust migration controls must be installed. In addition to the proposed method of wetting to control dust, there must be active particulate control measures of air being ventilated from the transfer stations, such as the use of bag houses or other equivalent particulate filtering devices

3) There must be an odor capture and control system, i.e., activated carbon odor control system. "Odor neutralizing systems" are not designed to capture and control, rather there are designed to merely mask odors. Odor neutralizing agents are not designed to prevent the detection of odors but merely to change the type of odors that are detected by the community residents

4) Facilities must have a vector/vermin control system in place to control all organisms that could transmit disease, including rats, and birds.

5) All facilities must be free of standing water.

6) There must be a hazardous materials (including radio-active) detection, segregation and disposal system

7) Every site must maintain a monitoring program with on-site record keeping system.

8) There must be an on-site decontamination system at the point of exit from the facility to remove all residues from all transport vehicles leaving the facility. The decontamination system must be an automatic system, i.e., turns on and off, without the intervention of an operator, and have an enclose drainage system. The decontamination system must be designed to remove both dust and odors from the vehicle. An automatic log must be kept confirming that each vehicle leaving the facility has been decontaminated

Long Range Transport:

1) All methods used for long range transport must require hard/fixed type covers to control odors and spillage of waste.

2) In the case of rail transport, full rail cars must not be permitted to sit during transport for final disposal at any location longer than 6 hours.

Impacts of Significant Local Projects:

The impacts of other significant local projects must be addressed in the selection of the waste transfer station, e.g., South Bronx Greenway.

Detail on how unnecessary system-wide redundancy is proposed to be reduced should be presented for all the possible alternatives

The DOS should stagger DOS truck delivery in order to:

- Minimize air quality impacts
- To keep a cleaner facility
- To have fewer industrial accidents

Thank you for the opportunity to comment.

Sincerely,

Elena Conte
Solid Waste and Energy Coordinator

DSNY need copy

ENVIRONMENTAL DEFENSE
finding the ways that work

Comments on NYC's Solid Waste Management Plan And The Proposed Redevelopment Of the 91st Street MTS

James T. B. Tripp, General Counsel, Ramon Cruz, Policy Analyst
And Andy Darrell, Director, Living Cities Program

December 20, 2004

Introduction. The City of New York has put forward a draft comprehensive Solid Waste Management Plan dated October 2004 (draft SWMP) for public comment. Recently, Environmental Defense, a national environmental organization headquartered in New York City, completed a study of Manhattan's commercial and residential solid waste entitled "Trash and the City".

Based on the framework, goals and findings of this study, we support the major features of the City's draft SWMP, including the proposals to: 1) reopen and modernize the 91st Street MTS, 2) build a recyclables MTS at Gansevoort at west 12th Street, 3) operate the 59th Street MTS as a Manhattan commercial waste facility with its proximity to the Manhattan central business district, 4) construct other barge- and rail-based transfer facilities in the other boroughs, 5) increase the City's recycling rate with water-based transport of metal, glass and plastic (MGP) and paper recyclables, and 6) tighten up on operating rules that govern the existing commercial waste transfer facilities concentrated in the South Bronx and northern Brooklyn, as well as new facilities proposed under this draft Plan.

In this testimony, we show how Manhattan's solid waste transport brings nearly eight million truck miles of traffic per year to City streets. Opening waterfront transfer facilities can cut that truck traffic in half, sparing our lungs from diesel exhaust and our streets from unnecessary congestion. We also suggest how revitalized facility can deal with real community concerns. Creative design can solve key problems of truck queuing, odor, noise, water pollution and other impacts in ways that have the potential to transform these facilities in ways that can make them part of waterfront success stories. While the draft SWMP proposes a number of steps to reduce the community impacts of the proposed new facilities, the City must take additional measures to assure the minimization of adverse impacts and make these facilities compatible with near-by waterfront park and recreational uses. They require a new vision for the future of the waterfront, one that is fully compatible with the recreational and environmental improvements such as Asphalt Green and the Hudson River Park that the waterfront and waterways have seen over the past decade.

In this statement, we describe changes in the City's commercial and residential solid waste system over the last 20 years and the serious deficiencies of the current system, summarize the findings of our study "Trash and the City" and then apply these findings to evaluate the City's draft SWMP. Finally, we identify additional steps that the City should take to minimize the community impacts of the proposed new facilities.

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Evolution of the City's Current Truck-Dependent Commercial and Residential Waste System. The current City commercial and residential waste system has very serious problems that the City must address because of its over-reliance on truck transport between boroughs and tractor-trailer export of waste and the concentration of dated, sub-standard, land-based, truck-dependent commercial waste transfer stations in the South Bronx and northern Brooklyn. This system came about in response to the City's decision in the late 1980's to close the Fresh Kills landfill to commercial waste. Until then, most Manhattan commercial waste, just like its residential waste, reached Fresh Kills through Manhattan's marine transfer station (MTS) system that at that time included a MTS at the Gansevoort Peninsula at 12th Street on the Hudson River. With the redirection of Manhattan's commercial waste to truck-dependent transfer stations in the South Bronx and northern Brooklyn, the Gansevoort MTS closed.

In May 1996, the City and State decided to close the Fresh Kills landfill to residential waste as well. Much of the City's residential waste is now transported by interstate tractor-trailer trucks from the same truck-dependent waste transfer facilities that service its commercial waste, with two exceptions. Bronx residential waste goes to a modern, rail-export facility in the Harlem River Rail Yards, and Manhattan residential waste is trucked through the Lincoln or Holland Tunnel to waste facilities in the Newark area of New Jersey, primarily the Essex mass burn plant. As a result, over a period of a decade, Manhattan's and, more broadly, the City's commercial and residential waste system was transformed from one that was primarily barge-based, using MTSs, to one that is primarily truck-based, both for inter-borough and export movements. In our study, we calculated that trucks carrying just Manhattan's commercial and residential waste travel some eight million miles annually in the City, contributing to its congestion and air pollution, with very focused impacts on the South Bronx and northern Brooklyn.

Over the last 15 to 20 years, the communities in the South Bronx and northern Brooklyn have at the same time undergone major transformations of their own. Twenty years ago, they were under-populated, largely poor, with substantial minority populations, and depressed. Since that time, their populations have grown, their residential communities have expanded, and their own commitments to reduce truck congestion and improved air quality have changed dramatically. Concurrently, with strengthened civic advocacy capability, the willingness of these communities to serve as hosts for most of the City's waste facilities has justifiably diminished.

The Goals and Analytic Framework of Environmental Defense's Solid Waste Study. In order to explain our support for the major features of the City's draft SWMP, we describe the goals and major findings of our study "Trash and the City" that we initiated two years ago. In this study, we looked at both the City's residential and commercial solid waste streams since they are of comparable size City-wide and have potentially comparable kinds of impacts. In addition, we focused on Manhattan because it generates almost half of the City's solid waste, and its commercial waste exceeds its residential waste by a factor of about 2.5 with correspondingly greater impacts.

Our study postulated four goals:

- That a Manhattan commercial and residential solid waste system should support reduced use of and eventual closure of the land-based, truck-dependent commercial waste transfer stations concentrated in South Bronx and northern Brooklyn communities;
- That it should reduce significantly commercial and residential waste truck vehicular miles traveled (VMT) within the City, i.e., it should be water- and rail-based as much as possible;
- That it should promote maximum commercial and residential paper and MGP container recycling based on a water or rail-transport system;
- That new or rebuilt water- or rail-based transfer/transport facilities should be designed and operated so as to minimize community impacts and to make these facilities compatible with other non-commercial waterfront uses.

We then identified eight potential water- and rail-based transfer facilities that could handle Manhattan commercial and residential waste, five of them in Manhattan, including the 91st, 135th and 59th Street MTSs, Gansevoort on the Hudson River at 12th Street and Pier 42 on the lower East River, and three in other boroughs close to bridges or tunnels connecting those sites to Manhattan, including the Harlem River Rail Yards.

We then designed ten alternative scenarios using combinations of these eight facilities and conducted a quantitative truck VMT analysis that would allow us to compare these scenarios based on this variable. Our study pointed to a number of recommendations for any solid waste management plan that the City should adopt:

- Any plan should address commercial as well as residential waste streams;
- To handle Manhattan's commercial as well as residential system in a water- and rail-based system, at least one new MTS should open below 42nd Street, the 59th Street MTS should be used as much as possible to handle commercial waste, and the three outer-borough facilities, including the Harlem River Rail Yard rail-export facility, should be open to handle Manhattan waste;
- Recyclables can and should be transported by water or rail as much as possible;
- The City would have to make major changes in the design of these facilities and the operation of both residential and commercial trucks utilizing these facilities to minimize community impacts.

Assessment of the City's Draft SWMP Based on Our Study. The City's draft SWMP, unlike its predecessors, accomplishes a lot of the goals of our study.

- The draft SWMP addresses both commercial and residential waste streams.
- It envisions the construction or rebuilding of a number of modern water- or rail-based transfer facilities, including four of the City's MTSs that were in operation until the late 1990's.
- It calls for tougher operating rules for both existing and new waste transfer facilities that will gradually improve the land-based, truck-dependent transfer facilities in the South

Bronx and northern Brooklyn and increase the cost of their operation (although more needs to be done), making use of modern water- and rail-based facilities economically more attractive to the commercial sector.

- It sets up a MGP container as well as paper recycling transport system that is much more water-based than the current system with the construction of a new MGP reprocessing plant on the Brooklyn waterfront.
- It proposes opening up a new, state-of-the art MTS at Gansevoort to handle Manhattan MGP container recyclables that would then be barged to the new Hugo Neu processing plant on the Brooklyn waterfront and Manhattan paper recyclables – an arrangement that would allow the City to move the Visy Paper plant paper barge from the 59th Street MTS to Gansevoort and to use the 59th Street MTS for commercial waste.
- It allows for the continued closure of the 135th Street MTS in recognition of the burden on that community of the North River sewage treatment plant. With these changes at 59th and 135th Street, it proposes trucking of waste from the historic wastesheds of those facilities to the Essex facility in Newark.
- It proposes rebuilding the 91st Street MTS to handle residential waste from four east-side community districts and some of Manhattan's commercial waste.
- Finally, it recognizes that, in order to reduce the community impacts of these MTSs, design and operational standards would have to be implemented to minimize or avoid truck queuing on City streets.

Within the framework and goals of our study, therefore, we support the major features of the City's draft SWMP, including the rebuilding of the 91st Street MTS, as well as creating a new recyclables MTS at Gansevoort and reconstruction of the 59th Street MTS for Manhattan commercial waste. Further, our vision of the Manhattan and outer borough waterfront, an extraordinary resource for this City, includes a range of mixed uses, as well as parks and recreational space. After all, to sustain itself, this City needs transportation, solid waste, water, wastewater, power plant and port facilities that are or have to be located near or on the waterfront.

The question, therefore, is how best to design and operate such infrastructure facilities so that they are compatible with park and recreational waterfront uses and minimize truck congestion, safety, odor, noise and visual community impacts. In our view, the City's draft SWMP begins the process of identifying measures that can help attain the goals of use compatibility and impact minimization, but the devil is in the details, and much has to be done to clarify those details and to develop design and operational specifications and monitoring and enforcement protocols that will assure attainment of those important goals through contract provisions and City, State and federal permit conditions.

Community Impact Minimization and Adjoining Use Compatibility Measures. Experience with the operation of the 91st Street MTS prior to the closure of the Fresh Kills landfill has fueled opposition to the reopening of this facility, and understandably so. Before its closure, City collection trucks would queue on York Avenue for several blocks, often for hours, in the

morning and early afternoon, emitting vast amounts of diesel emissions as they idled and moved gradually towards the facility ramp. They also constituted an unattractive and smelly sight and disrupted pedestrian movement.

Truck Operations. The City's proposed design for the 91st Street MTS and the other MTSs would address a number of these well-justified concerns. The draft SWMP calls for the elimination of street truck queuing through redesign, partial widening and strengthening of the ramp and an enlarged building footprint that together can accommodate a large number of trucks. In addition, the City has indicated that a Sanitation guard at the foot of the ramp will send trucks away if they cannot readily enter the facility. The draft SWMP also provides that the rebuilt MTS will operate under negative air pressure with odor-control filters. Electronic weighing systems will facilitate the movement of trucks in and out of the facility, further reducing truck back-ups.

In addition, the Department of Sanitation, to its credit, is shifting to the use of low and ultra-low sulfur diesel fuels, is piloting different retrofit emission control technologies to reduce truck emissions and is testing out new collection truck designs that would very substantially reduce fine particulate and nitrogen oxide emissions. At the same time, the U.S. EPA's new diesel rule that establishes nation-wide emission control standards for new medium and heavy trucks starting in 2007 and requires use of ultra low sulfur fuels will assure that all new trucks, not just Sanitation and private carter trucks, plying the streets of New York will emit significantly reduced emissions compared to existing trucks.

However, in terms of truck operations, addition steps can be taken. All City Sanitation trucks that pre-date the 2007 EPA truck diesel emission rule should meet best available retrofit emission control technology standards. This standard should apply as well to commercial carter trucks utilizing the 91st Street facility if it is to be used to the extent proposed for commercial waste transfer. In terms of air pollution, odor and other community impacts, City and private carter trucks are all the same. Some commercial trucks typically also smell more than City trucks, not only because they pick up restaurant waste, but also because they over-compact their loads to increase tonnage that results in liquid spillage. To minimize over-compaction, the City should set limits on commercial waste tonnage that private carter trucks utilizing the 91st Street MTS may carry.

Cleaner trucks, coupled with the draft Plan's provisions to avoid public street truck queuing, should improve environmental conditions significantly. However, the City's Plan should spell out logistical details that assure efficient and safe movement of trucks onto and off the ramp and in and out of the facility with delineation of emergency back-up arrangements to give the public real confidence in the practical implementation of this commitment. Further, as important as an arrangement that avoids street queuing is, it is not ideal to have unnecessary ramp queuing so close to adjacent playing fields and Asphalt Green. Design of the ramp with effective noise and air pollution barriers and plantings would reduce ramp noise, odor and emission impacts. Beyond that, it is time that the City address the underlying cause of City truck street or ramp queuing, with all of its emissions, fuel and economic waste, namely,

Department of Sanitation collection route schedules that concentrate truck arrivals at transfer facilities. Minimizing street or ramp queuing should become a factor in setting collection schedules. In addition, using GPS or other communication technologies, the City should stage the arrival of collection trucks to minimize ramp queuing.

Facility Design. The visual appearance of the 91st Street facility is also important in terms of its compatibility with other waterfront uses. The City has put forward an imaginative, non-shed design concept for the Gansevoort recycling facility that makes it an aesthetically interesting part of the Hudson River Park waterfront. Improving the architect and landscaping of the 91st Street MTS could make it a far more pleasing and less intrusive waterfront structure, particularly in light of the fact that the new MTS will be a larger facility than the existing one. We have worked with an architect, Michael Singer, who has demonstrated how waste facilities can be designed to make them harmonious with their surroundings.

Tonnage Caps. Use of the 91st Street MTS by City and private carter trucks should be subject to daily average and annual caps. The permitted capacity number of almost 5000 tons per day could give the impression that the facility might accommodate 400 trucks a day, even though the draft SWMP describes an average daily residential and commercial waste tonnage, respectively, of 720 and 760. Permit conditions should specify an enforceable average daily tonnage limit for both residential and commercial waste as well as peak day use limits. Snow events, emergencies and holidays may result in peak usage, but low usage days should offset higher usage events limited to a few days in the year to afford compliance with average daily tonnage limits set out in State Park 360 permits. Private carter use should not be open-ended.

Furthermore, given the increasingly residential character of the surrounding area, the facility should be closed at night after a prescribed hour. Commercial carter use of the facility should also be linked to compliance with state-of-the-art emission, odor control and noise standards for their trucks. If private carter trucks do not meet best available emission control and fuel standards, they should be limited at most to 250 tons or no more than 20 trucks per day. If they meet best available retrofit and fuel standards, this could be increased to 500 tons per day. Insofar as private carter trucks meet the 2007 EPA diesel engine and fuels standards, it could be increased to the proposed tonnage, with average daily tonnage limits expressed as tonnage caps in the State Part 360 permit.

Data Reporting. Finally, the SWMP must establish detailed monitoring, data collection, assessment and reporting and enforcement procedures that provide assurance that truck operation and facility performance standards will be met. Monthly data reports should be available to Community Board 8 and interested parties. Furthermore, the City should provide funds for a community-based technical expert to review and assess reported data for compliance with permit conditions and standards, and, with the State Department of Environmental Conservation, it should prescribe an enforcement process to rectify permit condition and standard mandates in a timely basis. If these conditions are met, in our view a new, state-of-the-art 91st Street MTS should have minimal community impacts and should be compatible with adjacent waterfront uses.

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January 24, 2005

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

VIA FACSIMILE: (212) 269-0788

Re: Comments to the New Comprehensive Solid Waste Management Plan

Environmental Defense, a national environmental organization headquartered in NYC that combines science and economics to devise and advocate proposed solutions to complex environmental problems and then advocates for those solutions, submits the following comments on the New York City Department of Sanitation's (DSNY) proposed New Comprehensive Solid Waste Management Plan (New SWMP) and accompanying Draft Environmental Impact Statement (DEIS).

Introduction. The City of New York has put forward a draft comprehensive Solid Waste Management Plan dated October 2004 (draft SWMP) for public comment. Recently, Environmental Defense completed a study of Manhattan's commercial and residential solid waste entitled "Trash and the City". Based on the framework, goals and findings of this study, we support the major features of the City's draft SWMP, including the proposals to: 1) reopen and modernize the 91st Street MTS, 2) build a recyclables MTS at Gansevoort at west 12th Street, 3) operate the 59th Street MTS as a Manhattan commercial waste facility with its proximity to the Manhattan central business district, 4) construct other barge- and rail-based transfer facilities in the other boroughs, 5) increase the City's recycling rate with water-based transport of metal, glass and plastic (MGP) and paper recyclables, and 6) tighten up on operating rules that govern the existing commercial waste transfer facilities concentrated in the South Bronx and northern Brooklyn, as well as new facilities proposed under this draft Plan.

In this statement, we show how Manhattan's solid waste transport brings nearly eight million truck miles of traffic per year to City streets. Opening waterfront transfer facilities can cut that truck traffic in half, sparing our lungs from diesel exhaust and our streets from unnecessary congestion. We also suggest how revitalized facility can deal with real community concerns. Creative design can solve key problems of truck queuing, odor, noise, water pollution and other impacts in ways that have the potential to transform these facilities in ways that can make them part of waterfront success stories. While the draft SWMP proposes a number of steps to reduce the community impacts of the proposed new facilities, the City must take additional measures to assure the minimization of adverse impacts and make these facilities compatible with near-by waterfront park and recreational uses. They require a new vision for the future of the waterfront,

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wastewater, power plant and port facilities that are or have to be located near or on the waterfront.

The question, therefore, is how best to design and operate such infrastructure facilities so that they are compatible with park and recreational waterfront uses and minimize truck congestion, safety, odor, noise and visual community impacts. In our view, the City's draft SWMP begins the process of identifying measures that can help attain the goals of use compatibility and impact minimization, but the devil is in the details, and much has to be done to clarify those details and to develop design and operational specifications and monitoring and enforcement protocols that will assure attainment of those important goals through contract provisions and City, State and federal permit conditions.

Community Impact Minimization and Adjoining Use Compatibility Measures. While we recognize that the current proposed MTS design is improved from the one in place when Fresh Kills was active, there are many aspects that should be improved for the City to gain community support and speed the approval process. We will focus our comments on the case of 91st St. because it is the only Manhattan MTS reviewed in the DEIS and a very controversial one. Experience with the operation of the 91st Street MTS prior to the closure of the Fresh Kills landfill has fueled opposition to the reopening of this facility, and understandably so. Before its closure, City collection trucks would queue on York Avenue for several blocks, often for hours, in the morning and early afternoon, emitting vast amounts of diesel emissions as they idled and moved gradually towards the facility ramp. They also constituted an unattractive and smelly sight and disrupted pedestrian movement.

Truck Operations. The City's proposed design for the 91st Street MTS and the other MTSs would address a number of these well-justified concerns. The draft SWMP calls for the elimination of street truck queuing through redesign, partial widening and strengthening of the ramp and an enlarged building footprint that together can accommodate a large number of trucks. In addition, the City has indicated that a Sanitation guard at the foot of the ramp will send trucks away if they cannot readily enter the facility. The draft SWMP also provides that the rebuilt MTS will operate under negative air pressure with odor-control filters. Electronic weighing systems will facilitate the movement of trucks in and out of the facility, further reducing truck back-ups.

In addition, the Department of Sanitation, to its credit, is shifting to the use of low and ultra-low sulfur diesel fuels, is piloting different retrofit emission control technologies to reduce truck emissions and is testing out new collection truck designs that would very substantially reduce fine particulate and nitrogen oxide emissions. At the same time, the U.S. EPA's new diesel rule that establishes nation-wide emission control standards for new medium and heavy trucks starting in 2007 and requires use of ultra low sulfur fuels will assure that all new trucks, not just Sanitation and private carter trucks, plying the streets of New York will emit significantly reduced emissions compared to existing trucks.

However, in terms of truck operations, addition steps can be taken. All City Sanitation trucks that pre-date the 2007 EPA truck diesel emission rule should meet best available retrofit emission control technology standards. This standard should apply as well to commercial carter trucks utilizing the 91st Street facility if it is to be used to the extent proposed for commercial waste transfer. In terms of air pollution, odor and other community impacts, City and private carter trucks are all the same. Some commercial trucks typically also smell more than City trucks, not only because they pick up restaurant waste, but also because they over-compact their loads to increase tonnage that results in liquid spillage. To minimize over-compaction, the City should set limits on commercial waste tonnage that private carter trucks utilizing the 91st Street MTS may carry.

Cleaner trucks, coupled with the draft Plan's provisions to avoid public street truck queuing, should improve environmental conditions significantly. However, the City's Plan should spell out logistical details that assure efficient and safe movement of trucks onto and off the ramp and in and out of the facility with delineation of emergency back-up arrangements to give the public real confidence in the practical implementation of this commitment. Further, as important as an arrangement that avoids street queuing is, it is not ideal to have unnecessary ramp queuing so close to adjacent playing fields and Asphalt Green. Design of the ramp with effective noise and air pollution barriers and plantings would reduce ramp noise, odor and emission impacts. Beyond that, it is time that the City address the underlying cause of City truck street or ramp queuing, with all of its emissions, fuel and economic waste, namely, Department of Sanitation collection route schedules that concentrate truck arrivals at transfer facilities. Minimizing street or ramp queuing should become a factor in setting collection schedules. In addition, using GPS or other communication technologies, the City should stage the arrival of collection trucks to minimize ramp queuing.

Facility Design. The visual appearance of the 91st Street facility is also important in terms of its compatibility with other waterfront uses. The City has put forward an imaginative, non-shed design concept for the Gansevoort recycling facility that makes it an aesthetically interesting part of the Hudson River Park waterfront. Improving the architect and landscaping of the 91st Street MTS, as well as the other MTSs in the other boroughs could make it a far more pleasing and less intrusive waterfront structure, particularly in light of the fact that the new MTS will be a larger facility than the existing one.

Last year, Environmental Defense and designers led by Michael Singer, who has demonstrated how waste facilities can be built to make them harmonious with their surroundings, worked together to see whether a facility could be designed for the City waterfront, within the footprint of existing MTS and help solving these problems. We believe that such a design is possible, especially if the City would open a dialogue with these communities pressing for creative solutions that inspire tangible social, aesthetic and environmental benefits. The process surrounding the Gansevoort MTS is heading in the right direction and we hope to work together with the City in bringing innovative design ideas for that particular facility.

Here are examples of the solutions we sketched out. No new technologies have to be implemented to bring these changes. To eliminate long lines of queuing trucks, an automated interior ramp would take all waiting trucks off city streets. The ramp could work like a car wash ramp, with a pulley system that tows waiting trucks to run off their engines and eliminate idling. Water collected on the road and roof surfaces could be stored in wall cavities, providing a ready source of grey water for cleaning the facility and protecting nearby rivers. Integrated plantings and wetlands along the walls and on the roof would treat wastewater, remove odors through air-to-soil filtration and offer a flyway habitat stop for migrating birds. Solar panels could generate power and reduce the facility's energy load. Advanced air filters could scrub any remaining odors before they escape the facility. An education center and viewing facility could be open to everyone to learn about recycling and see what happens to the trash we throw away. A facility like this could be integrated into the city's new waterfront parks, gardens, bike paths and play spaces.

Tonnage Caps. Use of the 91st Street MTS by City and private carter trucks should be subject to daily average and annual caps. The permitted capacity number of almost 5000 tons per day could give the impression that the facility might accommodate 400 trucks a day, even though the draft SWMP describes an average daily residential and commercial waste tonnage, respectively, of 720 and 760. Permit conditions should specify an enforceable average daily tonnage limit for both residential and commercial waste as well as peak day use limits. Snow events, emergencies and holidays may result in peak usage, but low usage days should offset higher usage events limited to a few days in the year to afford compliance with average daily tonnage limits set out in State Park 360 permits. Private carter use should not be open-ended.

Furthermore, given the increasingly residential character of the surrounding area, the facility should be closed at night after a prescribed hour. Commercial carter use of the facility should also be linked to compliance with state-of-the-art emission, odor control and noise standards for their trucks. If private carter trucks do not meet best available emission control and fuel standards, they should be limited at most to 250 tons or no more than 20 trucks per day. If they meet best available retrofit and fuel standards, this could be increased to 500 tons per day. Insofar as private carter trucks meet the 2007 EPA diesel engine and fuels standards, it could be increased to the proposed tonnage, with average daily tonnage limits expressed as tonnage caps in the State Part 360 permit.

Data Reporting. Finally, the SWMP must establish detailed monitoring, data collection, assessment and reporting and enforcement procedures that provide assurance that truck operation and facility performance standards will be met. Monthly data reports should be available to Community Board 8 and interested parties. Furthermore, the City should provide funds for a community-based technical expert to review and assess reported data for compliance with permit conditions and standards, and, with the State Department of Environmental Conservation, it should prescribe an enforcement process to rectify permit condition and standard mandates in a timely basis. If these conditions are met, in our view a new, state-of-the-art 91st Street MTS should have minimal community impacts and should be compatible with adjacent waterfront uses.

Commercial Waste. It is imperative that the City lays out clearly the plans for the transferring of commercial waste and recyclables through the City's MTSs in order to attend community concerns. Having commercial trucks adding waste tonnage to the City's MTS system translates into more truck traffic and emissions from diesel engines for the local communities. Moreover, commercial waste collection trucks are not as clean as DSNY's fleet and therefore represent a larger source of pollution.

In addition to be more specific about the use of the MTS to transfer additional commercial waste, it is extremely important that the City develop a strategy to strengthen operational and siting rules that would result in the closure of or a diminished number of land based transfer station that now concentrate in disadvantaged communities, such as South Bronx and northern Brooklyn. In order to gain support for this plan, it is necessary for the City to commit to this goal. The benefits of a water- or rail-based system cannot be seen only as an environmental gain to the City as a whole, but should translate into specific improvements to the communities that for nearly two decades have born the burden caused by the City's solid waste transfer system.

Long Term Options and increase capacity for Manhattan's Residential and Commercial Waste. Over the past two years Environmental Defense together with the Manhattan's Solid Waste Advisory Board has advocated that, for the sake of fairness and for a better distribution of capacity, the City should evaluate the possibilities for siting marine- and rail-based transfer stations at locations in addition to those that were operating up till the closure of Fresh Kills. We think that the New SWMP and accompanying DEIS are deficient in their analysis of suitable locations for Manhattan transfer stations. While we commend DSNY for proposing to shift the export of Manhattan's recyclables from truck to barge through the use of a recyclables acceptance facility on the Gansevoort peninsula, and to shift the export of solid waste from Manhattan community districts 5, 6, 8 and 11 from truck to barge through use of a City-owned converted Marine Transfer Station at East 91st Street, and while we have supported in the past and continue to support the use of these locations for transfer stations, we feel that the DEIS should contain an evaluation of these and additional sites for Manhattan transfer stations that provides the public with more information concerning why these sites were chosen, and what other sites may be suitable.

The Commercial Waste Study did purport to evaluate sites for a private transfer station in Manhattan that would handle commercial waste, as the SWAB had requested it do. The sites evaluated there were rail sites at West 30th and West 140th Streets, and marine sites at Pier 42 and the Gansevoort Peninsula. The study evaluated the sites using constraints that are not applicable to City-owned stations, and concluded that all four sites were infeasible due to technical issues or land use obstacles.

An analysis in the DEIS of sites for transfer stations in Manhattan should discuss and employ reasonable minimum criteria for identifying multiple possible locations, such as access to rail or water, minimum lot size, and public ownership. Criteria such as zoning classification and proximity to sensitive receptors should be assessed and discussed only as a secondary consideration, since such criteria may be overridden, and since East 91st Street and Gansevoort

may not meet such criteria either. A full disclosure of the possible locations, including those evaluated in the Commercial Waste Study, together with an identification and discussion of problems/constraints at each location, is necessary in order to understand whether the selected long term export program is the alternative that will best minimize environmental impacts. Such disclosure would also provide a basis to determine whether the program's reliance on continued trucking of solid waste from community districts 1, 2, 3, 4, 7, 10 and 12 to the Newark waste-to-energy facility is the best alternative.

Moreover, the New SWMP does not improve the handling of the solid waste that will be transported to Newark--two-thirds of borough's total. Quite to the contrary, it locks New York into a status quo for the next 20 years – depending on an out-of-state incinerator. The majority of waste generated in Manhattan will continue to travel in packer trucks over Manhattan roads and through the Holland and Lincoln Tunnels and George Washington Bridge into New Jersey, causing air pollution and excess traffic congestion in many Manhattan neighborhoods. Additionally, the waste-to-energy facility in Newark impacts air quality not only in New Jersey but also in New York because of prevailing westerly winds.

Thanks for your attention,

James T.B. Tripp
General Counsel

Ramón J. Cruz
Policy Analyst

MANHATTAN CITIZENS' SOLID WASTE ADVISORY BOARD

Office of the
Manhattan Borough President
One Centre Street, 19th floor
New York, NY 10007

January 24, 2005

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: New Comprehensive Solid Waste Management Plan

Dear Mr. Szarpanski:

The Manhattan Citizens' Solid Waste Advisory Board (SWAB) submits the following comments on the New York City Department of Sanitation's (DSNY) proposed New Comprehensive Solid Waste Management Plan (New SWMP) and accompanying Draft Environmental Impact Statement (DEIS). The Board is a volunteer body appointed by the Borough President that advises her and other City officials on the City's recycling and solid waste management programs. The Board contains many knowledgeable and committed members dedicated to improving the recycling program, expanding waste prevention activities, and managing and disposing of solid waste in an environmentally sound and financially responsible manner.

Waste Prevention and Recycling

The New SWMP's commitments on waste prevention and recycling fall woefully short of the efforts which the SWAB believes are necessary for compliance with the State's solid waste management laws and for progress towards a solid waste management system that minimizes its impacts on the environment and its costs for its citizens. The New York City Council declared in 1989, Local Law 19, that the measures taken by the City must establish the most environmentally sound and economically desirable waste reduction, recycling and reuse programs possible and should be consistent with or surpass the reduction, recycling and reuse goals established by New York State. The 1992 Comprehensive Solid Waste Management Plan offered 86 ambitious waste prevention and recycling initiatives. The 1995 update had 47 milestones; many of these were new ideas. Some goals were accomplished: City-wide mixed paper and MGP collection, Riker's Island composting and materials exchange programs. Most initiatives were forgotten or delayed.

The New SWMP lists 22 reduction milestones. Only 4 of these are new concepts: electronics recycling, paper-bagged yard waste, an annual DSNY electronic newsletter and revisions to Local Law 19. Just one of these reduces solid waste tonnage. The other target dates merely extend timing for projects proposed in 1992 and 1995. This is not progress. There are no implementation dates for 3 projects: school awards, commercial education and food waste composting at Hunts Point.

While tracking diversion of City agency materials that never have entered the waste stream is commendable and should continue, there is no justification to include them in reduction totals. Reported City agency tonnages are paltry and eliminated altogether in future projections. The City-wide tonnage goals in Local Law 19 assumed a broader range of materials would be designated for recycling or prevention by now. Lawful tonnage requirements cannot be revisited until comprehensive reduction plans are in place. Before adopting the New SWMP DSNY must demonstrate commitment to the goals stated by the City Council on behalf of all New Yorkers. As a first step, DSNY should adopt the Zero Waste initiatives appended to these comments.

Long Term Export Program

The Manhattan SWAB has long been in favor of maximizing the use of barge and rail for export of solid waste and recyclables. The current Manhattan system moves all waste and recyclables out of the borough by truck, creating unacceptable air pollution and traffic congestion and imposing higher than necessary costs. It is in everyone's interest to phase out the current system as expeditiously as possible.

The SWAB has also advocated that, for the sake of fairness and for a better distribution of capacity, the City should evaluate the possibilities for siting marine- and rail-based transfer stations at locations in addition to those that were operating up till the closure of Fresh Kills. Over the past two years, the SWAB has been engaged in a dialogue with Manhattan community boards about the benefits of a redesigned marine and rail transfer system and the need for additional capacity south of 59th Street, for the purpose of furthering informed input to the City's planning process.

The long-term export program for Manhattan should include the development of additional transfer sites with the objective of decentralizing the handling of waste and recyclables and enabling communities to take more responsibility for their waste. While we commend DSNY for proposing to shift the export of Manhattan's recyclables from truck to barge through the use of a recyclables acceptance facility on the Gansevoort peninsula, and to shift the export of solid waste from Manhattan community districts 5, 6, 8 and 11 from truck to barge through use of a City-owned converted Marine Transfer Station at East 91st Street, and while we have supported in the past and continue to support the use of these locations for transfer stations, we feel that additional sites for Manhattan transfer stations are feasible and should be explored, particularly sites below 59th Street. For example, the rail site at 30th Street was evaluated in DSNY's own Commercial Waste Study and rejected not for any technical or engineering reasons but

because it did not conform to zoning. This is obviously a consideration to be weighed, but not an absolute bar to the siting of a station. The need for new legislation at the Gansevoort site has not impeded progress there.

The SWAB faults the New SWMP for doing nothing to improve the handling of the solid waste that will be transported to Newark--two-thirds of borough's total. Quite to the contrary, it locks New York into a status quo for the next 20 years – depending on an out-of-state incinerator. The majority of waste generated in Manhattan will continue to travel in packer trucks over Manhattan roads and through the Holland and Lincoln Tunnels and George Washington Bridge into New Jersey, causing air pollution and excess traffic congestion in many Manhattan neighborhoods. Additionally, the waste-to-energy facility in Newark impacts air quality not only in New Jersey but also in New York because of prevailing westerly winds.

The New SWMP is also deficient in addressing operational and design issues at the East 91st Street and Gansevoort sites. DSNY must commit to change the way these stations formerly did business, even if it means confronting established work practices and difficult personnel issues. In the same way that DSNY's fleet prides itself on a superior environmental performance to the fleets of the private carters, DSNY must set a benchmark for its transfer stations that will always exceed that of the best-run private transfer station.

Queuing of trucks

One of the chief complaints of residents against any waste transfer station is the long queues of idling garbage trucks waiting to enter. We recommend that DSNY plan to reduce and eventually eliminate the queuing of garbage trucks at waste transfer stations not solely by designing space for indoor queuing but also by staggering shifts of truck deployment. If trucks went out on their routes on a more continuous basis, it is logical to assume that they would arrive at the MTS at different times as well. Over a twenty year planning horizon, DSNY should be investigating the use of GPS systems and other advanced technology that can match truck arrival times more closely with processing of waste.

Truck emissions

We recommend that to reduce emissions from trucks DSNY seek to procure vehicles that have the best emissions certifications and gas mileage. We recognize that DSNY has been moving its fleet of trucks over to low-sulfur diesel, and we would encourage the continuing evaluation of diesel retrofit technology and of other clean burning fuels.

Access Ramp to the 91st Street MTS

DSNY should work with the local community to come up with a ramp design that is not only aesthetically acceptable, but that also addresses many of the real concerns and problems the ramp presents. In particular, DSNY should explore creative designs to enclose the ramp, and vent any exhaust air toward the East River. The ramp and area in front of the MTS could be landscaped, adding greenery to create a natural and softer environment around the facility.

Gansevoort Recyclables Acceptance Facility
DSNY should define the timetable for design of the facility and for the promised environmental review. It should set parameters, in conjunction with the local community, for truck and tug usage and of measures to prevent queuing and mitigate emissions, and for pedestrian access and passage along the waterfront.

As previously noted, the SWAB endorses the reopening of the Gansevoort MTS for the handling of Manhattan's recyclables and we are pleased to see recyclables move by water. However, we would like to request DSNY use its transportation model to determine if it would be more efficient for the recyclables in certain districts to be driven directly to the Hugo Neu facility located in the Bronx. Moreover, consistent with our recommendation above that the EIS evaluate potential additional marine and rail sites in Manhattan, DSNY should consider the creation of a number of smaller barge- or rail-export facilities for Manhattan recyclables.

Evaluation of Cumulative Emissions from Alternate Trucking Schemes
With the objective of minimizing truck traffic and emissions, we recommend that the DEIS evaluate truck emissions in all parts of New York City from the "no action" alternative, the DSNY proposed alternative, and an additional scheme whereby truck queuing and idling is minimized and truck route mileage is minimized via changes in operations and optimized locations of garages and waste transfer points such as barge and/or rail facilities. We recommend that dioxin TEQ be added to the usual complement of criteria air pollutants evaluated, since governmental agencies such as USEPA and the California Air Resources Board have determined in past studies that automotive sources produce this carcinogenic substance.

[These studies should be correlated, using Geographical Information Systems (GIS), to asthma rates, which have been shown by studies at Lehman College (Maantay, et. al.) to be high in the trucking corridors in New York City, particularly the South Bronx and Washington Heights. These studies can assist DSNY in reducing deleterious impacts to public health from its collection and transfer system—can we explain this better?]

Export of Commercial Waste from Manhattan
The SWAB encourages DSNY and EDC to work with local groups and with the SWAB to ensure that the plan for exporting commercial waste from the 59th Street MTS evolves in a way that optimizes its use and minimizes negative impacts. Inasmuch as the New SWMP contains little or no detail on how this facility will operate, there should be further analysis and an additional opportunity for public comment once more specific plans are available.

The SWAB also supports the proposal to utilize excess capacity at 91st Street MTS for some portion of Manhattan's commercial waste, although the impacts of this need to be carefully studied, including issues of noise, queuing at night, and insuring optimum use of clean burning fuels in the private carting industry. The analysis in the Commercial Waste Study for both these facilities is not adequate to disclose the impacts of their use as

described in the New SWMP.

Thank you for this opportunity to comment.

Sincerely,
Christine Datz Romero
Christine Datz Romero
Chair

Potential Industries, Inc.
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January 21, 2005

Mr. Harry Szarpanski
Assistant Commissioner, DSNY
44 Beaver Street, 12th Floor
New York, NY 10004

sent by FedEx

Re: CEQR03DOS004Y / DEIS Public Comment

Dear Commissioner Szarpanski,

The DEIS states that "the potential traffic, off-site air and off-site noise impacts that would be associated with the changes in delivery of Curbside Recyclables by DSNY collection vehicles from current destinations to a new facility(ies) are also evaluated in this DEIS". However, the DEIS does not evaluate said impacts.

The First Amendment to Agreement between the City of New York and Visy Paper (NY) directs DSNY to deliver 34,000 tons per year of Waste Paper to Visy from Brooklyn Districts 2, 6, 7, 10, 11, 12 and 13. DSNY currently delivers those Districts to Visy. However, DSNY does not yet deliver the entire 66,000 tons per year of Waste Paper over and above that amount which is also mentioned in the Amendment.

The problem is not simply that the associated changes for those 66,000 tons per year are not included in the DEIS, but rather that there was never an analysis of the traffic, air, and noise impacts of diverting initial 34,000 tons per year of Brooklyn Mixed Paper that is being trucked by DSNY over the Verrazano bridge to Visy.

It is important that DSNY evaluates the environmental impacts for the wholesale diversion of the above mentioned 100,000 tons per year of Brooklyn based Mixed Paper while keeping in mind the stated goal of reducing truck traffic and congestion. It may be helpful to include in that review a comparison of delivery costs and revenues generated for DSNY taking the Mixed Paper to Visy as opposed to the Brooklyn facilities.

Regards,

Daniel J. Domonoske
Vice President

Encl: district map of Acceptance Facilities
CC: Marty Markowitz, Brooklyn Borough President
William Colton, Member of the Assembly, 47th AD
David Yassky, Councilmember 33rd District

DSNY Mixed Paper Acceptance Facility Options

● **DSNY**

Gansevoort MTS - Manhattan (being developed)
59th Street MTS - Manhattan (being reserved for trash)

★ **REVENUE CONTRACTS**

2 North Fifth Street - Brooklyn
847 Shepherd Ave - Brooklyn
860 Humboldt Street - Brooklyn
31-33 Farmington Street - Queens
770 Barry Street - Bronx
960 Bronx River Ave - Bronx

☆ **VISY AGREEMENT**

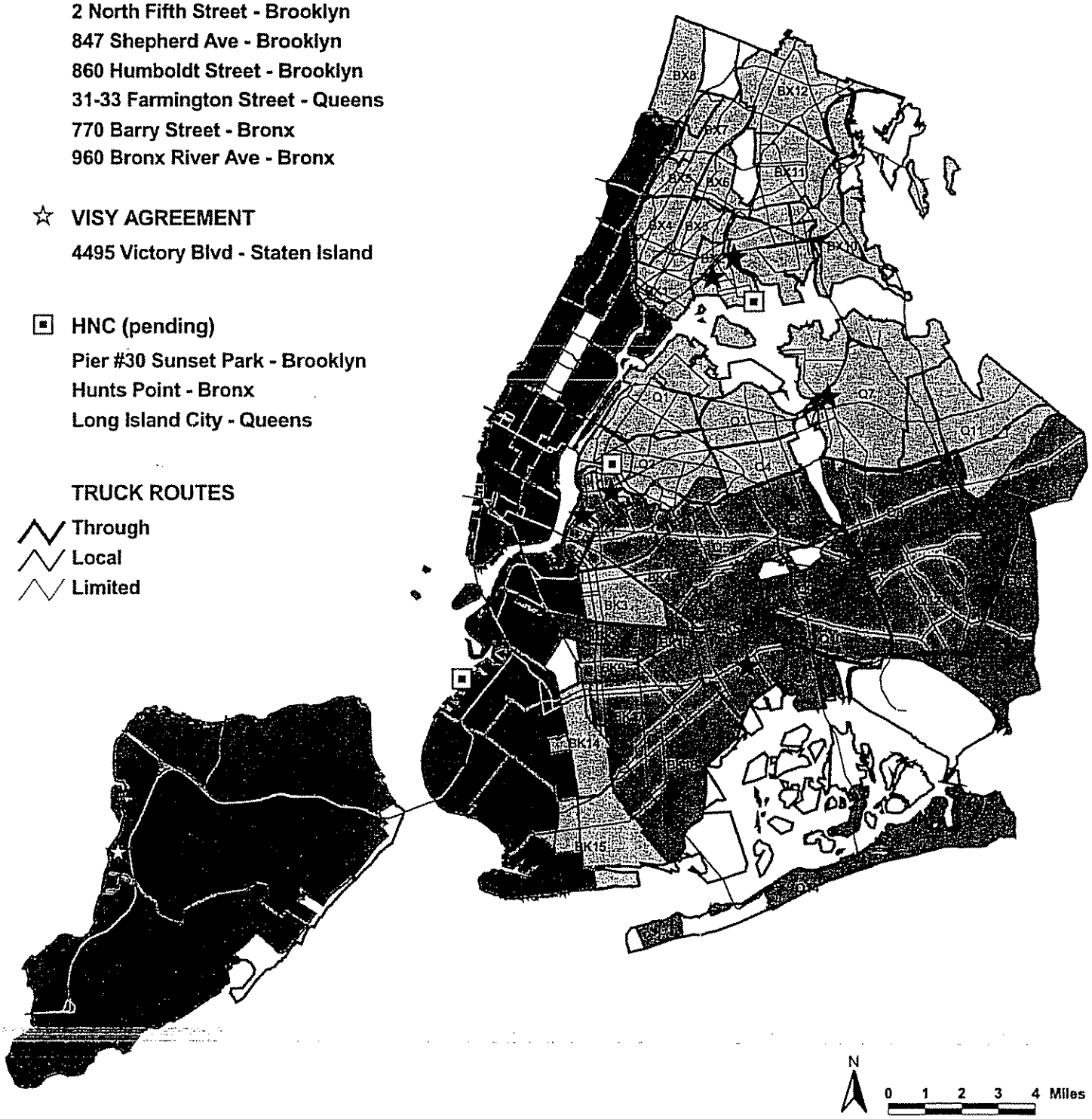
4495 Victory Blvd - Staten Island

▣ **HNC (pending)**

Pier #30 Sunset Park - Brooklyn
Hunts Point - Bronx
Long Island City - Queens

TRUCK ROUTES

Through
Local
Limited



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BROOKLYN SOLID WASTE ADVISORY BOARD COMMENTS ON THE DRAFT S.W.M.P. AND D.E.I.S.

Written by Ken Diamondstone

January 23, 2005

It had been our intention to respond to specific items within the text of the draft SWMP and accompanying DEIS but we have instead chosen to outline, in more general terms, our perceptions of these DOS documents as inadequate tools for their intended purpose.

We believe that the City can and must produce a 20 year plan that is cost effective, comprehensive, broad in vision and consistent with environmental stewardship in a time of impending scarcity. It's our view that what we have before us in the Draft SWMP and DEIS might have constituted a legitimate Plan 10 years ago but today seems oblivious to 21st century reality and the needs of NY City during the next 20 years.

Not Planning Beyond Export

Page after page of the DSNY Draft SWMP address retrofitting of City and private marine transfer stations and various alternatives. They outline the long sought yet incomplete plans for expansion of rail and barge transport with the desired equivalent decrease in truck usage for purposes of exporting what DOS and the commercial haulers collect in NYC. This is gratifying but only as a part of a broader comprehensive plan. Yet with few exceptions, this is where the plan stops.

Not Planning for 20 Years

While there are no crystal balls available, this plan can and ought to identify goals and outline objectives over the entire 20-year span of time. It should plan the phase in of existing new technology. It does not. It could but yet does not plan for reduced waste in packaging, for curtailed truck emissions, for purchase by DCAS of larger quantities of recycled content products, for better enforcement of existing transfer station operating regulations, implementation of pilot waste to energy projects and the study of innovative solutions advanced by other municipalities. It could establish time lines for these objectives during the 20-year time span but it does not. Everything from expanded recyclable material collections to pilot commercial waste franchising strategy to food waste composting and so much more could be an integral part of this Draft SWMP, now!

No portion of the DSNY'S DSWMP is Devoted to a broad array

That we are investing no significant portion of the DSNY budget for a variety of pilot programs can only insure that we will do the same thing in 20 years as we are doing today. That is a ludicrous prospect and a testament to the absence of planning these documents purport to encompass.

No Plan or Timeline For Attaining Zero Waste

The Waste Prevention Coalition and others have advanced the concept of Zero Waste which the Draft SWMP rightly has addressed. Yet in practical terms, it advances few concrete proposals nor allocates funds to begin the process of reaching that goal.

As the world depletes its forests, subdivides its arable land, competes for diminishing reserves of fossil fuel, pollutes its oceans thousands of miles from shore with discarded plastic containers and slowly suffocates from toxic carbon emissions, DSNY is proposing more of the same. To simply continue the export of garbage. To bury it in some landfill out of our sight.

It seems to the Brooklyn SWAB that we and NYC can no longer justify either economically, environmentally or socially the production of "waste" but rather, we ought to envision these by products of urban activity as feed stock for new products.

Yet at this juncture we see no concrete plan to collect and recycle more materials by DSNY although we are gratified there is at least an expression of intent to do so; No clear elaboration of proposals for waste prevention; No interest in inducing or enforcing commercial recycling; No proposed legislation regarding increased producer responsibility for prolonging the life of products or reducing packaging. The Draft SWMP proposes no guidelines nor expresses any sense of urgency regarding the adoption and enforcement of Intro 29 relating to increased procurement by NYC of products with recycled content. There is no collaboration proposed by DSNY with ECD to build recycling industrial parks or to provide community based "green collar" employment to groups like the "Green Workers Cooperatives," DSNY makes no attempt to begin a program for electronic recycling or the collection of fibers; the Draft SWMP has no provisions for a biodiesel industry that might divert huge amounts of used residential and commercial cooking oil from landfills or out of our City's sewers where much is dumped. The Draft SWMP makes no provision for funding pilot non-polluting waste to energy plasma facilities or gasification nor for food waste composting.

No Plan to Relieve Currently Impacted Environment Justice Communities

While the draft plan reflects zoning changes promulgated in the new Siting Regulations, those regulations simply purport to prevent further environmental impacts in specific areas of the Bronx and Brooklyn, not ameliorate existing burdens.

The Plan and the Commissioner hope that magically, capacity and throughput will decline in those areas especially with reactivation of the MTS. The Plan therefore contains no mandates to reduce capacity, reduce throughput, sunset non-compliant land based transfer stations or mandate a time frame for clean fuel commercial waste vehicles. The Commissioner assures us that mandated flow control is not legal while others assure DSNY that it probably is. Lip service is given to environmental justice without a plan or time line for reducing the burden on these communities. The omissions are an affront to those communities and completely unacceptable at this late date.

Lastly, There is No Comprehensive Transition Proposed From the "Interim" to the "Final Plan"

The Draft SWMP makes no attempt to identify nor set a time line for de-permitting the transfer stations it would like to see eliminated. On the other hand it has, for example, it has reduced daily contract tonnages at some paper recycling facilities without a public vetting of the environmental, economic or social consequences of those changes and has in so doing made future operations at one state of the art recycling facility problematic.

When paper that was formerly tipped at that North Brooklyn facility ended up (through a contract revision) at Visy on Staten Island, it took a significantly longer time for the paper to arrive at its new destination, required more DSNY personnel time, incurred a bridge toll, required more fuel and DSNY was paid less per ton then at the North Brooklyn site. We need to know why. Perhaps this was a laudatory change that was strategically planned to benefit the Williamsburg community. Perhaps it was not. But there clearly needs to be disclosure and a logical overall plan that is both public and vetted for this transition from the "Interim" to Final Plan.

The Brooklyn SWAB considers the current Draft SWMP to be so deficient in these and other areas of concern (such as the Commercial Waste stream and its potential or lack thereof to utilize the retrofitted MTS) that a much broader, detailed and comprehensive plan is urgently called for.

While DSNY has admirably performed and continues to carry out its primary function of removing 13,000 tons of material from the City each day, it has been notably and repeatedly incapable of undertaking long term planning and innovation at a time when bold change is needed.

We urge the creation of an independent planning task force comprised of a cross section of solid waste management experts to advise the Mayor, DSNY and the Council on all planning and implementation matters related to Municipal and Commercial solid waste in general and the current need for a 20-year SWMP in particular.

Thank you for this opportunity to comment.

The Bronx Solid Waste Advisory Board
c/o Resa A. Dimino, Chair
95 Schofield Street
Bronx, NY 10464
(718) 885-9093

January 24, 2005

Harry Szarpanski
Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: Draft Comprehensive Solid Waste Management Plan and Environmental Impact Statement

Dear Harry,

The Bronx Solid Waste Advisory Board (SWAB) is pleased to provide comments on the Draft Solid Waste Management Plan (SWMP) and Environmental Impact Statement (EIS). The Plan represents a step forward in dealing with the city's mounting solid waste problem by proposing a barge and rail based waste export system, and increasing recycling and diversion goals. However, the plan lacks sufficient detail, performance milestones and targets to determine whether or not it is realistic and/or achievable. Furthermore, the SWMP does not present any innovation in dealing with an increasingly costly problem, and does not present a system that will allow the city to control those costs in the long term.

At the December 6 public hearing, the SWAB presented key points on the SWMP. Those points, attached for your reference, are part and parcel of these comments. Additional specific comments follow.

1. The veracity of the export plan presented in the SWMP depends on export facilities being established in all areas of the city. Therefore, to ensure that this plan complies with the "Fair Share" provisions of the city charter, ALL of the marine transfer stations must be reopened or replaced with similar facilities. The city should not entertain proposals to exempt certain neighborhoods from hosting export facilities, especially those, such as E. 91st Street, that are in higher income neighborhoods where asthma prevalence in children is actually lower than the city average.
2. The Bronx SWAB is strongly opposed to the use of the Waste Management facility at the Harlem Rail Yards as a barge-to-rail export facility for other boroughs waste. The Draft EIS on this proposal is significantly flawed. It assumes no off-site impacts, yet does not provide the information to back up that statement (apparently an analysis was done at one point, but it was not available with the documents). It does not include a discussion of visual impacts to Randalls Island, an emerging recreational center. It does not address the odor impacts from containers moving through the site

And, it does not provide a contingency plan for instances of poor service on the rail line (see below).

3 The reliance on rail for export will be problematic. Any industrial user of rail for transport will attest to the undependable nature of the rail system for moving goods. This is particularly true for the East of Hudson lines that would export from the Bronx. Increasing reliance on rail would likely result in stockpiling of rail cars full of trash, or a shortage of rail cars available for export. The SWAB recommends that the city devise export strategies that utilize barge transport as an alternative.

4. The SWMP appears to intend to direct commercial waste through the MTS system and reduce or end reliance on land-based waste transfer stations, however, there is no discussion of how the flow of waste would be managed or controlled. While economic flow control – that is, pricing the MTS tip fee below the land-based transfer station rate – would be an effective tool, the plan is silent on what the tip fee at MTSs would be, even within a ball park range. Will the city take actions to close land-based transfer stations, or create permit conditions, to ensure that commercial carters would use the MTS system?

5. The Draft EIS on the 132nd Street facility is also insufficient and dependent on an old analysis that was not available with the documents. It does not address the infrastructure needs at the Oak Point Yards to support increasing export by rail and does not discuss the noise, air quality, odor, and other impacts of the Dray Route traveling through areas with residential uses. It also does not present a contingency plan in the case of problems with the rail line (see #3).

6 The SWMP sets an ambitious goal of 70 percent diversion, yet it proposes no significant programs beyond the long-term contract for recycling curbside metal, glass, plastic and paper. The same ingenuity that was used to solve long-standing problems in the curbside recycling program and develop the long-term contract should be put to use to implement programs in the commercial sector, in public spaces, and for other materials, such as reusables and compostables.

7. The discussion of the use of alternative fuels in the DSNY fleet does not set any milestones, deliverables or performance goals, aside from complying with existing regulation for the use of ultra-low sulfur diesel (ULSD). The city should commit to specific goals and targets for the phase out of diesel and the phase in of alternative fuels, such as CNG, BioDiesel, and Fuel Cells.

8. There is no discussion of alternative fuels for DSNY vendors or private commercial carter fleets. The SWMP should include the phase in of permit requirements for private carters use of alternative fuels beyond federal requirements for the use of ULSD. The city should also enable the use of alternative fuels by providing access to fueling infrastructure.

9 The Environmental Justice Policy discussion in the Draft EIS is confusing. It notes that nine out of ten facilities are in EJ communities, and states that if significant impacts exist in those communities, DSNY will look for other sources of impact. However, it does not describe the next step. Will the city then move the facility out of the impacted neighborhood? Will it move to close other facilities?

10. The SWMP's discussion of an evaluation of alternative technologies for managing waste, e.g., gasification and anaerobic digestion, does not provide any milestones, targets, or clear path forward for evaluating the relative benefits of these technologies,

nor does it outline a public review process for that evaluation. More detail should be provided, and a public review process must be included.

Thank you for your consideration of the SWAB's comments. Please contact me if you would like do discuss these points further, or if you would like to come to a SWAB meeting to discuss the city's plan

Sincerely,

Resa Dimino, for
The Bronx Solid Waste Advisory Board

Bronx Solid Waste Advisory Board
Key Points on Draft Solid Waste Management Plan

- The Bronx SWAB supports the closing of the South Bronx MTS, and the move to export waste from the city by barge or rail, as opposed to trucks.
- The SWAB would like to provide comments on whether the city should pursue one of the two designated Bronx sites over the other (Harlem River Yards vs Allied 132nd Street facility), however there is no information provided that would enable our analysis of the comparative environmental impacts of the sites
- The Bronx SWAB is concerned to see mention of the Harlem River Yards as a potential barge-to-rail transfer station for other boroughs' waste; we oppose such a move because utilizing that facility would increase the waste disposal burden on the Bronx, create significant impacts on the park-in-development at Randall's Island, and overburden an already taxed rail line.
- The SWAB supports the export of Manhattan's commercial waste through transfer stations in that borough, to reduce the impact of commercial waste transfer on our neighborhoods.
- The SWAB supports the Hunts Point Market composting project and urges the city to move more expeditiously than the timeframe laid out in the plan; this facility has been under discussion and analysis for years already.
- The SWAB strongly supports the goal of 70 percent diversion by 2015, which is consistent with the SWAB goal of zero waste by 2024; however, the plan provides no detail on how that goal will be achieved.
- It is necessary to build more recycling infrastructure to achieve the 70 percent recovery goal; the Bronx SWAB strongly suggests that the city develop capacity in each borough through borough-based Recycling Industrial Parks
- The SWAB supports the reinstatement of the Botanical Garden composting programs, however, greater attention to composting food waste is critical to achieving aggressive diversion goals; unfortunately, this is not addressed in the plan.
- The Commercial Waste section of the plan does not pay any attention to waste prevention or recycling; the city will not be able to meet an goal of 70 percent reduction without addressing the commercial and construction and demolition streams.
- The plan states an intention to increase transfer station fees; those increased revenues should be dedicated to commercial waste prevention and recycling programs.
- The plan should include an evaluation of the potential for commercial waste franchising, however, any franchising scheme must exempt recyclables to provide maximum competition in recycling markets.
- The plan states that the city supports federal legislation to establish extended producer responsibility for electronic waste; while this is a positive statement, the city should be pursuing local EPR legislation.
- The plan should include the city's support for expanding the State's Bottle Bill as a means for increasing the recycling of beverage containers.
- Plastic packaging is clearly a problem that must be addressed through policy means; the Bronx SWAB encourages the city to implement programs and policies to control plastic waste and eventually prohibit the use of plastics that are not recycled in the city's program.
- While it is wise for the city to seek alternative technologies to manage its waste, many of the technologies proposed for study are black box approaches or new versions of incineration,
- Anaerobic digestion should be pursued immediately and aggressively because it would enable the organic food waste stream to be recovered as valuable compost and could generate energy as well.

Hudson River Park Trust

January 21, 2005

Assistant Commissioner Harry Szarpanski
NYC Department of Sanitation
Bureau of Long Term Export
125 Worth Street
New York, NY 10013

Re: Draft Environmental Impact Statement (DEIS) for the Draft Comprehensive Solid Waste Management Plan

Dear Assistant Commissioner Szarpanski:

The Hudson River Park Trust (Trust) has reviewed the Draft Environmental Impact Statement (DEIS) for the Draft Solid Waste Management Plan and has the following comments with respect to the West 59th Street Marine Transfer Station (MTS) in Manhattan (Block 1109, Lot 99) and also known as Pier 99 and Pier 52 at Gansevoort Street. Both locations are located within Hudson River Park.

Hudson River Park was created by New York State legislation (the "Hudson River Park Act," Chapter 592 of the Laws of 1998), and includes the area generally bounded by Battery Place at the south and the northern boundary of 59th Street and 59th Street extended at the north. The western boundary is the United States Pierhead Line and the eastern boundary is generally the westernmost point of Route 9A.

59th Street Marine Transfer Station:
The Hudson River Park Act defines Pier 99 as a "compatible governmental use " Compatible governmental uses are defined as "a use within the park that is compatible with park use in accordance with the purposes of [the] act, such as . . the city of New York department of sanitation water-dependent marine transfer station on Pier 99." Under the terms of the Act, the existing marine transfer station is permitted to be located within the park, and the Trust has no objections to its continued operation, including for its currently proposed use as a marine transfer station available for receipt of commercial putrescible waste.

Nevertheless, as stated in our May 24, 2004 letter to you commenting on the scoping document, your department should be aware that the Act imposes many restrictions on activities within the park, including the over 400 acres of water that are located within it. The supplemental environmental review described on page 4-4 of the DEIS should make mention of the Act and its restrictions, and should describe how any physical or operational changes required to accommodate the new commercial waste transfer facility would be consistent with the Act. For example, the supplemental environmental review should acknowledge that the Act prohibits construction beyond the historic footprints of the existing piers, and that it designates the entire water area as an estuarine sanctuary. We are available to answer any questions you may have regarding the Act.

The Trust requests that the "Existing Conditions" section of the DEIS be amended to include mention that the 59th Street Transfer Station is located within the Hudson River Park area (as opposed to "between parks"). It should also acknowledge the fact that the waters surrounding Pier 99 are legally part of the Hudson River Park Estuarine Sanctuary.

The supplemental environmental review should include a detailed analysis of any potential expansion of the existing operations at the 59th Street Converted MTS, including a description of any increase in traffic or expansion of use in either the surrounding water or the upland area located to the east of the pier. Any new service or access road configurations should be assessed with respect to their possible effects on recreational users of Hudson River Park. The supplemental environmental review should also detail the plans that would be created between the Department of Sanitation and the Department of Parks and Recreation to resolve the conflicts and safety issues that the DEIS acknowledges would be created on the bikeway by increased trucking activity. Furthermore, as the public bodies charged directly with creating and operating the park and bikeway respectively, the Trust and the NYS Department of Transportation should also be involved in such planning.

As stated in our scoping document comments, the DEIS should acknowledge that the entire bulkhead within Hudson River Park—including that bordering Pier 99—is eligible for the State and National Registers of Historic Places, and that any construction on it is subject to the terms of a Programmatic Agreement executed by the U.S. Army Corps of Engineers, the Advisory Council on Historic Preservation, the New York State Historic Preservation Officer and the Hudson River Park Trust. The natural resources assessment should analyze any potential changes to the Hudson River habitat resulting from any expansion of operations or construction at the pier, including those related to emissions from tug boats.

Finally, in the ongoing planning for the commercial waste transfer facility at 59th Street, we ask that the Department consider the fact that the operational hours identified on page 4-2 of the DEIS for the four Converted MTSs being described (i.e., 8 am to 8 pm) are the hours in which Hudson River Park and the adjacent bikeway are most heavily used. To the degree possible, operations should be planned to avoid or minimize weekend use in particular, but also weekday afternoons and early evenings. We again offer our assistance in such planning efforts.

Pier 52 at the Gansevoort Peninsula:

With respect to the plan to create a recycling facility at Pier 52 on the Gansevoort Peninsula, we acknowledge the Department of Sanitation's efforts to involve the Trust in the preliminary planning for this facility. As you know, we consider the Gansevoort Peninsula to be one of the future jewels of Hudson River Park. Consequently, it is vital that if a recycling facility were to be located on this site, the surrounding park area must be protected. We believe that Sanitation's planning efforts to date have been a good faith attempt to do just this. Still, the fact that the Hudson River Park Act would have to be amended to permit a recycling facility at Pier 52 means that the Trust will have to continue to work closely with the Department of Sanitation to successfully address issues related to traffic, natural resources, noise, odors, open space and other environmental concerns

Conclusion:
Given the fact that these two proposed facilities are located within Hudson River Park, the Trust requests that we be listed as an involved agency, as the Act requires the Trust to hold hearings and perform many other functions with respect to the property in our jurisdiction

Please contact me if you need further information. My number is 212-627-2020.

Sincerely,

Noreen Doyle
Executive Vice President

cc: Connie Fishman, President, Hudson River Park Trust
Laurie Silberfeld, General Counsel

January 24, 2004

Kathryn R. Edmunds
530 E. 90th St.
Apartment 5H
New York, NY 10128

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street --- 12th Floor
New York, New York 10004

Re: Comments concerning methodologies used for the Final Scoping Document, and the Draft Environmental Impact Statement of October 2004 for CEQR #: 03DOS004Y

Dear Mr. Szarpanski,

I have several substantive criticisms of the methodologies used for the Scope and for the Draft Environmental Impact Statement released in late October 2004. As far as I can tell, the only way to rectify these problems is to re-conduct the studies or to find different agencies to evaluate that data that was accurately collected.

This set of comments should be considered to pertain to every site and proposed site where truck traffic will be generated by the waste facilities. I submit this letter for inclusion in the comments of every site for which you are collecting comments at this time. If it is not permitted to have a single letter be included in all the comment sections, then please include it in the comment section for the proposed facility at E. 91st Street and East River, which as the most populated area, has the most people to be affected by inadequately evaluated impacts.

I have three particular areas of concern: truck traffic assessments, air quality impacts on public health, and adherence to the State's Environmental Justice policy guidelines.

1.) <u>Traffic Analysis and Truck/ Passenger Car Equivalence</u>

I object to the conclusion that there will be no negative traffic impacts because I believe the traffic studies were not accurately conducted.
Below are comments that demand consideration:

a.) While it is true that CEQR Technical Manual of 2001 considers sanitation waste collection vehicles to be 1.5 Passenger Car Equivalents, this conversion factor is not appropriate for traffic studies relating to an on-going nearly 24/ 7 flow of truck traffic to and from a particular site. The CEQR technical manual is a set of guidelines. Most "guidelines" included are not regulations. The guidance that a sanitation vehicle is 1.5

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PCE is not a regulation. An approximately 23 ton vehicle cannot be considered a "light truck" in every context; therefore the PCE of 1.5 should not be applied to every traffic context within the city. Perhaps a factor of 1.5 applies when there is an occasional garbage truck in a stream of cars; or perhaps it applies when a DSNY garbage truck is empty (the 10.46 ton weight of an empty truck almost meets the 9.9 ton definition of a light truck). Having consulted with a Professor of Civil and Environmental Engineering in the mid-west after telling him the conditions of the roadways, frequency of signals, approximate frequency of the vehicles in question (while having told him only the range of weight of vehicles, not the type and withholding from him the city I was discussing as well as my reasons for interest in the topic), I was told the following: "In general, a truck like that is considered equivalent to two cars at the intersections."

b.) Furthermore, according to the US Department of Transportation, Federal Highway Administration guidelines for analysis of signalized intersection capacity, a heavy vehicle is equated to 2 PCE: (http://www.fhwa.dot.gov/ohim/hpmsmanl/appn5.htm).

c.) The Federal Highway Capacity Manual which DSNY's consultants used to evaluate the truck traffic does consider all of these variables and more. But it should be pointed out that DSNY engaged more than on consultant and that the traffic studies are not consistent across all the sites evaluated. For instance, Parsons Brinckerhoff Q&D (which evaluated W. 135th Street, among others) treats a DSNY collection vehicle as a heavy vehicle. This information can be derived from the fact that the % increase in heavy vehicles when comparing existing and future-build conditions corresponds exactly to the number of additional total vehicles (not just heavy) that would be going through the intersection. On the other hand, Urbitran (which evaluated E. 91st St, among others) does not consider a DSNY vehicle to be a heavy vehicle. For instance, if you look at what will be a busy truck route – the left turn off of E. 86th onto York, the total number of vehicles goes from 80 to 110 but the change in percentage of heavy vehicles indicates only 7.4 additional heavy vehicles during the 7:30-8:30 am hour.

d.) Additional peculiarities of the traffic studies include the fact that no buses were counted on 1st, 2nd or York Avenues or on E. 86th except for 6 buses turning right off of E. 86 and on to East End Avenue. These 6 buses are the 3% heavy vehicles for that intersection and are presumably school buses. Therefore it looks like Urbitran does not consider an MTA bus to be a bus. Perhaps this means that the buses are to be considered part of the heavy vehicle percents, but this then begs the question as to what PCE DSNY and its consultants are using for an articulated bus versus a standard bus making stops after almost every intersection. Furthermore, the traffic studies for E. 91st Street do not evaluate any intersections north of the site --- a fact that could potentially be interpreted as a failure to comply with the Environmental Justice Policy.

e.) Counts of pedestrians and bicycles seem inadequately estimated, at least for some neighborhoods. It seems particularly odd that the number of people on Lexington and E. 86th, the major subway entrance for much if not most of the E. 91st St. study area's

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commuting population is considered to be 500 people, while a less traveled intersection such as E. 85 and York has 350 people in the morning hour.

f.) The relevance of this PCE should be clear. All of the traffic studies need to be repeated so that the actual impacts of the trucks generated by the new facility could be assessed. I have no doubt that the level of service at many of the intersections studied would fall below the acceptable threshold and that concerns about traffic accidents would be justifiably heightened.

i.) In addition, trucks owned by commercial waste haulers are heavier and have a higher capacity than DSNY's collection vehicles; among trucks I have recently seen in various neighborhoods, those owned by Waste Management indicate that their tonnage is 15 when empty and 30 when full. Therefore traffic studies (in addition to noise and to air quality impacts from emissions) need to be adjusted for when the analysis is of DSNY-managed waste versus waste transported by private haulers.

j. I also object to the assertion that a new traffic study would not need to be conducted if one of the sites evaluated for residential waste is instead to be used as a site for recycled waste. While it may be true that the number of trucks for recycling is fewer, we don't know that and we have not been told the number of trucks or the size of the trucks.

2) Air Quality and Public Health

I also believe the air quality and public health studies need to be re-done, data needs to be more refined and the review or existing scientific peer-reviewed articles has to be unbiased or that, at least, a range of biases be presented.

a.) The authors for the Public Health chapter (Chapter 33 of the DEIS) acknowledge that the EPA says "the weight of evidence indicates that DE [diesel engine exhaust] has the potential to pose a lung cancer hazard to humans at anticipated levels of environmental exposure," (emphasis added) but the authors of this chapter choose essentially to disregard this and other similar statements (Chapter 33, page 8) when they conclude, "none of the air quality, noise or odor impacts predicted in the DEIS are believed to be of public health significance" (Chapter 33, page 35). The authors object to the EPA considering something to be cause and effect when they can't prove that there is a cause and effect relationship. Nevertheless, the EPA does set the standards for the nation and if these authors want to challenge those standards, a chapter in a draft EIS for a particular city's waste management plan is not the place to do so. Furthermore, at least one of the authors of this chapter on public health has published elsewhere that there is a statistically significant association between mortality and acute exposure to an increase in concentration of PM10.5 in New York City (Green, Laura C. and Armstrong, Sarah R., "Particulate Matter in ambient air and mortality: toxicologic perspectives," Regulatory Toxicology and Pharmacology 38 (2003), page 328). While an association does not mean cause and effect (that's the DEIS authors' point), it is often used as the basis for

justifying further investigation and, in the case of public health, for justifying issuing protective guidelines, air quality standards, and warnings.

b.) In a similar vein, individual chapters on the various waste facility sites acknowledge (in small print footnotes): "some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens." (This example is from Chapter 5 Table 5.15-4 footnote 10.) The fact that the EPA has not set an acceptably safe level (or "a unit risk factor") for a certain pollutant is not a justification for ignoring any and all negative effects from that pollutant.

c.) Finally, the CEQR Technical Manual guidelines on Public Health include the following statement pertaining to precisely this issue: "Other actions, which might not exceed the preceding thresholds, but might nonetheless result in significant public health concerns, including projects such as . . . the NYC Comprehensive Solid Waste Management Plan. For some of these actions, there might be published, peer-reviewed, scientific literature suggesting an association between an exposure potentially caused by the action and potential health impacts" (emphasis added). Note, the CEQR Manual guidelines indicate that "association" of exposure and health impact is sufficient; the only place "cause" is relevant is whether or not the proposed action causes the exposure. It is doubtful that any of DSNY's sub-consultants would find a researcher willing to publish that diesel trucks do not cause elevation of diesel particulate matter.

3.) Environmental Justice Policy

DSNY states repeatedly that it has voluntarily decided to implement measures recommended by the State Environmental Justice Policy for ensuring that the populations affected by the proposals of the SWMP will have opportunities to voice their concerns as well as to be adequately informed about what the plans involve.

a) First, contacting community district managers is not the only way to identify stakeholders and other interested parties and is not "fair" across all community districts? The involvement of district managers is quite variable. District managers are not paid and they have almost no real power over what happens or does not happen in their district. They don't necessarily have the time to do all that DSNY might ask of them; further, some community districts are quite large and have distinct sub-populations and not every district manager is necessarily going to be interested in the well-being of district residents who live on the edge of the district or who don't fit the profile of the majority of the district's residents. Moreover, as there can be a language barrier between the district manager and the affected population such that suggestions with respect to popular newspapers where public notices should appear may not be include newspapers read by sub-populations the district manager does not interact with.

b) Since you also count among stakeholders those who have attended one of the hearings, DSNY and Ecology and Environment are automatically sending a significant proportion of the flyers to people who are already aware of at least some of the issues.

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c) Your tri-fold fliers, of which you have apparently sent very few compared to the total number of the people in all the primary study areas for the evaluated sites. Unfortunately I can only comment on the one announcing the December 20, 2004 Public Hearing for E. 91st Street. The drawing here is deliberately creating the impression that the new facility will have more or less the same height as the existing facility. The drawing purporting to be the land side view does not at all suggest that the new structure will be twice as tall as the current one and will rise to 100 feet. Also, it should be noted in the E. 91st St. pamphlet that the image appears to be reversed compared to images shown at the June 28 public hearing and that the perspective has shifted from one point to two point, thus making it all the more difficult to assess what has changed. In addition, as it is apparent that the actual plan is constantly evolving or that information about the plan is released in stages to the public, it is inconsistent with respect to EJ policy to send deceptive fliers.

In conclusion, I want to make clear that there are additional areas of concern that I cannot personally evaluate due to lack of time and to lack of appropriate knowledge. However, I believe that the comments here are valid and that they support the assertion that the methodologies used are inadequate and that the plan as a whole needs to be re-evaluated.

Thank you for your consideration of these comments.

Sincerely,

Kathryn R. Edmunds

COMMENTS OF MANHATTAN BOROUGH PRESIDENT
C. VIRGINIA FIELDS

on the
Draft Environmental Impact Statement for the
New Comprehensive Solid Waste Management Plan

New York Blood Center, 310 East 67th Street, New York, NY

Monday, December 20, 2004

Good afternoon officials of the Department of Sanitation, ladies and gentlemen. I am Richard Muller and I am pleased to deliver the comments of Manhattan Borough President C. Virginia Fields on the Draft Environmental Impact Statement (DEIS) of the New Solid Waste Management Plan (SWMP) of New York City.

While comments on all aspects of the SWMP DEIS have been solicited, the obvious focus of this meeting is the evaluation of impacts from the proposed demolition, rebuilding and operation of a new, expanded marine transfer station (MTS) at 91st Street on the East River. While Borough President Fields has supported the use of barge and rail as environmentally responsible ways of transporting our city's solid waste, she opposed the expansion of this and the other facilities when the administration released its plan because of concerns about local impacts.

The DEIS does not allay these concerns, and Borough President Fields remains opposed to the re-opening of this facility based on the densely residential character of this neighborhood and the access ramp that cuts through Asphalt Green.

Though the 91st Street Marine Transfer Station (MTS) is proposed to be built with a capacity of 4,290 tons per day (tpd), the DEIS bases its analysis on less than half that at 1,700 to 1,800 tpd. If this is the maximum amount proposed to be processed at this location, why is such a large facility necessary? It is hard to avoid the conclusion, in spite of assertions to the contrary, that capacity in excess of the residential stream will be taken up by commercial waste. The analysis of processing 4,290 tpd of proportionally attributed residential and commercial waste should be performed to comply with the reasonable worst-case requirement. Absent this analysis, it is

impossible to judge the acceptability of a facility that will operate day and night six days of every week.

Borough President Fields has consistently objected to the fact that access to the MTS cuts through Asphalt Green, and the DEIS does not address that issue beyond the assertion that there will some be form of noise barriers erected. Moreover, there are no drawings, illustrations or simulations that would allow a reader to get an idea of what the actual visual impact of the MTS will be on users of Asphalt Green, not to mention on residents in nearby buildings.

Whether or not it will be possible to actually avoid queuing of trucks on the nearby streets, it is also a matter of great concern to Borough President Fields that private commercial waste hauler trucks are incredibly polluting, so that it is of crucial importance to analyze the air-quality and noise impacts of these vehicles on the surrounding neighborhood in a reasonable worst-case scenario.

With regard to alternatives, the DEIS should disclose precisely the technical, legal and other parameters that have led the Department of Sanitation (DSNY) to plan on using East 91st Street and not West 135th Street. In addition, the Manhattan Citizens' Solid Waste Advisory Board (MSWAB) has used DSNY criteria to identify potential sites over and above the sites already evaluated. It appears DSNY has determined that none of the four additional sites evaluated in the Commercial Waste Study are suitable for export. However, the existing MTSs would also not be suitable were DSNY to apply the same criteria used to disqualify the other four. The DEIS should include an analysis of the feasibility of using the sites identified by MSWAB as well as a more complete investigation of the four in the Commercial Waste Study. The DEIS should have disclosed the technical, legal and other obstacles to their use in order for the public to be able to fully evaluate the various alternatives.

Borough President Fields believes that a more thorough and accurate analysis of the potential impacts of building a MTS for containerization of residential and commercial waste at East 91st Street would lead to the conclusion that there would be too many umitigatable impacts for its construction to be considered acceptable.

Thank you for the opportunity to comment.

January 24, 2005

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: New Comprehensive Solid Waste Management Plan

My name is Evan Firestone and I am writing this letter on behalf of my three children and my neighbors who will be negatively affected by the Solid Waste Management Plan ("Plan"). I appreciate the opportunity to comment on the Sanitation Department's ("Department") Plan. The Department performs a vital function in the collection and disposal of New York City's trash. The ability to manage this function into the future economically and with respect for all of the city's residents is an important goal for the Department and for the city as a whole.

My comments on the Plan relate to the proposed construction and deployment of a new Marine Transfer Station ("MTS") on the site of an existing MTS at 91st Street in Manhattan. I am opposed to this new facility for many reasons which are detailed below. The two main conclusions are: 1) a waste transfer facility should not be located in a densely populated residential area, and 2) the proposed MTS on 91st Street is not a refurbishment of an existing facility, but a complete demolition and replacement by new construction A new facility does not meet current siting guidelines because of the characteristics of the surrounding neighborhood.

As previously stated, the community around 91st Street is a densely populated area. How populated? The Plan discussed that only two census tracks would be affected for a population of approximately 13,000 people. While this analysis follows the technical requirements of CEQR, it dramatically understates the affected community. Nine separate census tracks are either within one-quarter mile of the proposed site or will suffer increased truck traffic to the site representing **over 60,000 people**. In addition, Asphalt Green, which is adjacent to the site, draws children and adults from all over NYC to the neighborhood. An additional 15,000-20,000 people per year who live outside the immediate neighborhood use Asphalt Green, bringing the total affected population to **over 75,000 people**. The economic impact on a one-half-mile radius around the site is studied in the Plan. If additional census tracks were studied within a one-half-mile radius of the site, **the affected population exceeds 125,000 people**.

Some arguments have been made that opening an MTS on 91st Street is a fair allocation of NYC's disposal needs because other boroughs should not bear the burden of Manhattan's waste. However, according to the DEIS, existing residential waste from Manhattan is trucked directly to New Jersey. No other borough or community is affected by Manhattan's disposal needs. The "fair share" argument is therefore erroneous.

My specific objections to the new 91st street facility can be grouped into the following categories: health, safety, traffic, quality of life, and alternatives. The health effects on the surrounding population include truck emissions, vermin and odors which can also be categorized as quality of life issues. My three sons all have had asthmatic episodes and we live directly across the street from the proposed entrance to the site. The Department surely recognizes the studies that have concluded a strong link between truck emissions and respiratory problems.

The safety issues relate to increased truck traffic. Four separate bus lines drive past the entrance to the proposed 91st Street site. Asphalt Green and a New York City park are right next to the entrance as well. Many parents are concerned that any additional truck traffic will lead to accidents involving the many children in the area.

The truck traffic to the proposed site will cripple all traffic in the neighborhood. The Plan discusses 90th Street as one of the routes the trucks will take. The streets from 87th to 91st Street are 30 feet wide. With cars parked on both sides of the street, only 17 feet is left for vehicles to drive through. The width of a Sanitation truck is over 9 feet wide. If any other commercial vehicles are on 90th Street (oil truck, delivery trucks, moving trucks), there will not be enough clearance for both trucks and the street will become gridlocked The same is true when the Sanitation trucks leave the MTS. The entire neighborhood will become gridlocked.

The DEIS discusses health and traffic issues, models them, and proclaims that all the negative effects can be mitigated. However, we have actual data from the time that the existing MTS was operational. The garbage odors and truck emissions caused parents to pull their kids from summer programs on Asphalt Green. Residents from that period recount long lines of trucks on York Avenue. The DEIS does not discuss these experiences. The proposed MTS is four times the capacity of the MTS when conditions in the neighborhood were disastrous. How can the situation not be even worse if the proposed MTS is opened?

Finally, the Department has not spent sufficient time investigating alternatives to a 91st Street location. Local Law 20 required NYC to disclose city-owned or leased waterfront properties. There are more than 300 sites on that list in Manhattan alone which might be suitable for a Marine Transfer Station. As one example, Randall's Island appears to be far more suitable than the 91st Street location.

Thank you for your time to evaluate the concerns of the community. We firmly believe that your goals can be achieved without a new MTS at 91st Street.

Sincerely,

Evan Firestone

Evan Firestone

THE ASSEMBLY
STATE OF NEW YORK
ALBANY

DEBORAH J GLICK
Assemblymember 66th District
New York County

CHAIR
Social Services Committee

COMMITTEES
Children and Families
Higher Education
Environmental Conservation
Ways & Means

Statement of Assemblymember Deborah J. Glick on the City of New York "New Comprehensive Solid Waste Management Plan" and the Proposal to Install a Waste Transfer Station for Recyclables at the Gansevoort Peninsula

January 21, 2005

Manhattan's Community Boards 2 and 4 rank last in the amount of park space in the entire city. The Hudson River Park Act was passed in 1998 to address this inequity. Now the City proposes to turn a major share of the Hudson River Park into a marine transfer station for recyclables -- fouling the Park air with exhaust from a potential of 190 diesel truck trips coming and going to Gansevoort Peninsula (Pier 52) each day. The proposal follows close on the heels of Community Boards 2 and 4's having been forced to accept that another area of the park, namely Pier 57, be turned over to commercial uses. Even more troubling is the fact that the Waste Transfer Station (WTS) would be on one of the few sections of the Hudson River Park that has the configuration and land mass necessary to provide for large green spaces, gardens, or a waterfront beach setting.

Although the inner portion of the Gansevoort peninsula is indeed intended to remain as a park, the truck route that would run along its perimeter is likely to destroy most of the park's healthful and recreational value. Despite assurances by the Department of Sanitation's (DSNY) that all trucks carrying recycled materials will use low sulfur diesel fuel, it seems inevitable that such a funneling of trucks into one area of the park will elevate diesel pollution to unhealthy levels. Since the trucks carrying recyclable materials would have to travel along the west side promenade, they would increase pollution all along the park, forcing joggers, cyclists and roller bladers using the bikeway/walkway, to inhale quantities of diesel fumes. This problem would be aggravated by the barges loaded with un-containerized garbage sitting in the river throughout the day, moved by tugboats burning the lowest grade, most polluting diesel.

Also of great concern is the fact that only 200 feet to the south of the WTS lies Pier 51, which is a heavily used toddler playground. The young children in this playground, who are particularly susceptible to the deleterious effects of toxic fumes, would be in close proximity to the fumes emanating from the trucks and the odors and pollution from the garbage on the barges.

Furthermore, it is obvious that sharing the park with a sanitation facility will fill the park with unpleasant smells and destroy the peace and quiet with loud noises. Though

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glickd@assembly.state.ny.us

moving the proposed facility to the north side of the peninsula would have the advantage of opening up view corridors, it would put the entire peninsula downwind of the facility.

The smells and fumes from the Sanitation trucks and the WTS will also affect the West Village and the new Gansevoort Market Historic District, which has recently developed a thriving cultural and commercial center. The strong winds that blow over Gansevoort heading east will bring smells of garbage into an area densely populated with retail stores, art galleries, restaurants, clubs, and hotels that offer outside dining. Indeed, according to Department of Sanitation figures, 30 to 40% of recyclable waste is contaminated with residues. Past efforts to mask the putrid smell of contaminants with an odor control system have proven unsuccessful. Masking the odor with another equally unpleasant petrochemical-based industrial perfume adds to respiratory problems and can cause allergic reactions.

Meanwhile, the sanitation trucks using the Gansevoort peninsula are likely to greatly increase traffic flow problems and aggravate the risk of accidents. Indeed, Route 9A was not planned with such a high volume of traffic coming and going from the peninsula. It is unclear how sanitation trucks carrying recyclable material on a curve in 35 mph traffic, will be able to abruptly slow down for a right-hand turn in order to enter the peninsula, without causing risks of accidents for the young children in strollers and the joggers, bicyclists, pedestrians, roller-bladers, etc, using the walkway/bikeway. Expected changes in use to areas such as for Pier 40 and the High Line will also result in alterations to current truck routes that would present problems for trucks attempting to approach the Gansevoort facility from other parts of Manhattan. For example, trucks coming from the East would have to cross local streets to reach it, causing congestion in the designated streets and creating the temptation to have recourse to local, less-traveled streets illegally.

Compounding these worries is the fact that community members are under the impression that the City has not been fully transparent about the number of trucks that will be using the facility at Gansevoort. Since the WTS at Gansevoort would be designated as the only transfer station for recyclable materials Manhattan-wide, and since the DSNY's Curbside Recycling Program includes collection of recyclable paper, metal, plastics and glass, not only from all residents in the City, but also from a number of other City, State, and Federal agencies, it is likely that this number will steadily increase. Already, the newly announced commercial paper recycling operation promises to add an additional 30 trucks to the projected 60 so far. If this trend were to continue, and to include other recyclable waste from the commercial sector, Gansevoort would grow to handle not 60 trucks a day as is being claimed now, but well over a hundred.

Similarly, there has been little transparency concerning the proposed financing of the park. Indeed, the community has received few details about how the plan proposes to

finance the park's operating costs and capital improvements. While it was suggested that the revenues provided by the DSNY could be used for capital costs associated with constructing that segment of the park, there was no specification of the amount. In addition, we were not told who would get the income if commercial contractors were to begin using the facility at night.

In fact, the argument made in favor of the WTS on grounds that it would allow the park to be developed more quickly is problematic. The park should be completed with existing funds. If the city and the state are prepared to encumber the taxpayers with $600 million to $1.2 billion for an unwanted stadium on the west side, they can find the $200-300 million to complete the "world class park" previously promised to New Yorkers. And while it has been indicated that the recycling transfer station would be of educational value, other than the opportunity to view trucks dumping recycled material into barges, it is unclear what the WTS's learning value would actually be. Wouldn't the real educational opportunities exist at the opposite end in Brooklyn, where materials would be separated and processed?

In sum, I am not convinced that turning the Gansevoort peninsula into a WTS is appropriate. It would take away from the already sorely inadequate park space available to residents in Community Boards 2 and 4, and it would generate substantial health risks and pollution in one of the few spaces that has been dedicated to park uses in this neighborhood. The proposed WTS would also have negative impacts for neighborhoods downtown that have just seen an incredible revitalization as centers of arts, culture and entertainment.

While the argument has been made that the west-side and Gansevoort neighborhoods need to carry their share of noxious uses, like handling some of the waste stream, people should keep in mind that these neighborhood already provide a vital public service by accepting the huge influx of people from the city and beyond that make this area a hub of commercial and artistic activity every day. These neighborhoods also must deal with more than their fair share of street closings and other inconveniences that result from the filming industry, which frequently chooses to work in this neighborhood, and from which the city reaps huge financial revenue that is used for the city as a whole.

I thus urge the City administration and the DSNY to explore the possibility of either moving the proposed WTS for recyclables at Gansevoort away from one of the few green space sections of the Hudson River Park, or using more than one site for transferring recyclable materials so that not all of the burden would be placed on Gansevoort. Naturally, any consideration of this latter alternative would be dependent on other Manhattan neighborhoods doing their fair share. For example, unless the Upper East Side facility at East 91st street is in operation, the argument that the park-starved West Village must sacrifice any more of its essential green space is unacceptable. Additionally, the City should do everything it can to incorporate

measures that would address the waste problem at its root, by promoting waste reduction. For example, the City's waste management plan might include an educational component that would encourage the public to make a more efficient use of resources, as well as legislative initiatives to limit packaging, the use of plastic bags, and other significant contributors to the waste stream.

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Statement of Assemblymember Pete Grannis
Department of Sanitation Hearing on
New York City's New Comprehensive Solid Waste Plan's
Draft Environmental Impact Statement
CEQR No. 03-DOS-004Y
December 20, 2004

After reviewing the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP), I believe that it contains significant deficiencies that must be addressed both in its generic scope and in its particular application to any proposed reopening and expansion of the 91st Street Marine Transfer Station (91MTS).

The fact that the DEIS boldly claims that this project will have no significant adverse impact on the community I find particularly troubling. I have seen this type of self serving assurance used repeatedly by city agencies pushing projects both in my district and elsewhere in the city, and have invariably found that upon completion or implementation, the project's impact on the neighboring community is significantly worse than the planners' assertions. My concerns and the issues that in my judgment are not properly addressed in the DEIS are set out below.

I. DEIS Inadequacies: Missing Analysis of Alternate Sites, Cost Benefit Analysis, Worst Case Scenarios

According to the DEIS, the New SWMP sets out a proposal for managing the city's solid waste over the next twenty years. I have found no description of the criteria used by the Department of Sanitation (DOS) in narrowing its selection to the four MTSs it is now proposing to reopen and redesign. (The original proposal called for eight MTS sites.) I strongly suspect that the residential nature of the neighboring communities was a significant factor influencing this decision. It is precisely for this reason that I find the decision to continue with the 91MTS so objectionable.

The DEIS, in section 6.8 Neighborhood Character's deft understatement, acknowledges that, "Unlike the other sites studied, this site is *within fairly close proximity to both residential and open space resources*, which are the two major factors contributing to the neighborhood character of the area.". (emphasis added) In reality, as everyone familiar with the area knows firsthand and as even the most cursory observation makes obvious, the 91MTS facility itself and every conceivable vehicle access route are in the midst and pass through some of the most densely "residential resources" in the city, with its access ramp actually bisecting the Asphalt Green's campus, one of the community's most cherished open space resources.

I am certainly cognizant of the fact that we collectively and individually generate a lot of waste everyday. Mountains of household and commercial garbage and trash must be disposed of daily,

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and no single community should bear the burden of this municipal responsibility or be sheltered from its consequences. It is with this recognition that I find one of the most glaring deficiencies in the DEIS to be its failure to undertake any comprehensive analysis of strategies to reduce waste from the outset or limit its inclusion in the ordinary waste stream. Nowhere is there any mention of city plans or initiatives for aggressive waste reduction such as limiting excess packaging, expanding the scope of the returnable container law, encouraging installation of garbage disposal units in personal residences and businesses or even enforcing much less expanding the recently revived recycling program. Surely, a responsible DEIS should have to cover these strategies.

Under the city's plan, four of the eight existing MTSs would be re-designed to handle vastly more garbage per day than the figures listed as expected Average Peak Day (APD) deliveries by the Department of Sanitation. The 91MTS is targeted for a maximum capacity of 4,290 tons per day (tpd) of waste (or up to 5,280 tpd according to DOS's solid waste permit application). This is *two and a half times* the expected APD delivery of 1700 -1800 tpd of residential and commercial waste planned to pass through this facility. Since this vastly expanded potential capacity is clearly contemplated for accommodating increased residential and possibly commercial waste in the future, it is irresponsible not to account for the possibility of this worst case scenario in the DEIS, with due attention to the accompanying added traffic, noise and environmental impacts on the surrounding community. In addition to being a shortcoming of the DEIS, I believe that the absence of such an analysis might well constitute a clear violation of the State Environmental Review Act (SEQRA).

The DEIS also fails to include a cost benefit analysis of the city's proposals regarding the MTSs in comparison to the existing or other methods of disposing of the city's waste. In addition to covering residential collections, this analysis should also look at the possible inclusion of commercial, recycling and other waste streams that might be transported to MTSs as part of a legitimate environmental review of the New SWMP.

II. East 91st Street Marine Transfer Station

Absence of Commercial Buffer Zone Exacerbates Adverse Impacts

The DEIS acknowledges that commercial, manufacturing and industrial areas that are M zoned districts "often serve as buffers" to shield adjacent residential and commercial districts from the adverse impacts of MTSs. However, as DOS well knows, the 91MST has no such protective zone to shield the residents of this heavily residential community or the thousands of people using the adjacent children's playground/park and the Asphalt Green's recreation facilities from the adverse health and environmental impacts of this garbage processing facility.

While the Asphalt Green recreation center fully occupies a small M1-4 zone adjacent to the 91MTS, this is clearly not the type of commercial buffer that can protect the public. The blocks on the western and southern borders of the Asphalt Green and those along any possible vehicle access routes to the 91MTS are fully developed high-density R7-2 and R10A residential districts, home to thousands of residents. The Asphalt Green itself is heavily used by people of all ages seven days a week, including hundreds of groups of school children throughout the school day

and on weekends. The DEIS acknowledges that this acclaimed facility sits a mere 100 feet from the 91MTS. There is simply no way that such a miniscule buffer zone can serve as any kind of mitigation for the health and environmental impacts attendant to the operation of a reopened 91MTS.

Adding to my concerns about the health and safety risks associated with the reappearance of lines of garbage trucks queuing for blocks along York Avenue and accessing the 91MTS on a ramp bisecting the Asphalt Green's facility is the proximity of the children's playground in DeKovats Park just steps to the north of the ramp and the AG's playing field bordering the ramp on the south. Also, nearby Carl Schurz Park, bordering the East River and the site of the landmarked Gracie Mansion, is a major recreation destination for people living west of York Avenue and an invaluable community open space resource. The park begins only 200 feet to the south of the 91MTS, and will most certainly be affected, as it was in the past operation of the 91MTS, by foul odors, noxious fluid leakage, noise and congestion from a reopened facility. This park, along with the Asphalt Green and DeKovats Park, most certainly can and should not be considered adequate buffer zones.

While the idling garbage trucks that will queue along the York Avenue side of the Asphalt Green's playing field will be at street level, there needs to be added focus in the DEIS on the exhaust and other discharges of the trucks that will line the access ramp on the health, well-being and safety of the children and adults using the adjacent playing field and city park.

Insufficient Vehicular and Pedestrian Traffic Studies

The DEIS's casual dismissal of the need for weekend traffic analysis because the volume of DOS trucks and other traffic is less than the weekdays is another glaring and unacceptable shortcoming. Since the city plans to operate the 91MTS on Saturdays, vehicular and pedestrian traffic studies must take this into account. I suggest that the needed study should be developed in consultation with knowledgeable local agencies, officials and businesses, including the Asphalt Green, the City Parks Department and the array of local high-volume retail businesses such as the Vinegar Factory and nearby car rental agencies to determine weekend usage patterns.

Since the DEIS does not contain detailed design information and specifications of the expanded 91MTS, it is impossible to determine whether the number of trucks delivering waste could possibly be accommodated on site or will end up filling the ramp and stretching south on York Avenue, as was the case in years gone by and is the most likely scenario. In the period before its closure, with daily capacity well below that contemplated in the DEIS, idling trucks leaking the noxious detritus of their loads regularly lined York Avenue, at times reaching well south of 86th Street.

The issue of queuing garbage trucks blocking access and view lines to the sidewalks dominating a full traffic lane takes on particular significance in terms of pedestrian and traffic safety for the surrounding community. The vast majority of the children and adults visiting the Asphalt Green, DeKovats and Carl Schurz Parks arrive on foot, traveling along or crossing York Avenue. In addition to significant daily private passenger and foot traffic, four heavily used Transit Authority bus routes run on York Avenue between 86th Street and the entrance to the 91MTS –

M86, M31, X90 and X92- each with various stops along this stretch. Adding to this mix are the numerous buses transporting young people to the Asphalt Green, a private bus service for residents of a high-rise building facing the Asphalt Green's playing field, legions of people walking to the surrounding residential buildings and businesses and scores of children walking to and from local schools and programs. Today, without the introduction of lines of garbage trucks, this regularly puts the safety of both pedestrians and drivers at risk and hinders traffic using York Avenue to access or exit the FDR Drive.

This already intolerable traffic conglomeration puts into serious question the conclusion in the DEIS that the 91MTS poses no risk of a major traffic impact except at the intersection of York Avenue and 91st Street, and that this can be addressed by simply adjusting the timing of the traffic signals. Clearly, the potential impacts of this scenario must be more thoroughly taken into account in evaluating the environmental consequences of this project. In my statement on the DEIS's scoping document, I called for the inclusion of clear directives and consideration of strict enforcement guidelines to ensure that trucks queuing to deliver their loads to the 91MTS not blocking access to available bus stops. From my analysis, this apparently was not done.

Insufficient Focus on Increased Noise, Air Pollution and Noxious Spillage

Along with the queuing of trucks along York Avenue will come increased pollutants from exhaust emissions - no matter how clean the fuel or the effectiveness of their pollution control technology. The idling engines of trucks waiting to dump their loads 24/6 will exacerbate this problem, as they are notoriously more polluting than moving vehicles. As I noted in my statement on the Scoping Document, I live in an apartment facing York Avenue and can offer personal testament to the noise, exhaust fumes and the obnoxious, foul nature of the liquid that leaked from virtually every truck waiting in line beside our apartment building when the 91MTS was last in use. Thinking that the potential problems of odor from the DOS trucks could be mitigated by keeping the trucks clean and preventing liquid residue spills and leakage as envisioned in the DEIS is ludicrous. No matter how good the technology and careful the maintenance, large idling trucks will be noisy, their exhaust will pollute the air - and they will leak. And how will this mitigation apply to commercial haulers that do not fall under DOS's jurisdiction?

The assumption in the DEIS that excessive noise will be reduced by placing restrictions on the number of trucks transporting *commercial* waste to the 91MTS between 8pm to 8am provides no comfort. All this strategy will do is to shift the loads needed to accommodate this waste stream, and in fact this traditional nighttime collection activity, to traffic-challenged daytime hours, commencing, by the way, in the midst of the morning rush hours.

Insufficient Focus on Community Impacts

The impact of this project on the day-to-day operations of the Asphalt Green is not scrutinized closely enough in the DEIS. In addition to the health and safety concerns, the daily presence of lines of city and private garbage trucks dripping noxious liquid waste and spewing exhaust fumes, along with normal parental concerns over the possible health impacts of this situation and

the well-being of their children may encourage parents to pick programs in other locales. The numerous schools, teams and community residents that use the AG's facilities may well not want to accept exposure to such unpleasant conditions. This could result in crippling economic losses to both the Asphalt Green itself and surrounding businesses

In addition to the possible implications for the AG, the DEIS must take in consideration the possible impacts on nearby Carl Schurz Park, whose northern border is just a block below the 91MTS. As noted earlier, this magnificent jewel of a park is heavily used by community residents of all ages I also can find no analysis in the DEIS of any possible impact of this project on the two major New York City Housing Authority developments within the project's impact study zone - the Stanley M. Isaacs and John Holmes Houses The five buildings that comprise these complexes house a sizable number of both senior citizens and families with young children, both of whom rely heavily on the buildings' extensive outdoor seating and play areas

Conclusion

For the reasons cited in my statement, I firmly believe that the 91MTS's location in the midst of a heavily residential community, abutting one of the few recreational playing fields on the whole of Manhattan's East Side and lacking a viable commercial buffer zone, makes this site unacceptable for accommodating hundreds of truck loads of city and commercial trash on a daily basis. Accordingly, I urge you to heed the pleas of Manhattan's Community Board 8, local elected officials, and the concerns voiced by residents, community organizations and local businesses as the admittedly difficult process of developing a long-term solid waste management plan evolves. At the same time, I renew my call on the Department of Sanitation and city officials to aggressively pursue additional recycling and waste reduction efforts, including steps to reduce excess packaging, expanding the scope of the returnable container law and other conservation measures

Contact: Anthony Morenzi 212-860-4906

Jan. 24, 2005

Vicki Grubman
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Brooklyn, NY 11214

Harry Szarpanski
Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street, 12th floor
New York, NY 10004

Fax: 212-269-0788

Re: Comments on the Draft Environmental Impact Statement concerning the Proposed Marine Transfer Station at the Southwest Brooklyn former Incinerator site

Dear Mr. Szarpanski:

I am writing this comment letter under protest, as I have requested an extension of the comment period, because I only learned about this issue last week due to unpublicized notices and hearings on this matter. I am again reiterating this request, since I and other community residents who will be directly impacted have not had the opportunity to make an adequate study of the pertinent documents.

I am a resident living in very close proximity to the site of the proposed converted Marine Transfer Station in Southwest Brooklyn. The site of this proposed Marine Transfer Station -- within several blocks of many high-rise residential buildings; several nursing homes and senior citizen residences; a school for special children; multi-use parks, ballfields, bike paths and recreational facilities – does not belong in this residential area or any residential area. The DEIS is deficient in that it does not realistically nor adequately address the severe impacts the proposed Marine Transfer Station (MTS) will have on the quality of life and the health of this neighborhood.

- **Dredging:** The dredging activity that the Dept of Sanitation (DOS) maintains is necessary to construct the proposed MTS will dredge up the underwater sediments that have been grossly contaminated by decades of toxic incinerator emissions. The contaminants in this soil, which include lead and arsenic among others, will severely pollute the water, the air, and cause significant harm to people as well as marine and bird life. Comprehensive studies must be made of the potential adverse effects of dredging on human beings, as well as on each species of fish and bird life living in or traveling through this area, and the surrounding waters.

- **Traffic:** The huge numbers of sanitation trucks the proposal forecasts going to and from the proposed MTS will cause disruption on Bay Parkway, Cropsey Avenue, and

Shore Parkway, which are already heavily used thoroughfares serving two bus routes, an entrance/exit to the Belt Parkway, and traffic to and from Caesar's Bay Shopping Center A realistic traffic analysis taking into account existing problems and conditions, and the potential higher end number of sanitation trucks must be done.

- **Air Pollution:** The hundreds of trucks per day -- which may at times be idling waiting to dump their contents-- as well as tug boats, will add noxious fuel emissions into the air. A DEIS must adequately measure the adverse cumulative health effects this air pollution will have over significant time periods on a population already exposed to heavy traffic fumes from the highway and a bus depot, a population which includes many senior citizens in ill health, and which is a populace that has been poisoned for several decades from the incinerator smoke at this site. The current DEIS is totally inadequate.

- **Water Pollution:** The coastal ecosystem, which had been on the road to recovery recently, would surely be degraded once more by the proposed MTS. An analysis of the proposed MTS's possible leakages, runoff, discharges of chemicals, construction pollution, accidental garbage spills, must be done.

- **Odors:** The so-called odor containment measures at the proposed facility do not address the odors of the garbage while it's being transported in the trucks. The DEIS does not realistically or adequately address the quality of life issue of having hideous garbage odors permeating our streets from the trucks and from the proposed MTS in various weather conditions, and this must be done.

- **Noise:** The proposed facility would bring significant noise pollution from various sources – truck traffic, construction, dredging, dumping, loading and unloading of containers. The cumulative effect of all of these noise sources added to any already noisy area must be addressed and analyzed.

- **Vermin/Insects:** Huge amounts of garbage attract vermin and insects. Besides the obvious unacceptable quality of life issues, there are health hazards associated with these pests which have yet to be adequately addressed

- **Hazardous Chemicals:** To control odor and pests, what pesticides and other chemicals will be used? These substances will most certainly have a negative impact on our health. A study of all potential chemical usage and their adverse effects on human, animal, and the surrounding environment must be made.

- **Socioeconomic Effect:** All of these issues will have a severe and drastic impact on the quality of life and health and well-being of residents of this neighborhood individually and collectively. The DEIS does not adequately address the potential erosion of the community as a whole.

- **Alternatives not Adequately Explored:** The DEIS has not adequately explored other sites; there are many purely industrial areas where an MTS could be located without affecting a densely populated area such as Bensonhurst/Bath Beach/Gravesend Bay.

Additionally, the DOS has not even tried to reduce the waste stream by limiting excess packaging for example, or by heavily promoting recycling.

For all of the above reasons, the DEIS is unacceptable, and the proposal to build an MTS at this Southwest Brooklyn site is unacceptable and dangerous to the health of all of Southwest Brooklyn.

Very truly yours,

Vicki Grubman

Vicki Grubman

SAVE THE PIERS

January 2005

Re: New Comprehensive Solid Waste Management Plan

CEQR#: 03DOS004Y

Mr. Harry Szarpanski
Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

This letter and the attachment are submitted as comments regarding the DEIS for the above-identified solid waste management plan.

An important part of New York City's environmental future will be advanced, or obstructed, by the new solid waste program. Special care is essential if New Yorkers are to have the quality of life that is needed.

The initial comments relate to finding the best place to build a Manhattan marine transfer station for recyclable materials. That is followed by comments about the city-wide recycling program. In both cases, specific issues are listed in this letter, followed with more detail in the attachment.

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1. Figure 3.4-2, Volume V of the March study (the figure), has the proposed MTS superimposed on an outdated map/site plan, showing conditions that existed a half century ago. The elevated Miller Highway in the figure has been removed, and the marginal street is now parkland.

2. Instead of a wide, straight section of roadway leading to the entrance for the proposed MTS, the redeveloped Route 9A Highway is now at ground level with a curve leading into that entrance. Five feet from the highway is a bikeway, adjacent to historic structures that remain of Cunard Piers 53 and 54 (with a heritage of arrivals and departures that helped shape the first half of the 20th century: immigrants; Titanic survivors; an event that led to America's entering WW I; soldiers leaving and returning home from both World wars). The southern archway of these piers is to span the existing Hudson River Park's pedestrian esplanade. It is ten feet from the bikeway. Neither of these two corridors is shown in the plan, and apparently not considered by the consultants when evaluating access.

3. If the plan were corrected to show the bikeway and esplanade,

and the existing highway curve, one could see that adding an exit lane for trucks to leave the highway in 35 mph traffic would be impossible.

4. If a person were on the bikeway at the intersection, the truck could not enter. And if it stopped on the highway in traffic going 35 mph, there could be a pile-up.

5. However, a statement by the architecture and engineering consultants that developed the plan confirms hazards from trucks (numbering in the tens of thousands each year) that would deliver to the peninsula: "Technical/operational considerations" of the figure states that "Traffic signals will be needed to allow for outbound traffic to enter the highway." But adding traffic signals to a curve of the existing highway would produce insurmountable problems. Even if it were safe, trucks needing to enter the peninsula would have to be at the intersection when the light turned red, so they could leave the highway at the next light cycle, before traffic speed became too great for a safe exit.

6. The figure also shows a roadway that is 250 feet wide for local use, plus an elevated 70-foot wide highway for separated express traffic. This is radically different from existing conditions.

7. If a truck were able to leave the highway with light traffic when no bikes were nearby, it would then need to improperly stop on the bikeway and the ten-foot space that precedes the esplanade. There the driver would have a somewhat limited view to see if pedestrians or runners would create problems.

8. When leaving the peninsula, problems are reversed. First a stop to check the esplanade.

9. Then a stop on the esplanade and the 10-foot wide space to see if a speeding bike is near the intersection.

10. A third stop on the bikeway would allow drivers to check for highway traffic coming around the curve from the north. Would drivers be able to squeeze into 35 mph traffic? The consultants for this study say no.

11. This analysis was also confirmed at the January 3, 2005 public hearing. Those in charge of planning said that trucks could not enter with traffic, and that various ideas had been considered trying to solve problems, but nothing worked.

12. No truck driver could be expected to make such an unusually high number of consecutive, unexpected stops for a delivery. Drivers now using this access speed by obstructed problems, apparently without awareness or concern. The number of people using these corridors can be expected to be much higher when the park is finished. Following waterfront events, crowds of people will be

passing through. Yet, current plans would have trucks coming and going, day and night. This will be with various road and weather conditions, including times when a blinding sun obstructs vision. Trucks could arrive and depart with an average of 1.7 minutes between vehicles. In practice, the trucks would be bunched. And in spite of intensions to have waiting trucks inside the MTS structure, a significant percentage of the proposed 65 trucks arriving at the same time could back up onto the peninsula, and perhaps into the highway.

13. The figure shows that the consultants recognized a need to use the entire Gansevoort Peninsula (and more) to facilitate an MTS. That would have eliminated the park, esplanade, and bikeway that are required by state legislation. A series of ramps are shown extending from a structure that is more than 200 feet wide and 560 feet long. It would reach 85 feet further into the river than the abandoned MTS. Arrival ramps would have two lanes, as would departure ramps. Yet, later in 2004 the community was shown layouts with a comparatively small, off-shore structure to transfer recyclables that is perhaps the size of the abandoned MTS. But if the intention to contain all trucks and an educational facility in the MTS structure is carried through, why is the latter building so much smaller than the first? Is this trying to stuff a size 13 foot into a size 4 footprint? Two barges are shown that are approximately 50 feet wide and 160 feet long in the first plan. Would the barges now be smaller? Or would there be a single barge?

14. How many trucks per hour were anticipated with the two-lane ramps (shown in the figure)?

15. The same figure misrepresents the bulkhead's position for the Cunard Piers. It is adjacent to the roadway, not at the western edge of where the headhouses once stood.

16. Other problems that have been raised include pollution from diesel trucks.

17. Noise from dumping recyclables into barges is a recognized problem for a state/city park. Questions also need to be asked about noise from the proposed mechanical track system which is massive enough to move a series of trucks.

18. Acknowledged smell from recyclables is another problem, especially on the windward side of the park.

19. At the January 3rd public hearing regarding the current MTS concept, the reason given for choosing the Gansevoort Peninsula was that approval would be easier if an MTS previously operated there. But this answer raises serious questions, especially with confirmed hazards that the facility would create. Why is "easy" approval of this particular site a higher priority than public

safety? Is there an assumption that the agency would approve the site, if it were aware of the problems? If so, could efforts be taken to make corrections?

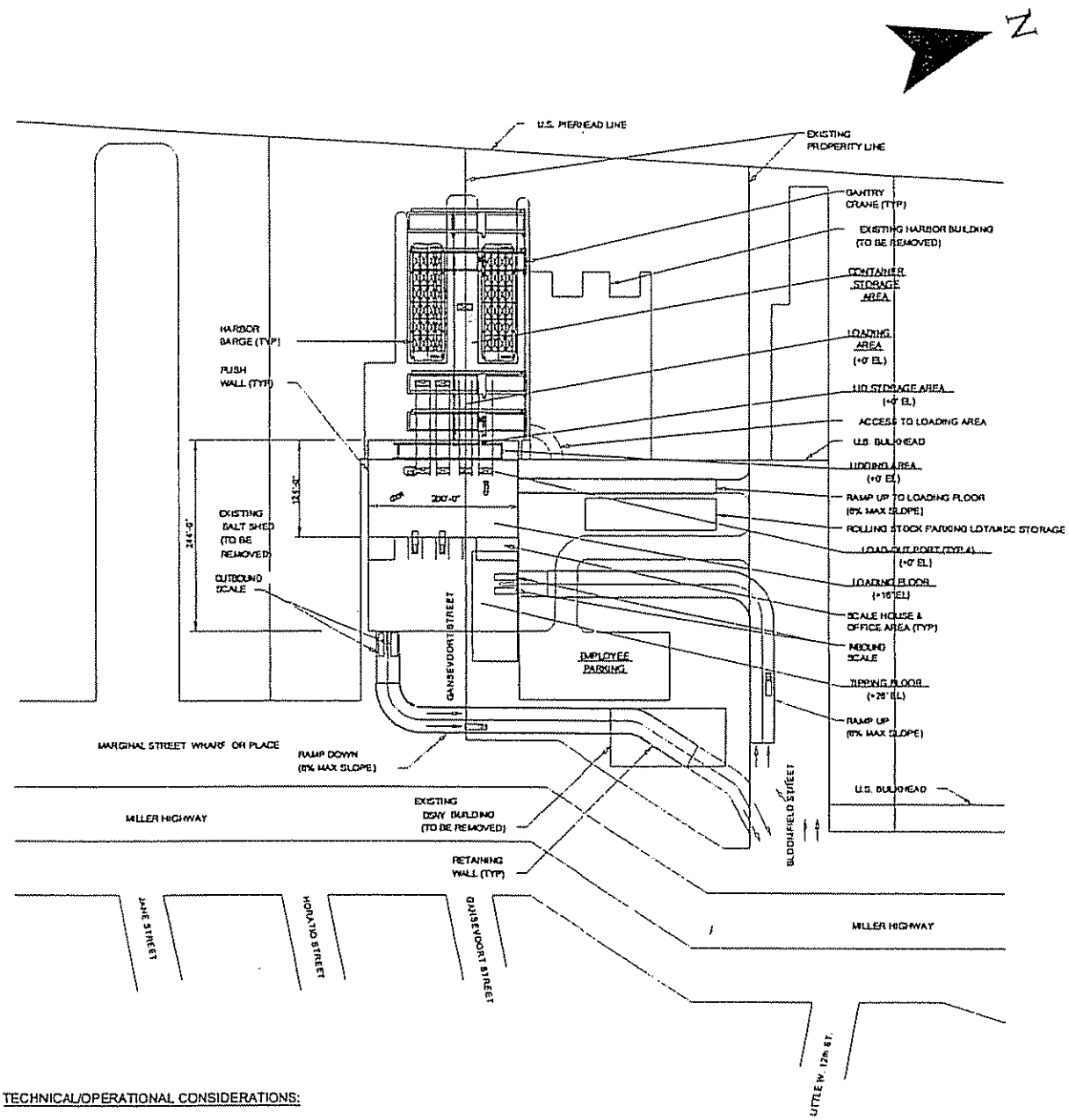
The preface of Volume V reports that the Commercial Waste Management Study Final Scope of Work requires an investigation of potential sites for truck-to-barge or truck-to-rail transfer stations in lower Manhattan, and to "identify any sites that conform to criteria." This does not state "any sites where an MTS has previously operated that conform to criteria." As with Gansevoort, attempts at "easy" approval can backfire where major changes have occurred. "Any sites that conform to criteria" could indeed include a range of options for MTS sites.

However, a single site for transferring recyclables in each borough would produce excessive mileage, waste fuel and labor, intensify congestion, increase air pollution, raise noise levels, and expand traffic hazards throughout the city. This does not sound like an acceptable future for the city when (i) better options are requested by the Commercial Waste Management Study Final Scope of Work, and (ii) are available in the five boroughs.

As pointed out in the attachment, rail sidings in out-of-the-way places could have safe, simple facilities without the elaborate architecture and extensive landscaping that would be used at prominent waterfront park sites. Some rail sidings may be below street level, out of sight, with less apparent noise. All could be isolated from bikeways and esplanades. Such a system could make use of the rail networks that are available in the five boroughs, while providing connections for exporting recyclables to a broader range of markets than with ocean-going tugs and barges (another financial advantage).

A comprehensive study for a rail-based recycling program is essential if the city is to avoid needlessly running trucks from one end of a borough to the opposite end.

Questions:
(a) What truck mileage would be required for NYC's total recycling program, with a single MTS in each borough?
(b) How much truck mileage could be saved by using three or four simple, well-placed rail transfer sidings in each borough?



TECHNICAL/OPERATIONAL CONSIDERATIONS:

1. SUBSTANTIAL DEMOLITION WOULD BE REQUIRED ON SITE. DSNY BUILDING, SALT SHED AND HARBOR BUILDING WOULD NEED TO BE REMOVED.
2. RAMPS WOULD NEED TO BE STRUCTURAL RAMPS IN LIEU OF EARTH SUPPORTED.
3. TRAFFIC SIGNALS WILL BE NEEDED TO ALLOW FOR OUTBOUND TRAFFIC TO ENTER THE HIGHWAY.
4. OUTBOUND RAMP PROJECTS OVER "MARGINAL STREET."

HDR

Figure 3.4-2 West 13th Street (Gansevoort Property) - Site Plan

CITY OF NEW YORK
DEPARTMENT OF SANITATION

A GANSEVOORT PARK —
WITH A TRUCK ROUTE ?

Evidence is piling up, showing that operating a marine transfer station at the Gansevoort Peninsula would create unacceptable problems. The latest came at a January 3rd public hearing, directly from officials who are planning the project.

How could sanitation trucks, carrying recyclable material on a curve in 35 mph traffic, abruptly slow down for a right-hand turn to enter the peninsula? The answer — planners are aware of the problem, but have no solution. Various ideas have been considered, but nothing worked.

Besides that, the bikeway is only five feet from the highway. If a bike is in the way, a truck could not enter. But if the truck stopped at the curve in heavy traffic, there could be a pile-up. And ten feet beyond the bikeway is a blind spot where joggers could suddenly run in front of the truck.

So why is a place with hazardous access being considered for a marine transfer station (MTS)? The answer given at the hearing is that the Gansevoort Peninsula previously had an MTS, and that makes approval of a new one easier.

The ease of site approval cannot be allowed to override more critical issues, especially when public safety is at risk. This suggests that changes may be required in the approval process.

Meanwhile, a closer look shows more problems, while raising questions about the overall program.

Background

The Gansevoort Peninsula is a vivid example of how the waterfront evolved. In 1837 a decision was made to extend landfill development into the Hudson River to what would be called 13th Avenue. But by the end of that century, ships were longer and that required longer piers, at a time when shipping was the city's vital activity. To protect access for maritime use, the federal government refused to allow piers to extend beyond the pierhead line. And with resistance from shipping lines to having an isolated facility further uptown, the city condemned many blocks of property, excavated the earlier landfill, and returned the shoreline to where it had been during earlier generations. The West Washington Market, located north of Gansevoort Street, was left as an exception and thus became a peninsula.

By the 1950s, a traffic viaduct called the Miller Highway moved express traffic above the corridor to provide greater access and increase space at the waterfront. Then, buildings of the West Washington Market were demolished and replaced with an incinerator and MTS. Sanitation trucks had blocks of space near the shoreline to wait in line, enter from the southern edge of the peninsula, drive up a ramp along the remains of 13th Avenue, access the MTS, and leave from the peninsula's northern edge.

The Site Today

Because an MTS operated there before, various organizations have apparently decided that building another one at the peninsula would be no problem. But instead of express traffic using an elevated highway, vehicles now rush by, hopefully not exceeding the speed limit at ground level. There is no turning lane to enter the peninsula, and no space to build one. A bikeway and pedestrian esplanade are squeezed against the remains of historic Cunard Piers. To accommodate meat market trucks to the east, the highway was moved to the west, with a curve where traffic approaches the peninsula. Waterfront space where sanitation trucks once lined up is now a park.

There are still two vehicular entrances at Gansevoort, but the one at the southern edge is to be removed to accommodate the park. And adding a signal light to stop highway traffic at a curve would be asking for the worst.

Complications for Trucking

In addition to acknowledged hazards with trucks turning into the peninsula, more problems follow. Without adequate space, the truck would need to inappropriately stop on the bikeway and narrow space beyond, to see the esplanade to the north. Otherwise, there could be hazards with pedestrians and joggers.

When leaving the peninsula, the ritual is basically reversed. There would be space to stop and check the esplanade. Then stop on the esplanade and space next to the bikeway to avoid bikers from the north. The driver could then inch forward and stop again on the bikeway for an adequate view of highway traffic, before gunning the engine to enter any opening between fast-moving vehicles. Truck drivers now using this entrance zip across the bikeway and esplanade without time to consider unseen hazards. This would also be expected when the park is finished, with considerably greater park activity. The number of consecutive stops and care to avoid problems is far beyond practical use, especially for 56,000 trucks coming and going each year. On average,

trucks could arrive and leave every 1.7 minutes. In reality they would arrive in bunches, perhaps large enough to create their own line of traffic, and the number could increase to 220,000 trucks with additional shifts. The MTS is to operate day and night, in all types of weather, at times when drivers will be facing a blinding sun.

Ideas that have been suggested to reduce traffic hazards include a bikeway ramp. But it would need to extend about a block and half in both directions, obscuring views of the park. It could also block views and circulation at the historic Cunard Piers, where survivors of the Titanic landed. The ramp would produce its own hazards during wet and icy weather, and could be a turn-off for all but teenagers who are bike enthusiasts.

An extension of the esplanade and/or bikeway to the west would presumably pass under truck ramps near the western edge of the peninsula. A walkway should be at the perimeter for people to use, but a bikeway on three sides would restrict other uses, and diminish the bikeway as an effective north-south connection.

Trucks leaving the peninsula would need to continue to the first left-turn, about a mile to the south at Clarkson Street. If trucks left the highway at Pier 40 to turn around, it would impact that portion of the park. Canal Street is the next left turn, but trucks could get stuck there in Holland Tunnel traffic. Trucks that are garaged above 14th Street would likely use one of these streets.

Proposed Amenities

Park plans previously considered for the peninsula would demolish the ramp and building of the abandoned MTS. The pier substructure that remains could provide docking for historic vessels, or perhaps be covered with a platform as an island for park use. A bridge would link to the peninsula.

The proposed MTS would be moved to the north and be large enough to contain waiting trucks. Rather than being an amenity, it would be far more obtrusive than with other plans.

A suggested facility that would explain recycling to school groups has been questioned because only a single activity that is relevant to the process could be seen at this MTS.

Besides these items, suggestions have been made that accepting the MTS could help pay for the park, or make the peninsula available to the public at an earlier date. However, the planning and construction schedule would require at least seven years. A more convincing argument would be not compromising the incredible

potential of the Gansevoort Peninsula. The historic setting was a focus of the most active port on earth, and the adjacent bulkhead is a landmark. This place could become the highlight of the Hudson River Park. Interim, low-cost features could provide access much sooner than seven years.

Efficient Alternatives

"Trash and the City," a 2004 publication of Environmental Defense, states that trucks travel 7.8 million miles each year to move Manhattan's garbage, a distance that is comparable to 312 trips around the earth. (The distance would also equal more than 30 trips to the moon. Or a trip to the sun in less than 12 years.) The publication goes on to state: "In addition to garbage, each of those trucks carries huge health and economic costs: They worsen traffic congestion, add to noise and increase air pollution, exacerbating the city's already severe asthma problem."

Now consider what mileage would be required to collect and deliver all of the city's recyclable material, with the trucks limited to a single delivery site in each borough. As currently proposed, trucks would be required to go from far corners of a borough to a distant shoreline for delivering recyclables.

The January 3rd public hearing audience was told that a site in upper Manhattan has been considered for using a rail transfer faciltiy (instead of an MTS). But the potential for a single rail pick-up within a system designed for barges would produce complications instead of benefits.

Cities in Europe use subway lines to move more than people. Various materials can be moved in special cars, operated during off-peak hours.

Along most of Manhattan's length, a west side rail line operates with few trains. Rail service could continue through the Bronx, Queens, and Brooklyn. Instead of elaborate architecture for conspicuous waterfront sites, out-of-the-way rail sidings could be used. And without limiting options to where an MTS once operated, more than a single site could be used for collecting recyclables.

But with the proposed plan, Manhattan truck crews would collect material at Inwood, continue past various places where rail transfers could be established, struggle through midtown traffic, and wind up at an MTS in lower Manhattan.

On Staten Island, rail lines could provide a range of options where trucks could be unloaded, extending from St. George to Tottenville at the island's southwest corner, and

to a New Jersey crossing at the northwest corner. Again, existing plans would have a single MTS where material would be barged to Brooklyn to be sorted. Then what? Use costly ocean-going tugs and barges for delivering material to whatever market for recyclables that would have access for barges? Why not capitalize on direct rail connections from Staten Island to a much wider range of inland and coastal markets. If complications develop with any aspect of a rail concept, variations could be explored.

The Opportunity

Even though plans for an MTS at Gansevoort have unacceptable problems, strong support continues for an effective recycling program. The public meetings have been very productive. Hopefully this dialogue will continue.

Other places can be found for an MTS with safe access. However, with only five places in the city for trucks to deliver recyclables, the program would still produce far more truck mileage than is necessary.

That problem could also be addressed with a recycling program that is planned to take advantage of the city's rail network. A comprehensive study could evaluate a range of options and potential savings with a rail-based alternative. Such a study is critical if New York's recycling program is to meet environmental needs.

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January 24, 2005

Via Facsimile & Mail
Assistant Commissioner Harry Szarpanski
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004
212-269-0788

RE: Comments on the Draft Environmental Impact Statement for New York City's New Comprehensive Solid Waste Management Plan

Dear Commissioner Szarpanski:

On behalf of the Organization of Waterfront Neighborhoods (OWN), New York Lawyers for the Public Interest (NYLPI) submits the following comments on the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (SWMP).

OWN is a citywide coalition of community-based groups from low-income neighborhoods and communities of color established 8 years ago in response to the critical need for an economically efficient, environmentally sound, and equitable solid waste management plan for New York City. OWN represents neighborhoods that are disproportionately impacted by the existing solid waste management system with over 80% of the citywide waste stream handled through land-based transfer stations in its neighborhoods.

NYLPI is a not-for-profit civil rights law firm that provides technical and legal assistance to OWN. NYLPI's staff attorneys, community organizers, and advocates engage in advocacy and impact litigation in the areas of environmental justice and community development, disability rights, and access to health care. Our comments are drawn from NYLPI's extensive experience advocating for an equitable solid waste management system in New York City, including our role as plaintiffs' counsel in Neighbors Against Garbage (NAG), et. al. v. Doherty, Index No. 109023/96 (Sup. Ct. N.Y. Co., March 16, 1997), aff'd NAG, et. al. v. Doherty,

245 A.D.2d 81, 665 N.Y.S.2d 640 (1st Dep't 1997) and OWN v. Carpinello, Index No. 103661/99 (Sup. Ct. N.Y. Co., Oct. 18, 2001).

Comments

Our comments primarily address the question of whether this DEIS complies with the New York State Environmental Quality Review Act (SEQRA) and its regulations.[1] We are specifically concerned by the DEIS' segmented environmental review of the draft SWMP. This DEIS, for example, excludes from environmental review both the existing and proposed commercial waste management system addressed in the draft SWMP. We are also concerned by this DEIS' failure to include any cumulative impact analysis in the DEIS. We urge DSNY to address these deficiencies, discussed in detail below, in the final EIS of the SWMP.

I. DSNY's Environmental Review of the Draft SWMP Must Include a Detailed Review of the Integrated Solid Waste Management System Proposed by the SWMP.

This DEIS excludes significant parts of the draft SWMP. As required by federal and state laws and regulations, this SWMP addresses an *integrated* solid waste management system.[2] "All solid waste ... that poses potential adverse effects on health or the environment ...," including "existing and proposed facilities," as well as "residential and commercial solid waste" is part of that *integrated* system. As one *integrated* system proposed by one plan, it must be subject to one comprehensive environmental review.[3]

This *integrated* plan addresses both existing and proposed facilities, as well as both residential and commercial waste. For example, it addresses existing facilities by proposing to eliminate the City's reliance on an existing network of land-based transfer stations, to strengthen regulations and increase enforcement at existing commercial transfer stations, and to redistribute commercial waste capacity from communities with the greatest number of existing transfer stations.[4] It also addresses proposed facilities by proposing to implement the City's long

[1] ECL §§ 8-0101 *et seq.*

[2] 42 U.S.C. § 6942(b); 40 C.F.R. § 256.02(a)(1)(ii); ECL § 27-107; 6 NYCRR § 360-15.9.

[3] ECL §§ 8-0109; 6 NYCRR Part 617.

[4] Draft SWMP ES-8-10, Ch.4.

term export program and to develop the eight marine or rail transfer stations equitably located throughout the five boroughs.[5] Finally, it addresses both residential and commercial waste by proposing to reserve capacity for barge export of commercial waste from the City at the W.59th Street Marine Transfer Station in Manhattan, to leverage DSNY export contracts for barge and rail export of commercial waste, and to allocate "responsibility for the City's waste management system" -- including both commercial and residential waste –"equitably throughout the City, in each of the five boroughs."[6]

Although the draft SWMP explicitly addresses existing and proposed commercial waste initiatives, the DEIS currently excludes these critical initiatives, as well as others, from its environmental review.[7] Specifically, it excludes the existing commercial waste management system, the existing network of commercial waste transfer stations, and the recently promulgated siting and operational regulations for these transfer stations.[8] It also excludes the new initiatives addressing both the existing and proposed commercial waste

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[5] Draft SWMP ES 5-7, Ch.3, and Ch.4. It is not equitable, however, for the City to award two contracts to private marine or rail facilities in Brooklyn community district 1 and Bronx community district 1, respectively. Both of these community districts are already overburdened by land-based transfer stations. For example, Brooklyn 1 has approximately 25% of the City's waste transfer stations handling about 40% of the City's waste capacity, and Bronx 1 has approximately 10% of the City's waste transfer stations handling about 10% of the City's waste capacity. It, therefore, would be inequitable for the City to award two private sites instead of an MTS in these districts.

[6] Draft SWMP, ES-2; DEIS, 1-2.

[7] DSNY justifies these exclusions based on various reasons. Generally, the DEIS states that that: "the Draft New SWMP sets forth a plan for the long-term management of the City's solid waste in a cost effective and environmentally responsible manner and, in addition to the Proposed Action, *incorporates by reference* the Existing SWMP to support existing programs, including New Initiatives described in the draft new SWMP. *These existing programs and new initiatives, approved pursuant to the Existing SWMP, are, therefore, not part of the proposed action that is subject to environmental review of this DEIS.*" DEIS, ES-3, 1-3 (emphasis added). Specifically, the DEIS states that with respect to the "several other related actions that DSNY has taken, or will be taking, with respect to the private transfer station industry and Commercial Waste management that form an important part of the New SWMP, *although environmental review necessarily has been or will be conducted separately*, because these measures have independent utility or are the subject of ongoing litigation. DEIS 1-24.

[8] DEIS 1-25-1-26.

management system that were first introduced by the draft SWMP. With these exclusions, DSNY has clearly segmented its environmental review of the draft SWMP.

This type of segmentation is prohibited under SEQRA.[9] Segmentation is "the division of the environmental review of an action such that various activities or stages are addressed ... as though they were independent, unrelated activities, needing individual determinations of significance."[10] It is prohibited because a decision involving review of an earlier action should not be 'practically determinative' of a subsequent action.[11] It is also prohibited because a project that would otherwise have a significant effect on the environment should not be separated so it can fall below the threshold requiring any review.[12]

DSNY's justification for this segmented review is unacceptable. First, DSNY states that existing programs and new initiatives were approved pursuant to the Existing SWMP and, therefore, are not subject to environmental review in this DEIS.[13] These new initiatives, however, were not approved pursuant to the 1992 SWMP because they were first introduced by this draft SWMP. Moreover, any environmental review of existing programs related to the 1992 SWMP is about thirteen years old – much too old to be "incorporated by reference" into the draft SWMP, as stated by DSNY.[14]

Additionally, DSNY states that the commercial waste initiatives proposed by the draft SWMP have been or will be subject to environmental review "separately" because these measures are "independent."[15] These measures, however, are clearly not independent. Not only are they explicitly part of the proposed action under review, they are also required to be addressed, reviewed,

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[9] ELC § 8-0109.

[10] 6 NYCRR § 617.2.

[11] City of Buffalo v. New York State Dept. of Environmental Conservation, 707 N.Y.S.2d 606 (2000); In the Matter of Tri-County Taxpayers Association, Inc., et al., v. Town Board of the Town of Queensbury, 447 N.Y.S.2d 699 (1982).

[12] Matter of Concerned Citizens for Envt. v. Zagata, 672 N.Y.S.2d 956 (1998).

[13] DEIS, ES-3, 1-3.

[14] DEIS, ES-3, 1-3.

[15] DEIS 1-24.

and potentially adopted as part of the SWMP.[16] Nonetheless, as previously stated, SEQRA regulations explicitly prohibit "the division of the environmental review of an action" in various stages "as though they were independent, unrelated activities, needing individual determinations of significance."[17] However, that is exactly what DSNY has done in this DEIS.

Finally, SEQRA regulations emphasize that considering only a part or segment of an action is contrary to the intent of SEQRA. If DSNY believes that circumstances warrant a segmented review, it must clearly state in its determination of significance, and any subsequent EIS, the supporting reasons and must demonstrate that such review is clearly no less protective of the environment.[18] However, the reasons provided by DSNY, as discussed above, do not satisfy SEQRA.

II. DSNY's Environmental Review of the Draft SWMP Must Evaluate Cumulative Impacts.

The DEIS also fails to analyze the cumulative impacts of the City's Solid Waste Management system. In doing so, if fails to fully consider the impacts of the current system of solid waste management, of the "Proposed Actions," and of the other actions and initiatives considered in the Solid Waste Management Plan. The Final EIS must address cumulative impacts, as required by SEQRA and CEQR, including the impacts of those actions that were improperly segmented from the current DEIS.

SEQRA requires that environmental impact statements include "a statement and evaluation of the environmental impacts of the proposed action, including the reasonably related short- and long-term effects, cumulative effects and other associated environmental effects."[19] The SEQR Handbook defines cumulative impacts as "impacts on the environment that result from the incremental or increased impact of an action(s) when the impacts of that action are added to other past, present, and reasonably foreseeable future actions."[20]

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[16] DEIS 1-20; 42 U.S.C. § 6942(b); 40 C.F.R. § 256.02(a)(1)(ii); ECL § 27-107; 6 NYCRR § 360-15.9.

[17] 6 NYCRR § 617.2.

[18] 6 NYCRR § 617.3(g)(1).

[19] 6 NYCRR § 617.9(b)(5)(iii)(a)

[20] SEQR Handbook at 41.

Similarly, CEQR requires that environmental impact assessments include the "evaluation of the short and long term, [and] primary and secondary environmental effects of an action."[21] Cumulative impact analysis is appropriate where there is a nexus between the various actions being considered and where the effects of the various actions are related. Where cumulative impact analysis is required, such analysis should inform the entire EIS.[22]

As discussed above in the context of segmentation, there are a number of actions that are included in the SWMP and that are part of the City's overall solid waste management system that have not been assessed in the DEIS. These actions should be included in the DEIS not only because they fall within the scope of what is required of a Solid Waste Management Plan, but also because their effects are clearly related to the effects of those Proposed Actions included in the current DEIS.[23] Specifically, in requiring a consideration of cumulative impacts, SEQRA requires that the SWMP EIS consider the impacts of the proposed actions in conjunction with the impacts of the current system for handling commercial waste. Thus, the impacts of specific proposed facilities should be assessed in conjunction with the impacts of the existing waste transfer stations, if any, in the area where each facility is to be sited. This should also include an assessment of those changes that will foreseeably result from the new transfer station siting and operational regulations, and this assessment should also include alternatives to these proposed regulations. Moreover, the EIS should include an assessment of the impacts of those future actions that the SWMP envisions--including moving commercial waste through the West 59th Street MTS and moving recyclables through a facility at the Gansevoort Peninsula--and of the impacts that would ensue should these future actions not be undertaken.

III. Recommendations

The final EIS must incorporate an analysis of the existing network of commercial waste transfer stations included in the draft SWMP. State regulations require that a SWMP identify "proposed or existing solid waste management facilities ...their expected life and current operating status."[24] It also requires that a

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[21] 62 RCNY §6-02(g).

[22] *See e.g.*, *In re* Kozy Hollow Campground-Marina (DEC Comm'r Decision, Dec. 13 1982); *Poquott v. Cahill*, N.Y.L.J. Nov. 25 2002 (Sup. Ct. Suffolk Co.).

[23] Note that each of these bases is independently sufficient to compel inclusion in the Environmental Impact Statement for the SWMP.

[24] 6 NYCRR § 360-15.9 (c) (emphasis added).

SWMP include "a timetable ... to close existing inadequate solid waste management facilities or bring them into conformance with appropriate statutory and regulatory requirements, and to identify major events and milestones to achieve implementation.[25] These requirements directly address the existing network of commercial waste transfer stations and the regulations related to them. State and City requirements for consideration of cumulative effects in environmental impact assessment also compel that the inclusion of commercial waste in the EIS. Thus, the existing commercial waste transfer stations, as well as proposed changes to the system of commercial waste management, should be fully analyzed as part of the environmental review in the final EIS of the SWMP.

To the extent that the Commercial Waste Study (CWS) is referenced in the DEIS to imply that a previous review was conducted of the existing network of commercial waste transfer stations, that review was completely inadequate.[26] Unlike the analysis of the existing commercial waste transfer stations in the CWS, an assessment of the existing commercial waste management system and related initiatives proposed by the SWMP must be subject to a full Environmental Impact Assessment that meets the requirements of SEQRA. As community residents and the elected officials have repeatedly stated, the CWS is fundamentally flawed and is not SEQRA-compliant.[27]

The final EIS must also incorporate the siting regulations and the operational regulations included in the SWMP. State regulations require that a SWMP identify "any new local laws, ordinances, regulations, or amendments to

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[25] 6 NYCRR § 360-15.9(j) (emphasis added).
[26] DEIS 1-21.

[27] For example, the CWS analyzed the existing network of commercial waste transfer stations through a flawed "geographic proximity" analysis found in Volume I of the CWS. Among its many deficiencies, the analysis: defined study areas in a manner that ignores numerous sensitive receptors (homes, schools, parks, etc.) affected by adverse transfer station impacts; used one narrow study area for all types of impact, rather than study areas tailored to the full range of each impact; averaged in the assessment of the impact of clustering even though the CEQR Technical Manual clearly states that worst case scenarios are to be used to assess projected impacts; based its assessment of clustering on proximity" analysis found in Volume I of the CWS. For a more detail discussion of the flaws of this CWS, please see the attached report: ARC Engineering and Construction, P.C., Analysis of the Department of Sanitation of New York Commercial Waste Study, August 2004.

existing local laws, ordinances, or regulations that may be required to fully implement the integrated system.[28] Regulations related to how transfer stations within the city are sited and operated are clearly part of this integrated system of waste management that should be subject to the same environmental review as the SWMP. They are also clearly within the scope of what is contemplated by the cumulative impact requirements of SEQRA.

The final EIS must also incorporate an analysis of the new commercial waste initiatives included in the draft SWMP. State regulations require that a SWMP "select an integrated system for managing each of the various types of solid waste..., including commercial waste."[29] Therefore, the new initiatives proposed such as redistributing capacity in the communities with the greatest concentration of transfer stations; performing a traffic analysis to reduce transfer trailer traffic on selected truck routes; increasing and restructuring fees associated with transfer station permits, with proceeds to be used for training and enforcement of new regulations; reserving the West 59th Street MTS for commercial waste; and leveraging DSNY export contracts for barge and rail export of commercial waste -- are clearly part of this integrated system of waste management that should be subject to the same environmental review as the SWMP.

IV. Neighborhood Specific Comments

As noted above, OWN represents neighborhoods currently disproportionately impacted by the existing solid waste management system in NYC. Over 80% of the citywide waste stream is handled through land-based transfer stations in Greenpoint/Williamsburg, Southeast Queens, and the South Bronx. These neighborhoods will also host marine and/or rail based transfer facilities proposed by the draft SWMP. Specifically, two marine and/or rail transfer stations are proposed in both Greenpoint/Williamsburg and the South Bronx. In addition, a marine transfer station and a recycling facility are proposed in Sunset Park. Accordingly, these neighborhoods have specific comments related to how these existing and proposed solid waste facilities should be assessed in the final EIS of the SWMP.

[28] 6 NYCRR § 360-15.9 (h) (emphasis added).

[29] 6 NYCRR § 360-15.9 (h).

Sunset Park

Sunset Park is proposed to host the Hamilton Avenue MTS. However, as proposed, this Hamilton Avenue MTS will have a significant adverse impact on the environment and surrounding community. First, it will handle too much waste. It will handle 3,554 daily tons of residential and commercial waste, compared to 2,216 daily tons at the SW Brooklyn MTS and 1,873 daily tons at the E.91st Street MTS. It also will serve 10 CDs in Brooklyn, compared to 4 CDs at the SW Brooklyn MTS, 4 CDs at the E. 91st Street MTS, and 7 CDs at the North Shore MTS. Second, as proposed, the Hamilton Avenue MTS will generate too much traffic. It will generate about 260 trucks on a peak day, and about 180 trucks on a non-peak day. Other facilities in the area such as Home Depot, the Gowanus Expressway, and a commercial waste transfer station handling 1,000 tons per day also generate significant traffic. The adverse impacts related to these existing facilities and the proposed Hamilton Avenue MTS must be assessed and mitigated in the final EIS.

Sunset Park is also proposed to host the Hugo Neu recycling facility. Given the surrounding development associated with solid waste facilities and its related traffic, the final EIS should propose more extensive mitigation strategies for the Hugo Neu facility. The Hugo Neu facility should not generate more than 25 total trucks per day throughout their 20-year lease-term. The Hugo Neu facaility should also receive all other borough's recyclable materials, including Manhattan's, by barge throughout their 20-year lease-term.

Finally, according to the DEIS, Sunset Park may also host the 52nd Street Barge Staging Area and the 65th Street Intermodal Yard to serve as a support facilities for the Hamilton Avenue MTSs. These facilities are not proposed in the draft SWMP, however. DSNY should clarify whether these facilities are part of the proposed action or alternative actions. In addition, DSNY should assess the cumulative impacts related to these facilities, as well as propose adequate mitigation strategies for them in the final EIS.

Southeast Queens

Southeast Queens hosts a cluster of land-based commercial waste transfer stations located directly next to residences. As noted above, the DEIS did not assess these transfer stations, nor any other existing or proposed commercial waste facilities and initiatives. All existing and proposed commercial waste related actions must be fully assessed in the final EIS.

In so far as DSNY relied upon the Commercial Waste Study (CWS) to assess the existing commercial waste transfer stations, that assessment is flawed. The CWS, for example, studied theoretical stations, instead of real stations. Many of the major impacts and real concerns of those living amongst these stations were missed.

Without an adequate assessment by either the CWS or this DEIS, cumulative impacts associated with existing land-based transfer stations have never been considered in Southeast Queens or elsewhere in the City. Land-based waste transfer stations in Southeast Queens, for example, were allowed to establish in violation of the zoning resolution. These stations are located in close proximity to "sensitive receptors" (*i.e* residences, including senior residences; parks; elementary schools; hospitals). The trucks used to haul waste to these transfer stations, which is not generated from the immediate area, but from other locations, adversely impact air quality, water quality, as well result in noise, odor, increased traffic, litter, and vermin. Trucks queuing, and extended idling contributes to adverse heath impacts of the many senior homeowners and children living in the area. These serious problems were not considered in the CWS or this DEIS. They must be assessed and mitigated in the final EIS.

Williamsburg-Greenpoint

There are currently 16 waste transfer stations in Williamsburg-Greenpoint handling over a third of the City's waste. These stations generate, among other things, overwhelming amounts of truck traffic causing constant noise, odor, and air pollution. The neighborhood is also home to two large garages operated by the Department of Sanitation. In addition to all of this, the SWMP proposed adding up to two private "MTS alternatives."

Unlike the DEIS, the final EIS should consider the impacts of these proposed facilities in conjunction with the numerous facilities that already exist in the neighborhood. This analysis should specifically consider measures for mitigating the impacts of this system including those measures available to achieve the equitable redistribution of transfer stations envisioned in the SWMP. In particular, this assessment should consider the impacts of a plan that would open the MTS alternatives in Williamsburg-Greenpoint prior to the closure and/or redistribution of existing private waste transfer stations. It should also consider the relative impacts of opening one or two private MTS alternatives. Because of the disproportionate burden already borne by Williamsburg-Greenpoint, residents are adamantly opposed to the opening of two such facilities, particularly in the absence of a firm commitment to close existing land-based transfer stations.

South Bronx

Like other OWN neighborhoods, the South Bronx already contains a disproportionate share of the City's waste transfer stations and, under the SWMP, is slated to receive up to two "MTS alternative" stations. The SWMP, while expressing a commitment to equity and borough self-sufficiency, also envisions the opening of an Intermodal Facility at the Harlem River Yards. As stated in the discussion of other OWN neighborhoods, for the South Bronx the final EIS must consider the impact of these proposed actions in conjunction with those facilities that already exist in the South Bronx. In addition, DSNY must consider all available mitigative strategies for reducing impacts to the greatest extent possible. This should include an analysis of the proposed operational and siting regulations and of more protective alternative regulations that may exist to mitigate impacts related to, for example, traffic and air emissions.

Thank you for your consideration of these written comments. Please supplement OWN's testimony provided during the December 2004 public hearings with these written comments for the record. If you would like to discuss our comments further, please contact us at 212-244-4664, ext. 306.

Sincerely,

Janette Wipper & Gavin Kearney
New York Lawyers for the Public Interest

KONHEIM & KETCHAM

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January 20, 2005

Mr. Harry Szarpanski
Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street
12th Floor
New York, NY 10004

Re: CEQR # 03DOS004Y

Dear Harry:

I can see your hand in many of the creative initiatives of the "New SWMP," but the DEIS is a far cry from what we together produced more than a decade ago. The enclosed are my personal observations and do not represent the positions of any of our clients.

Sincerely,

Carolyn S. Konheim
President

KONHEIM & KETCHAM

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Omissions of the NYC Draft Comprehensive Solid Waste Management Plan (New SWMP) and Draft Environmental Impact Statement (DEIS)

Carolyn S. Konheim

1/12/04

While the New SWMP contains many potential beneficial initiatives, the plan documents fail to present a comprehensive analysis or an integrated environmental assessment, specifically:

No Assessment of Cumulative Traffic Impacts of All Facilities or of Changed Flows

- The traffic analyses are for each facility independently and are based on only on a half-mile around each facility, without showing the overlay of trips from all facilities and their interactive effects (as was done in the 1991 SWMP/DEIS). The small study area also excludes consideration of traffic being generated by major development just outside the half-mile cordon, e.g., the effect of 40 million square feet of new development in and around Downtown Brooklyn on Hamilton Avenue and the Gowanus/BQE.
- It is particularly incumbent on DSNY to examine the cumulative effects of reassignment of truck trips--the largest number of which operate in the AM peak period—on western Brooklyn roads that are already constrained and will be more so with developments such as Ikea and Downtown Brooklyn, the activation of the Hamilton Avenue Marine Transfer Station, the Southwest Brooklyn MTS and the Hugo Neu plant in Sunset Park, which is expected to take paper recyclables by truck from southern Brooklyn beginning in 2011.
- The analysis years, e.g., 2006 for the Hamilton Avenue Converted MTS further omits consideration of approved development which follow shortly thereafter, e.g., a cruise ship terminal in Red Hook, or such complicating factors as the reconstruction of the Hamilton Avenue Bridge in 2008 and the decade of reconstruction of the Gowanus Expressway.
- The traffic analysis method which examines each intersection in isolation does not accurately disclose real world operations of a traffic network in which a significant delay from added truck traffic on a major congested road can cause miles of spillback delay.
- There is no analysis of the turnaround time of deliveries at each facility and the queuing potential at facility entrances.
- Many severe traffic impacts remain unmitigated and the token efforts to reduce their severity (increasing green time for one direction) worsen conditions on adjacent roads.
- All these analyses omit any evaluation of the principal initiative to reduce the adverse impacts of commercial transfer stations by opening up the four converted MTSs to commercial waste between 8 p.m. and 8 a.m. This would add hundreds of trucks, with enough in the 8-9 a.m. peak hour to push the facility peaks from 9 -10 a.m. to 8-9 a.m., increasing the very high impacts that are reported, albeit underestimated, in the DEIS.

No Environmental Assessment of Current and Future Changes in Paper Flows

- Chapter 2, Waste Prevention and Recycling describes a wholesale change in the flow of paper. In Table 2.1-1, Proposed Plan Facilities and Alternatives, only four recycling facilities are listed (Gansevoort and the three Hugo Neu Corporation (HNC) facilities—those in Sunset Park, Long Island City and the Bronx) compared to the 10 locations in Existing Program Facilities in Table 2-3.1, without examining the impact of the change.
- Paper is the second largest component of municipal waste; however, the DEIS contains no analysis of the HNC plant or the change in paper flows.

- The significant changes in the reallocation of recyclables should be examined in the same way that the 19 other existing facilities that are undergoing change in material flows are examined in the SWMP/DEIS. The environmental review of the Visy plant was based on its entire waste steam arriving by barge from Manhattan and by truck from Staten Island only. Yet, DSNY amended the Visy agreement in October 2003 to re-designate paper from seven western Brooklyn Sanitation Districts to be trucked to Staten Island. DSNY has recently added the two districts from southwest Brooklyn and may soon add others.
- This change of operations at Visy should, as for the other 19 facilities in the New SWMP, be assessed in the DEIS, or at the very least as for some of the other facilities, reference the sections of a supplemental environmental review that addresses each CEQR element.

Major Omissions in Commercial Waste and Use of Marine Transfer Stations

- There is no comparison of facility need and only the most vague statement of seeking ways to reduce needless commercial transfer stations. A comparison of the quantities in the SWMP Appendices IV and IX suggests that there is about three times the capacity of permitted putrescible waste transfer stations as the 7,248 TPD of waste generated.
- The discussion of the existing system notes that about 27% of putrescible waste is recycled. However, there is no discussion of the huge amount of separately collected paper that is recycled which should be considered in a comprehensive material analysis.
- The proposal to attract commercial putrescible waste to MTSs instead of exporting it by truck neglects to account for the lack of incentive for integrated waste management companies to forego their favorable disposal costs at their own landfills or that if the MTS rates are attractive, they will likely forego dual processing of waste to recover recyclables.
- And as s reported above, the omission of considering commercial traffic to the MTSs.

Omission of Waste Generation Factors Need for Reliable Projections

Throughout the voluminous documents, critical basic information is missing;

- There is no quantification of waste or recyclables generation by individual, household, type of business or even by borough and no explanation of their relationships to demographic characteristics, except for a reference to population and employment forecasts by the New York Metropolitan Transportation Council (NYMTC).
- The SWMP is not based on the latest NYMTC forecasts, which are very much higher, suggesting there is a significant shortfall of capacity in the SWMP. Thus, without more facilities, the flows to each facility will be approximately 10% greater than reported.
- The omission of borough residential waste quantities is particular serious with such differing population growth rates from one borough to another, depriving the reader of an understanding of the effectiveness and equity of facility locations.

Economic Impact Analysis is Missing Altogether for Escalating City Budget Item

- There is no information on the capital or operating costs of the proposed facilities.
- There is no discussion of the fiscal impacts of proposed arrangements.
- There is no evaluation of the employment impacts.
- The proposed SWMP/DEIS contains none of the analysis that was in the 1992 SWMP/FEIS of the hidden social costs of transport (traffic delay, accidents, energy use, air and noise impacts) to evaluate options.
- There is no discussion of alternative uses or economic development potential of the proposed sites.
- There is no consideration of the cost-effectiveness of promoting increased use of food waste disposers to redirect some of the largest component of the waste stream to sewage, which is composted aerobically, reducing the greenhouse gases produced by landfills.

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January 24, 2005

BY HAND

Mr. Harry Szarpanski, P.E.
New York City Department of Sanitation
44 Beaver Street
12th Floor
New York, New York 10004

Re: Comments of the Gracie Point Community Council on the DEIS for the New York City Department of Sanitation Proposed Comprehensive Solid Waste Management Plan

Dear Commissioner Szarpanski:

We submit these comments to the October 22, 2004 Draft Environmental Impact Statement ("DEIS") for DSNY's proposed New Comprehensive Solid Waste Management Plan (the "SWMP") on behalf of our client, the Gracie Point Community Council ("GPCC"). GPCC is an association of individuals who live, work, provide services and run institutions near E. 91st Street and York Avenue, where DSNY has proposed to locate a new marine transfer station ('MTS") as part of the SWMP. GPCC has retained two environmental consultants, Ferrandino & Associates and Vanasse Hangen Brustlin, Inc., who have reviewed the DEIS. Our consultants' comments on the DEIS are annexed hereto as Exhibit A and are incorporated herein. These written comments supplement my testimony on GPCC's behalf given at the December 20, 2004 hearing on the DEIS.

General Comments

1. The DEIS is Unacceptably Conclusory and Vague

As an initial matter, we point out that the DEIS for the 20-year Citywide draft SWMP is of a quality that, if submitted by a private developer or non-profit organization, would have never been accepted as complete by any responsible lead agency. The DEIS is replete with conclusory statements masquerading as facts and assumptions that are completely unsupported. Its analyses are internally inconsistent (see, e.g., discussion of odor, open space and noise

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analyses below), and the document does not provide even the most basic description of what each MTS facility will look like and how it will operate.

DSNY has presented some additional information regarding the SWMP and the operations and environmental impacts of the proposed MTS on E. 91st St. in various public relations materials that it has made available at public meetings and hearings held since DSNY issued the "Notice of Completion of Draft Environmental Impact Statement" on October 22, 2004. The information contained in these public relations materials, whether in the form of display boards, power point presentations or written handouts, further diminishes the veracity of the already highly suspect DEIS and demonstrates that DSNY is making things up as it goes along, perhaps in an ill-advised attempt to appease whichever audience it is addressing at the time. While there is no doubt that the DEIS is incomplete and insufficient due to a lack of crucial information in any number of areas (as discussed throughout this letter and in Exhibit A), the DEIS cannot be cured with PR materials haphazardly disseminated at public meetings. These materials are outside the CEQR record, which is supposed to provide DSNY itself, other involved and interested agencies and the general public with a complete picture of the proposed action and all of its resulting impacts. See Sierra Club v. United States Army Corps of Engineers, 701 F.2d 1011, 1034 (2d Cir. 1983) ("[o]nly if [a comprehensive EIS] is forthcoming can the public be appropriately informed and have any confidence that decisionmakers have in fact considered the relevant factors and not merely swept difficult problems under the rug").

2. The DEIS Improperly Segments Environmental Review of the Construction of 4 New MTSs from the Transport and Disposal of Containerized Waste

While DSNY's stated goal in spending at least $320 million to build 4 new MTSs is to have facilities that are capable of containerizing waste, neither the SWMP nor the DEIS provides any concrete information as to what will happen to the containerized waste once it leaves each MTS. Where will the containers go? Will the City develop enclosed barge unloading facilities (EBUF)? How many will be necessary to avoid barge backups at each MTS? At what cost to the City (and taxpayers)? Will the MTSs simply lay idle until such facilities are developed? What is the ultimate destination of the containerized waste? How will it be transported there and at what cost? At the CB 8 ULURP hearing on January 12, 2005, the Commissioner made it clear that these questions remain wholly unanswered when he admitted that DSNY still doesn't know where the containers are going to go and how they are going to get there.

The transport and ultimate disposal of the containers are essential elements of the plan to containerize waste, and DSNY's failure to address those elements in the draft SWMP or the DEIS presents a classic example of segmentation, which is absolutely prohibited under SEQRA. See Village of Westbury v. Department of Transportation, 75 N.Y.2d 62, 69, 550 N.Y.S.2d 604, 607 (1989) (where actions share a common purpose, the design of each is dependent on the other, and each has no independent utility without the other, SEQRA requires consideration of the actions' combined effects); Town of Coeymans v. City of Albany, 284 A.D.2d 830, 835, 728 N.Y.S.2d 797, 802 (3d Dep't), leave to app. denied, 97 N.Y.2d 602, 735 N.Y.S.2d 491 (2001) (where one action is a "fundamental and necessary prerequisite" to another, both actions "must be viewed as an integral part of a single project rather than as an independent action"). Again,

this is something that a private developer could never get away with or that a responsible lead agency would tolerate, let alone certify as "complete and adequate for public review."

Without any concrete information about the method of transport and disposal of the containerized waste, DSNY cannot possibly know the cost associated with that aspect of the plan, which is likely to be at least as much as, if not more than, building the 4 new MTSs. Perhaps this explains why the DEIS contains absolutely no cost benefit analysis to support why the containerization plan is preferable, from an economic perspective, to the current export plan. Indeed, there is no evidence in the DEIS that the plan to construct 4 new MTSs capable of containerizing waste (at a cost of at least $85,000,000 per facility) makes any economic sense. The DEIS offers only a series of unsupported conclusions hailing the plan as economical and efficient.

3. The DEIS Arbitrarily Limits the Analysis of the Environmental Impacts of the 4 New MTSs Based on an Artificially Low Estimate of Throughput

In terms of its purported assessment of environmental impacts, the most glaring flaw in the DEIS with respect to all of the proposed new MTSs, including the MTS at E. 91st St., is the analysis of an artificially and arbitrarily limited amount of throughput, which results in a significant underestimation of the true impacts that will result from the facilities' operations. For example, the DEIS only analyzes the environmental impacts resulting from the processing of 1700-1800 tons per day (tpd) at the E. 91st St. MTS. Yet, according to the DEIS, the facility will have the capacity to process 4,290 tpd of waste. And according to DSNY's November 15, 2004 solid waste management permit application to the NYSDEC, DSNY is seeking a permit to construct and operate a facility with a capacity of 5,280 tpd. This shockingly larger number is nowhere to be found in the DEIS, the SWMP, the Department's press releases, or any other materials presented to the public.

Once the permit for the E. 91st St. MTS is issued, no further discretionary approval will be required to increase the amount of waste processed at the facility from the purportedly studied 1700-1800 tpd to the maximum of 5,280 tpd and, therefore, there will be no further opportunity to review the environmental impacts arising from use of the full capacity of the MTS. The primary purpose of a DEIS is to inform the public and public agencies as early as possible about proposed actions that may significantly affect the quality of the environment, and to solicit comments which will assist the lead agency in determining the environmental consequences of the proposed action. ECL § 8-0109(4). Here the DEIS does not inform DSNY, the public or involved and interested agencies as to the full environmental consequences of the proposed action. Instead the DEIS analyzes potential (or purports to analyze) environmental impacts arising from the processing of throughput based on the facility's operations 7 years ago. The DEIS must analyze a reasonable worst case scenario, which in this case is clearly the operation of the facility at its permitted capacity. See Neville v. Koch, 79 N.Y.2d 416, 424, 427, 583 N.Y.S.2d 802, 805, 807 (1992) (lead agency discharged its statutory responsibility under SEQRA for environmental review of the rezoning of a City block by studying four hypothetical "worst case" scenarios, which represented the reasonable "full-build" uses for the rezoned site, "thus covering the full range of environmental impacts, including the most environmentally

destructive uses to which the property could be put"); Jackson v. New York State Urban Development Corp., 110 A.D.2d 304, 310, 494 N.Y.S.2d 700, 704 (1st Dep't 1985), aff'd, 67 N.Y.2d 400, 503 N.Y.S.2d 298 (1986) (holding that an EIS for an office tower, hotel, retail and theater development on 42nd Street was sufficient in its assessment of traffic and air quality because the lead agency adopted a "worst case" analysis, "which included assuming peak hour traffic, simultaneous full use of all theaters, no diversion of traffic to less congested streets, and no increased enforcement of traffic regulations to arrive at a very conservative model"). See also Fisher v. Giuliani, 280 A.D.2d 13, 21, 720 N.Y.S.2d 50, 55 (1st Dep't 2001) (SEQRA requires a lead agency to examine environmental consequences into the foreseeable future).

DSNY's disingenuous attempt to understate impacts by assuming that the MTS would operate at a mere fraction of its permitted capacity taints the DEIS's analysis in most of the impact categories studied. This blatant underestimation of the facility's throughput leads to improper and substantial underestimation of traffic and air quality impacts, among others. As described in Exhibit A, an analysis of traffic using the correct amount of throughput reveals significant adverse impacts at two different intersections, which were not disclosed in the DEIS. This omission is inimical to the purposes of SEQRA, i.e., the full public disclosure of impacts and proposed mitigation and an opportunity for the public to comment thereon. See 6 NYCRR § 617.2(n) ("[a]n EIS provides a means for agencies, project sponsors and the public to systematically consider significant adverse environmental impacts, alternatives and mitigation").

DSNY's approach is tantamount to a private developer proposing to build a 400 rental unit apartment building, but presenting a DEIS to a lead agency that only studies the impacts of renting out 200 of those units. No responsible lead agency would accept and certify the developer's EIS. If the lead agency were to do so, courts would call it "arbitrary and capricious." Here, DSNY's understating of the impacts of a 5,280 tpd facility first by falsely describing the facility as a 4,290 tpd facility, and then by arbitrarily limiting the analysis to 1800 tpd (including commercial waste), is not only arbitrary and capricious, it is disgraceful and bordering on fraudulent. DSNY should abandon the DEIS and begin its environmental review again, using a reasonable worst case scenario -- the operation of the MTS at full capacity -- to analyze properly the environmental impacts arising from adoption of the SWMP.

If it is indeed DOS's plan to use the E. 91st St. MTS to handle only 1700 to 1800 tpd (or 1500 tpd, according to Commissioner Doherty's statements at the CB 8 ULURP hearing on January 12, 2005), then it is unclear why DSNY has asked NYSDEC for a permit for, and is proposing to spend at least $85 million dollars to build, a facility that can process 4,290 or 5,280 tpd -- which is more than 2 times or almost 3 times the needed capacity. According to the DEIS, the boroughs of Manhattan and Staten Island combined generate only 3,250 tpd of residential waste. Even if it is necessary to build some "redundancy" into the system, the E. 91st St MTS by itself would be large enough to handle over 1000-2000 tons per day more than all the garbage generated by Manhattan and Staten Island combined, even though according to the SWMP, a significant portion of that waste (from CDs 1, 2, 3, 4, 7, 9, 10 and 12) is slated to continue to go to New Jersey. This is taking redundancy to ridiculous extremes. (It also casts considerable doubt on DSNY's bold yet unsupported statements that the new SWMP is economically efficient.) As stated above, if DSNY is going to build a 4,290 tpd, or even worse, a 5,280 tpd

facility, it is obligated under SEQRA to study the impacts and costs of that facility operating at full capacity.

4. Alternatives

Alternatives have been described as the "heart of SEQRA," as a real analysis of alternatives allows the lead agency to determine whether the proposed action is, in fact, the best project. Shawangunk Mountain Envtl. Ass'n v. Planning Bd. of Town of Gardiner, 157 A.D.2d 273, 276, 557 N.Y.S.2d 495, 497 (3d Dep't 1990). This DEIS contains no real analysis of alternatives. For example, there is no real analysis of alternate sites for the MTSs. We understand from Commissioner Doherty's statements at the CB 8 ULURP hearing that, "quite frankly, we haven't looked at much else ..." in terms of alternate sites. Thus, it is no wonder that the criteria used to determine why the four proposed MTS sites were chosen and why other MTS sites were ruled out is not spelled out.[1] DSNY obviously selected the proposed MTS sites because it controls them. However, because (a) the existing MTSs at each proposed site will be demolished and completely new MTSs will be built in their place, and (b) DSNY has to go through a ULURP site selection process for each site, it is clear that the proposed sites are actually no more desirable than any other waterfront property in the City. The DEIS must consider other waterfront sites as alternatives, particularly those waterfront sites that are located in non-residential neighborhoods and not directly adjacent to a number of City parks. DSNY must also consider sites located south of 59th Street, where much of the garbage in Manhattan is generated.

We understand from the DEIS that delivery of waste in DSNY collection trucks to regional WTE facilities is a good alternative to the long-distance transport of waste in tractor trailers, and, again according to the DEIS, would achieve an approximately 75% reduction in the volume of waste disposed in landfills and reduce the potential impact of landfill price inflation. At the CB 8 ULURP hearing Commissioner Doherty confirmed this, stating that WTE facilities are the best way to dispose of garbage. Given this, it is unclear why the DEIS did not study transporting more waste to WTE facilities. Export of more garbage to additional WTE facilities should have been studied as an alternative to constructing new MTSs, which at the end of the day provide only a way to transport garbage, but no way to dispose of it.

The DEIS should also have considered the continuation of the DSNY-vehicle transport of the E. 91st St. MTS wasteshed to New Jersey as a legitimate alternative to constructing the new MTS. One of the stated goals of the long-term export program in the proposed SWMP is to reduce the City's dependence on transport by tractor trailer to waste disposal sites. According to the DEIS, however, all of Manhattan's residential waste is currently transported in DSNY collection vehicles, not tractor trailers, to three different facilities in New Jersey. Thus, constructing a new MTS on E. 91st St. does not reduce dependence on tractor trailers, as none of

[1] We applaud DSNY for dropping the site at W. 135th Street from the SWMP, as the site is located in the midst of a densely populated residential neighborhood. If that site was deemed unsuitable for a new MTS, surely the E. 91st St. site should have been dropped as well.

the waste in the proposed wasteshed for the facility is currently transported to disposal sites in tractor trailers.

5. The DEIS Manipulates Data and Misrepresents Facts to Enable DSNY to Conclude that the Construction of 4 New MTSs Will Result in no Significant Adverse Environmental Impacts

Beyond the gross understatement of throughput, there are many other instances throughout the DEIS in which "facts" have been misrepresented or data have been manipulated to enable DSNY to conclude that E. 91st St. MTS will result in no significant adverse impacts. The DEIS's open space analysis is a perfect example. That analysis expressly relies on the results of the DEIS's odor analysis to conclude that the new MTS on E. 91st St. will have no significant adverse open space impacts. DEIS at 6-27. That statement is utterly false, as the odor study did not analyze a single open space receptor for odor impacts, despite the fact that there are three public parks that abut, or nearly abut, the site. Rather, the receptors studied in the odor analysis were limited to residences, the closest of which is reportedly 360 feet away from site. Id. at 6-131. Had the odor analysis actually analyzed open space receptors, significant odor impacts would have been obvious and DSNY could not have relied upon that analysis as the basis for a conclusion that there are no significant adverse open space impacts.

Another example of data manipulation in the DEIS is the use of different facility operating assumptions depending on which analysis is being performed. For the air quality analysis, it is assumed that the MTS will operate with 2 shifts per day, whereas for the analyses of traffic and noise, it is assumed that the MTS will operate with 3 shifts per day. Not surprisingly, using the 2 shift per day assumption, the air quality analysis reveals no significant adverse air quality impacts.

The DEIS's analysis of truck noise provides another example of data manipulation to achieve the desired result of no significant adverse impacts. Instead of using a federal standard to assign noise levels to trucks, DSNY used a "default" standard supposedly derived from measuring DSNY-specific vehicle noise. Again, not surprisingly, while noise modeling using the federal standard resulted in noise impacts, noise modeling using the DSNY-specific standard resulted in no significant adverse noise impacts. This noise modeling approach is particularly suspect given the fact that more than half of the predicted truck trips to the facility will be made by non-DSNY commercial waste vehicles, to which DSNY-specific noise assignments are obviously inappropriate.

Specific Comments on DEIS Impact Analyses

The general comments above reveal several major defects in the DEIS which, in and of themselves, mandate the commencement of a completely new SEQRA review of the proposed SWMP. In addition to those defects, there are a number of other significant flaws in the analyses contained in the DEIS, which are discussed below in the order of the impact categories studied in the document, as well as in Exhibit A.

1. Land Use, Zoning and Public Policy

The proposed site of the new E. 91st St. MTS is located in an M1-4 (light industrial) zoning district. We note that this is the only MTS proposed in an M1 zoning district. The other proposed MTS sites are located in M3-1 (heavy industrial) zoning districts. The DEIS properly notes that an MTS is classified within Use Group 18, which consists of primarily industrial uses that

> (1) either involve considerable danger of fire, explosion or other hazards to public health or safety, or cannot be designed without appreciable expense to conform to high performance standards with respect to emission of objectionable influences; and (2) normally generate a great deal of traffic, both pedestrian and freight.

NYC Zoning Resolution ("ZR") § 42-15. The performance standards are set forth in ZR §§ 42-20 through 42.48. While the DEIS does purport to analyze noise and odor impacts (see our comments on those flawed analyses below), no analysis of dust or vibrations was performed.

The DEIS notes that an MTS previously operated at the E. 91st St. site. However, when the old MTS at E. 91st St. was built in 1940, the Gracie Point neighborhood was considerably less residential and populated and Asphalt Green did not exist. This site would not be appropriate, or even permitted, under the current DSNY siting rules for private transfer stations, which absolutely prohibit the siting of a private transfer station within 400 feet of a park or residence. The land use analysis makes no attempt to justify why this site should be acceptable for a DSNY transfer station when it would not be permitted for a private waste transfer station due its immediate proximity to parks and residences.

2. Socioeconomics

The DEIS's analysis of indirect business and institutional impacts is conclusory and plainly wrong. The DEIS states that because nearby businesses are "entirely enclosed," they will not be affected by the MTS. See DEIS at 6-18. However, the DEIS does not consider the fact that the majority of the patrons of the nearby businesses reach those businesses on foot. The DEIS fails to consider whether the MTS will hinder pedestrian access to nearby businesses; nor does it consider other factors that might lead to indirect business displacement impacts.

The DEIS summarily states that there will be no impacts to Asphalt Green because Asphalt Green has "no windows that open onto the entrance drive [to the MTS]" and the complex is "surrounded by protective fencing and landscaping to physically and visually buffer itself from the existing MTS ramp that bisects the property." See DEIS at 6-19. These statements are patently incorrect. Asphalt Green does have windows that face the MTS ramp, as well as the MTS itself. Moreover, Asphalt Green's outdoor playing field is obviously not "enclosed" or physically buffered from the ramp, which is not described in the DEIS.

The Asphalt Green playing field will be completely exposed to MTS operations and truck traffic and the noise, odors, vibrations and dust associated therewith. In addition, the constant activity on the MTS ramp will make it very difficult for Asphalt Green users and staff to cross between the Asphalt Green building and the playing field. Trucks accessing the MTS ramp will no doubt interfere with bus drop-offs and pick-ups that normally occur on the East side of York Avenue. We now understand, not from the DEIS but from Commissioner Doherty's statements at the CB 8 ULURP hearing, that DSNY is proposing to construct a pedestrian walkway adjacent to the newly constructed access ramp to the MTS. Since the walkway is not described, or even mentioned in the DEIS, it is not clear whether it will intrude onto the Asphalt Green playing field. (It is unfathomable that DSNY would propose to "mitigate" the obvious significant adverse impacts to Asphalt Green resulting from the MTS by appropriating a portion of Asphalt Green's playing field for this walkway.) Finally, the access ramp itself is going to be completely reconstructed, which will likely result in a loss of Asphalt Green parkland during construction. These factors have not been adequately considered in assessing the socioeconomic impact of the new MTS on Asphalt Green.

3. Open Space

The open space analysis is completely deficient. As discussed above, the DEIS improperly relies on the odor analysis to conclude that there will be no impacts to open space. The odor analysis cannot be relied upon because it did not study any outdoor receptors. Asphalt Green, Carl Schurz Park and the Esplanade abut the facility's boundary and will be inundated with odors from the facility. The open space analysis must consider odor impacts to these open spaces. It must also consider how the ramp traffic will impact Asphalt Green in particular, as the ramp bisects the facility, will inhibit ease of crossing between the playing field and the AcquaCenter, and runs alongside the Asphalt Green Playing field. The open space analysis must also consider constructions impacts to Asphalt Green. See CEQR Technical Manual at 3D-2.

4. Urban Design, Visual Resources, and Shadows

The DEIS's analysis of visual impacts is also flawed. Other than stating that the facility will occupy an acre of land and stand 100 feet tall -- equal to about ten stories -- the DEIS does not describe how the facility will look or what its dimensions will be. The DEIS says that 12-14 foot noise barriers will be erected on the ramp to the MTS, but again there is no description of the barriers. (We have since learned from DSNY's presentation at the CB 8 ULURP hearing that the ramp will not be lined with noise barriers, but rather perforated screens.) According to DSNY's ULURP application, it appears that the facility will be more than twice the size of the existing facility. Yet, the DEIS summarily concludes that it will cause no visual impacts.

According to the CEQR Technical Manual, for purposes of the visual analysis, the description of the action should detail "what the project would look like, how it would fit within the urban design of the area, and whether and how it would affect visual resources of the area." CEQR Tech. Man. at 3G-4. Furthermore, "[i]n almost all instances, visual character impacts are related to the physical design of the building(s) ... associated with the proposed action. Illustrations are important in communicating the results of this analysis. Such illustrations can

include ... photographs, photomontages, in which the development associated with the proposed action is superimposed on a photograph of existing conditions." Id. DSNY finally provided a model of the proposed MTS and a drawing of the "latest thinking" regarding the "walls" that will line the MTS access ramp at the CB 8 ULURP hearing on January 12, 2005, almost three months after the DEIS was certified as "complete." These PR materials do not allow the facility and ramp to be viewed in the context of the site's surroundings, however. Thus, there is no way to tell whether the new structure and ramp will significantly the affect public views from and of the waterfront.

The few statements contained in the DEIS regarding views are indefensible. For example, the DEIS concludes that the MTS would not create significant shadow impacts. According to the CEQR Technical Manual, an adverse shadow impact is considered to occur when the shadow from a proposed project falls on a publicly accessible open space. In this case, the MTS is predicted to cast shadows on the Esplanade all year round. The duration of the shadows ranges from 1 hour and 40 minutes on December 21st to as much as 5 hours and 10 minutes on June 21st (on March 21st the Esplanade is cast in shadow for 3 hours, 30 minutes and on May 6th for 4 hours and 20 minutes). DEIS at 6-44. This is obviously a significant impact that cannot be explained away with a blanket statement that the area of the park affected by the shadow is transient.

5. Neighborhood Character

The DEIS properly describes the existing neighborhood character near the E. 91st St MTS. DEIS at 6-46. That description begs the following questions: (1) how can DSNY reasonably conclude that the introduction of an industrial use with the truck traffic, noise, odors, dirt and vermin associated therewith would not have a significant adverse impact on the neighborhood and its parks and residences; and (2) if DSNY's own siting regulations would absolutely prohibit the location of a private waste transfer station on this site, see 16 RCNY §§ 4-32, 4-35, how can this location be justified for a DSNY operated transfer station?

6. Natural Resources

The DEIS does not discuss the fact that DSNY will seek a land grant from New York State to enable DSNY to extend the new MTS an additional 40 feet into the East River. We only became aware of this land grant from DSNY's presentation to the City Planning Commission in support of its ULURP application for site selection approval. There is no discussion in the DEIS regarding the potential impacts to the East River arising from this land grant.

7. Hazardous Materials

The analysis of hazardous materials does not even meet DSNY's own established criteria for analyzing this impact category as set forth in the methodology section of the DEIS. That stated methodology, as well as the CEQR Technical Manual, required DSNY to undertake site visits to document existing conditions at each of the MTS sites. In the case of the E. 91st St. site, the DEIS states that "access to the transfer station tipping deck and interior areas were [sic] not

possible because of a padlocked gate at the end of the ramp on York Avenue." DEIS at 6-58. What the DEIS does not state is that the offending padlock is the property of DSNY. Were DSNY's consultants so incompetent and so lacking in diligence that it never occurred to them to ask their own client for a key to the lock so that the DEIS would conform with standard methodological requirements? Or is this yet another example of DSNY tailoring its study to achieve desired results? DSNY's failure to assess existing conditions by a site visit is not permissible under SEQRA. See Penfield Panorama Area Community, Inc. v. Town of Penfield Planning Board, 253 A.D.2d 342, 349-50, 688 N.Y.S.2d 848, 853-54 (4th Dep't 1999) (holding that the failure to conduct a hazardous materials assessment on a project site owned by a municipality was a violation of SEQRA).

8. Water Quality

As discussed in section 2.6 above, the DEIS does not address the impacts to the East River resulting from the proposed 40 foot extension of the MTS platform.

9. Traffic, Parking, Transit and Pedestrians

When the former MTS last operated, it received a peak of less than 1,000 tpd of residential waste only. The new facility will (a) have a capacity to handle more than five times the waste that was processed at the old facility's peak, (b) handle both residential and commercial waste, and (c) operate 24 hours per day, 6 days per week. The DEIS concludes that no trucks will queue on York Avenue while waiting to get into the MTS, yet when the old MTS was operating, trucks lined York Avenue idling away while waiting to access the MTS. At the CB 8 ULURP hearing, Commissioner Doherty stated that the new facility will eliminate street queuing because it will have the room for up to 6 trucks to dump their garbage at the same time. This information, which again appears nowhere in the DEIS, does nothing to assuage the GPCC's suspicions that trucks waiting to access the new MTS will be lined up on York Avenue. The old facility had room for up to 4 trucks. It seems unbelievable that adding room for 2 more trucks inside the facility will resolve the queuing problem given that the new facility can handle more than 5 times the capacity that was handled by the former MTS.

During Mr. Doherty's power point presentation at the CB 8 ULURP hearing, the statement was made that DSNY trucks waiting to access the E. 91st St. MTS will not be allowed to queue on York Avenue if the MTS access ramp is full, but instead will be directed back to the applicable DSNY garage until the next shift. Again, this "fact" is not contained in the DEIS. If this is indeed the plan, it will not address queuing by commercial trucks delivering garbage to the MTS between 8:00 p.m. and 8:00 a.m. Those trucks are not within DSNY's control and do not have nearby garages to return to when the ramp is too crowded. If commercial trucks are turned away at the ramp, they will no doubt idle on York Avenue or nearby cross-town streets.

10. Odor

The DEIS states that "the highest predicted OU associated with the East 91st Street Converted MTS at any nearby sensitive receptor is less than 1, so odors from the East 91st Street

Converted MTS would not be detectable by off-site sensitive receptors and the facility would comply with NYSDEC requirements for effective odor control. Therefore, no significant adverse impacts from odors on receptors are expected to occur as a result of this facility." DEIS at 6-131. This statement is incorrect because, as previously discussed, the odor analysis did not analyze any open space receptors. A legitimate odor study would identify Asphalt Green, the Esplanade and Carl Schurz park as sensitive receptors.

11. Noise

As discussed above, the noise analysis is flawed because it assigns DSNY specific vehicle noise to every truck trip, despite the fact that almost half of the trucks trips to and from the E. 91st St. MTS will be non-DSNY vehicles. The noise analysis also lacks any discussion of noise associated with the crane operations or the tugboats that will move barges to and from the MTS. The mitigation proposed to mitigate an identified noise impact between the hours of 3:00 and 4:00 a.m. is impossible to enforce. How will DSNY control when commercial vehicles enter the MTS? If commercial vehicles are turned away from the MTS at this hour, what will stop the trucks from idling on the nearby residential streets, creating possibly worse noise impacts in the middle of the night? Finally, we note that despite multiple requests by our consultants for the technical backup to support the DEIS noise analysis, DSNY failed to provide information on methodology or any model runs for the analysis of DSNY vehicles.

12. Commercial Waste

While Commissioner Doherty's power point presentation at the CB 8 ULURP hearing suggested that DSNY would accept permit limits on the amount of throughput that could be processed at the E. 91st St. MTS, the Part 360 permit application submitted by DSNY to the NYSDEC makes no mention of permit limitations. Thus, the DEIS must study the reasonable worst-case scenario -- that all of the capacity not needed for residential waste will be utilized for the processing of commercial waste.

13. Construction Impacts

The discussion of construction impacts in the DEIS is also completely inadequate, as it only addresses impacts to organisms and fish in the East River, wholly ignoring significant adverse human impacts caused by demolition of the old MTS and construction of the new one, including noise, dust, vibrations, rodents, etc. In addition, the DEIS makes no mention of the impacts resulting from the demolition and construction of a new ramp for the MTS, which will surely cause significant adverse impacts to Asphalt Green, including a likely loss of use of playing fields during what will no doubt be a prolonged construction period.

The flaws in the impact categories described above, as well as the major defects identified at the beginning of this letter necessitate a recommencement of the entire environmental review process for the proposed new SWMP. At the very least, DSNY must supplement the DEIS to address the omissions and errors detailed above and in Exhibit A. The omission of required information from a DEIS cannot be cured by simply including the required

data in the final EIS, as the new information must be subject to the same procedures for public and agency scrutiny as a DEIS. Webster Assocs. v. Town of Webster, 59 N.Y.2d 220, 464 N.Y.S.2d 431 (1983); Horn v. Int'l Bus. Machines Corp., 110 A.D.2d 87, 493 N.Y.S.2d 184 (2d Dep't 1985), app. denied, 67 N.Y.2d 602, 499 N.Y.S.2d 1027 (1986).

Very truly yours,

Richard G. Leland

Enclosure

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Hon. C. Virginia Fields
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EXHIBIT A

These comments to the Draft Environmental Impact Statement (DEIS) dated October 2004 for the City of New York Department of Sanitation's (DSNY) new Comprehensive Solid Waste Management Plan (SWMP) are submitted on behalf of the Gracie Point Community Council (GPCC) and supplement the oral and written comments submitted by GPCC representatives at the December 20, 2004 Public Hearing.

GENERAL COMMENTS:

1. **Huge Expansion and Change in Use:** Prior to its closing in 1997, the East 91st Street Marine Transfer Station (MTS) received a peak of less than 1,000 tons per day of residential garbage.[1] The new facility is being permitted to receive up to 5,280 tons per day[2] of both residential and commercial waste, a five-fold increase. In what appears to be a pattern of misrepresentation (if not deception) by DSNY, the City's New York State Department of Environmental Conservation Part 360 solid waste permit application for East 91st Street MTS shows a maximum capacity of an incredible 5,280 tons per day, which is what should be studied for impacts, not some lesser amount. This figure does not even appear in the DEIS. The impact of this huge increase is not sufficiently characterized.

   For example, traffic impacts were modeled on a daily peak of 130 DSNY trips, which would represent only 1,093 tons per day.[3] This does not constitute the "worst-case scenario" as required by the CEQR Technical Manual (at 2-2). The off-site air quality analysis is based on the traffic analysis, so it too is incorrect. The odor analysis assumes 19 collection vehicles at peak[4], but at full permitted capacity of 5,280 tpd, peak would consist of at least 40 vehicles per hour.

   The East 91st Street MTS will serve DSNY-managed waste from Community Districts 5, 6, 8, and 11, a third of the Districts in Manhattan,[5] and could take more than 3,000 additional tons per day (tpd) of commercial waste. The facility did not previously handle commercial waste.

   The City's Solid Waste Master Plan (SWMP) proposes that private carters deliver commercial waste to the East 91st Street MTS at night, between 8:00pm and 8:00am.[6] The facility did not previously operate 24-hours a day.

2. **Methodologies:** In several chapters of the document, different assumptions and methodologies are used, which suggest that if one approach to the analysis resulted in the "wrong" answer, modifications were made to the analysis to achieve the desired outcome. For example, values for vehicle noise were arbitrarily changed in the noise analysis from the widely accepted Federal standard to a replacement input derived from allegedly measuring DSNY-specific vehicle noise. Special methods can be used to reduce truck noise when it is desirable to do so, and it is no surprise that DSNY found the predicted noise levels higher than the "measured" levels. While the normal modeling resulted in noise impacts, interestingly enough, using the "measured" levels

[1] *MTS Conversion Conceptual Design Development*, September 2002, Page ES-4
[2] Interim Final Part 360 Permit Application, November 2004, Page 25, Line 2.
[3] SWMP DEIS, October 2004. page 6-105
[4] SWMP DEIS. October 2004. page 6-129.
[5] *New SWMP DEIS Final Scoping Document*. Page 9.
[6] *New SWMP DEIS Final Scoping Document*, Page 19

resulted in no noise impacts. Just as DSNY trucks are allegedly cleaner, they are purportedly quieter, too. This ignores the fact that the Proposed Action, which is supposed to be studied in this DEIS, includes commercial waste, carried by non-DSNY vehicles.

3 Siting Issues: The East 91st Street MTS, which will operate 24 hours per day, is the only MTS proposed in the Draft SWMP that is located in a densely populated residential neighborhood. The closest residence is less than 400 feet away from the MTS.

The SWMP proposes to demolish the existing MTS and construct an entirely new facility in its place to handle five times the waste previously managed by the existing facility. The DEIS fails to acknowledge and adequately address the significant adverse impacts to the densely populated residential neighborhood surrounding the site of the existing MTS at East 91st Street, which should cause it to be eliminated from further consideration as an alternative.

Development of enclosed barge unloading facilities (EBUFs) is an essential component of the Solid Waste Management Plan, yet locations for these facilities have not been determined. Deferring the review of the environmental impacts of these facilities is segmentation, and violates CEQR and SEQR.

4. Impacts: The DEIS does not adequately support its conclusions of no significant impacts. Underlying assumptions are not documented, and in many cases analysis methodologies are changed to provide the desired conclusion.

In addition, the discussion of construction impacts is totally deficient, as it only addresses impacts to benthic organisms and finfish in the river, ignoring significant adverse human impacts of traffic, noise, dust and rodents caused by the complete demolition of the existing MTS and construction of a new facility. Demolition and construction of a new ramp over FDR Drive will have significant adverse impacts upon traffic on FDR Drive, which is not even addressed in the DEIS. Nor does the DEIS address construction impacts to Asphalt Green arising from the demolition and reconstruction of the ramp to the facility

The DEIS found significant adverse noise impacts at sensitive receptors caused by the delivery of commercial waste between the hours of 8:00pm and 8:00am.[7] The DEIS states that the amount of available capacity that can be used to process commercial waste should be limited, but offers no mechanism to assure the neighborhood that any limits would be enforced.

5. Public Health: When the previous MTS operated, the neighborhood was overrun by a foul odor and was constantly plagued by rodents. Likewise, the new facility will attract pests such as insects, rats and rodents. Not only are these pests unsanitary, but they can also be powerful allergens; exposure to such rodents can trigger asthma symptoms. In one study, up to 60 percent of people with asthma tested positive to cockroach allergen[8] and urine from mice or rats. Because garbage can be moist, it provides a fertile breeding ground for mold, which can also trigger allergies and asthma attacks if they get into the air. Between 10 percent and 32 percent of all people with asthma are sensitive to fungal allergens, both indoors and outdoors.[9] Recent studies have also

[7] SWMP DEIS. October 2004. page 6-154

[8] Jones AP. Asthma and domestic air quality. Soc. Sci Med. 1998;47(6):755-764.

[9] Trudeau WL, Fernández-Caldas E. Identifying and measuring indoor biologic agents. J Allergy Clin Immunol. 1994;2(2):393-400.

found that air pollution not only exacerbates asthma in some children, but has the potential to negatively affect lung growth and function, and to increase cases of respiratory tract illness, preterm birth and infant mortality

The EPA states, "Diesel exhaust ranks among the air pollutants that EPA believes pose the greatest public health risks Exposure to diesel can cause lung damage and respiratory problems. Diesel exhaust also exacerbates asthma and existing allergies, and long-term exposure is thought to increase the risk of lung cancer. Children are more susceptible to this pollution because they breathe 50 percent more air per pound of body weight than do adults. Diesel exhaust contains significant levels of small particles; exposure to fine particulate matter is associated with increased frequency of childhood illnesses" (http://www.epa.gov/otaq/retrofit/documents/ f03005.pdf).

Please address these health hazards related to the issue of asthma and links between asthma symptoms in young children and exposure to rodent allergens and pollutants in the outdoor environment.

6. **Cost-Benefit Analysis:** In our scoping comments dated July 9, 2004, we asked that a detailed cost-benefit analysis be provided. Based upon our review, the DEIS does not analyze whether the construction of the new Marine Transfer Stations, including the East 91st Street MTS, makes economic sense. Please provide a matrix table showing the costs and benefits of the components of the Proposed Action, including the cost of transporting and disposing of the containerized waste, from a fiscal and environmental perspective, comparing the Proposed Action with reasonable alternatives and existing conditions. The "economic analysis" provided in Attachment XI of the Draft New SWMP is overly simplistic and does not justify spending almost $400 million for new MTS facilities and does not make any cost estimate for dealing with the contaminated waste.

7. **Alternatives:** In our scoping comments dated July 9, 2004 we noted that the draft scope was deficient in its discussion of Alternatives. This comment was not addressed in the DEIS which still lacks a thorough and defensible alternatives analysis. The criteria used to pick the MTS sites are not spelled out, and it is impossible to determine why the East 91st Street MTS has remained in the Proposed Action while West 135th Street was dropped.

In contrast, the Commercial Waste Management Study, Volume V- Manhattan Transfer Station Study: Executive Summary at page ES-2 provides clear screening criteria, and eliminates all four Manhattan sites considered for private waste transfer stations, for such reasons as M1-4 zoning, sites within 400 feet of a playground and park, and development over the water. For these reasons, Manhattan sites at West 40th Street, Pier 42, West 30th Street, and West 13th Street were eliminated from further consideration, while inexplicably, the East 91st Street site, which shares these same attributes, remains an alternative. The East 91st Street MTS should be eliminated from further consideration.

We asked that several alternative sites for loading residential and/or commercial waste on to barges be discussed We also asked that more than one alternative host community in Manhattan be considered. In addition, we asked that a discussion of other waste reduction alternatives be included, e.g., the management of waste at WTE facilities or the employment of waste reduction technologies and practices. The DEIS does not develop or objectively evaluate the full range of reasonable alternatives. It should include a quantitative analysis of the costs, benefits and impacts of alternatives, including increased recycling and new technologies to reduce waste A clear rationale

for the final recommended alternatives, as well as rejecting other alternatives, should also be included.

The waste proposed for management at the East 91st Street MTS (from CDs 5, 6, 8, and 11) currently travels through Manhattan to transfer stations or waste to energy facilities in New Jersey.[10] The DEIS does not consider any alternatives to MTS "conversion" for this wasteshed, including the most obvious one, transfer to rail at the Harlem River Yard Transfer Station in the Bronx. Sending DSNY trucks over the Willis Avenue Bridge has a travel distance in the Bronx of less than ½ mile on authorized truck routes, passing no residences. The Harlem River Yard Transfer Station, located in an industrially-zoned area, is the only purpose-built transfer station in the City for the transfer of solid waste by rail, and capacity exists to accept the waste proposed for management at the East 91st Street MTS. The failure of DSNY to consider reasonable (indeed extremely viable) alternatives calls the integrity of the document into question. Rather than incur the huge cost, environmental impact and significant community burden of building a new MTS at East 91st Street, to barge waste to an as yet undecided location, trucking the waste across the Willis Avenue Bridge to the HRYTS makes much more sense. Permitted at 4,000 tpd, it has the capacity to accept the 1,800 tpd of Bronx DSNY-managed waste AND the 1,093 tpd of Manhattan DSNY-managed waste proposed for East 91st Street. There is no reason not to use existing, permitted disposal capacity at truck to rail transfer facilities in the Bronx, meeting the SWMP's goals

[10] SWMP DEIS, October 2004, page ES-4

CHAPTER 1 PROPOSED ACTION

Page 1-1, section 1.1, paragraph 2, line 7: It is incorrect to describe the demolition of the existing, unused Marine Transfer Station at East 91st Street and construction of a larger, entirely new facility as being "converted" This is an entirely new facility that is being proposed.

Page 1-5, section 1.3.2, paragraph 2, line 2: In our scoping comments dated July 9, 2004 we noted that the Project is not properly defined. The Purpose and Need does not support the construction of a new MTS at East 91st Street. The Purpose and Need states that the new Proposed Action for Long Term Export in the SWMP includes "an expedited timeframe, a lower cost, and reduced reliance on complex MTS conversions". The DEIS does not contain any data or analysis that forms a basis for the conclusion that construction of a new MTS at East 91st Street meets any of these criteria.

Page 1-9, section 1.3.2, paragraph 8, line 13: Considerations which guided the formation of the Long Term Export Program included "developing a long-term solution that is equitable." Transferring a third of Manhattan's residential waste and commercial waste from throughout the City through a single facility in a densely populated residential neighborhood is simply not equitable

Page 1-20, section 1.4.4, paragraph 1, line 6: There is no analysis of using the East 91st Street MTS for recyclables, or support for the statement that there would be a lower number of DSNY collection vehicles for recyclables. Moreover, the analysis of waste volume assumes that the City will maintain a recycling program. We have already seen the City's recycling program interrupted due to economic considerations. The analysis of facility waste volume should consider the "worse case" scenario, which would include recyclables in the waste stream.

Page 1-22, section 1.5.1, paragraph 2, line 7: If truck traffic is an overriding concern, why has no analysis of vehicle miles traveled (VMT) been performed? The current proposed action does not reduce VMT in Manhattan, nor would it eliminate any VMT of long haul tractor trailers.

Page 1-22, section 1.5.2, paragraph 1, line 9: The DEIS provides no justification for DSNY to begin managing commercial waste. The DEIS proposes to "encourage private carters to deliver commercial waste during the 8:00pm to 8:00am time period." This new night time industrial activity will greatly increase noise exposure in a residential area. This Proposed Action has significant impacts that are not adequately justified and are not adequately studied. To merely say that the action would "facilitate the City's transition" to a rail- and barge-based export system is not sufficient justification.

CHAPTER 2 DESCRIPTION OF FACILITY SITES

Page 2-8, section 2.1.2.1, paragraph 5, line 3: The statement "this environmental review concludes that varying quantities of commercial waste that can also be processed at each of the converted MTSs without significant adverse impacts" is totally unsupported by this document.

Page 2-10, section 2.1.2.2, paragraph 3, line 1, and Page 2-11, Table 2.1-2: It strains believability that only 1,893 tons per day (tpd) of DSNY-managed and new commercial waste would be processed at the East 91st Street MTS when the design capacity is for 4,290 tpd, and the permitted capacity is 5,280. No criteria are offered for the "occasions" when the full design capacity will be utilized, and the community has no recourse should those "occasions" become regular operating procedure.

Page 2-32, section 2.2.3.1, paragraph 3, line 4: the DEIS acknowledges that the East 91st Street MTS site is located in a "high-density residential" neighborhood, but doesn't address the extraordinary incompatibility of a large industrial facility with noise, odors, and truck traffic.

Page 2-34, section 2.2.3.1, paragraph 2, line 1: Although the DEIS states that "No archeologically significant resources exist on the site," there is no data to support this conclusion. Excavation of footings for the enlargement of the ramp and new building may reveal unanticipated resources, but the DEIS does not study the potential for the existence of such resources or describe a methodology for dealing with these issues during construction, as is standard CEQR methodology.

Page 2-34, section 2.2.3.2, paragraph 1, line 8: In the Proposed Action, the ramp which crosses Asphalt Green and FDR Drive will be demolished and replaced. The short term and long term impacts of this action are not sufficiently described, such as construction impacts, and increased shading on public parkland due to the wider ramp and noise barriers. The noise barriers are not described.

CHAPTER 3 OVERVIEW OF STUDY METHODOLOGIES FOR SITE-SPECIFIC ANALYSIS

Page 3-47, section 3.16.4, Table 3.16-1: This table shows 130 net loads of DSNY collection vehicles for this facility for an average peak day. Does this average peak day volume correspond to a typical Monday or Tuesday when tonnage is 10 to 15 percent higher than the remaining days of the week? At two trips per load (entering and exiting), the daily number of vehicle trips is 260. There is no data provided in this section or in the site specific analysis for the East 91st Street Converted MTS documenting how the number of trips generated by this facility was determined. The section preceding trip generation (3.16.3, Operational Assumptions) presented generalized discussions of existing and future DSNY operations but there is no documentation (or reference to such documentation) of how these assumptions factored into the calculation of the number of 130 loads for the East 91st Street Converted MTS. A footnote on the entry for this facility in Table 3.16-1 indicates that the total number of loads from DSNY collection vehicles is the same for the converted MTSs and the existing MTSs. The column giving the number of loads for the facility is headed, "Total Number of Net Loads." These are not consistent, creating a potential conflict in the analysis.

Page 3-61, section 3.16.8, paragraph 3, line 1: Please provide traffic count data that support the statement that "the Saturday background traffic and project-induced traffic are lower than the weekday traffic." This is a densely populated residential neighborhood and the recreational facilities at Asphalt Green are heavily used on the weekend. In fact, Saturday is their busiest day.

Page 3-81, section 3.17.4.3, paragraph 7, line 9: The DEIS provides no justification for the assumption that there would be a 50 percent reduction in emission factor for speeds of 5 mph and does not describe the operational controls that will assure that speeds will be maintained at 5 mph or less.

Page 3-85, section 3.17.4.5, paragraph 2, line 1: There is a discrepancy in assumptions of the number of shift operations. For the purposes of the air quality analysis, the operating assumption is two shifts per day. Pages 2-9 and 6-87 describe a three-shift operation. The traffic and noise analyses assume three shifts per day. The assumptions must be consistent and the incorrect analysis redone.

CHAPTER 6 ENVIRONMENTAL REVIEW: EAST 91ST STREET CONVERTED MTS

6.2 Land Use, Zoning, and Public Policy

Page 6-6, section 6.2.1.3.1: In our scoping comments dated July 9, 2004, we asked that the background and history of the current zoning for the site and adjoining properties be provided, and the existing underlying and overlay zones applicable to the site be summarized. Based upon our review, the DEIS does not summarize provisions of the M1-4 zoning district. The Proposed Action is not consistent with the regulations governing a M1-4 district. There is no analysis of how the facility will meet performance standards necessary for this type of use in an M1-4 district, as required by the NYC Zoning Resolution

Page 6-8, section 6.2.2, paragraph 1: The DEIS does not describe in detail the residential development initiatives within the primary and secondary study areas.

Page 6-10, section 6.2.3.1, paragraph 1, line 6: There is a discrepancy that has significant adverse impacts. Under Potential Impacts, this section indicates that "the ramped entrance to the site would remain unchanged," while Page 2-34 states that the ramp which crosses Asphalt Green and FDR Drive will be demolished and replaced with a wider, steeper structure.

Page 6-10, section 6.2.3.1, paragraph 2: The Proposed Action will re-introduce a disruptive land use which is no longer suitable or compatible with the residential/institutional neighborhood character, resulting in undesirable land use impacts. There is no data to support a conclusion of land use compatibility with surrounding high density residential development, community facilities, parks and open space.

Also, in our July 9, 2004 comments, we indicated that the Draft Scope ignores the fact that Asphalt Green, a City park, is within 400 feet of the site of the Proposed East 91st Street MTS. The construction or expansion of a private solid waste transfer station within 400 feet of a park is prohibited by the DSNY siting regulations (6RCNY§4-31). The DEIS should evaluate impacts on a park that services the recreational needs of several neighborhoods throughout the City, including school children and disabled persons, and on the surrounding residential population. In addition, there is no justification for DSNY's departure from siting regulations with respect to its own facility

Page 6-10, section 6.2.3.2: The DEIS does not demonstrate how the East 91st Street Converted MTS would be consistent with applicable policies and plans, including the *Comprehensive Manhattan Waterfront Plan (CMWP)*, and recommendations of the Plan for Reach 1, which notes that the East River water is "an important fish migration route." The DEIS should contain substantive examination of local and regional land use plans for consistency with the Proposed Action and Alternatives.

6.3 Socioeconomic Conditions

The DEIS grossly underestimates the number of people who will be impacted by the opening of the 91st Street MTS According to CEQR guidelines, only areas with 50 percent of the census tract within the quarter-mile radius should be studied (tracts 144.02 and 152). This technicality excludes many people who will be directly affected by the proposed MTS Counting every census tract through which the quarter-mile radius line extends or borders would include an additional 7 tracts and therefore changes the estimated affected population from 13, 417 persons cited in DEIS to 60, 467 persons. Even if the estimate of 13,417 people was reasonable,

it is 3 times as dense as the next most populated study area (which has about 4,300 people within a quarter-mile radius).

Additionally, it is irresponsible and illogical to study the economic impacts of the MTS up to a half-mile radius of the site, but only study the effects on the population within a quarter-mile radius of the site There are 7 additional census tracts within a half-mile of the site, which includes 52,796 more people The grand total of people affected within a half-mile radius of the site is 113,263, almost 100,000 more than proposed in the DEIS This analysis is based on the 2000 US Census figures. Recently completed buildings on First Avenue at 90th and 91st Streets have added several thousand more people, and the population of the neighborhood will continue to grow with the completion of the Marriott and several other ongoing construction projects.

The DEIS also fails to account for the influx of people who come into the neighborhood daily to use schools, parks, and facilities such as Asphalt Green Many neighborhoods do not have a daily influx to this degree, and this population deserves to be considered and counted.

When compared with other proposed sites, the East 91st Street site has a much higher density of population The population size within a quarter-mile of study areas other than Gracie Point ranges from roughly 60 to 4,300 people, compared with the conservative estimate of 13,400 people affected by the East 91st Street site. Due to the overwhelmingly larger affected population at the East 91st Street site, percentages used in the DEIS can be misleading. For example, the DEIS claims the East 91st Street study area had a lower percentage of families living below the poverty level than other alternative sites, e.g., a poverty rate of 11 percent for the East 91st Street site, compared to a 15 percent poverty rate for a different site. The raw numbers, however, reveal that over 1,500 people live below the poverty level at East 91st Street, while 15 percent of the population at the alternative site is fewer than 10 people.

This data indicate that the proposed DEIS drastically underestimated the affected population, and the East 91st Street site is far too densely populated to safely accommodate the proposed MTS and associated truck traffic

Page 6-11, section 6.3.1.1, paragraph 1, line 4, and Page 6-12, Figure 6.3-1: The Study Area is mischaracterized by eliminating portions of four additional Census Tracts: 144.01, 154, 156.01, and 156.02 This affects the analysis of socioeconomic conditions and environmental justice issues. The significant growth in residents of Hispanic origin and the potential impact on that population should be addressed.

Page 6-18, section 6.3.3: In our July 9, 2004 scoping comments, we noted that the reopening of the East 91st Street MTS has the potential to adversely affect neighborhood character, and thus will likely have a significant negative impact on property values in the area. As such, we asked that DSNY provide an overview of the current residential real estate market, including a detailed discussion of the impacts on property values and resultant reduction to the tax base. We also asked that a qualitative assessment of impacts on surrounding uses, including commercial uses be provided, based upon an analysis of increase or decrease in property values Those comments were not responded to in the final scope and these analyses are not included in the DEIS

Page 6-19, section 6.3.3.3, paragraph 1, line 6: It is ludicrous to suggest that the "reactivation of the MTS would have minimal effects on the recreational center's (Asphalt Green) function." The use of the facility has grown significantly since the MTS ceased operation, and the significant adverse impacts of noise, odor, vibration and traffic will obviously adversely affect the recreational center. The DEIS should quantify likely impacts to Asphalt Green.

6.4 Community Facilities and Services

Page 6-20, section 6.4.3: The DEIS does not substantiate the assertion that community facilities and services will not be impacted; no method of assessment of emergency service response times, for example, is provided.

6.5 Open Space

Page 6-27, section 6.5.3, paragraph 1, line 4: Again, this DEIS manipulates information to present an erroneous evaluation. The analysis of open space impacts relies on the odor analysis to conclude that there are no significant open space impacts. However, the odor analysis did not assess any receptors outside but only examined impacts to nearby residences. Thus, the DEIS seeks to mislead the reader. There will be odor impacts to parks and recreational facilities which are not honestly presented.

Page 6-27, section 6.5.3: The DEIS does not assess either direct or indirect impacts upon Asphalt Green, Carl Schurz Park and the East River Esplanade caused by noise and air pollutant emissions and odors. The new MTS structure, the larger ramp, the queuing of trucks, and the operations of the proposed East 91st Street Converted MTS will greatly reduce the aesthetic value and, as a result, intensity of use of these valuable open spaces and parklands. The conflicts between school buses dropping off children and queued trucks, and the challenge for pedestrians to navigate around large odor emitting trucks will interfere with public access to this significant recreational facility.

6.6 Cultural Resources

Page 6-32, section 6.6.3: The DEIS does not assess potential impacts on historic resources resulting from incompatible visual, audible and atmospheric elements, including construction-related impacts, which have the potential to affect neighborhood character.

While the DEIS includes discussion of the Landmarks and Historic Districts listed on the National Register of Historic Places and/or the New York State Register of Historic Places, and/or determined to be a New York City Landmark, the DEIS does not identify whether any properties in the study area are eligible for listing.[11]

6.7 Urban Design, Visual Resources, and Shadows

Page 6-33, section 6.7.1.3: Despite our July 9, 2004 scoping comments, the DEIS does not describe the exterior nor the interior layout of the proposed facility, nor does it describe the proposed ramp walls. The substantially larger facility and new ramp has the potential to affect the neighborhood character. Without a detailed design, including streetscape elements, the DEIS cannot properly and adequately analyze the operations of the facility or the impacts on visual resources, shadows, traffic, air, noise and odor

Page 6-44, section 6.7.3, paragraph 5, line 1: The DEIS repeatedly minimizes significant impacts and seeks to explain them away. Five hours of shadow on public park land is significant. The new facility will be twice the height of the existing MTS (100 feet tall). The new ramp will be

[11] SWMP DEIS, pages 6-32.

wider and is described in the DEIS as having 14 foot walls casting shadows on a heavily used park and playground. The DEIS explains "the nearly 50-foot increase in height over the existing MTS is not expected to affect inland views toward the waterfront since these views are largely screened by trees." However, this does not take into account the fall and winter seasons during which the trees shed their leaves. The analysis of shadow impacts is totally deficient and the conclusion of no significant impact is completely unsupported.

6.8 Neighborhood Character

Page 6-46, section 6.8.1.2, paragraph 1, line 1: The DEIS accurately describes the existing neighborhood character: "The visual quality of the area is pleasant, with well-maintained apartment blocks lining the streets, sidewalk trees and well appointed parks and recreational facilities. As with much of the Upper East Side, this area is conducive to pedestrians..." Yet on Page 6-48, the study concludes that the "East 91st Street Converted MTS is not expected to result in significant impacts on neighborhood character," although the DEIS admits that "the re-introduction of trucks into the neighborhood would be noticeable," and that the "MTS potentially could result in Impacts to neighborhood character... due to potential odor conditions." The claim that the new MTS will not create significant adverse impacts to neighborhood character is ludicrous.

Page 6-46, section 6.8.3: Neighborhood character is an amalgam of many distinctive factors. Potential effects will likely also include: land use, urban design and visual resources, historic resources, socioeconomic conditions, traffic and noise. Traffic conditions, for example, will change substantially as a result of the Proposed Action. Traffic changes will include a change in traffic patterns, vehicle mixes and roadway classifications. Also, heavy refuse collection trucks can cause significant damage to surfaces of roads that were not designed for such weights.

The DEIS states that "unlike other sites studied, this site is within fairly close proximity to both residential and open space resources, which are the two major factors contributing to the neighborhood character of the area." The DEIS acknowledges that surrounding the site are "high-density residential zoning districts that allow for dense, high-rise development,"[12] but does not make the obvious conclusion that this is a poor location for a large solid waste transfer station.

The DEIS acknowledges that the MTS facility encompasses "most of the Asphalt Green Recreational Center"[13] a City-owned park which is not only a neighborhood resource, but a City-wide resource serving 40,000 people per year, many of whom reside outside the Gracie Point Community Point. Asphalt Green is also an historic resource, listed as a New York City Landmark, and on the National Register. Gracie Mansion, another listed landmark, is also adjacent to the site,[14] but the impacts are trivialized. Truck queuing is even being planned for the ramp which goes over Asphalt Green[15], but impacts are not deemed to be significant. The conclusion that they are not significant is just that -- a conclusion with no supporting analysis.

6.10 Hazardous Materials

Page 6-58, section 6.10.1, paragraph 2, line 6: An Environmental Site Assessment is not properly performed according to ASTM E-1527 and DSNY's own stated methodology for

[13] *Solid Waste Management Plan Draft Environmental Impact Statement*, October 2004, Page 2-32.
[14] ibid, Page 34.
[15] *New SWMP DEIS Final Scoping Document*, October, 2004, Response to Public Scoping Process. Page 3.

assessing impacts relating to Hazardous Materials without a site visit. Claiming inability to access a facility owned by DSNY in order to conduct a site visit is inexcusable and casts doubt on the quality of effort of the entire DEIS. The assertion of no adverse impacts is, again, completely without support, because an Environmental Site Assessment was not performed to any reasonable standard of care.

Page 6-59, section 6.10.3, paragraph 1, line 1: There is no discussion of how receipt of oil or hazardous, explosive, infectious, or radioactive material would be handled at the facility, which is located in a densely populated residential area. DSNY has no control over what materials are thrown into the trash, and the risk to the neighborhood could be significant. The community deserves a detailed plan for the management of hazardous materials at the facility, and evacuation procedures in the event of a fire, explosion, or toxic substance release and the DEIS should contain one.

Page 6-60, figure 6.10-1: This figure is incorrect. The Toxics Targeting Environmental Report (Technical Backup for DEIS Analysis discs) identifies 33 toxic sites within 1,000 feet of the East 91st Street MTS site, including several active hazardous spills. The DEIS again selectively reports information, casting doubt on the veracity of the entire document, its analyses, and its conclusion of no significant unmitigatable impacts.

6.12 Waterfront Revitalization Program

As stated in our July 9, 2004 comments, the East 91st Street MTS redevelopment is subject to review under the 10 policies of the City's Waterfront Revitalization Program, which raises a number of issues that should be addressed in the DEIS. *Policy 1* supports commercial and residential development in areas well suited to such development, and the Upper East Side is ideal for that. However, an MTS is incompatible with residential development. *Policy 2* supports water-dependent and industrial uses in New York City's coastal areas that are well suited to their continued operation. This site would not be considered well suited for industrial use as it is surrounded by parks and residential areas. The MTS redevelopment does not appear to support *Policy 3*, which promotes boating and water transportation, nor does it appear to support *Policy 8*, to provide public access to and along New York City's coastal waters. The DEIS does not address potential impacts to the adjacent Commuter Ferry. It does not support *Policy 9*, to protect scenic resources that contribute to visual quality, nor does it support *Policy 10*, to protect, preserve, and enhance resources significant to the historical, archaeological and cultural legacy of the New York City coastal area. The DEIS should discuss enforcement measures of this program, and how DSNY can be required to abide with these policies.

6.14 Traffic, Parking, Transit, and Pedestrians

The New York City Department of Sanitation downplays the enormous impact on Gracie Point by stating the obvious: "the re-introduction of trucks into the neighborhood would be noticeable."[16] Reopening the East 91st Street Marine Transfer Station (MTS) would bring almost 800 garbage vehicle trips a day to the neighborhood, including 260 trips with New York City Department of Sanitation (DSNY)-managed waste (130 inbound[17]) and over 500 more trash truck trips per day of commercial waste.[18] Reopening the MTS will have a significantly detrimental effect on traffic congestion in the neighborhood, with the greatest increase at the intersection of

[16] *Commercial Waste Management Study*, Vol. III. HDR, March 2004. Page 10-46.
[17] *Commercial Waste Management Study*, Vol. III. HDR, March 2004. Summary Report, Page 4.
[18] *Commercial Waste Management Study*, Vol. III. HDR, March 2004, Page 10-63.

York Avenue and East 91st Street,[19] where delays on the northbound left turn are projected to more than double in the am and pm peak periods. The area already has severe congestion caused by multiple tandem bus routes, and the intersection with FDR Drive.

Documentation of how the number of trips generated by this facility was determined is not provided. Table 3.16-1 shows 130 net loads of DSNY collection vehicles for this facility for an average peak day.[20] This volume of waste is stated elsewhere as 1,093 tpd. Does this average peak day volume correspond to a typical Monday or Tuesday when tonnage is 10 to 15 percent higher than the remaining days of the week? How many loads are expected at the permitted capacity of 5,280 tpd? Traffic impacts must be studied at maximum capacity, not at 20% of maximum capacity. Please address.

Page 6-95, section 6.14.2.3.1, line 1: The worksheets for the intersection level of service analyses should be provided so that the geometry, signal phasing and timing, and other parameters used in the analysis can be reviewed.

Page 6-99, section 6.14.2.6, line 2: This sentence suggests that the high level of pedestrian activity at the analysis locations is not expected to affect the capacity analysis significantly. This is counterintuitive since a high volume of pedestrians will interfere with turning vehicles or will require a pedestrian phase. Either of these could have a substantial impact on traffic operations. The level of service analyses should be reviewed to verify that pedestrian volumes and pedestrian signal phasing are properly factored in the analysis. This is a further indication that the DEIS is sorely lacking in its assessment of the significant adverse impact that the new MTS will have on pedestrians in the neighborhood. Please address.

Pages 6-108-113, Figures 6.14-13 through 6.14-15: The morning peak hour volume exiting the site is 39 and the entering volume is 45, for a total 84. The entering and exiting volumes for the peak hour of the facility are 28 each, for a total of 56. Why is the facility peak hour volume lower than the morning commuter peak hour volume? The text in the last paragraph on page 6-105 indicates that 56 is the peak hourly volume of traffic. Why is the morning commuter peak hour trip generation higher? Moreover, what are the volumes at peak capacity? Please reconcile these differences.

There is no documentation of how the net trips were calculated for each analysis hour from the 130 daily truck loads reported in Trip Generation, Section 3.16.4. Specifically, there is no documentation of how the following factors were incorporated in the calculation of hourly volumes:

- The text in the third paragraph on page 3-45 indicates the truck volumes should be increased by 50 percent to obtain passenger car equivalents (PCEs).
- The third line on page 3-50 indicates volumes were increased by 20 percent to account for daily and seasonal variation.
- The second paragraph on page 3-50 indicates that there will be 40 vehicle trips by employees for each shift change at 8:00 AM, 4:00 PM, and 12:00 A.

Please reconcile and provide assumptions and calculation worksheets.

Page 6-116, section 6.14.4.2, paragraph 1, line 3: The proposed mitigation for the York Avenue/East 91st Street intersection is a one second increase in the green time for the northbound left turn. This change will restore delay for the move to the no-build level. Could there be an additional increase in northbound left turn green time to restore delay and level of

[19] *Commercial Waste Management Study*, Vol. III, HDR, March 2004, Page 10-63

[20] *Solid Waste Management Plan Draft Environmental Impact Statement*, October 2004, Page 3-48.

service to the levels for existing conditions without significantly negatively impacting other moves? Delay at that intersection is expected to increase to 97 3 seconds in the Build Condition from the existing delay of 41.6 seconds for a decline in level of service from D to F. Since traffic impacts were studied with an unrealistically low number of net loads (130) based on DSNY-managed waste only, impacts of maximum permitted facility capacity of 5,280 tpd DSNY and commercial waste can only increase the amount of reduction of level of service for the intersections studied

In our analysis, if traffic impacts had been properly studied, significant impacts would have been found at the highest peak hour for permitted capacity. Our projections show two movements that decline from LOS C to LOS D. The delay on the eastbound approach at the intersection of East 86th Street and York Avenue increases by almost 9 seconds from 28.4 to 37 1 seconds. The delay on the westbound movement at East 91st Street and York Avenue increases by more than 7 seconds from 31.2 seconds to 38.5 seconds. Pursuant to the CEQR Technical Manual (at 30-27) a deterioration of service of a signalized intersection lane group from acceptable LOS A, B, or C to LOS D is considered a significant impact.

Missing Analysis: The DEIS traffic analysis is deficient because the traffic impacts to East 96th Street were not evaluated. Trucks leaving the MTS and heading north will significantly add to the existing congestion.

The traffic analysis is further flawed in that it deals in average vehicle counts, whereas the reality is that the trucks come in groups: thus, the MTS will create a dense clump of garbage trucks queuing at signalized intersections on York Avenue, and jockeying for position with school buses transporting children from around the City to the Asphalt Green recreational facility.

Analysis of intersections does not address conflicts on the side streets. If DSNY intends to route its truck traffic eastbound on 90th Street, it will conflict with on-street parking, the two car rental operations between 1st Avenue and York which jockey cars all day long, and the service entrances for The Hamilton and 1725 York. If DSNY intends to route its truck traffic westbound on 91st Street exiting the MTS, it will conflict with MTA buses, Eli's Bakery trucks, an auto service garage, two parking garages, and a Verizon service truck dispatch station. Congestion on the side streets must be addressed.

6.15 Air Quality

The DEIS does not address the cumulative impacts of the project on air quality. The Results of the Off-Site Analysis[21] imply that only the site-generated traffic was used to evaluate traffic emissions at the off-site intersections. The NAAQS demonstration should be based upon the total traffic volumes at each intersection under Future Build Conditions. This analysis should be conducted for both CO and PM.

Page 6-120, figure 6.15-1: Shows what we have believed all along, that trash trucks will queue along York Avenue While unsubstantiated averages are included, insufficient analysis is provided to determine the number of queuing collection vehicles expected at any time, and the real impacts of noise, odor and diesel exhaust. The City's anti-idling law restricts vehicles to idling for no more than three minutes. DSNY must address the issue of truck queuing in the neighborhood, and how the anti-idling law will be enforced The DEIS should also describe how arriving trucks will be accommodated to prevent queuing on York Avenue. This was a serious problem when the facility was previously in operation handling much less waste volume.

[21] *Solid Waste Management Plan Draft Environmental Impact Statement*, October 2004, Page 6-126.

New, relevant information was presented for the first time at the Public Hearing on December 20, 2004 regarding truck queuing which should have been presented in the DEIS. Assistant Commissioner Harry Szarpanski's PowerPoint presentation included a slide which stated that "on-street queuing will not be needed and WILL NOT BE ALLOWED" (his emphasis) without any indication as to how this will be enforced. Please provide. The slide contained two additional relevant pieces of information, that "If necessary, collection vehicles will be diverted to the garage" and "A DSNY employee will be stationed at the ramp entrance to ensure pedestrian safety." Diverting trucks elsewhere, which presumably have to return eventually to dump their waste, will increase traffic. To what garage will they go? What are the environmental impacts of storing waste in unnamed garages? This also begs the question of the commercial collection vehicles; without a DSNY garage to go to, won't they just idle nearby, waiting until they can dump their load? This alternative management technique must be explained and the impacts analyzed. Furthermore, what are the risks to pedestrian safety which require that a DSNY employee be stationed at the ramp entrance full time to ameliorate? Is this mitigation sufficient to address the significant safety impacts? The issue of pedestrian safety is not adequately addressed.

Page 6-126, section 6.15.4.2.2, paragraph 1, line 1: The results of the Off-Site Analysis seem to imply that only the site generated traffic was used to evaluate traffic emissions at the off-site intersections presented in Figure 6.15-2. The NAAQS demonstration should be based upon the total traffic volumes at each intersection. This analysis should be conducted for both CO and PM.

The DEIS does not adequately address the physiologic vulnerabilities of children with respect to air quality. As stated at the December 20, 2004 Public Hearing by Dr. Andrew D. Racine, a Professor of Clinical Pediatrics at the Albert Einstein College of Medicine and the Director of the Section in General Pediatrics at the Children's Hospital at Montefiore, health hazards associated with the reopening of the MTS are likely to impact the pulmonary health of infants, children, and adolescents. Diesel-fueled trucks bearing solid waste are expected to traverse the site 6 days a week, 24 hours a day. Diesel trucks emit a variety of chemical and pollutants, including known carcinogens such as benzene 1,3, butadiene and acetaldehyde. The U.S. Environmental Protection Agency concludes: "Diesel exhaust ranks with the other substances that the national-scale assessment suggests pose the greatest relative risk. First, a large number of human epidemiology studies show increased lung cancer associated with diesel exhaust... In addition to the potential for lung cancer risk, there is a significant potential for non-cancer health effects as well, based on the contribution of diesel particulate matter to ambient levels of fine particles. Exposure to fine particles contributes to harmful respiratory and cardiovascular effects, and to premature mortality." [22]

The National Ambient Air Quality Standards (NAAQS) used in the DEIS are inappropriate to assess the impacts upon children for many reasons. First, the air receptors used by DEIS are 1.8 meters from the ground. Since airborne pollutants tend to be more densely concentrated near the ground, this underestimates the exposure of young children to these pollutants. Infants and children also have a higher per minute ventilation than adults, meaning they take in greater concentrations of pollutants for their size than do adults. Children spend more time outdoors and are more physically active than adults, particularly given the large number of parks and outdoor play areas in the vicinity of the site, which places them at greater risk of exposure. Finally, because children continue to grow new air sacs, or alveoli, for up to 10 years after birth,

[22] U.S. Environmental Protection Agency. January 20, 2005. Technology Transfer Network National Air Toxics Assessment: http://www.epa.gov/ttn/atw/nata/perspect.html

exposure to pollutants at a young age can cause irremediable consequences that persist throughout adulthood.

The DEIS downplays the relationship between children's health and air quality, with the chapter on epidemiologic evidence concluding that "results can vary a good deal from study to study,"[23] and lamenting the cross-sectional design of most studies from which it is difficult to derive causal relationships. Contrary to this, there exists a wealth of knowledge and studies that are directly relevant to the MTS site specifications. Dr. W.J. Gauderman and his colleagues from the U.C.L.A. Department of Preventative Medicine completed an 8 year study of over 1,700 school aged children in California. The average concentration of pollutants measured for the East 91st Street site is well within the ranges of the study. The study concluded that current levels of air pollution have chronic, adverse effects on lung development in children ages 10 to 18 years. Based on these findings, there is a significant likelihood that the adoption of the current proposal will result in the permanent damage to lung development for the children of the neighborhood.

Additionally disconcerting is the use of a threshold to capture the effect of air quality deterioration on public health. Most studies clearly show a linear relationship between exposure to pollutants and adverse health consequence, with no discernable "safe" thresholds, particularly for children. Whether or not the opening of the East 91st Street MTS meets or exceeds adult level thresholds, it will without question irreparably damage the lung tissue of children in the neighborhood, creating health problems that will follow them throughout their life.

6.16 Odor

Page 6-129, section 6.16.1, paragraph 1, line 3: The DEIS does not include the worst-case receptor locations by stating that "The nearest sensitive receptor is the apartment building located on 90th Street east of York Avenue, approximately 360 feet from the site boundary." The locations for sensitive receptors in the odor analysis should be the same as those used in the noise analysis, then Section 6.17.1.1 on page 6-132 identifies five sensitive receptor locations that are closer to the site. Unlike the erroneous statement in the DEIS, this is consistent with the sensitive receptors for odor as defined in Chapter 3, Overview of Study Methodologies for Site-Specific Analyses, page 3-101, and listed as residence, adjacent business, and park. Furthermore, City Zoning Regulations require that odors not be detectable at any point along or beyond lot lines. Please address.

Page 6-129, table 6.16-1: The information presented here is inconsistent with the number of moving and queuing collection vehicles identified in the air quality analysis (page 6-119). Which is incorrect? Which analysis needs to be redone? Please address.

Page 6-131, table 6.16-2: Please provide copies of the modeling assumptions and modeling runs, as the purported results defy credibility. By DSNY's own numbers, their collection vehicles emit 3.2 OU/sec (page 3-115, Table 3.18-8) and 19 are queued up on the ramp (page 6-129, Table 6.16-1) yet only 0.31 OU are modeled immediately adjacent to the ramp. Hundreds of comment letters received during scoping refer to the malodorousness of the MTS when it formerly operated, yet your modeling predicts that odor will not be detected at the site boundary. This makes no sense. Moreover, the study methodology is flawed as it measured DSNY-owned trucks only and not commercial trucks. Please address these inconsistencies.

[23] New York City Department of Sanitation. "Draft Environmental Impact Statement for the New York City Comprehensive Solid Waste Management Plan." CEQR No. 03-DOS-004Y. October 2004. Chapter 33, Section 6.

6.17 Noise

Opening a noisy industrial facility in a dense residential neighborhood is contrary to the Mayor's recent initiative to reduce noise in the City.[24] The 24-hour per day study and discussion of noise walls, and the suggested installation of replacement windows and air conditioning as mitigation in the Scope are ominous signs.[25] At the CB 8 ULURP Hearing, the Commissioner suggested that noise walls are no longer being considered for the ramp. As the ramp is at the property boundary, what effect will this have on projected noise levels to the adjacent sensitive receptors of the Asphalt Green playing field and the toddler playground, and the nearby residences?

Page 6-142, table 6.17-6, footnote (5): How is it that the closest East 90th Street apartment building is assumed to only be in use during daytime hours? The occupants are noise-sensitive receptors at night, too.

Page 6-147, section 6.17.3.5, paragraph 3, line 3: The DEIS utilizes noise monitoring data collected during a site-specific DSNY collection vehicle simulation to demonstrate compliance with the CEQR threshold. These data are used to replace the Federal Highway Administration (FHWA) Traffic Noise Model (TMN) model run which demonstrated values that exceeded the CEQR threshold. The DEIS states that the reason for this is that TNM model over-predicted the incremental change, which it attributed to the default assigned noise level for each type of vehicle.

The CEQR Manual (3R-14) requires the use of the TNM. Results of this modeling must be provided. CEQR permits adjustment factors to be used to account for site-specific differences between measured and model-predicted values, but not complete abandonment of TNM and replacement with a "spreadsheet" approach. The FHA's TNM model has established a solid foundation for accurately predicting highway noise based on all types of vehicles. In addition, it has the added capability of modeling sound levels accounting for complex terrain and buildings. It is not clear that noise monitoring of vehicle simulations is more valid than the use of TNM.

In addition, the DEIS appears to utilize two different assumptions for calculating the reduction is sound levels due to distance. In Section 3.19 5 1 (page 3-127) the On-Site Source Screening Analysis uses a -6 dBA drop-off rate, which is typically use for hard ground from point sources. IIn Section 3.19.7 1.1 (page 3-133) the CEQR and Part 360 Noise Code Analysis uses a -4.5 dBA drop-off rate, which typically assumes soft ground for mobile sources. The urban environment is typically hard ground. The mobile source drop-off rate should therefore be revised. The TNM setting for ground terrain should be consistent. Similarly, this difference in drop-off issue is a conflict in Section 3.19.1 7.2 (page 3-134) in the Current Noise Code (Step 2). Please address

Missing Analysis: The DEIS ignores potential impacts of vibration from trucks on the ramp, or the impact of dropping containers in the new MTS. The Federal Transit Administration (FTA) has vibration criteria that can be used to determine potential impacts. These criteria are based on single-event pass by levels, receptor sensitivity, the ground conditions, and frequency of occurrence and were developed for transit vibration.[26]

A vibration impact analysis must be performed for the proposed new East 91st Street MTS using the sensitive receptors as defined for noise

[24] Press Release. Mayor Michael R. Bloomberg, PR-141-02, June 7, 2004

[25] *Draft Scoping Document* for the City of New York Comprehensive Solid Waste Management Plan Draft Environmental Impact Statement, May 2004, Page 97.

[26] Federal Transit Administration, Transit Noise and Vibration Impact Assessment, DOT-T-95-16, April 1995

6.18 Commercial Waste to the East 91st Street MTS

Page 6-153, section 6.18.3.2, paragraph 2: The DEIS provides no reasonable justification for DSNY to begin managing commercial waste, which it had not previously managed. This industrial activity between 8:00pm and 8:00am will greatly increase noise exposure in a residential area. Please address.

Page 6-154, section 6.18.3.2, paragraph 2, line 2: The DEIS found significant adverse noise impacts at sensitive receptors caused by the delivery of commercial waste between the hours of 8:00pm and 8:00am.[27] The DEIS states that the amount of available capacity that can be used to process commercial waste should be limited, but offers no mechanism to assure the neighborhood that any limits would be enforced. Suggesting that waste deliveries by commercial carters will be limited without any enforcement is laughable. Prohibiting commercial trucks from delivery between 2:00am and 3:00am is bogus mitigation; won't trucks just idle on residential streets while waiting to get into the MTS? This will not address the significant adverse noise impacts at sensitive receptors

[27] SWMP DEIS, October 2004. page 6-154

CHAPTER 34 EVALUATION OF THE PROPOSED ACTION

Page 34-1, paragraph 3, line 1: The statement "Any impacts that would result at in-City sites (designated in the Proposed Plan) where new construction would likely occur are capable of being mitigated" is refuted by the analysis of noise and odor impacts. Please address

Page 34-2, paragraph 1, line 3: The statement "Furthermore, by utilizing existing facilities and sites (in heavily industrial areas), the Plan substantially minimizes or eliminates any potential impacts to neighborhood character" does not apply to the East 91st Street site It is in a densely populated residential area, not in a heavily industrial area, and the impact to neighborhood character and open space will be very significant and unmitigatable Please reconcile.

Page 34-2, paragraph 2, line 4: There is no analysis in the DEIS which supports the statement that "This would reduce the number of trucks from what is currently required to provide waste collection and transfer services" for the wasteshed in Manhattan. Please provide this analysis.

Page 34-2, paragraph 2, line 6: The DEIS states that "traffic and air quality conditions on City streets would likely improve overall within the City with the implementation of the Proposed Plan." The DEIS contains no evidence that the East 91st Street MTS would serve to improve traffic and air quality conditions on City Streets This DEIS is full of these sweeping statements completely unsupported by analysis of environmental impact. Please provide this evidence.

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Testimony from STATE SENATOR
LIZ KRUEGER
New York State Senate • 26th District

Testimony of New York State Senator Liz Krueger Before the Department of Sanitation Regarding the Draft Environmental Impact Statement for the Comprehensive Solid Waste Management Plan December 20th, 2004

Good evening. My name is Liz Krueger and I am the State Senator for New York's twenty-sixth senatorial district, one primarily comprising parts of Manhattan's Midtown and East Side. I would like to thank the Department of Sanitation (DSNY) for hosting this public hearing and allowing me to speak.

I was alarmed when initially notified of DSNY's intention to resume operation at the 91st-Street marine transfer station (MTS), and I testified in June to express this dismay. The Draft Environmental Impact Statement (DEIS) does not appear to have regarded my concern or that of many community leaders and residents as legitimate, because many of the reasonable questions that were originally posed remain inadequately addressed or ignored. And while I support incorporating marine transfer stations into the City's waste disposal solution and believe that we must be responsible for our own garbage, placing one at the proposed site still seems irresponsible and myopic.

There must be a better site on the East Side for such a facility. The residential character of the surrounding neighborhood and the presence of Asphalt Green—a unique City resource—adjacent to the MTS site make 91st Street an inappropriate location. Furthermore, the DEIS sets inadequate parameters for a final environmental impact statement that, as of now, will neglect both the full capacity of the MTS site and, subsequently, a comprehensive examination of the MTS impact and required mitigation. To be blunt, an MTS located at 91st Street will have deleterious effects on area traffic, odor, noise, air quality, public health, the character of the neighborhood, and the vitality of Asphalt Green.

The DEIS severely neglects the maximum operational capacity of the converted MTS at 91st Street, forecasting that it will receive only 1,700 tons of trash per day despite possessing the capacity to accommodate 4,290 tons. I assume that the City, currently grappling with a financial shortfall, would not waste its money by erecting a facility that it intended to underutilize. Thus, it seems reasonable that a converted MTS at 91st Street would accept far more waste than the seemingly disingenuous forecast.

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An MTS receiving 4,290 tons of trash from four community boards would operate six days a week and receive trucks throughout the day and night. On peak collection days, the MTS would receive 469 delivery vehicles, not the 130 projected. On off-peak days, the site would still need to accommodate—given a conservative assumption of 15-percent less traffic—398 trucks, or seventeen per hour. All trucks would drive straight through Asphalt Green. In order to go through the site, unload its contents into non-spill containers, turn around, and then exit, each truck would require more than the three-and-one-half-minutes average that the current plan would allow. Reconfiguring a few intersections or altering some traffic light patterns seem like hopeless remedies for this potential plague.

As trucks took longer to unload their cargo, those that arrived later would begin to line-up along the delivery routes—the narrow streets running east-west and congested York Avenue, a thoroughfare that already barely accommodates two bus routes, FDR Drive access, and a high volume of cars. While idling, waiting to unload the waste that they carried, the trucks would be sitting with their motors running; releasing carbon-, nitrogen-, and sulfur-based pollutants; emitting pungent odors; and creating a din. This situation would cause problems for which there is no adequate mitigation. And if you think that driving on York Avenue is already frustrating, wait until there are standing trucks constantly clogging the road; if you currently enjoy a restful evening of sleep, remember it fondly as diesel engines roar throughout the night.

Beyond the environmental and quality-of-life problems that the MTS would cause at this location, there would also exist a significant threat to public health. With dozens of schools sending thousands of children to Asphalt Green for recreational activities, permitting heavy polluters like diesel-fuel trucks to constantly idle near the site and imperil a population particularly susceptible to respiratory ailments is not only unsafe but negligent.

Unfortunately, the DEIS neglects this realistic scenario, instead relying upon a series of complex measurements to justify a plan that seems to have been chosen long before the impact study process was even undertaken. If the City is serious about its need to reduce waste and find better ways to accommodate it, there are a number of alternatives that should be included in the Solid Waste Management Plan (SWMP). It could start by supporting state-level efforts, like my "bottle bill," to expand recycling programs, increase bottle deposits, and cover more types of beverage containers. This would create a dedicated revenue stream that could preserve and promote City recycling, insulating it from the often-senseless budgeting process. New York could also decrease its waste stream by cutting back the distribution of unwanted direct mail and catalogues. Managing bulk waste would also behoove the City, and implementing a system to redistribute items like computers, bicycles, and furniture could potentially result in a 15-percent reduction of the waste stream. City agencies could also adopt a waste-prevention incentive program because these arms of government get free collection services.

There are a number of alternatives to be explored, and while the specifics of the strategy may be cause for disagreement, a consensus has emerged that the DEIS is inadequate, perhaps disingenuous. Thank you very much for your time.

From:yvonnelassalle@yahoo.com
To: Harry Szarpanski, Department of Sanitation
Re: Comments on the SWMP and DEIS

There are numerous substantive and procedural failings in the SWMP and DEIS, some of which are highlighted below.

1. The Solid Waste Management Plan (SWMP) and its Draft Environmental Impact Statement (DEIS) fundamentally fail to comply with the requirements of Section 27-0106 of the ECL, which requires that the SWMP must provide for the management of **all** (emphasis added) solid waste within the planning unit for at least a 10-year period. The SWMP and DEIS fails to address how commercial waste will be managed, fails to address the viability of the current waste disposal options for the commercial or residential sector waste, fails to provide any specific milestones for meeting recycling goals and fails to provide any documentation regarding the cost of proposed and alternative actions evaluated in the SWMP.
2. Procedurally, DOS established a series of public repositories that were incomplete and from which no individual citizen or community organization could evaluate the proposed citywide actions that will have multi-billion dollar implications for New York City. The public repositories held at libraries did not have key documents upon which the DEIS based its conclusions, including the Final Environmental Impact Statement developed for the 2000 SWMP and the environmental reviews of relevant interim waste contracts, among other missing data sources referenced in the DEIS and SWMP. While the library depositories reviewed had the permit application for the nearest Marine Transfer Station (MTS), all of the other proposed permits for the conversion of MTSs were not at the libraries. The permit applications for the conversion of the MTSs are critical to any evaluation of the DEIS, since the operational and engineering details contained within the proposed MTS conversion permits are central to evaluating the claims of the DEIS, which is being used also as the SEQRA review for the draft MTS conversion permits submitted to DEC. For anyone to effectively evaluate the MTS related portions of the SWMP and DEIS, they would have had to embark on a three borough odyssey to be able to review the actual permit applications that form the basis for the evaluation of many of the impacts reported in the DEIS.
3. It is unclear how any interested citizen or community/environmental/budget organization would have been able to access many of the other critical studies referenced in the SWMP and DEIS for the basis for its conclusions but not included in the public repositories. Why DOS would want to limit access to critical information regarding this citywide, multi-billion dollar solid waste management plan is unclear. What is clear, however, is that DOS's efforts to ensure that there was not an accessible public repository that contained the all of the materials referenced in the SWMP and DEIS for its conclusions, ensured that the DEIS failed to meet the requirements of 6 NYCRR Part 617, which states at 617.9(b)(7): "A draft or final EIS may incorporate by reference all or portions of

other documents, including EISs that contain information relevant to the statement. **The referenced documents must be made available for inspection by the public within the time period for public comment in the same places where the agency makes available copies of the EIS.**" (Emphasis added). The public repositories fail this clear and straightforward standard and this failure must be rectified prior to any other actions taking place.

4. After DOS takes the necessary steps to comply with 6 NYCRR Part 617, it must issue a new period for public comment sufficient to allow for the review and assessment of the documents that have been withheld, in violation of 6 NYCRR Part 617, from public review. Further, it should be noted that DOS's actions are a major violation of the intent of DEC Commissioner Policy-29: Environmental Justice Permitting.
5. The DEIS fails to discuss significant environmental impacts of proposed actions for managing residential waste not being developed by DOS. For example, DOS plans to use private transfer stations along Newtown Creek to export waste via barges and states that these facilities will require dredging permits. Given the documented contamination levels of the sediment of Newtown Creek, the permitting process to dredge within this water body will be complex and lengthy. Despite this common knowledge, there is no discussion of potential environmental impacts that might arise from removing sediment from Newtown Creek or how the approval process may impact the time-line to implement the SWMP. Considering that both sites on Newton Creek are in close proximity to the Phelps-Dodge Superfund site, not addressing the dredging issues is a particularly glaring oversight. The DEIS must include a complete assessment of the impacts of all of the proposed actions.
6. The SWMP and DEIS fail to discuss the baseline environmental impacts of the current waste management system. In particular, there is no discussion of the fact that nearly 40% of all putrescible and non--putrescible waste in New York City is processed in Community Board One in Williamsburg. Or that portions of the South Bronx also process disproportionate volumes of waste that generate massive volumes of truck traffic.
7. The SWMP states that DOS will investigate ways to mitigate the burdens in these communities but commits to no specific time-frame and fails to provide any information regarding the costs, impacts and/or benefits arising from these actions compared to maintaining the current configuration of waste management facilities. The SWMP even fails to discuss the quantities and types of waste managed by community districts with high concentrations of waste management facilities This information is critical to understanding how DOS's proposed actions compare to possible alternatives and must be included in the SWMP and DEIS.
8. The SWMP and DEIS must discuss in detail the capacity of the existing inter-modal waste export infrastructure required to implement the SWMP.
9. The SWMP and DEIS must identify the new or improved inter-modal waste export capacity necessary to implement the SWMP and disclose what impacts may arise should there be a lack of rail and/or barge service.

10. While the SWMP acknowledges that a new off-site inter-modal rail yard may be required for the Review Avenue Transfer Station in Queens, there is no discussion as to how this action would be accomplished, how quickly the new rail yard could be developed, or what impacts might be generated.
11. The SWMP states that waste from the Scott Avenue Truck to Barge facility will transfer garbage containers to ocean going barges located at the Red Hook Container Terminal. Ocean going barges require significantly more tonnage than would be supplied by this facility to make this mode of transportation economically viable. How this mode of transportation will be operationally feasible should be discussed in the SWMP and DEIS.
12. Having participated in the administrative challenge brought by community and environmental organizations to American Marine Rail's proposed barge to rail facility in the South Bronx (DEC Project No. 2-6007-00251/00001), DOS is aware of the importance of fully documenting the adequacy of inter-modal transportation capacity and assessing what impacts may arise should the inter-modal transportation services not be available during. DEC Administrative Law Judge Helene G. Goldberger ruled on August 25, 2000 that the lack of an adequate description of rail capacity or an assessment of how waste would be managed under contingency situations resulted in a deficient permit application and environmental review. The DEIS, SWMP and permit applications must fully document the adequacy of inter-modal transportation capacity and assess what impacts may arise should the inter-modal transportation services not be available.
13. The DEIS makes a number of "categorical" statements regarding the impacts of the actions discussed in the SWMP and does not provide for a reasoned elaboration in support of its conclusions. Given the lack of information at the public repositories, it is difficult to see how any independent judgments as to validity of many of the conclusions of the SWMP could be made In one glaring example, DOS claims that the cost to transport and dispose of residential waste under its proposed plan at $388 million per year and that the original proposal to convert eight MTSs to allow for the consolidation and export of waste would cost $473 million per year. DOS provides no information as to how these costs were estimated. DOS provides no information regarding the costs of any of the other proposed actions in the SWMP or DEIS. It is difficult to see how the SWMP and DIES could be considered complete without basic information on the costs of the proposed actions or proposed/evaluated alternatives.
14. The SWMP failed to disclose that the Spring Creek composting facility may never be permitted (DEC Application No. 2-6105-00666/00001), due to the administrative challenge brought by community and environmental organizations to DEC's decision to issue a draft permit for this facility. DEC Administrative Law Judge Susan J. Dubois's August 30, 2004 ruling found that a review of the facts not in dispute indicated that the project would likely constitute an illegal alienation of parkland. The SWMP and DEIS should accurately describe how composting will be managed should DEC not issue a permit for Spring Creek and/or DOS fails to obtain the necessary state legislation allowing for the alienation of parkland. The SWMP and DEIS do not address that during the fall 2004 leaf and Christmas tree collections, the material intended for the Spring

Creek facility was sent to composting facilities located in Soundview Park in the Bronx or the Fresh Kills Landfill.

15. DOS includes the Commercial Waste Study as an Appendix to the SWMP and uses selected findings and recommendations of the Commercial Waste Study as the basis for a number of conclusions regarding impacts in the DEIS. Other important aspects of the Commercial Waste Study, such as the evaluation of regional disposal capacity or the burdens generated by the concentration of private sector waste management facilities are not addressed in the SWMP or DEIS. DOS needs to clarify the relationship between the recommendations and findings of the Commercial Waste Study and the SWMP and DEIS. The Commercial Waste Study was not subject to the SEQRA review process and its findings were sharply challenged by community and environmental organizations. The report "Analysis of the Department of Sanitation of New York Commercial Waste Study Prepared for: The Organization of Waterfront Neighborhoods & the New York Lawyers for Public Interest" and previously submitted to DOS is attached as a detailed comment on the CWS, the SWMP and DEIS.
16. DOS needs to clarify what aspects of its SWMP submitted to DEC will comply with "DEC Commissioner Policy-29: Environmental Justice (EJ) and Permitting Policy" (CP-29). Among other requirements, permit applicants are required to submit for DEC's approval a formal public participation strategy that ensures early and meaningful dialogue with the impacted EJ communities. The public participation plan is an important component of the CP-29 policy and it is intended to allow the EJ community a meaningful opportunity to shape the direction and issues addressed during the permit application and environmental review process. DEC has not approved an EJ participation plan for any of DOS's actions. Accordingly, the SWMP and DEIS comment period must remain open until DOS complies with CP-29.
17. If DOS believes that the SWMP was not covered by CP-29, since the SWMP is not a direct permit action, there are a number of permit applications submitted to implement the SWMP that are certainly subject to CP-29. If the public comment period for the SWMP and DEIS have expired prior to permit applications complying with CP-29, the intent this important policy directive will have been subverted. DOS must explain in the SWMP how it plans to comply with the requirements of CP-29 within the SWMP planning process and which actions it believes are subject to CP-29.
18. DOS must evaluate the impacts of making the interim waste export plan for Manhattan permanent based on the proposed SWMP, DOS's actual operational experience with exporting waste by truck from Manhattan, and the current and future conditions within the study areas. The DEIS did not evaluate the impacts of this proposed action since an environmental assessment of the interim waste export plan for Manhattan previously found no adverse impacts. The DEIS then categorically states that the addition of 88 additional truck trips generated under the proposed SWMP does not require any additional review.
19. There will likely be an overlap between interim and long-term waste export contracts during the implementation of the SWMP that may result in traffic impacts not assessed in the initial environmental reviews for the interim waste

export contracts or the DEIS. The initial interim waste export contracts did not look at the cumulative impacts that might arise, for example, from the recycling facilities proposed in the SWMP, the conversion of the 59th Street MTS, DOS's decision to continue the City's reliance on truck based export for the vast majority of commercial waste, or the closing of major bridges and tunnels from being used by trucks to transport waste within the city and to out-of-city disposal sites.

20. The environmental assessment of the interim export of waste from Manhattan was modeled using assumptions regarding the hypothetical quantity and temporal distribution of the trucks leaving from Manhattan to New Jersey. Rather than rely on these modeled assumptions, the DEIS should evaluate the impacts based on DOS's actual operations, proposed actions, and current traffic conditions. The traffic patterns around the bridges and tunnels the city can use to export waste from Manhattan, and accommodate commercial traffic in general, has changed considerably since the completion of the environmental review for the interim export waste from Manhattan. For example, no eastbound commercial traffic has been allowed to enter the Holland Tunnel since August of 2004. In addition, a number of significant new projects have been built and others have been approved that will generate significant volumes of traffic and additional residential waste that were not assessed in DOS's environmental review of the interim waste export plan for Manhattan.

21. The Commercial Waste Study (CWS) states that the actual counts of waste vehicles were made over a 24hr period at waste transfer stations to determine the volume of trucks associated with these operations. The CWS states that it identified DOS collection trucks, private waste collection trucks, and waste export trucks. No information on the number or types of waste trucks identified is provided in the CWS. The total number of waste trucks identified is critical to evaluating the CWS and assessing the off-site impacts evaluated in the CWS. Given the importance of this information to on-site and off-site impacts assessed in the CWS, the DEIS should present a detailed description of the methodology used to collect the data and the 24 hour period the truck counts took place.

22. The CWS states that the total number of waste trucks was determined for each intersection evaluated in the traffic analysis. Based on this information, the CWS presented an overall average percentage of waste trucks within each study Table 5.3.1-1. Since traffic impacts are generally localized, using an average percentage waste trucks compared to the total number of vehicles passing through all intersections studied in a study area, provides little useful information. It certainly cannot be used to judge the impacts of waste trucks on the intersections studied in CWS. The DEIS and SWMP must present the total volume of waste traffic for each intersection evaluated and whether the trucks were DOS collection trucks, private collection trucks or waste export trucks.

23. The CWS reports traffic volumes based on the number of vehicles, rather than PCE ratios, which are used to assess all other impacts in the CWS and DEIS. The CWS and DEIS should also report the PCE totals for the intersections evaluated and what percentage of PCEs for each intersection is attributed to waste management trucks.

24. All of the traffic impact assessments in the CWS were made from 7AM to 6PM However, the AM, Mid-Day and PM peak hours used to evaluate the traffic impacts are the intersections studied was not provided. Without knowing which peak hours were used to judge traffic impacts, there is no way to evaluate the if the conclusions made in the CWS are reasonably extrapolated from the traffic data collected. If the CWS collected traffic data for an assumed peak hour traffic congestion period, rather than evaluating peak volumes and intersection conditions based on actual conditions, the findings of the CWS are inappropriate for the DEIS. The DEIS and CWS must be updated to provide basic information regarding the collection of traffic impact information in the DEIS and provide the data and methodologies used to arrive at its conclusions as an Appendix.
25. The CWS does not provide an explanation for why the 7AM to 6 PM time period is most appropriate for evaluating local traffic impacts around waste transfer stations. While this time period may generally have higher traffic volumes, significant traffic impacts due to high volumes of collection and waste export trucks moving through "bottle-neck" intersections in the study areas may be more likely occur after 6pm due to the "peaking" nature of the waste industry.
26. The CWS should have evaluated the impacts of private waste transfer stations based on their permitted capacity. A disproportionate/cumulative impact assessment should be based on the volume of waste the private waste transfer stations are allowed manage as of right and without the need for any additional review.
27. The noise impacts from waste trucks reported in the CWS appears significantly flawed. While the CWS states that the study chose "worst-case" intersections, the CWS chose an intersection in Brooklyn Community Board One to evaluate that did not have a single waste truck pass through the intersection for a 24 hour period. Another, "worst case" intersection had no waste trucks between 12:00AM and 8:00AM, despite virtually all private sector putrescible waste being delivered during this time-frame. It is difficult to imagine how DOS and its consultants could view these low impact intersections as representative samples of "worst case" intersections.
28. The CWS states that off-site noise impacts where made using the "noise impact spread sheet" developed for in the Final Environmental Impact Statement for the withdrawn 2000 Comprehensive Solid Waste Management Plan Draft Modification issued in October of 2000. The DEIS should provide a copy of this spreadsheet.
29. The CWS states that the intersections used to assess noise impacts were selected using traffic volumes and axel factors developed by NYSDOT. The CWS claims that this data resulted in a more conservative analysis. However, the CWS provides no information regarding the intersection traffic volumes supplied by NYSDOT that were used to make intersection selections. Without this information it is impossible to determine if the intersections evaluated were the most conservative choices or compare the data issued by NYSDOT to the actual traffic volumes collected for the traffic impacts section of the CWS.
30. The DEIS fails to provide any information on the volume of waste managed and delivered to various disposal sites by Community District. Without this

information, it is impossible to determine if the routing and temporal distribution of trucks reported in the DEIS is appropriate.

31. The number and temporal distribution of trucks in the permit application for the conversion of the 91st Street MTS issued in November of 2004 is significantly different than the number of trucks and their temporal distribution used in the October 2004 DEIS. Since the number and temporal distribution of tucks to this facility is critical to evaluating possible impacts, the DEIS must be revised to reflect the actual distribution reported in the permit application.
32. The DEIS does not provide a table giving the distribution and type of truck accessing the facility. Rather, the DEIS provides only a line graph of truck distribution over time for each MTS. There is no way to estimate the total number of trucks per hour accessing a facility using these graphs and where truck arrival moves to 0 for some hours it is impossible to determine if there is steady decline or a complete drop-off of truck activity to "0" between one hour and the next. By not including hourly truck-distribution tables in the DEIS, DOS made any evaluation of the truck data particularly difficult and inaccessible to the public. The DEIS should be revised to make this information accessible to the reader as required under 6 NYCRR Part 617.
33. The DEIS fails to provide any information as to how DOS determined the temporal distribution of the commercial waste trucks that would access DOS's facilities. Accordingly, the DEIS fails to provide any reasonable basis by which to judge DOS claims regarding the temporal distribution of commercial waste trucks or the intersections that would likely be impacted. Without this information, there is no way to determine if the routes selected by DOS are reasonable. For example, if the majority of commercial waste is delivered to the Hamilton Avenue MTS originates in lower Manhattan, the trucks routes and intersections impact will be significantly different than if the waste was being delivered from parts of Queens or Southern Brooklyn.
34. The DEIS and converted MTS permit applications state that there will be "upset" conditions when facilities will operate well beyond the capacities evaluated in the DEIS or the conditions set forth in the permits to convert the Marine Transfer Stations. The DEIS should disclose how often these "upset" conditions will occur due to planned disruptions of residential collection due to holidays and other events and how many "upset" days will likely occur due to unplanned conditions, such as snow storms. The impacts that would occur during these upset conditions should be evaluated.
35. The DEIS must include a technical appendix containing the data and methodologies used to determine the impacts of the proposed actions. This information is critical to ensuring that judgments and statements regarding impacts are being represented accurately. As seen in the CWS, DOS used a number of unsupportable assumptions and methodologies to claim there were no adverse impacts

180 East End Avenue
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January 18, 2005

Harry Szarpanski, P.E.
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, New York 10004

Re: Comments on New York City Comprehensive Solid Waste Management Plan Draft Environmental Impact Statement (New SWMP DEIS)

Dear Mr. Szarpanski,

I am enclosing a copy of comments regarding the proposed East 91st Street Converted Marine Transfer Station which I had intended to make at the public hearing on the New SWMP DEIS held on December 20th. Unfortunately, I did not get a chance to speak before the hearing had to end at 9 pm. I would appreciate it if you could please arrange for my statement to be submitted for review and consideration by the Department of Sanitation as part of its preparation of a Final EIS.

Thank you in advance.

Sincerely,

Eve G. Lesser

Eve G. Lesser

Enclosure

CC: Commissioner John J. Doherty

Testimony Prepared for the December 20th, 2004 Public Hearing on the New York City Comprehensive Solid Waste Management Plan Draft Environmental Impact Statement (New SWMP DEIS) for the East 91st Street Community

My name is Eve Lesser and I am here tonight to speak in opposition to the Department of Sanitation's plan to construct a new Marine Transfer Station on East 91st Street. My opposition to this plan is based on my experience running the Environmental Services investment banking franchise at Goldman, Sachs & Co. for over ten years. In this capacity, I worked with all of the major publicly traded municipal solid waste companies in the US as well as many smaller private haulers. Among others, my clients included the two largest garbage companies in the country: Waste Management with annual revenues of over $11 billion and Allied Waste with annual revenues of close to $6 billion.

I am extremely familiar with the solid waste market in the New York metropolitan area, having worked with both companies which are active in the commercial carting business, such as IESI, and with companies which provide disposal capacity for New York City waste, such as American Ref-Fuel. As a result, I am well aware of the many issues involved with trash disposal in the City and am deeply sympathetic to the challenges which the Department of Sanitation faces in this regard. I believe that the DOS's overall plan to change the method of waste transport is an appropriate approach to the long-term disposal problems faced by the city. I do not feel, however, that East 91st Street represents an appropriate location for a major transfer station given that it is in a densely populated residential area and is next to a major recreational facility.

In the course of my work with solid waste companies, I had the opportunity to visit many transfer stations. Thus, I have seen first hand the environmental hazards, such as odor, diesel fumes, windblown trash and vermin that are associated with even the best run facilities, which is why transfer stations do not belong in residential neighborhoods such as the Gracie Point community. Indeed, it is presumably to prevent these hazards from impacting the quality of life for city residents that the Department of Sanitation's own siting laws prohibit the construction of transfer facilities within 400 feet of a park or residence.

It is my professional judgment that no commercial garbage company would choose to build a new transfer station at the proposed East 91st Street site due to both liability and logistical concerns. Two of the most important factors that solid

waste companies take into consideration when seeking to construct new facilities are (1) the character of the neighborhood involved and (2) the nature of the traffic pattern in the immediate area. East 91st Street would clearly be disqualified as a potential site with respect to both of these criteria.

First, no responsible commercial company would attempt today to site a new transfer station in any residential neighborhood. Given the public health hazards associated with trash facilities, such as increased asthma rates, no company would want to take on the liability associated with building a new site in such a densely populated area as Gracie Point where, by definition, large numbers of people will be exposed to these hazards. Nor would any company want the negative publicity and financial liabilities associated with the inevitable accidents that will be caused by having a steady stream of sanitation trucks traveling to a transfer station located in a residential community. Indeed, if a development officer at Waste Management or Allied Waste were seriously to propose building a transfer station right in the middle of a recreational facility that serves thousands of people each year, such as Asphalt Green, he would, at a minimum, be laughed out of the room and, most likely, would be fired. To put it bluntly, no commercial company would want to take the risk of having one of their trucks hit a senior citizen crossing the street to swim at the Aqua Center or colliding with a school bus bringing children to play on the Astroturf. Yet the Department of Sanitation seems to be willing to take these risks with the health and safety of city residents.

Second, no commercial company would choose to build a new transfer station in an area as prone to congestion as the East 91st Street site. One of the most important considerations to any garbage company is how fast and efficiently it can get trucks in and out of a transfer station. Obviously, the faster it can turn a truck around and get it back on the street, the higher their capacity utilization and the greater the company's profit margin. Thus, commercial haulers pay particular attention to the ease with which trucks can access the site of any potential new facility. In all fairness, it is not easy in such a densely built area as Manhattan to find sites without any traffic issues. Yet, as any one who spends five minutes in the area can attest, the corner of York Avenue and East 91st street is already subject to greater than normal congestion due to (1) its location near the 92nd street South and 96th street North entrances to the FDR Drive, (2) the fact that it is just a block from where York Avenue narrows from three lanes to two lanes going North and (3) that it is right where the York Avenue bus routes begin and end so that the new articulated buses block off the entire street at regular intervals as they turn on and off of York. Add to this mix fifteen or more garbage trucks an hour trying to get in and out of a small ramp and the result is likely to be dramatic -- with bus, car and

truck traffic all slowing to a snail's pace. Furthermore, given the equally congested nature of the narrow side streets in the local area, routing the sanitation trucks away from York Avenue will not help matters unless the City is prepared to eliminate all parking on the side streets being used, which would clearly result in a further blow to the quality of life for residents in the neighborhood. Finally, no commercial company would be comfortable building a facility with only one source of access to the street. Just imagine what would happen to traffic if a garbage truck were to breakdown on the proposed facility's sole access ramp at 5:30pm in the middle of the peak evening rush hour! Clearly, the East 91st Street site does not have the type of rapid, easy in, easy out, 24 hour a day access that a commercial company would require before building a new transfer station which will cost $100 million of shareholders' money. Yet the Department of Sanitation is proposing to go ahead and spend taxpayers' money in such a location.

In view of the human health, safety and logistics issues associated with the construction of a new Marine Transfer station at East 91st Street, I do not think that any commercial garbage company would consider the site to be an appropriate location for such a facility. It is incomprehensible to me that a public agency should be more cavalier about the welfare of the City's residents than a for-profit commercial entity. Particularly disturbing to me is my understanding that the DOS did not investigate any alternative sites to use before settling on East 91st Street. Indeed, it seems as if the DOS chose this site simply because it was easy for it to do so -- i.e., the Department already owns the site, it is zoned for manufacturing use and has an existing state permit. To my mind, these facts do not justify constructing the MTS here without first doing the work to see if there might not be a more appropriate site somewhere else in Manhattan -- one which would be less harmful to the health and welfare of so many city residents. While it might turn out that East 91st St. is, in fact, the best of all the alternatives available in Manhattan, for the City to have selected it without first investigating any other potential locations strikes me as being both a violation of the public trust and an example of extremely poor public policy in action.

Therefore, I would urge the Department to reconsider and abandon its plan for the 91st Street Marine Transfer Station.

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When I heard the city was coming out with a new 20 year Solid Waste Management Plan I got really excited because I thought here is an opportunity for the Department of Sanitation to provide the City of New York with really innovative solutions to deal with solid waste in a way which is both efficient and cost effective. Hope springs eternal for this environmentalist. But did DSNY take this opportunity? No it didn't. When I started to read the plan I found that DSNY had totally ignored the principles of the Zero Waste initiatives outlined in the recently published "Reaching for Zero" produced by the NYC Zero Waste Campaign and the Consumers Union Institute . To my mind it's a "no brainer", if you produce less waste then less money has to be spent to process it. Waste reduction should have a premier place in this plan is and to ignore it is indeed folly. It is also doing a diservice to the taxpayers of the city . Ever increasing hauling, tip fee and landfill costs are a reality but these issues can be dealt with. The blue print for waste reduction is meticulously detailed in the publication mentioned above. The old "haul it away" mindset must be replaced by a "waste reduction mindset."

Along with the omission of waste reduction methodology comes the absence of discussion about alternative technologies. This is probably the most egregious omission of the plan. Who knows what advances will be made in the field of alternative technologies will be made in the next 20 years. Technologies that address waste reduction, technologies that would improve the handling of recyclables and technologies that could process waste in more efficient ways than hauling it off to some landfill. These technologies are out there and the failure of DSNY to seriously explore them is a major error in planning.

As I stated in my previous testimony before the City Council education should play a major role in this plan. EDUCATION, EDUCATION, and more EDUCATION! While all of us in the environmental community applaud the idea of increased recycling and adding items to the recycling mix we also feel that these efforts will not come to fruition without more public education. And by education I do not mean only sending out fliers to homeowners and television and newspaper advertising, these certainly have their place but I mean human people going out into communities and working with residents. These people have a name; they are called recycling coordinators and before they became extinct, they once existed in every borough. The last time the DSNY budget was approved I heard that the recycling coordinators would be reinstated, apparently this did not happen. The recycling coordinators could play a pivotal role in identifying the problems surrounding non-recyclers and working with those sectors that are currently having problems with their recycling programs or are not recycling at all. This would include high rise buildings and the New York City Housing Authority. The implementation of a small group of recycling coordinators would not cost the city a lot of money but could improve our recycling efforts to a great degree and thus prove to be a very cost effective measure.

In our increasingly diverse city there should be more emphasis in providing foreign language recycling information. Instructional fliers already exist in several languages but are not always readily available. Asian people in Bensonhurst, Brooklyn for example have complained to me about the lack of information in their languages, Chinese and Korean. Also information in Arabic seems to be in short supply or non-existant. Television spots on foreign language channels should be implemented. The spots I see are very good but they are in English. I think there are some in Spanish too but not in other languages.

Electronic Waste must be included in the plan. I attended two recent electronics recycling days that were co-sponsored by DSNY and the Lower Eastside Ecology Center. One in Brooklyn and one in Manhattan. They were very successful, collecting several truckoads of electronics for both reuse and environmentally safe disposal. The most frequently asked question was: "where can I drop off my electronics? Can I drop it off at DSNY garages, if I call DSNY will they pick it up? "\ People are frustrated that no program exists to pick up electronics on a regular basis. They don't want to throw it away they want to recycle it or safely dispose of it. There is a crying need for implementation of an ewaste policy by DSNY.

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THE COUNCIL
OF
THE CITY OF NEW YORK

SPEAKER

STATEMENT FROM SPEAKER GIFFORD MILLER FOR THE 91ST STREET MARINE TRANSFER STATION DRAFT ENVIRONMENTAL IMPACT STATEMENT HEARING DECEMBER 20, 2004

I am submitting this testimony tonight, delivered by my District Chief of Staff, Ms. Jessica Lappin, to reiterate my opposition to reopening the East 91st Street Marine Transfer Station and to address the Department of Sanitation's (DOS) Draft Environmental Impact Statement (DEIS) for the City of New York Comprehensive Solid Waste Management Plan.

As I have stated in the past, I am a proponent of using Marine Transfer Stations (MTS) for waste removal in New York City. In general, I believe that the city should be moving away from land based transfer stations. However, I also believe that zoning in this city should matter, and that the residential character of a proposed neighborhood should matter. As a result, I am opposed to the Mayor's plan to reopen any MTS in the heart of a densely populated residential neighborhood. I was opposed to reopening the facility at 135th Street for that reason, which is no longer part of the plan, and I remain opposed to the Mayor's plan to reopen the 91st Street MTS and wreak environmental and economic havoc on our community.

In terms of the DEIS, I would like to raise the following points. First, when the MTS at 91st Street was previously in operation, it received approximately 900 tons per day of residential trash during peak times. This meant that it was only in operation from 8AM to 8PM.

The new facility is expected to accommodate both residential and commercial waste and receive at least twice the tonnage it previously did, if not four times as much. According to the DEIS, that means the facility will operate from 8AM to 8AM. How can DOS argue in the DEIS that doubling the usage and running the facility 24 hours a day, 6 days a week creates no adverse environmental impact? That is both incomprehensible, and unacceptable.

In addition, the resulting impact on traffic, caused by nearly 800 truck trips to the neighborhood a day – all day and all night – will not only make York Avenue impassable and potentially unsafe, but contribute to a significant increase in noise and air pollution in the area. No realistic and enforceable solution is discussed.

The DEIS also fails to address the negative impact this facility will have on our local parks. As in the Draft Scoping Document, Carl Schurz Park and Asphalt Green are given cursory mention and are practically ignored in this document. As I have mentioned before, Asphalt Green employs 250 people, sees 675,000 visits a year, and donates free services to 12, 000 individuals a year, many of them children from 47 different public schools throughout the city. Carl Schurz is the largest park exclusively located on the Upper East Side. Obviously, odors, air pollution, and truck traffic will impact upon these heavily used open spaces.

In closing, I believe that spending $100 million dollars to build a MTS at 91st Street is bad policy and that more appropriate and sensible alternatives exist to deal with Manhattan's trash. I appreciate the opportunity to submit the testimony this evening, and I respectfully requesting that the content of these comments be reflected in the Final EIS.

CIVITAS

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Statement made by CIVITAS Citizens, Inc. on December 20, 2004 at the Public Hearing on the Draft Environmental Impact Statement for the East 91st Street Converted Marine Transfer Station community.

Good evening. I am Gorman Reilly, President of CIVITAS Citizens, Inc.

CIVITAS, founded in 1982, is a not-for-profit, community based, all volunteer organization of some 2,000 supporters, concerned with urban planning, zoning and quality of life issues affecting East Harlem and the Upper East Side of Manhattan.

CIVITAS commends the Department of Sanitation for developing a citywide solid waste management plan that is comprehensive, long range and responsible. We agree that the disposal of solid waste generated by the city's 8,000,000 residents and many businesses is one of the fundamental obligations of municipal government. The existing program produces far too much traffic congestion and air pollution and has resulted in skyrocketing expense.

The Solid Waste Management Plan under review undertakes to meet head-on a difficult problem of massive proportions. We admire its strong emphasis on recycling, something the Mayor in the early days of his Administration retreated from. A second positive component is the Plan's commitment to long range planning as opposed to dealing with a series of crises as they arise with the implementation of ever changing remedies. By emphasizing barge and rail transport of solid waste and minimizing dependency on truck transport, the Plan promises a steep reduction in traffic congestion and air pollution. The third component of note is borough self-sufficiency. Although Manhattan has steadily lost its industrial districts, it still has the capacity to integrate various uses – residential, park, infrastructure, commercial and community facilities – into a workable plan for its extensive waterfront.

Having accepted the logic and the benefits to be derived from the citywide Solid Waste Management Plan, how does the proposed re-opening of the East 91st Street Marine Transfer Station fit into the overall scheme?

History provides some answer. Proponents of the Plan focus with some justification on the fact that the MTS operated continuously at East 91st Street for 50 years or more until the late 90s when the Staten Island landfill shut down. And, it is still licensed to operate as an MTS. To be sure, that is only a part of the relevant history. When the MTS was built the surrounding area was

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zoned for manufacturing, as the historic asphalt plant structure, now adapted to recreational use, so dramatically documents. Over the past 50 years, a bright green playing field and an important recreation center have replaced industrial buildings east of York Avenue between 90th and 92nd Streets and apartment buildings have risen on York Avenue, now a relatively quiet street. But, manufacturing, auto repair and garages continue to thrive at many sites between York and First Avenue. In sum, the neighborhood is substantially different from the time when the MTS was built, although only incrementally different from when the MTS suspended operations 5 years ago.

Secondly, other areas of Manhattan are being impacted by the Plan. The proposed MTS for recycling to be built the on the Hudson River at Gansevoort Street sits at the edge of a quiet residential area, the West Village, and intersects with the Hudson River Park. The proposed MTS for commercial waste at West 59th Street is not far from the residential development of the Trump organization; more residential development, closer to West 59th Street, is anticipated. It appears that the decision not to go ahead with an MTS at West 135th Street was dictated by considerations of "fair share" and environmental justice, specifically the presence in Upper Manhattan of the North River Sewage Treatment Plant and multiple garages for MTA buses.

Third, there does not appear to be an available, practical alternative, at least in Manhattan to the East 91st Street site. No other location of any significance has surfaced to become part of the public debate. We also have been given to understand that there is no additional capacity at the Essex incineration site in New Jersey, beyond what has already been committed.

This being said, the East 91st Street MTS should not be rebuilt until the legitimate concerns of the surrounding neighborhood have been taken into account. We address five of these concerns.

First and foremost is traffic. The Department of Sanitation's promise of no queuing on the streets - York Avenue - must be guaranteed and enforced. The measures outlined by the Administration to prevent such queuing do not strike us as sufficient. The width of the proposed rebuilt ramp at the point where it intersects with York Avenue will not allow for two-way traffic. Thus, at peak periods a bottleneck is sure to form at the most critical juncture and is likely to lead to trucks' idling and queuing on York Avenue. It seems prudent and rational to widen the new ramp for its full length, even if it should cause some small incursion on existing parkland to the south. The promised presence of a

Sanitation employee to manage traffic on the ramp at peak periods will be essential. During periods of heavy usage it will need to be supplemented by police presence at the intersection of York and 91st Street to ensure that all elements of traffic, including pedestrians, are safeguarded. Serious consideration must also be given during labor negotiations to implementation of staggered work shifts so that all of the loaded Sanitation trucks don't end up at the MTS at the same time

A second concern is protecting the surrounding neighborhood from deleterious impacts of noise, odors and toxic emissions. Consideration should be given to enclosing the truck ramp that leads from the street over the FDR Drive to the MTS, with suitable ventilation system incorporated into the design that will vent fumes away form the playing field and the Murphy Center. In addition, measures must be taken to insure that foul smells and harmful emissions from the MTS itself do not affect the playing field and nearby streets.

Third, the visual impact on the surrounding area must be addressed. At a minimum there should be an aesthetically pleasing barrier between the ramp and the playing field to block out any view of the trucks making their way to the MTS; it could also serve to blunt noises and foul smells. Given the care expended on the appearance of this recreation site, attractive plantings need to be integrated into any barrier construction and maintained thereafter.

A fourth concern relates to the Plan's program for handling commercial waste at the East 91st Street MTS. Examined purely as an economic matter, it makes some sense for the MTS to take in commercial waste in the evening hours when it would otherwise be idle. It is also true there would be a favorable environmental impact to the extent that unnecessary truck traffic to New Jersey and elsewhere would be lessened. However, these considerations need to be weighed against the residential character of this specific neighborhood. It would be unreasonable to allow a large number of commercial waste hauling trucks to ply their way to the MTS on this two-way street in the late evening hours. There should be a reasonable, fixed limitation on the total number of commercial trucks per day, a limitation on the number of trucks using the MTS in any given hour and a limit to the hours of operation. We suggest that the limit be set at no more than 30 commercial trucks per day and 10 or 15 commercial trucks per hour and that the MTS be closed for the receipt of solid waste during the hours from 11 PM to 7 AM.

A fifth and final concern relates to accountability. The impacted community must have the ability effectively to monitor the Department of Sanitation's performance at the MTS, especially during the early years of operation. At a minimum, reports as to hourly truck counts, daily amounts of solid waste processed, usage by commercial waste haulers and other relevant data should be provided on a weekly basis to a representative community organization such as the Gracie Point Community Council. Funds should be made available to the community organization so that it might hire a qualified consultant to review the data,

Just as a civilized society will take the necessary steps effectively to dispose of its accumulated solid waste, so too that civilized society will ensure that its residents will be able to enjoy a suitable quality of life.

Robert E. Roistacher
545 West 111th Street, Apt. 7J
New York, NY 10025

January 24, 2005

VIA FACSIMILE

Reference: Comment on the Draft Environmental Impact Statement of the New Solid Waste Management Plan, CEQR#: 03DOS004Y

Harry Szarpanski,
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th FloorFax: (212) 269-0788

Dear Mr Szarpanski:

In responses to my previous comments suggesting the use of the Amtrak right of way, the department responded that the creation of a truck-to-rail facility was "inconsistent" with the development plans, especially for a new sports stadium, in the area between West 30th Street and West 38th Street.

However, sanitation facilities are proposed by the department in other areas no less consistent with such facilities. The department finds privilege to build a truck-to-barge facility with in the Hudson River Park on the Gansevoort Peninsula and will use a roadway bisecting the playing fields of the Asphalt Green, a youth sports facility

The department should consider innovative architecture to make use of the Amtrak right-of-way by building a truck-to-rail facility in part of the area now proposed as underground automobile garage under the proposed raised pedestrian way to be build on a platform over the Amtrak rails between 10th and 11th Avenues and north of 34th Street up to about 41st Street Surely, in so vast an area, a creatively-designed facility could be sited.

Certainly, such a facility would be more "consistent" with the commercial zoning of the area than the park and residential community to which they are respective adjacent

It is more than ironic that should no sanitation export facility be build in the proposed Far Westside development, other communities, already over-burdened, will have to take on the export of solid waste from the new and huge development

Yours sincerely,

Robert A. E. Poettcker

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January 24, 2005

Mr. Harry Szarpanski
Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: New Comprehensive Solid Waste Management Plan and DEIS

Dear Mr. Szarpanski:

I am writing to comment on the Comprehensive Solid Waste Management Plan (New SWMP) and accompanying Draft Environmental Impact Statement (DEIS) on behalf of INFORM, a national non-profit environmental research organization. We appreciate this opportunity to comment on the plan, which will so greatly impact the environmental and economic future of New York City.

INFORM's Background

INFORM, for almost 30 years, has analyzed business and municipal practices, and innovative technologies and products that can reduce pollution and waste at their source. Two high priority research areas at INFORM have been: 1) evaluation of strategies for solid waste prevention and 2) assessment of alternative fuels and advanced propulsion systems for heavy duty vehicle fleets.

Our research has been widely used by government, business and environmental leaders in New York City and across the US in developing new policies and programs. Our comments on the SWMP and DEIS focus on: 1) how these documents deal with the impacts of waste collection and recycling trucks on the City's air quality, noise pollution levels, and quality of life, and 2) how their provisions could better protect the health of millions of New Yorkers and improve air quality in this region.

INFORM is uniquely equipped to comment on waste collection and recycling trucks since we are the nation's leading independent expert in this area, having prepared the first in-depth analysis of the US refuse truck sector in our 2002 report *Greening Garbage Trucks: New Technologies for Cleaner Air* which was heavily cited in the Waste Vehicle Technology Assessment section of the Commercial Waste Management Study (hereinafter WVTA). Two of the major findings of

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INFORM's report were that refuse collectors deserve to be viewed as an extremely high priority target for pollution reductions and that, by shifting from diesel to natural gas truck technology, significant emissions and noise reductions can be achieved, thereby safeguarding New Yorkers (especially those who are most vulnerable—children and the elderly) from asthma attacks and from exposure to the toxic constituents in diesel exhaust. Every vehicle converted to natural gas also represents greater fuel security for DSNY.

INFORM's Five Key Recommendations for the New SWMP

We have five specific areas in which we believe modifications of the New SWMP can ensure that the City's 20-year plan best protects the health of New Yorkers and best ensures the City refuse fleet's energy security. These include the following:

1. The New SWMP needs a monitoring baseline for refuse truck emissions
2. DSNY's commitment to natural gas trucks for environmental and health reasons is vital, deserves specific goals, and is affordable
3. Fuel security is a crucial but overlooked factor in the New SWMP
4. The New SWMP should encourage and set the pace for commercial waste haulers
5. Innovative strategies involving single-stream waste collection in cities including San Francisco and Los Angeles or co-collection in Chicago, that are now dramatically reducing vehicle miles traveled, costs and, necessarily, fleet emissions, deserve to be explored for implementation in NYC.

I. New SWMP Needs a Monitoring Baseline for Refuse Truck Emissions

In our review of the New SWMP, we found that the plan lacks an overall strategy for monitoring emissions from the vehicles that are an integral part of the City's solid waste program. Further, we found that New SWMP and the accompanying DEIS lack a mechanism for tracking long term progress in vehicle emission reduction. While the long-term export program in the New SWMP reduces the number of miles traveled by DSNY collection trucks by using new transfer stations that will shorten many journeys, and potentially reduce the journeys of some commercial carters as well, substantial overall vehicle miles traveled (VMT) by these trucks will remain. Many currently operating land-based transfer stations experience queuing trucks, with attendant problems of idling emissions, noxious smells, and noise from the diesel engines. Historically, DSNY's marine transfer stations also experienced problems with truck queuing.

In sum, the proposed program will continue to have truck operations that produce significant emissions having an impact on the City's air quality and the health of its residents – emissions that will especially degrade the quality of life in neighborhoods that host transfer stations. The waste export aspects of the program will also mean truck operations and emissions outside the

City. So that the full impact of the New SWMP can be understood, we recommend that emissions both inside and outside of the City be quantified and a baseline emissions inventory be created for the Final Environmental Impact Statement (FEIS) for both the DSNY fleet and commercial carters licensed to operate in New York City. At a minimum, the FEIS should contain a list of DSNY fleet vehicles with the make, model and certification level for regulated pollutants of each vehicle. The table should be updated annually and made available to the public as new vehicles are purchased. This will allow interested parties to compare the fleet's emissions with emissions from the cleanest refuse trucks available for that model year. Estimated capital and maintenance costs for CNG and diesel vehicles should also be presented for comparison purposes.

II. DSNY's Commitment to Natural Gas Trucks for Environmental and Health Reasons is Vital and Deserves Specific Goals

We were pleased to see the New SWMP recommendations that are consistent with continuing DSNY's commitment to using Compressed Natural Gas (CNG) as a vehicle fuel. The current plan recommends that the DSNY should:

- Continue to pursue its CNG heavy-duty vehicle programs, so that DSNY will be able to take advantage of potential advancements in CNG technology and fuel cell technology
- Continue to develop partnerships with fuel suppliers, OEMs and infrastructure providers in order to help reduce the cost of implementing clean fuels programs
- Utilize government grants and economic incentives "to offset the higher costs associated with natural gas, hybrid electric and ethanol vehicles". (WTVA, p. 67)

However, the document actually commits DSNY <u>only</u> to evaluating the CNG trucks already in the fleet - 26 CNG refuse trucks, which represent just one percent of its 2,500 collection and recycling trucks. The document contains no commitments for additional purchases or for tracking emissions reduction progress. A specific vehicle purchase goal would provide crucial impetus for the DSNY to make further progress in its use of clean fuels.

We are aware that the DSNY has voluntarily implemented Ultra Low Sulfur Diesel (ULSD), and has experimented with various diesel retrofit technologies, including diesel oxidation catalysts (DOCs) and diesel particulate filters (DPFs). In May 2002, it released a report indicating that it is achieving particulate matter (PM) reductions equivalent to those achieved with CNG, that regeneration temperatures have been consistently reached, that failure rates are minimal or nonexistent, and that used filters are successfully disposed of by a contractor. However, the data shows very little nitrogen oxide (NOx) reduction and some fuel economy penalty. At that time, the program was testing 10 trucks equipped with DPFs and 35 trucks equipped with DOCs. The DSNY has not released any data on its program since May 2002.

We understand that, since 2002, the DSNY has expanded its DOC and DPF testing program to 170 vehicles. While the preliminary results that we saw were promising, we believe it is too early

to conclude that retrofit technologies are comparable to CNG in terms of emission reductions. As the DSNY continues to evaluate both CNG and cleaner diesel we believe that the DSNY should provide ongoing public reporting on the findings of vehicle testing programs. Even with the information on DSNY's broader sample, there remain several vital public health reasons for the agency to continue purchasing natural gas vehicles:

1) The newest CNG powered refuse trucks available today have NOx emissions that are 50% lower than those of conventional diesel trucks and PM emissions that are 80% or more lower, making natural gas vehicles assuredly the cleanest commercially available refuse trucks.

2) While the 2007 clean air regulations will require that diesel and natural gas engines meet the same certified emissions levels, we know that CNG trucks can meet these levels even today. There are still no guarantees, beyond the expressed intent of diesel engine manufacturers, that their engines with aftermarket treatment systems will meet the certification. Even if they do, experience with other pollution control systems leaves room for doubt regarding whether they will meet the certification levels once their aftermarket treatment systems begin to age. Whether the trucks will be consistently well maintained is also not guaranteed. Hence, it makes sense to make expanded use of an intrinsically less-polluting fuel, such as natural gas, which also contains fewer cancer-causing toxic constituents.

3) Since CNG engines have already demonstrated emission levels below the cleanest available diesel engines and the ability to meet the 2007 engine certification requirements with current technology, it is very likely that CNG engines will be able to certify at lower numbers still than their diesel counterparts in the coming years as well.

4) INFORM's research in this field has found that natural gas refuse trucks are consistently quieter than commercially available diesel trucks, particularly when they are operating at slower speeds or are idling. Because of this quality of life factor, cities including Washington DC, Amsterdam, Tokyo, Paris and Madrid are looking in this direction. Where practicable, Sanitation districts with the greatest density of residential units close to curbside and therefore the greatest sensitivity to collection truck noise should be given priority in utilizing quieter CNG vehicles.

5) At a minimum, in the near term, the DSNY should develop a CNG fleet that will take full advantage of the capacity of the new CNG fueling station it is building in Woodside and of the Keyspan stations in Greenpoint and Canarsie, all of which are capable of handling the fueling requirements of refuse trucks. INFORM's analysis shows that these three fueling facilities could accommodate up to 200 CNG refuse trucks with no additional infrastructure costs. The DSNY should be willing to review changes in operational procedures if necessary to make it easier to integrate the CNG trucks and utilize this existing infrastructure.

6) Given the DSNY's ability to have the vast majority of what would be incremental costs of buying natural gas trucks covered by federal economic incentives should make

expanding this CNG fleet eminently affordable. A discussion of these incentives, such as Congestion Mitigation and Air Quality (CMAQ) funds, should be presented in the FEIS.

Companies such as Clean Energy and Cummins-Westport have expressed interest in working with the DSNY to implement a cost-effective and reliable CNG program for the DSNY refuse truck fleet were the DSNY to commit to purchasing new CNG vehicles as older vehicles are retired. For example, Cummins Westport plans to introduce higher horsepower engines that are capable of meeting DSNY's needs. Clean Energy has, in other cities, been willing to absorb 100% of the costs of putting new refueling infrastructure in place, and to recoup these costs over time via a fee placed on the fuel sales. DSNY could work with engine manufacturers and infrastructure suppliers to design a network of fueling stations and a purchase program that will enable DSNY to maintain a growing portion of its fleet on CNG over the next 20 years and continue to assess and report on the program results.

Were the DSNY to embrace the goals of Intro Bill 414, which would require it to make 50% of its new refuse truck purchases trucks powered by natural gas, it would provide the private sector with a predictable level of vehicle sales and fuel purchases that would help lower the overall costs of implementation by guaranteeing the purchase of hundreds of vehicles and thousands of diesel equivalent gallons of natural gas fuel annually, thereby overcoming some of the DSNY's cost concerns with the implementation of a broader CNG vehicle program.

III. Fuel Security is a Crucial but Overlooked Factor in the New SWMP

Use of domestic natural gas also achieves one of this country's top national goals – reduction in transportation's reliance on foreign oil. While far too little focus has been given to date to this issue, it is becoming evident that the security of US oil imports is increasingly questionable. China and India – home to more than a third of the world's people - are rapidly industrializing, experiencing soaring oil consumption, and aggressively seeking to secure oil around the world to meet their future needs: from Peru to Venezuela, to the Sudan and into Russia. The trends in Asia are even now beginning to threaten the interests of all other users of the world's oil – none more than the US. In shaping a New SWMP that is charting the DSNY's course for the next 20 years, putting virtually all your eggs in the diesel basket, is not in the best interest of New Yorkers. Since the DSNY vehicles perform a key service for New York City's residents, it is important for the DSNY to have a reliable source of fuel and to plan for changes in future fuel supplies.

IV. The New SWMP Should Encourage and Set the Pace for Commercial Waste Haulers

The New SWMP states that "contracts with private waste companies will consider, as applicable, terms to achieve the following goals," including using government grants for CNG trucks and exploring CNG as a future option. However, the document includes no specifics on how it will be done. (New SWMP, pp 5-10 to 5-11.) The Commercial Waste Study also recommended that private waste haulers should "in conjunction with infrastructure supplier and engine manufacturers, explore the future option of CNG heavy-duty refuse vehicles." (WTVA, p. 68.)

INFORM's research of the commercial refuse truck sector in New York City has shown over the last year that most private waste haulers are reluctant to implement new fuel and emission reduction programs in the absence of requirements and that a lack of initiative by the DSNY sends the wrong message. The DNSY's CNG refuse truck initiatives can help show commercial haulers which technologies may work best on New York's streets. With experience, this important technology will continue to be refined. The DSNY should fully support the exchange of information with commercial carters regarding their experience with their truck performance and their emission reduction programs, such as regularly publishing their information or have forums for discussion of fueling technologies with the commercial carters.

Of great importance, the New SWMP should outline specific incentives for commercial carters to adopt CNG vehicle programs and ensure infrastructure that supports the implementation of CNG vehicles in order to achieve emission reduction goals

The DSNY should also review the regulatory powers of the Business Integrity Commission to assess regulatory mechanisms that would improve the emissions performance of the commercial fleets, including incentives for CNG use. For example, a carter's commitment to utilizing at least 2004 model year clean diesel and/or CNG fleet technology should be taken into account in considering the carter's "character and fitness" qualifications for a carting license. The New SWMP should also consider methods of supporting the development of CNG infrastructure, in addition to a purchase commitment. For example, private transfer station operators under contract with the City could be required to develop CNG fueling stations and to provide incentives for refuse trucks using CNG, as could the City-operated MTSs.

V. Innovative Strategies Involving Single-Stream Waste Collection in Cities including San Francisco and Los Angeles, or Co-Collection as in Chicago, that dramatically reduce vehicle miles traveled, costs and, necessarily fleet emissions, should be explored for Implementation in NYC.

In San Francisco, haulers pick up bagged glass, metal and plastics along with paper waste in one truck. They have found that this single-stream approach results in less glass breakage because the paper provides some cushioning, and that contamination problems for the paper are manageable. In Chicago trucks co-collect refuse and bagged recyclables, which, however, must be separated at central processing facilities that NYC currently lacks. By contrast, despite limited use of more efficient split-compartment recycling collection trucks, the DSNY's trucks typically make 10 trips down most neighborhood streets each week: six to pick up refuse on the different sides of the streets, two to pick up metals, glass and plastics and two to pick up paper. Using the more efficient single-stream or co-collection approaches that San Francisco and Chicago are using could dramatically reduce truck traffic and emissions. It could also reduce collection costs by tens of millions of dollars and help make recycling cost-effective.

A good chance to consider either single-stream or co-collection might be in conjunction with the planning now being done for the new Brooklyn waterfront facility

The DSNY deserves to be commended for its hard work in crafting the New SWMP and the DEIS, particularly for its efforts to reduce VMT from the overall system. We believe that with the above modifications, the New SWMP can reduce the impacts of its truck traffic even more, with significant long term health and environmental benefits to New York's more than 8 million residents. We would be happy to provide more information on the points raised above if that would be useful.

Sincerely yours,

Joanna D. Underwood
President

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Natural Resources Protective Association of Staten Island Inc.
P.O Box 050328 Staten Island, NY 10305
(718) 987-6037
Established 1977

January 12, 2005

Harry Szarpanski, Assistant Commisioner
New York City Department of Sanitation
44 Beaver St.
12th Floor
New York, NY 10004

Dear Commissioner Szarpanski:

Re: Draft New York City Solid Waste Management Plan (SWMP)
Draft Environmental Impact Statement (DEIS)
Southwest Brooklyn Marine Transfer Station (MTS)

Please accept the following comments on the above referenced project on behalf the Natural Resources Protective Association (NRPA) and NY/NJ Baykeeper ("Baykeeper"). Established over twenty five years ago, NRPA is a conservation and advocacy organization with a mission to protect, preserve, and restore the marine environment. Our members reside in the greater New York metropolitan area. Baykeeper is a conservation and advocacy organization working to protect, preserve, and restore the Hudson-Raritan Estuary.

As noted in the DEIS, a recently dismantled municipal waste incinerator occupied the site of the proposed Southwest Brooklyn MTS and a pier is present.

Comment No. 1 – Both the initial dredging and repeated maintenance dredging will result in bioaccumulation of toxins in locally caught fish and the people who consume them.
The MTS site abuts Gravesend Bay and the DEIS describes an abundance of finfish in the vicinity: Page 5-39 states that "A diverse finfish community exists at the Southwest Brooklyn Converted MTS" including "bay anchovy...weakfish...scup...windowpane...summer flounder...Atlantic herring...winter flounder...Atlantic butterfish...bluefish...and black sea bass". The same page mentions that the site "housed the greatest number of EFH (Essential Fish Habitat) species (8)" as well as the "larvae of four EFH listed species" and further notes that "Some of the highest finfish egg and larval densities and the greatest larval species richness were found at the Southwest Brooklyn MTS"

However, in order for the site to achieve it's stated purpose of transporting containerized municipal solid waste via barge, "dredging would be necessary to accept the retrofitted DSNY barges that would be used to transport the containerized waste. Dredging however will cause the upper organic silts to be disturbed to some degree resulting in re-suspension of the sediments. Because of the swift currents in the area, mitigation measures, such as silt curtains, would not be feasible". The site will also require ongoing, periodic maintenance dredging. The sediments that will be disturbed during dredging contain some particularly noxious substances. Chapter 5, page 5-36 of the DEIS states that surficial sediment in the vicinity of the proposed MTS "is characterized as light grey to grey sludge" and "grain size analysis...indicated the material to be 87.3% silt and clay. Sediment was found to be somewhat degraded...Lead had the highest concentration (106.33 mg/kg) followed by chromium, barium and arsenic (71.17 mg/kg, 62.42 mg/kg and 20.72 mg/kg respectively)."

The best available and most environmentally protective dredging method should be used, i.e. vacuum dredging. Without the appropriate dredging techniques, contaminated sediments in the project area are at risk of being re-suspended and re-distributed in the ecosystem and made available for uptake by aquatic organisms. Due to the content of the silt as well as the currents, a closed clamshell dredge will not be sufficient to ensure safety.

Amazingly though, the DEIS states that impacts will be "minimal". The waters in the vicinity of the Southwest Brooklyn MTS are well known for both recreational and commercial fishing. It is well established that toxins from silt can bioaccumulate in finfish as well as in the people who consume them. Since pelagic species (i.e. flounder, scup, etc) are involved, there will be increased bioaccumulation as time goes on. Although the area was periodically dredged in the past, that is no excuse for the practice of increasing exposure to toxins to continue.

Comment No. 2 – Toxins will deleteriously affect area biota.
Dispersal of silt and its associated toxins will deleteriously impact other biota in the area as well. There are harbor seals that frequent the area behind Toys R' Us immediately north of the site. The seals are probably attracted to the vast quantities of herring present in the water at certain times of the year. The Natural Resources Protective Association has video documentation of seals in that location as well as underwater footage of them diving for food.

Furthermore, Dreier Offerman Park is just outside of the one quarter mile radius. This seventy plus acre site is undeveloped parkland. It is a major Atlantic flyway for bird migration. A visit by the Brooklyn Bird Club a few years ago documented over twenty species of birds, including many that consume fish. Documentation of the species observed will be provided upon request. In addition, the New York State Department of Environmental Conservation (DEC) has spent several hundred thousand dollars at Dreier Offerman to establish habitat for Horseshoe Crabs. These animals cannot be farmed and their blood plays an essential role in sterility testing of medical products. As the DEIS notes, currents are "swift" and dispersal of the dredging contaminants to the waters around Dreier Offerman Park would be impossible to avoid.

Through the implementation of protective dredging measures, dispersal of contaminants would be lessened and the impact of the dredge project on local biota would be minimized, although not eliminated.

Comment No. 3 – The effects of constructing a three hundred foot steel sheet pile and rock breakwater should be evaluated in *conjunction with* other rock structures planned for the area.
Even more troubling is the prospect of the creation of a three hundred foot breakwater to protect the MTS. Residents of southern Brooklyn know all too well that the placement of masses of rock in local waterways has led to unimaginable consequences. Currently, there is severe shoaling within Gravesend Bay as a result of a groin constructed on the ocean side of the Coney Island peninsula. Furthermore, there are plans for the construction of five T-groins off the nearby community of Sea Gate as well as tentative plans in the Harbor Deepening Project (Project Application Number: DEC No. 2-6500-00053/00001) for the creation of rock reefs within Gravesend Bay. The continued destruction of bottom habitat needs to be addressed in terms of the CUMULATIVE effects of all of these projects. Therefore, we respectfully request that additional studies to determine the *cumulative* effects of a breakwater *in conjunction with* all of these other projects, needs to be done.

Comment No. 4 – Containers should be securely *attached* to barges.
The DEIS notes that containers will be transported via flat bottom barges, but it does not indicate if or how the containers will be secured to those barges. It is well known that containers can and do fall off ships and into the water. There, they remain submerged right below the surface, where they can be hit by unsuspecting boaters. If such an impact resulted in damage to a container, there will be a huge quantity of floatable debris reaching local shorelines.

Comment No. 5 – Exactly what mitigation is proposed for environmental impacts and when will such mitigation occur?
Page 5-62 states that "Mitigation for potential impacts would be proposed during the environmental review and permitting ...if required" We insist that at least ten acres of wetlands be replenished for every acre of bottom habitat destroyed. Furthermore, we insist on a solid time frame, with substantial penalties for any delays. When plans for construction of the Gateway Mall on the Vandalia Dunes were finalized in 1995, the EIS mandated remediation of White Island in Gerritsen Creek. Ten years later, no remediation has been done.

Thank you for your kind consideration of our comments.

Sincerely,

Ida Sanoff
Vice President, NRPA

Andrew J. Willner
Executive Director, NY/NJ Baykeeper

CC: Mayor Michael Bloomberg
Assemblymember William Colton
Assemblymember Adele Cohen
Councilmember Domenic M. Recchia, Jr.
Colonel Richard J. Polo, Jr., USACE
Thomas Kunkel, Director, DEC Region

Consumer Policy Institute
Consumers Union

January 21, 2005

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: The City of New York Comprehensive Solid Waste Management Plan and Draft Environmental Impact Statement, October 2004

Dear Assistant Commissioner Szarpanski,

The Consumer Policy Institute of Consumers Union offers the attached comments on the New Comprehensive Solid Waste Management Plan and Environmental Impact Statement. We have been involved in New York City solid waste issues for over 8 years, serving as a technical advisor to the Organization of Waterfront Neighborhoods (OWN) and preparing the 2000 OWN/CPI report, *Taking out the Trash: A New Direction for New York City's Waste*. In June of this year we released a proposed 20 year Zero Waste Plan for New York City, with the NYC Zero Waste Campaign, *Reaching for Zero. The Citizens Plan for Zero Waste In NYC* with the hope that the Department would take its recommendations seriously.

Our comments are attached along with our Scoping comments originally submitted in July. We sincerely hope that the Department and the City will use these comments constructively to make amendments to the Final Plan that will put us on a more sustainable path. If you or your consultants have any questions, please feel free to call me at 845-754-7951 or 718-984-6446.

Thank you for your attention.

Respectfully,

Barbara Warren

Barbara Warren
Project Director

101 Truman Avenue • Yonkers, New York, 10703-1057 • (914) 378-2000 • Fax (914) 378-2901

Written comments of the Consumer Policy Institute/Consumers Union on City of New York New Comprehensive Solid Waste Management Plan and Draft Environmental Impact Statement, CEQR No. 03-DOS-004Y October 2004

The Draft Solid Waste Management Plan and accompanying Draft Environmental Impact Statement manage to advance a plan to improve the current situation with solid waste in the City of New York by planning to convert 4 MTSs for export of the City's waste, to possibly reconstruct a fifth for the containerization of commercial waste at 59th Street MTS, by planning a recyclable receiving facility at Gansevoort, by constructing a recyclable processing facility in Brooklyn under a contract with Hugo Neu, and by suggesting that the current inequities in the existing commercial waste system for overburdened communities might be addressed in the future.

We applaud all of this, however, the actual plans for addressing the overburdened communities are simply not present and there are no milestones in the SWMP that address this issue. While we are thrilled that a new recycling processing facility will be constructed we are disturbed that the Department has failed to advance other major zero waste initiatives. We have all been paying for the delays in instituting aggressive waste diversion since 1992. More delay is just unacceptable. To that end we would like to review some of the recent History of the Department in responding to issues of public concern. We think this history should tell the Department that working more proactively with the public might result in better solid waste management for the City.

History

The Department of Sanitation of NYC has a long history of making every effort to maintain the status quo for the Department, which is keeping the department picking up, handling and disposing of garbage. The Department's support of recycling has been begrudging and largely forced because of significant public outcry. The Department has failed to comply with the overall intent of the City's Recycling Law and has ignored the intent of planning requirements under the State Solid Waste Management Act. Instead the Department has gone through the motions of compliance producing poor solid waste plans and then often failing to complete important milestones. The intent of these laws was to have NYC shift its focus from disposal to sounder solid waste management methods —waste prevention or reduction, recycling and composting. However, over the course of the last 24 years, the Department has been largely intransigent, unwilling to advance and implement more positive programs for dealing with multiple solid waste crises. These crises included the lack of a modern sanitary landfill within NYC borders, inadequate recycling infrastructure and a substandard commercial waste system.

At the same time the public has insisted on being involved in solid waste issues and has refused to accept the sometimes unsound ideas advanced by the Department of Sanitation. The public has resoundingly said NO to incineration of garbage within NYC and finally Mayor Giuliani agreed, because of its economic costs. The public put sufficient pressure to require the closure of Fresh Kills, rather than the continued use of a

"landfill" that met none of the modern requirements for landfills. The public highlighted by the early 80s significant problems associated with private transfer stations in the City of New York—substandard facilities and equipment, clustering in certain neighborhoods, poor enforcement, truck traffic-- and has been fighting to be heard since that time. The public also rejected the idea of export using huge barge unloading facilities sited in the same communities overburdened by transfer stations

History tells us where we have been. It doesn't often tell us where we need to be in the future. However, we can learn some important lessons from a close look at recent history. The Department of Sanitation can continue business as usual – choosing to deny or ignore the solid waste problems that are confronting us, while simultaneously ignoring the public and their elected officials. What should be obvious from the recent history is that such a strategy will not work. Sanitation officials planned for another 20 + years of landfilling at Fresh Kills, while the public cried that we had a solid waste crisis in NYC and needed to stop being so dependent on landfilling. The Department invested millions of dollars to plan and build 5 incinerators and to create a huge ash dump on Staten Island—none became a reality. The public and the majority of City elected officials has maintained consistent support for the City's Recycling program and its expansion, but despite this support, the Department has been willing to regularly cut the recycling budget. The failure to build recycling infrastructure as recommended in the 1992 SWMP resulted in the recent recycling debacle in which the City claimed recycling was to expensive and had to be cut back. Over the years the public has been more right than wrong in pointing out where improvements have needed to be made in New York City's solid waste system. Yet the same pattern of unresponsiveness to the public is evidenced in these SWMP and EIS documents. For example the Department of Sanitation obviously chose to conduct an improper review of the commercial waste system. That commercial waste study was grossly deficient under the City's own criteria for such a review, yet that study forms the current basis for some sort of reform of the commercial waste system. In 1996, the commercial waste system of transfer stations was in crisis because inadequate facilities had been allowed to set up operations with little agency involvement in proper permitting. Under the influence of organized crime for years, these substandard transfer stations were sold to large waste companies when NYC "cleaned house." Yet that commercial waste system was the system that would in 1997 with the pending closure of Fresh Kills be enlisted to also package and export municipal waste from the City, thus magnifying the problems. The Department of Sanitation chose to deny as early as 1996 when closure of FK was announced that there was a problem with the existing private transfer stations, their clustering and their impacts on communities. Failing to even acknowledge a problem does not lend much hope for its eventual resolution.

Since 1996, the City of New York has also failed to appropriately plan for the closure of Fresh Kills by planning for and investing in alternatives to disposal. All five Boroughs and the City Council completed plans that called for significant expansion of programs aimed at waste reduction, recycling and composting. Yet since 1996, the City of New York has arranged with the Governor and the State DEC to evade the planning requirements of the State Solid Waste Management Act. In the year 2000, the Department opted to only complete an Export Plan and promised to complete a more

comprehensive solid waste management plan in 2004. Under the guise of needing to rapidly move forward on export, the export plan was approved in the Fall of 2000. Almost immediately that plan failed because of its dependence on a single facility—the Linden EBUF.

2004

In preparation for the release of the City's Solid Waste Management Plan, Consumers Union along with the NYC Zero Waste Campaign released *Reaching for Zero: The Citizens Plan for Zero Waste In NYC*. This plan utilized the basic format of the 1992 Solid Waste Management Plan to convey our overall recommendation that the City adopt ambitious goals to reduce the waste stream, and to reuse, recycle and compost the remainder of the waste stream, eventually reaching a zero waste goal in 2024. In addition, our plan was quite detailed about the specifics of what needed to be done in terms of infrastructure for reuse and composting, educational programs, economic development, transportation, and others. We advanced an ambitious program expecting that the City would be preparing a Comprehensive Solid Waste Management Plan. Important social goals are advanced by the adoption of a zero waste goal—less waste translates to fewer community impacts from the handling of mixed waste; composting, recycling, reuse and remanufacturing create jobs in NYC; diversion and diversity in solid waste options reduce overall costs preserving City funds for other City programs.

Unfortunately, in spite of earlier promises, we did not receive a Comprehensive Solid Waste Management Plan this year. The plan is sketchy or vague, conveying the Administration's intent, but with almost no clear steps or details for carrying out the plan. The Environmental Impact Analysis evaluates only those facilities or options that the City chose to evaluate. Important subjects that should be part of any comprehensive plan were not evaluated at all—sound alternatives to export, long term export costs, comparative analysis of disposal to other solid waste options, the absence of competition in the waste industry, elements of the long term disposal contracts, and others. We wish to repeat that the Department made a commitment to the public and to City Council in 2000 that this 2004 plan would be a Comprehensive Solid Waste Management Plan with thorough evaluations of all options. That promise has not been fulfilled, but more importantly the Department has violated the State requirements as mentioned in our comments on the Scope:

> The most important legal authority and requirements for a proposal described as a "*New Comprehensive Solid Waste Management Plan*" are contained in New York State's environmental conservation law and the implementing regulations for solid waste management plans, 6 NYCRR 360-15. In brief a "plan must take into account the objectives of the State's solid waste management policy set forth in section 27-0106 of the ECL and provide for the management of all solid waste within the planning unit for at least a 10-year period. It also must reflect and employ sound principles of solid waste management, natural resources conservation, energy production and employment-creating opportunities."

Also disconcerting the Department of Sanitation and the Economic Development Corporation devoted considerable effort to soliciting information and evaluating New &

Emerging Technologies. The definition of New & Emerging Technologies specifically excluded well-tested and available technologies. Once again at a time when the City faces a future where disposal costs are tied completely to multinational waste companies, that have in the past engaged in non-competitive practices, the City, instead of evaluating well tested and available technologies for adoption here, goes off on an almost irrelevant tangent. What is the purpose in knowing about technologies that might be commercially available in ten years when we have a particular crisis right now. We have testified to the problem of relying on company sales personnel for information about a new innovation. In fact this study found that 10 technologies dropped out of the phase one screening and 19 dropped out of the second level screening, leaving only 14 remaining. This illustrates our contention that upon closer examination many technologies no longer look very good. Many of the high tech remaining solutions are very expensive, costing roughly equivalent to incinerators—the most expensive solid waste option today (unless a city avails itself of another communities' capacity). In *Reaching for Zero*, we specifically limited ourselves to methods and technologies that are widely in use and commercially available- choosing those that have fewer environmental impacts and are proven. That is the reason we recommended composting and anaerobic digestion. Incineration has a host of serious environmental problems and newer thermal technologies have not been demonstrated to eliminate these same problems.

In addition to not examining readily available technologies, the City specifically rejected looking at composting claiming that the City had studied composting extensively for an earlier report. In fact when you examine that report you learn quickly that there was a single method studied by the Department -- static pile composting—as done by various companies. Composting and anaerobic digestion should be actively pursued by the Department in the immediate term. Too many years have been wasted while the Department was supposedly engaged in studying composting. Currently DSNY diverts only about 4% of the 1 million tons of organic material that it collects.

We learned the painful way about what happens when we fail to invest in infrastructure focused on diversion. We almost lost our recycling program because of the lack of adequate recycling processing capacity.

Overall, what is needed with this most important Comprehensive Solid Waste Management Plan is a vision, a vision that lays out where we want to be in the future, acknowledges existing problems, sets key goals to solve those problems, and then carefully assesses what must be done to achieve that vision.

The following Key Elements should have been part of the SWMP, its development and eventual adoption:

- **An overall vision of where NYC's solid waste system should be. At minimum that vision should encompass economic and environmental sustainability as well as social responsibility and equity.**

- **There are two key problems that make handling solid waste unsustainable for the long term- economically, environmentally and socially.**
  1) **Private waste system--substandard facilities and operations clustered in certain communities. This same system is now also handling municipal waste for huge total waste quantities.**
  2) **Too exclusive a focus by DSNY on waste disposal; thus preventing investment in alternative infrastructure and programs, including those that would in the first instance prevent the generation of waste.**

- **A set of goals and objectives**

- **A factual basis and detailed analysis of all options**

- **A set of criteria to be used to evaluate the possible options.**

- **Complete public disclosure of the decision- making process.**

- **Careful consideration of public input**

- **Detailed plans that reflect the vision, goals and objectives, criteria, the facts and public input**

Our contribution to solid waste planning has been substantial. The Consumer Policy Institute advanced a vision for NYC's solid waste system in releasing with OWN, *Taking out the Trash: A New Direction for New York City's Waste, 2000*. Then in 2004, The Consumer Policy Institute in conjunction with the NYC Zero Waste Campaign released *Reaching for Zero: The Citizens Plan for Zero Waste In NYC*. Both of these plans contained goals and objective and concrete recommendations for the City's consideration in preparing its plans.

In our comments on the Scope for the SWMP we recommended a more comprehensive outline for the SWMP and that DSNY adopt and use a set of criteria in evaluating the components of the proposed solid waste management plan. These criteria are again provided below. We are disappointed that the Department has not given our reports and the following criteria more consideration in the final plan and EIS :

- Providing for a waste system for the long term that is sustainable- economically, environmentally and socially (For example, the cost of interim export has increased 91% since 2000; these cost increases are clearly unsustainable)
- Maintaining critical City infrastructure in municipal hands
- Pursuing multiple options for waste management rather than putting all the "eggs in one basket" (The failed Linden EBUF proposal is an example of this.)
- Ensuring that adequate competition is present, which is important given the consolidation in the waste industry
- Correcting the inequitable burdens of solid waste in NYC; ensuring social equity for both burdens and benefits of the overall solid waste system and the SWMP

- Ensuring that the plan and its components are environmentally sound; including giving preference to waste prevention, reuse, composting and recycling as preferred solid waste management methods.
- Preventing environmental impacts to the greatest extent possible in all areas, but particularly for NYC's most serious environmental problems—air quality, traffic and solid waste impacts
- Evaluating cost effectiveness thoroughly across all options including existing and future costs and trends
- Providing a long term disposal plan that will allow the City flexibility to improve its waste diversion programs and preserve landfill capacity rather than lock us into wasting far into the future
- Prioritizing investment within NYC in alternative waste infrastructure and programs (waste prevention, reuse, recycling and composting) for economic development and jobs.
- Planning for converted MTS facilities that will allow flexibility for the City to use them for the movement of recyclables and compostables
- Prohibiting an expansion of waste handling capacity in NYC as a result of any proposed movement of commercial waste and recyclables through converted MTSs; instead linking commercial use of MTSs to reduced capacity in the private system.
- Improving substantially the substandard conditions of the commercial waste system and its transfer facilities and the inequitable burdens to some communities with real, comprehensive solutions that the City intends to implement (See *Taking out the Trash* p. 35-36.)
- Advancing specific plans to address the Manhattan problem—the creation of large volumes of commercial waste, little infrastructure for waste handling, traffic congestion and severe air pollution (See *Taking out the Trash* p. 34-35.)

Key Negative Elements of this Solid Waste Management Plan and EIS

- The failure to comply with planning requirements of the State Solid Waste Management Act, which requires that all reasonable options be examined for handling waste with preference to waste reduction, recycling and composting. The State Solid Waste Management Act and its planning requirements do not allow the City to only evaluate "the reasonable Alternatives that were considered." This statement which appears in the Executive Summary, Section 3.0 Proposed Action, is absurd. With this simple statement, the absurd world of government as seen in Gulliver's Travels, becomes operative in NYC—allowing DSNY to structure its analysis of alternatives to suit its fancy. However, this is not in compliance with the law.

- The continuation of the interim plan for export of DSNY- managed Manhattan waste—perpetuating the traffic and air pollution burden identified when the interim plan was first announced. Simultaneously failing to analyze in the EIS the environmental and public health impacts of making this interim plan permanent. Since DSNY claimed the interim export plan was only temporary, the limited

environmental analysis was accepted at that time. However, making a temporary plan permanent requires more than a analysis of the increment or increase in the number of trucks over the interim plan. The entire number of trucks – over 200 -- used for export should be used to analyze the air quality impacts.

- The absence of clear steps related to how and when the 59th St MTS would be brought on line for commercial waste. There is the absence of a detailed plan for actually reducing commercial waste capacity in overburdened communities as MTS capacity is brought on line. Commissioner Doherty gave particularly disconcerting testimony to the City Council Sanitation Committee on January 18, 2005, that provided no details but portrayed negotiations with industry as extremely difficult with the City in a very weak position and a very uncertain outcome. He further mentioned a possibility of a 2-step process whereby after negotiations around 59th St. are finished with the industry that DSNY might seek additional authority from the Council to then actually reduce capacity in overburdened communities. Such a 2-step plan puts the City in a weakened position with industry, which stands to gain millions of dollars in lucrative export contracts, and will effectively close the door on serious reductions in waste capacity and facilities in overburdened communities. Such a plan is unacceptable

- Serious inequities are perpetuated in certain communities. The South Bronx is one primary example. Waste facilities not regulated by DSNY were not included in the environmental impact analysis for the South Bronx. The sludge dewatering plant is a regional facility—one of several in NYC. The sludge processing plant is the only sludge processing facility in NYC. Yet these facilities were not included in the EIS. Already under the interim contracts the Bronx is handling more than its own waste as the DSNY diversion reports clearly show. All Bronx CDs only produce approx. 1500 TPD of DSNY managed waste, yet according to the EIS, DSNY has provided 2400 tons of waste to two private firms under the interim contracts. Even including a reasonable portion of the additional citywide 1500 tons per day that is not broken down by district, would only bring the Bronx to approximately 1800 TPD of DSNY collected waste.

- The absence of detailed steps or milestones for certain elements of the plan are particularly problematic. There are no such milestones for correction of the inequities associated with the commercial waste system. As a result there can be no environmental impact analysis for this aspect of the plan. The Commercial Waste Study which was wholly inadequate, failing to meet SEQRA requirements, forms a poor basis to move forward with corrections in this system.

- There is inadequate or no environmental impact analysis for certain aspects of the plan. As a result there are no plans for mitigation of the impacts certain to arise. For example, the proposal for another intermodal facility at the Harlem River Yard, involves according to DSNY a nondiscretionary permit, and would add to the current inequities experienced in the South Bronx. DSNY also chose to not analyze the air impacts of the HRY intermodal facility and propose mitigation. In

fact, NYC has been declared nonattainment for PM 2.5 by the federal EPA. A large portion of this fine PM is known to come from diesel exhaust, a very hazardous mixture. Yet there is no proposal to require cleaner fuels and retrofits of the diesel equipment used on site. DSNY should be recommending that the Council expand existing legislation pertaining to the retrofit of nonroad construction equipment to include all diesel equipment used at waste facilities and intermodal yards in the City. There was also no environmental impact analysis associated with current rail service in NYC and what arrangements the City will be making with rail providers to ensure that waste trains move out of the railyards as quickly as possible and do not stand in summer heat for days at a time.

- The City should be committing to state of the art facilities with proper design, and the best equipment to prevent impacts for all waste facilities in the City of New York- public and private. This should include diesel retrofits for nonroad equipment at all waste facilities.

- The failure to prepare a thorough cost analysis for the long term plan which takes into account rising waste disposal rates and industry consolidation. In June, when we released our report, *Reaching for Zero*, we pointed out that total disposal costs including transfer costs had risen by 91% since the City first started exporting garbage. We pointed out that in terms of economics this represented a clearly unsustainable situation. Previously in 2000 we described the considerable consolidation in the waste industry, with 2 major multinational companies owning the majority of the disposal capacity and the potential for ever increasing costs. DSNY has acknowledged this problem of self-interest and inadequate competition associated with these waste companies, yet plan to deliver up the major portion of the waste stream to these private companies under private contracts.

- The failure to plan for purchasing or developing long term landfill capacity. At minimum we should have 20 years of landfill capacity. We have had no report from the Department on their efforts to study this issue.

- The failure to disclose to the public the broad outlines of how these contracts would be structured to protect the City's interest. Will they be written as "Put or Pay" contracts that will prevent the City from developing and expanding sound alternatives like composting and recycling, because they will require that the City pay for 10,000 tons of waste, whether or not DSNY delivers that amount to the private contractors? At a minimum, the SWMP and the EIS should have discussed the options, disclosed the Administration's intent and elements of the contracts that will protect the long term public interest.

- The City also failed to analyze all available options for handling ¾ of the waste stream in another way other than disposal as required under the State Solid Waste Management Act and the planning requirements. Will the City write the contracts in a way to encourage and reward recycling?

- DSNY failed to plan for an organized system for diverting loads that contain large quantities of recyclables or other inappropriate material from being handled and paid for as waste. In the past this has meant that cardboard and furniture and rocks from lot cleaning, has become waste instead of being recycled.

- DSNY failed to what will be done with the large amounts of fill material that are currently recycled at Fresh Kills as landfill cover and road material. Once Fresh Kills is fully closed not only will that material not be recycled there, but it will need to be handled somewhere.

- DSNY failed to examine at all a major theme of our *Reaching for Zero* report, that the City should invest dollars within NYC—creating industries that use our waste materials to manufacture new products, adding jobs and fueling our economy—instead of exporting dollars out of the City along with our mixed waste. The City completed almost no cost analysis for this plan and its direct costs. Analysis of the benefits and costs of choosing an economic development path are completely absent.

- DSNY failed to raise the bar for the kind of waste facilities it has planned for the future. The best technology and equipment should become standard operating procedure for all waste facilities in the City- whether City or privately owned. This will address some of the opposition the City encounters when trying to site certain operations. To date the large waste companies have made only minimal capital investments—acquiring substandard facilities at favorable costs. Now is the time to require more from an industry that is making millions of dollars in profit in NYC.

- DSNY has a variety of options for handling the huge quantity of waste generated in Manhattan. It can plan for adequate infrastructure to move mixed waste or it can devise ways to expand recycling and reuse programs to handle larger quantities of material, thus reducing waste that must be exported. We delineated a number of these programs in *Taking Out the Trash* and *Reaching for Zero*

Written comments of the Consumer Policy Institute on the Draft Scoping Document for the City of New York Comprehensive Solid Waste Management Plan Draft Environmental Impact Statement, CEQR No. 03-DOS-004Y May 2004

I A Comprehensive Solid Waste Management Plan should be presenting a plan for the next 20 years, that complies with state waste management policy and prioritizes waste reduction, reuse, recycling and composting. The draft scope does not reflect such a comprehensive plan, but instead an outline for an export program.

The Introduction to the Draft Scope appropriately describes the action as the preparation of a Draft EIS to support the adoption of the City's Comprehensive Solid Waste Management Plan for the next 20 year planning period. From this point on the document makes a serious and fundamental mistake – it focuses on a narrow component of what is supposed to be a COMPREHENSIVE SWMP; it focuses on long term export alternatives and the facilities needed to prepare the City's waste for shipment.

It is entirely possible, completely reasonable and even required by NYS Law and state implementing regulations for the City to produce a 20 year Comprehensive Solid Waste Management Plan, which covers all aspects of current and future solid waste management including alternatives to disposal—waste prevention, reuse, recycling and composting—while simultaneously evaluating the facilities needed for long term export.

We applaud the fact that the City is finally proposing to containerize trash at the City's existing marine transfer stations and transport containers to rail or ship in order to accomplish cost-effective disposal. We agree that this plan achieves several important objectives: more equitable distribution of waste handling facilities, more environmentally sound transportation of the waste by barge, rail or ship, and greater City control of the transport infrastructure by keeping converted MTSs under public ownership.

However, a Comprehensive Solid Waste Management Plan should contain a Section dealing with Long Term export and many other sections that thoroughly cover waste diversion strategies as well as the detailed steps and necessary infrastructure the City proposes for the next 20 years. Instead this scope reflects a plan for the next few years to reconstruct facilities that are needed only to enable long term export.

A 20 –year Solid Waste Management Plan can and should comprehensively deal with waste diversion options and analyze overall or generic environmental impacts for the entire 20 year plan, while also planning for the immediate reconstruction of MTS facilities and completing specific Environmental Impact Statements for the proposed facilities. The scope or outline presented however does not represent a Comprehensive Solid Waste Management Plan but merely a component of an export plan.

For support of our position, we reference the following from documents attached to the Draft Scope:

- *"The New SWMP will chart New York City's solid waste management efforts for the next twenty years. In addition to continuing programs designed to reduce, reuse, prevent, recycle and compost solid waste,* ***a key component*** *of the proposed New SWMP is the development of state of the art Marine Transfer Stations constructed at up to eight of DSNY's existing MTS sites." Letter from Commissioner Doherty to elected officials, involved agencies and interested parties, NYC New Comprehensive Solid Waste Management Plan SEQRA/CEQR Notice of Determination (Positive Declaration) May3, 2004. (Bolding for emphasis is ours)*

This notice of determination tells us clearly that the New SWMP we should expect is a comprehensive one and that the plan to develop state of the art Marine Transfer Stations is a <u>component only</u> of that comprehensive plan. The notice of determination should not tell us one thing and then be accompanied by a Scoping Document that fails to have any chapters devoted to waste diversion strategies. We expect that the New Comprehensive SWMP, in accordance with the SEQRA/CEQR Notice of Determination will thoroughly cover existing programs to reduce, reuse, prevent, recycle and compost solid waste and also contain detailed recommendations for expanding existing programs, including the needed infrastructure for composting, reuse and recycling facilities. Some of this needed infrastructure is long overdue, having been promised in the 1992 SWMP.

- The name of the proposal is the "*New Comprehensive Solid Waste Management Plan*". CEQR Environmental Assessment Statement p. 1.

In the EAS, the proposal is not listed as either "Development of state of the art Marine Transfer Stations" or a "Long term Export Plan." Therefore the City needs to be completing a *New Comprehensive Solid Waste Management Plan*.

- The EAS references the NYS Department of Environmental Conservation as necessary for Solid Waste Management Plan approval.

The most important legal authority and requirements for a proposal described as a "*New Comprehensive Solid Waste Management Plan*" are contained in New York State's environmental conservation law and the implementing regulations for solid waste management plans, 6 NYCRR 360-15. In brief a "plan must take into account the objectives of the State's solid waste management policy set forth in section 27-0106 of the ECL and provide for the management of all solid waste within the planning unit for at least a 10-year period. It also must reflect and employ sound principles of solid waste management, natural resources conservation, energy production and employment-creating opportunities." As drafted the Draft Scope contains none of the elements of the state's policy for sound solid waste management. It talks only about a long term recyclable processing contract, failing to examine the full range of alternative waste options.

II We recommend the following Scope or Outline for a Comprehensive Solid Waste Management Plan:

Chapter 1 Existing Conditions

Current Waste Management in the City of New York, residential, institutional and commercial

Waste Composition

Facilities, Processing, Transportation for all types of waste

Waste prevention, reuse, recycling and composting—tonnage or percentage of the waste stream each method could potentially handle, existing programs and the amounts handled under existing programs

Chapter 2 Setting a Zero Waste Goal for the Long term – the next 20 years

Review of recommendations advanced by public interest organizations and City officials over recent years, especially *Reaching for Zero The Citizens Plan for Zero Waste in NYC(2004),* but also each of the Borough Plans and the City Council Plan from 1997.

The City and DSNY are welcome to adopt any of the detailed recommendations contained in *Reaching for Zero* It was written as a Solid Waste Management Plan with detailed implementation steps listed for each year and each period—Near Term through 2009, Intermediate Term through 2014 and Long Term through 2024.

Chapter 3 Investing in Waste Prevention, the least expensive waste management method

Detailed implementation steps for expanded waste prevention and reduction programs

Chapter 4 Tackling Reuse in a Serious Way

Detailed implementation steps for expanded reuse programs and facilities

Chapter 5 Improving Recycling and Making it more efficient

Detailed implementation steps for expanded recycling programs and facilities

Chapter 6 Expanding Composting in NYC

Detailed implementation steps for expanded composting programs including state of the art composting facilities

Chapter 7 Ancillary Benefits of Waste Diversion

Economic Development

Analysis of the economic benefits of investing in zero waste programs in NYC—keeping dollars within NYC, creating industry and new jobs.

Chapter 8 Improving the Commercial Waste System in NYC

This chapter would delineate the City's plan to correct long standing problems with this private waste system and its facilities, ie., siting regulations, operational regulations

Chapter 9 Long Term Export

Options for Long Term Export including look at what other jurisdictions are doing
Costs and Benefits of Various Export Options
Proposed Export Plan & Conversion of MTS sites
Use of MTSs for commercial waste handling and the closure of existing substandard private waste transfer stations
Measures to prevent or mitigate environmental impacts

Chapter 10 Draft Environmental Impact Statement

Generic EIS for the overall 20 year SWMP
Generic EIS for the overall Export Plan
Site-Specific EISs for all of the City facilities in the Plan ie., Converted MTSs

III Also critical to an adequate analysis of various options for managing NYC's solid waste is a set of important criteria or objectives from which to conduct the comprehensive evaluation. Unfortunately, the current scoping document contains no such set of criteria or objectives.

Failure to identify such criteria and to evaluate all SWMP proposals including those for export with these in mind could result in substantially higher costs for the City. These costs include direct monetary costs, the loss of important benefits, such as those from economic development, energy costs, environmental costs, social equity and community quality of life costs. Without a set of criteria for evaluating the SWMP and its detailed proposals, the Department could end up producing a document with a set of disconnected analyses that enlighten no one.

Both *Taking out the Trash. A New Direction for New York City's Waste* (OWN/CPI 2000) and the just released *Reaching for Zero: The Citizens Plan for Zero Waste In NYC (NYC Zero Waste Campaign/CPI, 2004)* discussed the set of criteria or objectives that should be a critical component of the review of any solid waste management plan in NYC. We enclose both documents to be made a part of the record. However, critical criteria, discussed in these documents, include the following:

- Providing for a waste system for the long term that is sustainable- economically, environmentally and socially (For example, the cost of interim export has increased 91% since 2000; these cost increases are clearly unsustainable)
- Maintaining critical City infrastructure in municipal hands
- Pursuing multiple options for waste management rather than putting all the "eggs in one basket" (The failed Linden EBUF proposal is an example of this.)
- Ensuring that adequate competition is present, which is important given the consolidation in the waste industry

- Correcting the inequitable burdens of solid waste in NYC; ensuring social equity for both burdens and benefits of the overall solid waste system and the SWMP
- Ensuring that the plan and its components are environmentally sound; including giving preference to waste prevention, reuse, composting and recycling as preferred solid waste management methods.
- Preventing environmental impacts to the greatest extent possible in all areas, but particularly for NYC's most serious environmental problems—air quality, traffic and solid waste impacts
- Evaluating cost effectiveness thoroughly across all options including existing and future costs and trends
- Providing a long term disposal plan that will allow the City flexibility to improve its waste diversion programs and preserve landfill capacity rather than lock us into wasting far into the future
- Prioritizing investment within NYC in alternative waste infrastructure and programs (waste prevention, reuse, recycling and composting) for economic development and jobs.
- Planning for converted MTS facilities that will allow flexibility for the City to use them for the movement of recyclables and compostables
- Prohibiting an expansion of waste handling capacity in NYC as a result of any proposed movement of commercial waste and recyclables through converted MTSs; instead linking commercial use of MTSs to reduced capacity in the private system.
- Improving substantially the substandard conditions of the commercial waste system and its transfer facilities and the inequitable burdens to some communities with real, comprehensive solutions that the City intends to implement (See *Taking out the Trash* p. 35-36.)
- Advancing specific plans to address the Manhattan problem—the creation of large volumes of commercial waste, little infrastructure for waste handling, traffic congestion and severe air pollution (See *Taking out the Trash* p. 34-35.)

The ultimate plan with its facilities and programs must reflect the above criteria at a minimum.

IV The scope of the Long Term Export Plan and EIS is deficient, failing to adequately analyze a number of important options.

- **The City should be seeking to purchase a total amount of landfill capacity** rather than a contract to take a certain amount of garbage every day. The contract should enable the City to use the capacity over a very long time period—50 years. This would also enable the City to invest in programs that significantly divert waste because the benefits in preserved landfill capacity would be quite clear.

- **When evaluating the MTS sites, the City should be looking at all available adjacent and nearby city land, and not constrain what is possible at the sites by limiting the land boundary and buildings available.**

A number of the City's MTS sites have adjacent City property and facilities, that could be located elsewhere. The proposed analysis of the MTS sites fails to include this available land, thereby constraining the analysis of options to a more limited site boundary. Each MTS site needs to be more closely examined and consideration given to moving some of the other facilities to accommodate the equipment needed for compaction and containerization. For example the North Shore Queens MTS, has a large DSNY garage across the street from the MTS location. This garage could be moved elsewhere. The Southwest Brooklyn MTS has an incinerator, a garage facility, salt storage shed and a self-help site. The Hamilton Ave. MTS has a closed incinerator and a DOT asphalt plant immediately adjacent.
Commissioner John Doherty has testified that the cost of rebuilding the marine transfer stations is in the same range as construction of a Sanitation garage—at about $50 million. The Department reported in the 1996 SWMP that the Departments ten year Adopted Capital Plan contained $475 million for projects to rehabilitate the MTSs. To our knowledge most of this money has never been spent. Reconstructing the MTSs is of sufficient importance that the Department should not constrain the land area to be examined. Former incinerator buildings, garages and other property can be used for compaction equipment, with garage facilities moved elsewhere.

- **The City should include an analysis of compaction at the MTSs in the EIS.** At a minimum the cost implications of compacting versus not compacting garbage should be thoroughly examined.

- **The City should not once again rest its entire export plan on the construction of an unconstructed and unpermitted facility as it did in 2000 with the plan for an EBUF in Linden, NJ.** The construction of a fully permitted, out-of-City enclosed barge unloading facility is mentioned in a single sentence in the Draft Scope. The City made this mistake once. It should not do so again. Pursuing bad ideas has cost us a minimum of eight years of delay. In *Taking out the Trash* we recommended against EBUFs partly because they require the double-handling of waste and thus add to costs. Finally, if the EBUF proposal is arising out of perceived land constraints in Manhattan, we recommend that the City do everything possible to overcome those constraints. While constraints in Manhattan exist, they are not insurmountable. Further, the City must provide for the more rational movement of waste and recyclables out of Manhattan, since this is where the vast majority of the City's waste is generated. The need for marine transfer stations in lower Manhattan was made crystal clear in coping with the movement of millions of tons of waste from the World Trade Center. (See *Taking out the Trash* p. 34-35.)

- **The Environmental Impact Statement should comprehensively study air quality issues associated with vehicles and non-road equipment in one section of the EIS.**

The planned scope has two separate places where air quality issues are addressed-under Air Quality and under Public Health impacts. To avoid missing important impacts or failing to adequately cover the topic we recommend putting all traditional air pollutants and health effects, like asthma, together under air quality. In addition attention should be paid to ultrafine particles of less than 0.1 microns in size, which have recently been found to contribute to cardiac deaths and morbidity. The analysis should include measures to reduce VMT or vehicle miles traveled, to use alternative fuels and to add pollution control devices to trucks, barges and other nonroad equipment.

The public health section should adequately cover vermin, odors and noise.

01/23/05

Harry Szarpanski
Assistant Commissioner
Department of Sanitation
44 Beaver St.
New York, N.Y. 10004

Dear Mr Szarpanski,

I am writing to you regarding the plan for the re-opening of the transfer station on 91st street, behind The Asphalt Green.

I understand that the latest plan includes all vehicles to use 91st street in order to leave the transfer station. As someone who has worked on 91st between York and First for the past 15 years, I wanted to give you my perspective on this situation, since I was not given a chance to speak at the meeting last week.

On 91st between York and First there are currently over 11 businesses. To name a few there are:

- The Vinegar Factory – Gourmet grocery – This is a busy store with many deliveries coming and going all day. There is also a hi volume of customer traffic on foot and in vehicles coming and going throughout the day.
- V.F. Pastry – Wholesale Pastry Bakery – Open 24 hours – Receives and delivers at all hours. (Operates out of both sides of the street)
- Eli's Bread – Wholesale Bread Bakery – Open 24 hours – Receives and delivers at all hours Approximately 15 trucks are street loaded at one time between 11pm and 4am every day. (Operates out of both sides of the street)
- Verizon Communications – Parking – Hundreds of vans coming and going throughout the day.

Besides these major businesses, there is also a busy parking garage, a gym, a pet kennel, a wine store, a café, doctor's offices, a moving and storage company, a child's party center and a very busy auto repair shop.

If this is not enough the situation is compounded by a busy bus route that runs down and stops on the same block.

At the very end of the block close to First Avenue stands a little known and little noticed Brownstone that houses The Variety/Cody Gifford House for Children with Special Needs. This facility provides a transitional home, foster care, and adoption service for children with severe disabilities and emotional problems. Driving trucks down 91st street will increase the risk to these children and will certainly diminish their quality of life.

My opinion is that running sanitation trucks down 91st street will put this block at a complete standstill. This standstill will not only affect the businesses on the block, the bus service and the citizens who currently live on the block, but presumably the back up will be so bad that the trucks will back up into the transfer station causing a standstill at the transfer station.

Sincerely,

Eli Zabar
1064 Madison Ave.
New York, N.Y. 10028
212-717-8100

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

SW Brooklyn

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

Dear Assistant Commissioner Szarpanski:

As a resident of Waterview Towers, I am concerned about my health and my overall quality of life, living within a quarter of a mile of the proposed Southwest Brooklyn Converted Marine Transfer Station.

I am aware that the proposal addresses the issue of odor, vermin, and additional truck traffic that will be the result of DOS's trucks and commercial carriers. What I need to know is what "stringent operation and maintenance requirements, as well as additional enforcement measures will minimize the impacts of transfer station operations" on the quality of life I have now? What restrictions will be placed on "air emissions coming from stationary equipment and non-road vehicles operated at transfer stations" and the "state-of-the-art odor control equipment at all putrescible transfer stations" especially when the wind blows from a westerly direction?

And, I would like my environmental concerns addressed as well: there are frequently used baseball and soccer fields, an active school for children with special needs, as well as a wildlife sanctuary to the south of the site, there is an amusement area to the north. There is the often abused Gravesend Bay, all ready receiving sewage, will it also be accepting seepage from the misplaced dumping of garbage? But most importantly, the long range health effects on all the residents of this community.

Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Ruth Barone
SIGN your name

RUTH BARONE
PRINT your name

2630 Cropsey Avenue / 1935 Shore Parkway
Circle one

Apt. 10A
Brooklyn, New York 11214

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

Dear Assistant Commissioner Szarpanski:

As a resident of Contello Towers, I am concerned about my health and my overall quality of life, living within a quarter of a mile of the proposed Southwest Brooklyn Converted Marine Transfer Station.

I am aware that the proposal addresses the issue of odor, vermin, and additional truck traffic that will be the result of DOS's trucks and commercial carriers. What I need to know is what "stringent operation and maintenance requirements, as well as additional enforcement measures will minimize the impacts of transfer station operations" on the quality of life I have now? What restrictions will be placed on "air emissions coming from stationary equipment and non-road vehicles operated at transfer stations" and the "state-of-the-art odor control equipment at all putrescible transfer stations" especially when the wind blows from a westerly direction?

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Lucille Butler
SIGN your name

Lucille Butler
PRINT your name

2652 Cropsey Avenue

Apt. 3G
Brooklyn, New York 11214

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Ruth Butler
SIGN your name

RUTH BUTLER
PRINT your name

2652 Cropsey Avenue

Apt. 7 F
Brooklyn, New York 11214

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

SIGN your name

RICHARD & SANDRA CELENTANO
PRINT your name

2652 Cropsey Avenue
Apt. 8H
Brooklyn, New York 11214

2652 Cropsey Avenue, #7H
Brooklyn, NY 11214
(718) 449-0037
mitchelcohen@mindspring.com

OBJECTIONS TO CONSTRUCTION OF EXPANDED WASTE TRANSFER STATION IN SOUTH BROOKLYN, TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT, AND IN REQUEST FOR ADDITIONAL EXTENSION FOR COMMENTS

Dear Department of Sanitation,

The Draft Environmental Impact Statement that the Department of Sanitation has submitted concerning the construction of a Waste Transfer Station in South Brooklyn at the site of the closed incinerator, is fatally flawed and should not be submitted to the State.

As a result, I am

1) requesting that a new and corrected draft be written and submitted for public comment before it moves up the chain of approval and is submitted for consideration by other agencies; or

2) If that is declined, I am requesting a further extension period for public comments on THIS DEIS, as I – and most of the public – learned of this project only within the last few weeks and in that short time have already discovered major flaws in it and would need the opportunity to investigate them and others further.

Some areas of extreme concern include:

a) The numerous discrepancies in additional garbage truck traffic along Cropsey Avenue (where I live) and along Shore Parkway. The DEIS appears to have been written by a number of different people who did not coordinate their figures. Thus, we are presented with at least 4 different sets of figures on different pages for the same events, in terms of average trucks/hour, total tonnage, etc. – Figures that differ not only from each other but from those presented by the DOS representatives at the one public hearing I attended.

b) Failure to consider the large number of senior citizen homes, nursing homes and other facilities along Cropsey Avenue, whose safety and convenience (noise levels) will be severely impacted by the garbage trucks, which will also negatively impact on bus traffic and safety.

c) The failure of the DEIS to anticipate increases in rodent and mosquito populations, and the expected increased application of toxic pesticides – both of which put in jeopardy the health and safety of all who live in the area but especially the elderly and the many children who play in nearby parks, schoolyards and ballfields.

d) The toxic chemicals, heavy metals, dioxins, etc. churned up and sent airborne by the proposed dredging are not considered in the DEIS in conjunction with the heavy toxic burden already impacting on the community due to the incinerator that had polluted air and surrounding waters (and presumably stabilized at the channel's bottom in the sediment, only now to be re-introduced) for decades.

e) The DEIS's failure to seriously examine the increase in toxic burden, adding to the existing bus barn, belt parkway, and mass pesticide use on nearby fields, and adding to the prevailing winds from the oil refineries in New Jersey which sweep eastward across the entire area every afternoon.

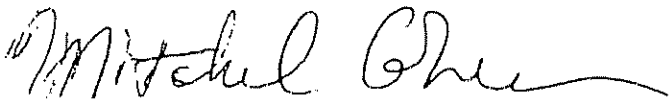
f) The DEIS's inadequacy in addressing the deleterious effects of the dredging, construction, and use of the Waste Transfer Station on the fish in the area in and of itself, and also which are used for food by many people and thus enter the food chain with expected higher levels of mercury, arsenic, PCBs and other chemicals dangerous to human consumption.

g) The DEIS's failure to project a long range plan for disposing of New York's garbage, as landfills on the east coast are quickly filling up, and as they are situated generally in impoverished areas that have already begun to file Civil Rights lawsuits against situating the dumps in poor and predominantly minority communities, with deleterious impact on THEIR health, environments, and drinking water, etc. For the DEIS – and the City government in general – to focus on transporting wastes elsewhere as opposed to Waste Reduction, Recycling and Re-Use, is completely irresponsible and reckless; the construction of Waste Transfer Stations only allows the City government to continue to skirt and even to undermine efforts to prevent the production, generation and conveyance of garbage to begin with.

There are a number of other significant areas that the DEIS fails to adequately address. And, those areas that it does address – such as the number of garbage trucks that will be using local streets – are filled with careless (and even ridiculous) discrepancies in the actual numbers estimated that one must question the level of care that went into preparing this document. And if such carelessness as is evident in such basic projections from page to page concerning the numbers of trucks alone that will be using neighborhood streets, one can only assume that the rest of the projections concerning environment, health and safety are done with equal carelessness and reckless disregard for the health and safety of the people living in the community, who are already subjected to a high toxic burden that goes unrecorded in the DEIS.

Thus, on behalf of the hundreds of people in my building with whom I've discussed this, as well as the thousands in the surrounding buildings, I request a careful re-doing of the DEIS and new rounds of public comment on it, before it moves on to the next step; and/or an extension of the current comment period so that I and others could document the specific serious flaws in the DEIS, offer suggestions and alternatives, and so that more people can contribute their comments at this stage.

Thank you,



Mitchel Cohen
Brooklyn Greens/Green Party of NY, and
coordinator, No Spray Coalition

Carrieri, Donna

From: outgoingagency@customerservice.nyc.gov
Sent: Wednesday, January 19, 2005 1:47 AM
To: DSNY, Commissioner; njohnson@cityhall.nyc.gov
Subject: City of New York - Correspondence #1-1-150493040 Message to Agency Head, DSNY - Other

Your City of New York - CRM Correspondence Number is 1-1-150493040
DATE RECEIVED: 01/19/2005 00:43:24
DATE DUE: 02/01/2005
SOURCE: WEB

The e-mail message below was submitted to the City of New York via NYC.gov or the 311 Call Center. It is forwarded to your agency by the Mayor's Office of Operations. In accordance with the Citywide Customer Service standard, your response is due in 10 business days.

****

If this message is to a Commissioner / Agency Head and needs to be re-routed to another agency or cc to another agency, forward the email to outgoingagency@customerservice.nyc.gov. Do not make any changes to the subject line. Include any comments and it will be processed by The Mayor's Office of Operations.

All other web forms are to be handled by the receiving agency.

****

-----Original Message-----

From: PortalAdmin@doitt.nyc.gov
Sent: 01/19/2005 00:42:40
To: sbladmp@customerservice.nyc.gov
Subject: < No Subject >

From: (Mitchel Cohen)
Subject: Message to Commissioner, DOS

Below is the result of your feedback form. It was submitted by
Mitchel Cohen () on Wednesday, January 19, 2005 at 00:42:39

This form resides at
http://www.nyc.gov/html/mail/html/maildos.html

Message Type: Request for Information

Topic: Other

Contact Info: Yes

First Name: Mitchel

Last Name: Cohen

Company: Brooklyn Greens / Green Party of NY

Street Address: 2652 Cropsey Avenue

Address Number: 7H

City: Brooklyn

State: NY

Postal Code: 11214

Country: United States

Work Phone #: 212-449-0037

Message: Where can I find a copy of the Draft Environmental Impact Statement for the South Brooklyn Waste Transfer Station proposal. We have only until Jan 24 to comment, and the draft seems to have been removed from the DOS website. Thanx.

REMOTE_HOST: 165.247.25.117
HTTP_USER_AGENT: Mozilla/4.0 (compatible; MSIE 6.0; Windows 98; Win 9x 4.90)

****

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

Dear Assistant Commissioner Szarpanski:

As a resident of Contello Towers, I am concerned about my health and my overall quality of life, living within a quarter of a mile of the proposed Southwest Brooklyn Converted Marine Transfer Station.

I am aware that the proposal addresses the issue of odor, vermin, and additional truck traffic that will be the result of DOS's trucks and commercial carriers. What I need to know is what "stringent operation and maintenance requirements, as well as additional enforcement measures will minimize the impacts of transfer station operations" on the quality of life I have now? What restrictions will be placed on "air emissions coming from stationary equipment and non-road vehicles operated at transfer stations" and the "state-of-the-art odor control equipment at all putrescible transfer stations" especially when the wind blows from a westerly direction?

And, I would like my environmental concerns addressed as well: there are frequently used baseball and soccer fields, an active school for children with special needs, as well as a wildlife sanctuary to the south of the site, there is an amusement area to the north. There is the often abused Gravesend Bay, all ready receiving sewage, will it also be accepting seepage from the misplaced dumping of garbage? But most importantly, the long range health effects on all the residents of this community.

Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Marie Coppola
SIGN your name

MARIE COPPOLA
PRINT your name

2652 Cropsey Avenue

Apt. 12B
Brooklyn, New York 11214

December 20, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
44 Beaver Street, 12th Floor
New York, NY 10004

Re: East 91st Street Marine Transfer Station

Dear Commissioner Szarpanski,

This letter is to express my disagreement with the conclusions of the draft environmental impact statement, as well as the underlying policy upon which the statement is based.

No MTS should be located in a densely populated residential neighborhood. The known risks to the health and safety of people who live, work, go to school and play there are so great and so pervasive that no amount of attempted mitigation can make them acceptable.

The way in which the Department has gone about its planning has pitted neighborhoods in the city against each other. The health and safety of a child in one neighborhood is no more or less important than the health and safety of a child in another.

The DEIS is based on a false assumption about its use. It is not possible to believe that DSNY intends to use only one third of the capacity it intends to build. Accordingly, the impact statement vastly underestimates a host of environmental impacts, including traffic, air quality, neighborhood character, open space, noise and odor.

The DEIS is deficient in its analysis of alternatives. It must consider other waterfront sites as alternatives, particularly those located in non-residential neighborhoods.

DSNY's promises of likely mitigation are inadequate, impractical and unenforceable for identified impacts.

DSNY cannot justify why this site should be acceptable for a transfer station under its control when it would not be permitted for a private waste transfer station under its rules because of its proximity to the surrounding residential neighborhood and adjacent parks

Bette Cordova
Signature

Bette Cordova
Printed Name

Address: 340 East 93rd - 10G
NY NY 10128

Contello Towers
2740 Cropsey Avenue/2015 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street 12th Floor
New York, New York 10004

Dear Assistant Commissioner Szarpanski:

As a resident of Waterview Towers, I am concerned about my health and my overall quality of life, living within a quarter of a mile of the proposed Southwest Brooklyn Converted Marine Transfer Station.

I am aware that the proposal addresses the issue of odor, vermin, and additional truck traffic that will be the result of DOS's trucks and commercial carriers. What I need to know is what "stringent operation and maintenance requirements, as well as additional enforcement measures will minimize the impacts of transfer station operations" on the quality of life I have now? What restrictions will be placed on "air emissions coming from stationary equipment and non-road vehicles operated at transfer stations" and the "state-of-the-art odor control equipment at all putrescible transfer stations" especially when the wind blows from a westerly direction?

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station

Thank you,

Esther Cowen
SIGN your name

ESTHER COWEN
PRINT your name

2740 Cropsey Avenue/2015 Shore Parkway
Circle one

Apt. 14G
Brooklyn, New York 11214

Contello Towers
2740 Cropsey Avenue/2015 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street 12th Floor
New York, New York 10004

Dear Assistant Commissioner Szarpanski:

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station

Thank you,

Catherine D'Onofrio
SIGN your name

CATHERINE D'ONOFRIO
PRINT your name

2740 Cropsey Avenue 2015 Shore Parkway
Circle one

Apt _____
Brooklyn, New York 11214

Jan. 24, 2005

Vicki Grubman
2630 Cropsey Avenue
Brooklyn, NY 11214

Harry Szarpanski
Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street, 12th floor
New York, NY 10004

Fax: 212-269-0788

Re: **Comments on the Draft Environmental Impact Statement concerning the Proposed Marine Transfer Station at the Southwest Brooklyn former Incinerator site**

Dear Mr. Szarpanski:

I am writing this comment letter under protest, as I have requested an extension of the comment period, because I only learned about this issue last week due to unpublicized notices and hearings on this matter. I am again reiterating this request, since I and other community residents who will be directly impacted have not had the opportunity to make an adequate study of the pertinent documents.

I am a resident living in very close proximity to the site of the proposed converted Marine Transfer Station in Southwest Brooklyn. The site of this proposed Marine Transfer Station -- within several blocks of many high-rise residential buildings; several nursing homes and senior citizen residences; a school for special children; multi-use parks, ballfields, bike paths and recreational facilities – does not belong in this residential area or any residential area. The DEIS is deficient in that it does not realistically nor adequately address the severe impacts the proposed Marine Transfer Station (MTS) will have on the quality of life and the health of this neighborhood.

- **Dredging:** The dredging activity that the Dept of Sanitation (DOS) maintains is necessary to construct the proposed MTS will dredge up the underwater sediments that have been grossly contaminated by decades of toxic incinerator emissions. The contaminants in this soil, which include lead and arsenic among others, will severely pollute the water, the air, and cause significant harm to people as well as marine and bird life. Comprehensive studies must be made of the potential adverse effects of dredging on human beings, as well as on each species of fish and bird life living in or traveling through this area, and the surrounding waters.

- **Traffic:** The huge numbers of sanitation trucks the proposal forecasts going to and from the proposed MTS will cause disruption on Bay Parkway, Cropsey Avenue, and

Shore Parkway, which are already heavily used thoroughfares serving two bus routes, an entrance/exit to the Belt Parkway, and traffic to and from Caesar's Bay Shopping Center. A realistic traffic analysis taking into account existing problems and conditions, and the potential higher end number of sanitation trucks must be done.

- **Air Pollution:** The hundreds of trucks per day -- which may at times be idling waiting to dump their contents-- as well as tug boats, will add noxious fuel emissions into the air. A DEIS must adequately measure the adverse cumulative health effects this air pollution will have over significant time periods on a population already exposed to heavy traffic fumes from the highway and a bus depot, a population which includes many senior citizens in ill health, and which is a populace that has been poisoned for several decades from the incinerator smoke at this site. The current DEIS is totally inadequate.

- **Water Pollution:** The coastal ecosystem, which had been on the road to recovery recently, would surely be degraded once more by the proposed MTS. An analysis of the proposed MTS's possible leakages, runoff, discharges of chemicals, construction pollution, accidental garbage spills, must be done.

- **Odors:** The so-called odor containment measures at the proposed facility do not address the odors of the garbage while it's being transported in the trucks. The DEIS does not realistically or adequately address the quality of life issue of having hideous garbage odors permeating our streets from the trucks and from the proposed MTS in various weather conditions, and this must be done.

- **Noise:** The proposed faoility would bring significant noise pollution from various sources – truck traffic, construction, dredging, dumping, loading and unloading of containers. The cumulative effect of all of these noise sources added to any already noisy area must be addressed and analyzed.

- **Vermin/Insects:** Huge amounts of garbage attract vermin and insects. Besides the obvious unacceptable quality of life issues, there are health hazards associated with these pests which have yet to be adequately addressed.

- **Hazardous Chemicals:** To control odor and pests, what pesticides and other chemicals will be used? These substances will most certainly have a negative impact on our health. A study of all potential chemical usage and their adverse effeots on human, animal, and the surrounding environment must be made.

- **Socioeconomic Effect:** All of these issues will have a severe and drastic impact on the quality of life and health and well-being of residents of this neighborhood individually and collectively. The DEIS does not adequately address the potential erosion of the community as a whole.

- **Alternatives not Adequately Explored:** The DEIS has not adequately explored other sites; there are many purely industrial areas where an MTS could be located without affecting a densely populated area such as Bensonhurst/Bath Beach/Gravesend Bay.

Additionally, the DOS has not even tried to reduce the waste stream by limiting excess packaging for example, or by heavily promoting recycling.

For all of the above reasons, the DEIS is unacceptable, and the proposal to build an MTS at this Southwest Brooklyn site is unacceptable and dangerous to the health of all of Southwest Brooklyn.

Very truly yours,

Vicki Grubman

Vicki Grubman

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

Dear Assistant Commissioner Szarpanski:

As a resident of Waterview Towers, I am concerned about my health and my overall quality of life, living within a quarter of a mile of the proposed Southwest Brooklyn Converted Marine Transfer Station.

I am aware that the proposal addresses the issue of odor, vermin, and additional truck traffic that will be the result of DOS's trucks and commercial carriers. What I need to know is what "stringent operation and maintenance requirements, as well as additional enforcement measures will minimize the impacts of transfer station operations" on the quality of life I have now? What restrictions will be placed on "air emissions coming from stationary equipment and non-road vehicles operated at transfer stations" and the "state-of-the-art odor control equipment at all putrescible transfer stations" especially when the wind blows from a westerly direction?

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Alice A. Henry
SIGN your name
Alice H. Henry
PRINT your name
2630 Cropsey Avenue/1935 Shore Parkway
Circle one
Apt. 1H
Brooklyn, New York 11214

TO: Harry Szarpanski
Assistant Commissioner,
NYC Department of Sanitation ("DSNY")

BY: FACSIMILE: (212) 269-0788
E-MAIL: Hszarpan@dsny.nys.gov

DA: 1/21/05

RE: Marine Transfer Station ("MTS"), Southwest Brooklyn Location
Request for an Extension of Comment Period

Dear Mr. Szarpanski:

I am a concerned citizen and resident in close proximity to the above MTS.

This letter serves as a request to extend the comment period during which the public may submit comments concerning the Draft Environmental Impact Statement ("DEIS") from the existing deadline of January 24, 2005 until or after March 1, 2005.

As you know, the recent meetings were not well publicized. The DEIS and related materials are voluminous and/or contain technical information (one section specifically relating to the above MTS is 138 pages). The information provided at the meetings by the DSNY and its consultants (written, verbal and Power Point presentation) is frequently incomplete and inconsistent with data contained in the DEIS. It is my belief that much of the data in the DEIS is inaccurate and, therefore, requires further study and analysis. The public should be afforded an opportunity to consult with experts with credentials similar to the consultants that conducted the studies for the DEIS.

Accordingly, please extend the public comment period as requested above, and advise.

Sincerely,

William Hershkowitz
2630 Cropsey Avenue
Apt. 8-G
Brooklyn, NY 11214

William Hershkowitz
2630 Cropsey Avenue
Apt. 8-G
Brooklyn, NY 11214

Harry Szarpanski
Assistant Commissioner,
NYC Department of Sanitation ("DSNY")

VIA FACSIMILE: (212) 269-0788 and
E-MAIL: Hszarpan@dsny.nyc.gov

January 21, 2005

RE: ***Marine Transfer Station ("MTS"), Southwest Brooklyn Location***

Dear Mr. Szarpanski:

I live near the above proposed MTS and have many concerns with respect to health, safety, the environment and quality of life. I attended the meetings held on or about December 15, 2005 and January 13, 2005 at which you and others spoke. I attempted to understand the information presented, and the materials available online concerning the above MTS, but found that more questions were raised than answered.

Further, I found that much of the information provided by you, your consultants and the data contained in the Draft Environmental Impact Statement is confusing, inconsistent, contradictory and, I believe, incomplete and inaccurate.

As one example, I refer to the first of the above meetings at which you said that (1) the MTS would require construction of a "seawall" to accommodate barge and tug boat traffic; (2) it would extend approximately 280 feet; and (3) dredging was required to build it. People from the Marina spoke at length about the negative impact upon their business and the environment resulting from the dredging, construction of the seawall and the tug and barge traffic. At the second meeting, you said it was not a seawall, per se, but a wall that would allow for the passage of water through it. You then mentioned for the first time that the dredging would be ongoing, - not only for the construction phase of the pass-through type of seawall.

As another example, at the first meeting you briefly spoke about the future installation at the MTS of a recycling operation. You provided very few details about the materials to be recycled; whether such materials would be from residential or commercial sources; and nothing was said about any impact on traffic, noise, pollution that would result. It seems logical to assume that additional trucks would be necessary to deliver the recyclable materials to the MTS. I have been unable to find details in the voluminous literature online. Perhaps it is there, if so, please advise the link or location, or send it to me. Further, nothing about recycling was presented at the second meeting.

The charts and diagrams you presented at both the meetings did not address or indicate (1) the location of the recycling facility; (2) the impact of the additional truck traffic required for such deliveries and how such increased traffic affects the statistics presented in the DEIS; (3) how much additional tonnage or types of materials the trucks would contain; (4) whether such trucks were going to be DSNY vehicles or private vehicles or both; (5) health and safety protocols the DSNY would utilize; and (6) the hours of operation of the facility. There was no information provided with respect to the end products and waste by-products of such a recycling operation that must logically be transported away from the MTS. Thus, it is difficult for a reasonable person to simply accept the DSNY position that the MTS will have no significant impact on traffic.

Anyone who lives in my neighborhood who has occasion to exit from the Belt Parkway at Bay Parkway has experienced a backup on the exit ramp so sever that cars are forced to stop and wait to exit while still on the parkway, before the exit ramp. This is a dangerous situation now, and will only be exacerbated by the additional truck traffic to the MTS.

The DSNY and its consultants have assured us that there will be no adverse effect on the neighborhood's quality of life, no significant impact on traffic, no noise, no odor, no health risks, no significant impact on the environment or on neighborhood businesses and there will be no problem with vermin. Such assurances seem disingenuous considering that this community had received similar assurances during the thirty year period that the DSNY operated the incinerator without a permit at this location.

Please advise.

Respectfully,

William Hershkowitz

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

Dear Assistant Commissioner Szarpanski:

As a resident of Contello Towers, I am concerned about my health and my overall quality of life, living within a quarter of a mile of the proposed Southwest Brooklyn Converted Marine Transfer Station.

I am aware that the proposal addresses the issue of odor, vermin, and additional truck traffic that will be the result of DOS's trucks and commercial carriers. What I need to know is what "stringent operation and maintenance requirements, as well as additional enforcement measures will minimize the impacts of transfer station operations" on the quality of life I have now? What restrictions will be placed on "air emissions coming from stationary equipment and non-road vehicles operated at transfer stations" and the "state-of-the-art odor control equipment at all putrescible transfer stations" especially when the wind blows from a westerly direction?

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Alfred Impeduglia
SIGN your name
ALFRED IMPEDUGLIA
PRINT your name
2652 Cropsey Avenue
Apt. 5K
Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Dorothy + David Mortman
SIGN your name
DOROTHY MORTMAN / DAVID MORTMAN
PRINT your name
2630 Cropsey Avenue/1935 Shore Parkway
Circle one
Apt. 13H
Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

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NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

*I WANT TO GO ON RECORD THAT I OPPOSE THE OPENING OF THE SOUTHWEST BROOKLYN CONVERTED MARINE TRANSFER STATION!

LESLIE C. NEMET
SIGN your name

Leslie C. Nemet
PRINT your name

2630 Cropsey Avenue / 1935 Shore Parkway
Circle one

Apt. 9E
Brooklyn, New York 11214

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Chairman of the Board
Ira Rousso
First Vice President
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Reggie Goldberg
Sarah Flume
Lee Lebelson
Marlon Crespi
Legal Counsel
James J. Khani, Esq.

* Deceased

SEPHARDIC
NURSING AND REHABILITATION CENTER

2266 Cropsey Avenue, Brooklyn, NY 11214 (718) 266-6100 Fax (718) 449-5586
www.sephardichome.org

January 24, 2005

Mr. Harry Szarpanski
Assistant Commissioner
Dept. of Sanitation

VIA FAX: 212-269-0788

Re: Marine Transfer Station
30-Day Extension

Dear Mr. Szarpanski:

The Sephardic Home management has just learned of the public comment period pertaining to the proposed Southwest Marine Transfer Station. As the members of the Board of this nursing home, which is in the immediate vicinity of the site, we are not aware of this matter and have not had the opportunity to read the Draft Environmental Impact Statement.

We urgently request an extension of at least (30) thirty-days so that we can adequately inform ourselves what the health impacts would be on our residents, who are already in ill health. It is unconscionable that we, who are responsible for the health and well-being of hundreds of elderly and infirm people, should not have the opportunity to learn about and comment on a facility that will have a direct impact on their health and quality of life.

Sincerely,

Michael New
Executive Director

MN/mt

cc: Vicki Grubman

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

Dear Assistant Commissioner Szarpanski:

As a resident of Contello Towers, I am concerned about my health and my overall quality of life, living within a quarter of a mile of the proposed Southwest Brooklyn Converted Marine Transfer Station.

I am aware that the proposal addresses the issue of odor, vermin, and additional truck traffic that will be the result of DOS's trucks and commercial carriers. What I need to know is what "stringent operation and maintenance requirements, as well as additional enforcement measures will minimize the impacts of transfer station operations" on the quality of life I have now? What restrictions will be placed on "air emissions coming from stationary equipment and non-road vehicles operated at transfer stations" and the "state-of-the-art odor control equipment at all putrescible transfer stations" especially when the wind blows from a westerly direction?

And, I would like my environmental concerns addressed as well: there are frequently used baseball and soccer fields, an active school for children with special needs, as well as a wildlife sanctuary to the south of the site, there is an amusement area to the north. There is the often abused Gravesend Bay, all ready receiving sewage, will it also be accepting seepage from the misplaced dumping of garbage? But most importantly, the long range health effects on all the residents of this community.

Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Phyllis Rabinowitz
SIGN your name

Phyllis Rabinowitz
PRINT your name

2652 Cropsey Avenue
Apt. 9K
Brooklyn, New York 11214

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Diane K. Ritchings
SIGN your name

Diane K. Ritchings
PRINT your name

2652 Cropsey Avenue

Apt. 13B
Brooklyn, New York 11214

Waterview Towers

2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

Ida E. Sendyk

SIGN your name

IDA E. SENDYK

PRINT your name

2630 Cropsey Avenue 1935 Shore Parkway
Circle one

Apt. 6B
Brooklyn, New York 11214

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print)*: Karol Todrys

Agency/Organization, if applicable:

Address: 180 East End Avenue
New York, NY 10128

Email: todrys@attglobal.net

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****All mailed comments must be received by 5:00pm on Monday, January 24, 2005.***

COMMENTS: My family has lived in this neighborhood since 1982. During a large portion of that time, the MTS on 91st street was operational. We suffered through the noxious odors of garbage trucks waiting to unload on York Avenue, a population explosion of rats in Carl Schurz park, and traffic congestion caused by queued-up trucks. Today, this neighborhood has become even more residential with the construction of new apartment buildings on East End, York, and 1st Avenues. Traffic has become heavier getting onto the FDR Drive at 96th Street. The Asphalt Green and pool facilities have grown and attracted many more users.

This neighborhood has already sacrificed its serenity for the sake of the rest of the city — it is not fair to ask it to do it again. We are a residential community — and NO residential community should be subjected to waste disposal plants in its midst!

(Over)

Contello Towers
2740 Cropsey Avenue/2015 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street 12th Floor
New York, New York 10004

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

Loretta Brown
SIGN your name

LORETTA BROWN
PRINT your name

2740 Cropsey Avenue; 2015 Shore Parkway
Circle one

Apt. 3-C
Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

S. Ayvazyan
SIGN your name
Svetlana AYVAZYAN
PRINT your name
2630 Cropsey Avenue / 1935 Shore Parkway
Circle one
Apt. 16E
Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

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NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

Howard Geffen
SIGN your name
HOWARD GEFFEN
PRINT your name
2630 Cropsey Avenue/1935 Shore Parkway
Circle one
Apt. 5H
Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

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Thank you,

Pearl Hager
SIGN your name
PEARL HAGER
PRINT your name
2630 Cropsey Avenue 1935 Shore Parkway
Circle one
Apt. 11C
Brooklyn, New York 11214

Waterview Towers

2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

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44 Beaver Street – 12th Floor
New York, New York 10004

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

V. Roy

SIGN your name

Velya Royzman

PRINT your name

2630 Cropsey Avenue 1935 Shore Parkway

Circle one

Apt. 15E

Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

Dear Assistant Commissioner Szarpanski:

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Thank you,

Patricia Mulvey

SIGN your name

PATRICIA MULVEY

PRINT your name

2630 Cropsey Avenue / 1935 Shore Parkway
Circle one

Apt. 5K
Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

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NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Please thoroughly address these issues BEFORE the opening of the Southwest Brooklyn converted Marine Transfer Station.

Thank you,

SIGN your name

BERNARD HAGER

PRINT your name

2630 Cropsey Avenue 1935 Shore Parkway
Circle one

Apt. 11C
Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

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NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

Naomi Blanck
SIGN your name
NAOMI BLANCK
PRINT your name
2630 Cropsey Avenue \ 1935 Shore Parkway
Circle one
Apt. 7-A
Brooklyn, New York 11214

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

SIGN your name

AIRAN LIPSCHER

PRINT your name

2652 Cropsey Avenue

Apt. 9/4

Brooklyn, New York 11214

Contello Towers
2740 Cropsey Avenue/2015 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street 12th Floor
New York, New York 10004

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Thank you,

Henry S. Schleifer
SIGN your name

HENRY S SCHLEIFER
PRINT your name

MILDRED M. SCHLEIFER
Mildred M Schleifer

2740 Cropsey Avenue/2015 Shore Parkway
Circle one
Apt 12I
Brooklyn, New York 11214

Contello Towers
2740 Cropsey Avenue/2015 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street 12th Floor
New York, New York 10004

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Thank you,

Jeanette R. Kraut
SIGN your name
Jeanette R. Kraut
PRINT your name
2740 Cropsey Avenue (2015 Shore Parkway)
Circle one
Apt 3G
Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

Phyllis Sannasardo
SIGN your name
Phyllis SANNASARDO
PRINT your name
2630 Cropsey Avenue / 1935 Shore Parkway
Circle one
Apt. 2-F
Brooklyn, New York 11214

Waterview Towers
2630 Cropsey Avenue/1935 Shore Parkway
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

Thomas J. Moran
SIGN your name
THOMAS J. MORAN
PRINT your name
2630 Cropsey Avenue (1935 Shore Parkway)
Circle one
Apt. 6-C
Brooklyn, New York 11214

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

Lyubov Vinokurov
SIGN your name
Lyubov Vinokurov
PRINT your name
2652 Cropsey Avenue
Apt. 9B
Brooklyn, New York 11214

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

Milton Dubin
SIGN your name

MILTON DUBIN
PRINT your name

2652 Cropsey Avenue

Apt. 6H
Brooklyn, New York 11214

Contello Towers No.3
2652 Cropsey Avenue
Brooklyn, New York 11214

Harry Szarpanski, Assistant Commissioner
NYC Department of Sanitation
44 Beaver Street – 12th Floor
New York, New York 10004

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Thank you,

Mollie Mensworth
SIGN your name

Mollie Mensworth
PRINT your name

2652 Cropsey Avenue

Apt. 5B
Brooklyn, New York 11214

JANUARY 13, 2005
(Date)

51-15 46 ST.
(Address)

WOODSIDE N.Y. 11377

DEPT. OF SANITATION
44 BEAVER ST. 12 FLR
NEW YORK N.Y. 10004

Review

Dear MR SEARPANSKI

I am an active member of the United Forties Civic Association and wish to express my feelings about the following conditions.
The areas on both sides of the Newtown Creek have been subjected to all kinds of pollution and contamination for the past one hundred years. The creek has been contaminated to such an extent, that there is no life form that can exist in it's waters. In addition to the pollution and contamination, the residents have been subjected to the most foul odors and smells emanating from such manufacturing plants as Phelps Dodge, Van Idersteins,Sea Foo Fat, and many others.
I believe with many other residents that we have been a dumping ground for all unwanted businesses for too long a period (100 Yrs.) There are at present several proposals being considered for this area. The Cross Harbor Tunnel with an adjoining Intermodal at the old Phelps Dodge site, would bring more heavy truck traffic in our already saturated area and bring with it more noise and air pollution. There is also another proposal on the table for a Department of Sanitation solid waste facility on Review Avenue, to alleviate the shipment of solid waste by truck and ship it by rail or barge from that facility. We are told it will only handle waste from our area, but politics being what it is we will end up handling the waste from the borough or possibly the city.
I have researched these proposals and can only come to the conclusion that the city intends to keep this area as a "dumping ground". The Cross Harbor Tunnel project will provide rail transport to the Maspeth area (Phelps Dodge) of huge ship containers from the New Jersey ports to be further transported by truck to New England and Long Island. This will result in thousands of trucks entering and leaving this area every day, and absolutely no one will keep these trucks on designated "truck routes". This heavy trucking will eventually cut through our residential areas, in order to avoid congested truck routes. These same containers will assuredly not be returning empty and therefore I feel it safe to assume that they will be filled with the solid waste from the D. of S. facility and shipped out by rail from the Maspeth intermodal. This has to result in eventually our receiving

a great deal of the city's waste to be shipped out from this facility and again subjecting the residents to noise, pollution and odors that will affect the environment and quality of life.
You have undoubtedly heard of the opposition to these proposals as shown by the large billboard sign alongside the Long Island Expressway advising people to call Mr. Nadler and express their opposition to his proposals. Mr. Nadler takes the heavy traffic from his area and is trying to dump it in ours. The residents of this area have had enough and will not stand for being stepped on again and again and THEY WILL VOTE ACCORDINGLY.

Respectfully yours

Gus Amato

GUS AMATO

January 13th, 2005
(Date)

43-17 47st. Apt D44
(Address)

Sunnyside, NY 11104

Dept of Sanitation
44 Beaver St NY, NY 10004

Dear Harry Searpanski

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Respectfully yours

Brian Bennett Jr

1/13/04
(Date)

51-13-46 St
(Address)

Woodside NY 11377

Dept Of Sanitation
44 Beaver Street 12th Floor
New York City, 10004.

Dear Harry Spaspanos

I am an active member of the United Forties Civic Association and wish to express my feelings about the following conditions.
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Respectfully yours

Dennis Bruno

Jan 14 2000
(Date)

51-27 46 St.
(Address)

Woodside N.Y. 11377

44 Beaver St. 12th fl.
N.Y. N.Y. 10004

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Respectfully yours

Loleta Brancs

JAN 13th 2005
(Date)

50-61 45th ST.
(Address)

WOODSIDE NY 11377

DEPT OF SANITATION
44 BEAVER ST.
NEW YORK NY 10004

ATT HARRY SEARPANSKI

Dear Mr. Harry Searpanski

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Respectfully yours

Francis J. Conway

FRANCIS J. CONWAY

Jan 13/05
(Date)

50-12 48 Street
(Address)

Woodside, NY 11377

Dept of Sanitation
44 Beaver St. 13th FL
New York.
Dear Harry Searpanski

I am an active member of the United Forties Civic Association and wish to express my feelings about the following conditions.
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Respectfully yours

Margaret Daly

4/13/05
(Date)

47-20 44 St
(Address)

Woodside, NY 11377

Dept of Sanitation
44 Beaver St 12th Fl
New York, NY 10004

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Respectfully yours

Domingo Fondulis

JAN. 14, 2005
(Date)

51-21 46 ST WDSC
(Address)

N.Y. 11377

DEPT OF SANITATION
44 BEAVER ST, 12TH FLOOR
NEW YORK, NY 10004
Dear HARRY SEARPANSKI

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Respectfully yours

Marie Hampel

1-13-2005
(Date)
51-63 47th St
(Address)
Woodside, NY 11377

DEPT. OF SANITATION
44 Beaver St. 12TH Fl.
Dear Mr. HARRY SEARPANSKI

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Respectfully yours

M. Laba

1/14/05
(Date)

50-62-45 ST
(Address)

Woodside, N.Y. 11377

Dept of Sanitation
Mr Harry Searpanski
44 Beaver St, N.Y. N.Y. 10004 12TH FLOOR

Dear Mr Searpanski

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Respectfully yours

William Lewis

January 14, 2005
(Date)

5109 47 Street
(Address)

Woodside NY 11377

Dept. of Sanitation
44 Beaver St. 12 Floor
New York, N.Y. 10004

Dear Mr. Scarpanski

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Respectfully yours

Catherine McNamara

1-13-05
(Date)
4845-38th
(Address)
LIC NY 11101

Dept of Sanitation
44 Beaver St
Dear Harry Szarzanski

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Respectfully yours

Gertrude McDonald

1 13 2005
(Date)

5062 46 St
(Address)

Woodside N.Y 11377

Dept of Sanitation
44 Beaver St 12th. N.Y N.Y 10004
att: Harry Szarpanski

Dear Mr. Szarpanski

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Respectfully yours

Mary McGovern

1/13/05
(Date)

50-36 48th ST
(Address)

WOODSIDE NY 11377

DEP. OF SANITATION
44 BEAVER ST. 12th FL. NEW YORK NY

Dear ATTN. HARRY SEARPANSKI

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Respectfully yours

Mary Mc Gray

13 JAN 04
(Date)

4859 - 48 ST.
(Address)

WOODSIDE N.Y. 11377

DEPT OF SANITATION
44 BEAVER ST.
N.Y.C. N.Y.

Dear HARRY SARPANSKI

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Respectfully yours

1/13/05
(Date)

47-57 43RD ST
(Address)

WOODSIDE, NY 11377

DEPT OF SANITATION
44 BEAVER ST 12TH FLR
NY, NY 10004

Dear MR SEARSPANSKI

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Respectfully yours

Pamela O'Toole

1/13/05
(Date)
CHARLES J. RENDA
48-45 45TH ST.
(Address)
WOODSIDE, N.Y. 11377

ATTN HARRY SCARPANSKI

DEPT OF SANITATION
44 BEAVER ST. 12TH FLOOR
~~N.Y. N.Y. 10004~~

Dear HARRY SCARPANSKI

I am an active member of the United Forties Civic Association and wish to express my feelings about the following conditions.
The areas on both sides of the Newtown Creek have been subjected to all kinds of pollution and contamination for the past one hundred years. The creek has been contaminated to such an extent, that there is no life form that can exist in it's waters. In addition to the pollution and contamination, the residents have been subjected to the most foul odors and smells emanating from such manufacturing plants as Phelps Dodge, Van Idersteins, Sea Foo Fat, and many others.
I believe with many other residents that we have been a dumping ground for all unwanted businesses for too long a period (100 Yrs.) There are at present several proposals being considered for this area. The Cross Harbor Tunnel with an adjoining Intermodal at the old Phelps Dodge site, would bring more heavy truck traffic in our already saturated area and bring with it more noise and air pollution. There is also another proposal on the table for a Department of Sanitation solid waste facility on Review Avenue, to alleviate the shipment of solid waste by truck and ship it by rail or barge from that facility. We are told it will only handle waste from our area, but politics being what it is we will end up handling the waste from the borough or possibly the city.
I have researched these proposals and can only come to the conclusion that the city intends to keep this area as a "dumping ground". The Cross Harbor Tunnel project will provide rail transport to the Maspeth area (Phelps Dodge) of huge ship containers from the New Jersey ports to be further transported by truck to New England and Long Island. This will result in thousands of trucks entering and leaving this area every day, and absolutely no one will keep these trucks on designated "truck routes". This heavy trucking will eventually cut through our residential areas, in order to avoid congested truck routes. These same containers will assuredly not be returning empty and therefore I feel it safe to assume that they will be filled with the solid waste from the D. of S. facility and shipped out by rail from the Maspeth intermodal. This has to result in eventually our receiving

a great deal of the city's waste to be shipped out from this facility and again subjecting the residents to noise, pollution and odors that will affect the environment and quality of life.
You have undoubtedly heard of the opposition to these proposals as shown by the large billboard sign alongside the Long Island Expressway advising people to call Mr. Nadler and express their opposition to his proposals. Mr. Nadler takes the heavy traffic from his area and is trying to dump it in ours. The residents of this area have had enough and will not stand for being stepped on again and again and THEY WILL VOTE ACCORDINGLY.

Respectfully yours

Charles J. Renda

January 13, 2005
(Date)

Thea Skarmoutsos
(Address)
37-15 13
LIC NY 11101

Dept. of Sanitation
44 Beaver str, 12th FLR N.Y. 10004

Dear Mr. Searpanski

I am an active member of the United Forties Civic Association and wish to express my feelings about the following conditions.
The areas on both sides of the Newtown Creek have been subjected to all kinds of pollution and contamination for the past one hundred years. The creek has been contaminated to such an extent, that there is no life form that can exist in it's waters. In addition to the pollution and contamination, the residents have been subjected to the most foul odors and smells emanating from such manufacturing plants as Phelps Dodge, Van Idersteins, Sea Foo Fat, and many others.
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Respectfully yours

T. Skarmoutsos

1/13/05
(Date)

5007-46 St
(Address)

Woodside N.Y. 11377

Dept of Sanitation
44 Beaver street 12th Fl.
New York N.Y. 10004
Mr. Scott Parsk

Dear

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Respectfully yours

Rafe Tropato

01-13-05
(Date)

42-09 47 AVE
(Address)

SUNNYSIDE

DEPT OF SANITATION
N.Y.C

Dear MR. H. SCARAMUCCI

I am an active member of the United Forties Civic Association and wish to express my feelings about the following conditions.
The areas on both sides of the Newtown Creek have been subjected to all kinds of pollution and contamination for the past one hundred years. The creek has been contaminated to such an extent, that there is no life form that can exist in it's waters. In addition to the pollution and contamination, the residents have been subjected to the most foul odors and smells emanating from such manufacturing plants as Phelps Dodge, Van Idersteins, Sea Foo Fat, and many others.
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Respectfully yours

R Van Dertoni

TO: Harry Szarpanski
Assistant Commissioner,
NYC Department of Sanitation ("DSNY")

BY: FACSIMILE: (212) 269-0788
E-MAIL: Hszarpan@dsny.nys.gov

DA: 1/21/05

RE: Marine Transfer Station ("MTS"), Southwest Brooklyn Location
Request for an Extension of Comment Period

Dear Mr Szarpanski:

I am a concerned citizen and resident in close proximity to the above MTS.

This letter serves as a request to extend the comment period during which the public may submit comments concerning the Draft Environmental Impact Statement ("DEIS") from the existing deadline of January 24, 2005 until or after March 1, 2005.

As you know, the recent meetings were not well publicized. The DEIS and related materials are voluminous and/or contain technical information (one section specifically relating to the above MTS is 138 pages). The information provided at the meetings by the DSNY and its consultants (written, verbal and Power Point presentation) is frequently incomplete and inconsistent with data contained in the DEIS. It is my belief that much of the data in the DEIS is inaccurate and, therefore, requires further study and analysis. The public should be afforded an opportunity to consult with experts with credentials similar to the consultants that conducted the studies for the DEIS.

Accordingly, please extend the public comment period as requested above, and advise.

Sincerely,

William Hershkowitz
2630 Cropsey Avenue
Apt 8-G
Brooklyn, NY 11214

HOJA DE COMENTARIO DEL DEIS

Para la versión preliminar del nuevo plan de manejo integral de los desechos sólidos

Nombre *(en letra de imprenta)*: SANTANA RAMIREZ

Agencia/organización (si corresponde): BLOCK WATCHER/Voluntary

Dirección: 98 Grattan St, Apt- 3-L
Bkln, N,Y, 11237-1650

Mailing address / P.O. BOX, 370-330
Bkln, N,Y, 11237-0330

Correo electrónico:

Proporcione comentarios por escrito en esta hoja y deposítela en la caja de comentarios o envíela por correo a*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

****Todos los comentarios enviados por correo se recibirán hasta las 5:00 p.m. del lunes 24 de enero de 2005.***

Comentarios: PROBLEM / GARBAGE ODOR 24/hr/365 days

For the last four years we have been sending messages to city authorities requesting solve the problem of too much undesirable odors coming from the garbage facility building. located at thames st. between porter st and knickerbocker av In the summer time our apt windows must be keep closed from the rear yard wich face the garbage facility building less than 25 feet. distance to the walls of the building.

We are at risk of health hazzard living near a place of too much contaminated garbage . Probably we the resident are risking our lives and our health inhaling so much contaminants. Beside the terrible odor problem invasion of rats are atracted to the site of the garbage. Once we complaint to the city of New York mayor Bloomberg and the response was an officer from health dept came to our premises to investigate

(Fin)

New York City Department of Sanitation

Final Environmental Impact Statement for the New York City Comprehensive Solid Waste Management Plan

April 2005 (updated May 2005)

APPENDIX H – SELECTED OUTREACH MATERIAL FOR ENHANCED PUBLIC PARTICIPATION

Community Board ULURP Hearings

- Factsheet #1
- Factsheet #2
- Factsheet #3
- ULURP Presentation: DEC Permit Slides
- ULURP Hearing Ads
- ULURP Invitational Trifold

DEIS Hearing Materials

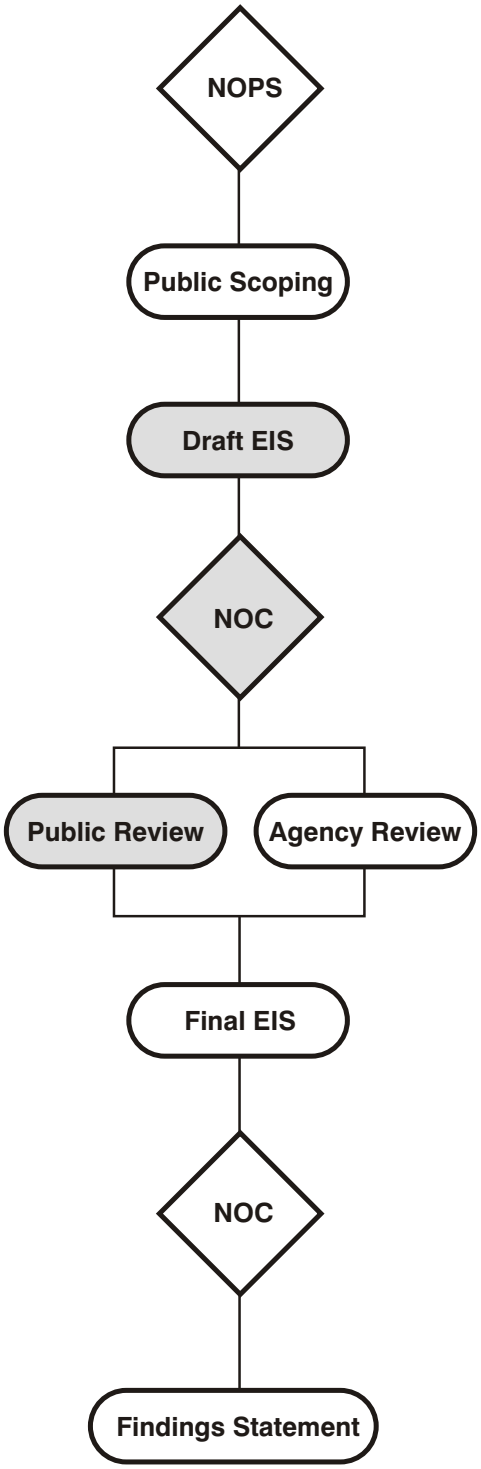
- Proposed Action Display Board
- Public Involvement Display Board
- Comment Sheet
- DEIS Cover Letter
- DEIS Extension Notice
- DEIS Extension Notice-Spanish
- DEIS Presentation
- Invitational Trifold Mailers
- Opening Statement
- Repository Mailing List
- Sign In Sheet
- Thank You Letters
- Welcome Sheet

Public Scoping Meeting Materials

- Factsheet #1
- Factsheet #2
- Factsheet #3
- EIS Topics Display Board
- Proposed Action Display Board
- Public Involvement Display Board
- Korean_ Public Scoping
- Mandarin Chinese Public Scoping
- Comment Sheet
- Final Scoping Document Cover Letter
- Invitational Trifold Mailer
- Opening Statement
- Pre Scoping
- Scoping Meeting Notice
- Scoping Meeting Notice local newspapers
- Scoping Meeting Notice Spanish
- Scoping Meeting Presentation
- Welcome Sheet

NEW SOLID WASTE MANAGEMENT PLAN

FACT SHEET NO. 1
Department of Sanitation (DSNY)
Public Involvement



Notice of Public Scoping (NOPS)
In May 2004, a NOPS was issued to open the public scoping process and announce the City's intent to prepare an Environmental Impact Statement (EIS) for the New Solid Waste Management Plan (New SWMP). This notice was published in the *City Record* and the *Environmental Notice Bulletin* 30 days before the first scoping meeting was held and in numerous community based newspapers.[1]

Public Scoping
An early and open process for determining the scope and identifying the significant issues related to the proposed action. The City held ten public meetings on the Draft Scoping Document for the Draft EIS during a seven week comment period. Over 850 people attended 10 Public Scoping meetings in June/July 2004, and the hundreds of comments received were considered in the preparation of the Final Scoping Document for the New SWMP Draft EIS issued in October 2004.

Draft EIS
A draft document that discloses the results of the analysis of the environmental consequences of the proposed action. The Draft EIS for the New SWMP was published in October 2004. Copies were mailed to involved and interested parties, placed on the DSNY web site and made available at the public repositories.

Notice of Completion (NOC) of Draft EIS
A formal notice that announced the completion of the Draft EIS for the New SWMP and opened the Draft EIS comment period. This notice, published in the *Environmental Notice Bulletin* on October 22, 2004, marked the beginning of the Draft EIS comment period. A second notice was published in mid-November to provide notice of the schedule for the 8 Draft EIS public hearings and the extension of the public comment period.[2]

Public Review
The City will receive comments at eight Draft EIS public hearings, with at least one public hearing in each borough. The hearings are being held in communities that host facilities/sites at which the City proposes to containerize and export waste.

Final EIS
The City will consider substantive comments received during the DEIS comment period. The Final EIS for the New SWMP, expected to be issued in February/March 2005, will set forth comments received and responses thereto, as well as revised text, as appropriate.

Notice of Completion (NOC) for Final EIS
A formal notice that announces the completion of the Final EIS for the New SWMP will be published after the Final EIS is issued.

CEQR Findings Statement
A document that summarizes the findings reached on the proposed action will be issued between 10 and 30 days after the Final EIS for the New SWMP is published.

[1, 2] In accordance with the New York State Department of Environmental Conservation's (NYSDEC) Environmental Justice (EJ) and Permitting Policy Document, formal written notices were also provided in readily available community-based newspapers. In addition, the DEIS comment period has been extended from 30 days to more than 90 days to promote fair involvement of all people in DSNY's environmental review and the NYSDEC permit process.

(Over)

DSNY Public Involvement

The New York State Department of Environmental Conservation (NYSDEC) policy on Environmental Justice (EJ) and Permitting (EJ Policy) promotes the fair involvement of all people in the NYSDEC environmental permit process. DSNY has chosen to apply the EJ Policy to the environmental review of the New SWMP and to the NYSDEC permitting processes required for solid waste management facility permits. DSNY has developed and implemented an enhanced public participation and outreach program (EJ Program) to seek input and share information on the New SWMP Draft EIS and facilities for which DSNY is required to obtain a NYSDEC permit. Upon completion of the EJ Program, DSNY will submit a report detailing activities occurring in each community.

EJ Program

DSNY's EJ Program includes enhanced public outreach, information dissemination, translation/interpretation services, and community meetings accessible to each EJ project area. To date, DSNY has:

PUBLIC SCOPING

- Worked with Community District Managers to identify unique needs of each community, compile stakeholder mailing lists, and coordinate meeting venues;
- Established a toll-free information hotline;
- Published Display Advertisements in 12 newspapers, including in Spanish and Korean in *El Diario*, *Ming Pao Daily News* and the *Korean Times*;
- Distributed written information to over 2,800 stakeholders;
- Established 20 easily accessible public document repositories;
- Conducted 10 Public Scoping meetings in June/July 2004;
- Provided simultaneous or consecutive Spanish interpreter services at 8 of 10 Public Scoping meetings;
- Translated outreach materials into Spanish, Mandarin Chinese, and Korean for distribution;
- Issued a compendium of comments received; and
- Included a 30+ page comment summary and responses section in the Final Scoping Document.

INTERIM PERIOD

- Responded to inquiries received on the toll-free hotline;
- Expanded stakeholder lists to include Public Scoping meeting attendees and speakers, commentors and other contacts;
- Added two repositories and updated repositories with public documents; and
- Considered Public Scoping comments in DEIS preparation.

DEIS HEARING

- Worked with Community District Managers to select Public Hearing dates and venues;
- Distributed written information to over 3,200 stakeholders;
- Published display advertisements in the *City Record*, *Environmental Notice Bulletin*, the *New York Post*, *Staten Island Advance*, and *El Diario*;
- Provided an extended DEIS public comment period (October 22, 2004, to January 24, 2005); and
- Prepared translated outreach materials and provided simultaneous or consecutive interpreter services at the DEIS public hearings, as appropriate.

As defined by NYSDEC, EJ communities are census block groups or contiguous areas which have 1) a low-income population equal to or greater than 23.59% of the total population, and/or 2) a minority population equal to or greater than 51.1% in an urban area. Minority populations are identified by the U.S. Census Bureau as Hispanic, African-American or Black, Asian and Pacific Islander or American Indian. The percent thresholds for low-income and minority populations rely on 2000 Census data.

(Over)

PROPOSED ACTION/ IMPACTS & MITIGATION

FACT SHEET NO. 2
Proposed North Shore Converted Marine Transfer Station

In October 2004, the Department of Sanitation (DSNY) issued a Draft Comprehensive Solid Waste Management Plan (New SWMP). The New SWMP describes how all the waste generated in the City will be managed over the next twenty years. The New SWMP continues existing programs, but also proposes to end the use of long-haul trucks to transport DSNY-managed waste and rely mostly on barge/rail export of waste. Key elements of the proposed New SWMP are to:

- Enter into a twenty-year contract for recyclables processing and marketing and for a new processing facility at the South Brooklyn Marine Terminal.
- **Build four new Marine Transfer Stations (MTSs) at existing MTS sites: the East 91st Street, North Shore, Hamilton Avenue, and Southwest Brooklyn Converted MTSs.**
- Use private transfer stations (TSs) for barge/rail export of containerized waste from the Bronx, Brooklyn, and Queens communities previously served by the South Bronx and Greenpoint MTSs.
- Complete the Staten Island TS and begin export of Staten Island waste by rail.
- Enter into a long-term agreement for the disposal of a portion of Manhattan waste at the Essex County Resource Recovery Facility (RRF) in New Jersey.
- Offer the West 59th Street MTS (Manhattan) for commercial waste export and accept some commercial waste at the new Converted MTSs.

The **North Shore Converted MTS** is proposed in the New SWMP to be a City-owned facility, built on the site of the demolished existing MTS in Queens Community District (CD) 7. The Converted MTS would accept the residential waste generated in **Queens CDs 7 through 14**, as in the past, containerize it, and send it out by barge. Commercial waste accepted would also be exported in containers by barge.

PROPOSED NORTH SHORE CONVERTED MTS

Notable Features

- Expected average daily throughput is approximately 2,200 tons per day (tpd) of DSNY-managed waste and, potentially, 1,000 tpd of commercial waste (putrescible only) delivered between 8:00 p.m. and 8:00 a.m.
- Odor and environmental control systems.
- No off-site truck queuing.
- Waste containerization.

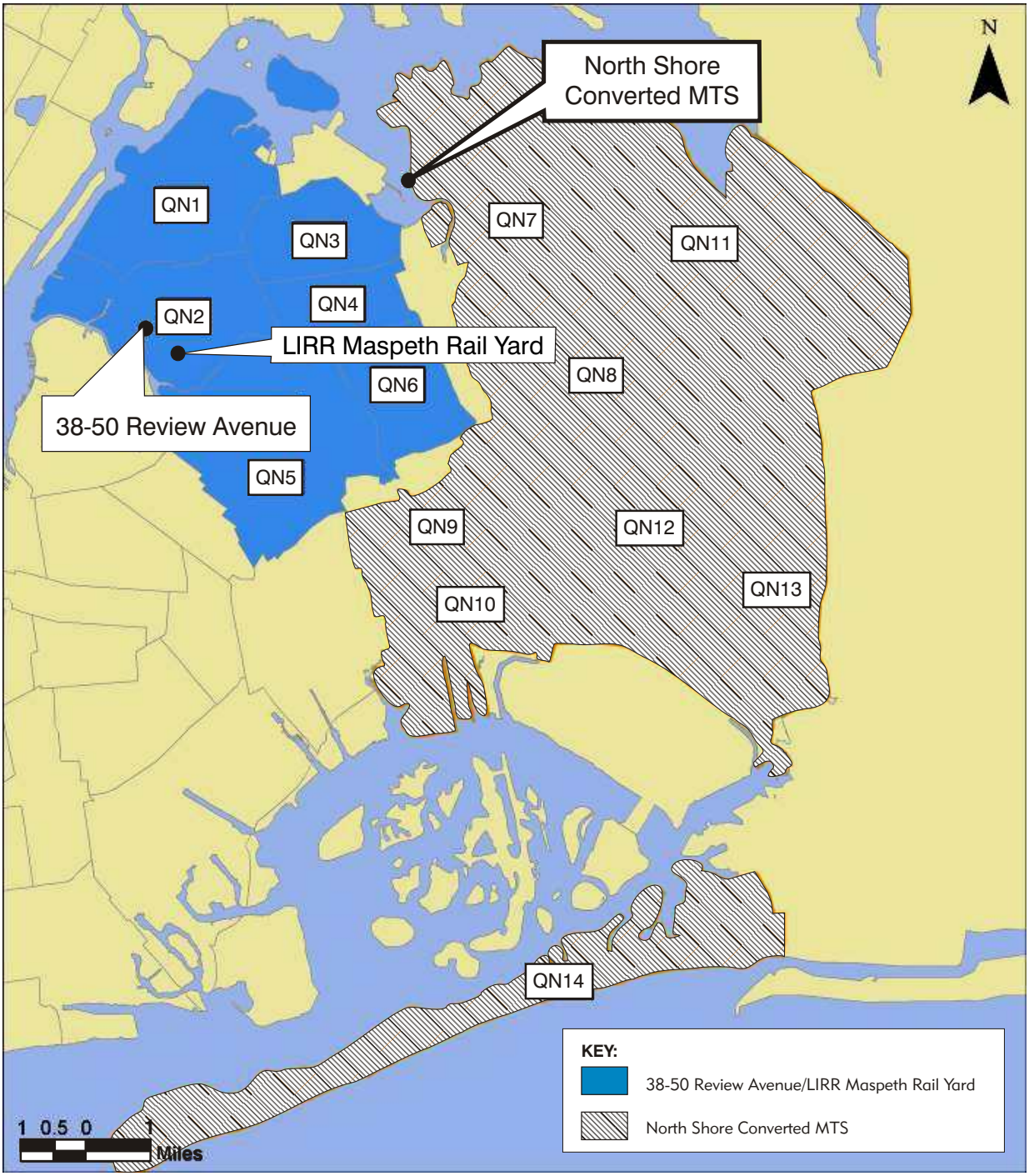
Land Side View

(Over)

PROPOSED ACTION/IMPACTS & MITIGATION

Results of the environmental review completed for the proposed use of the North Shore Converted MTS have shown that no significant adverse traffic, air quality, odor or other impacts are expected with traffic signal changes in place. Noise impact mitigation will be required for commercial waste trucks traveling to the facility between 1:00 a.m. to 5:00 a.m. A detailed description of the results and the methods used to arrive at these conclusions can be found in the Draft EIS.

Proposed Queens Long-term Export Facilities and Wastesheds



02:001578.HD04.06/public hearing materials/factsheet-2-Greenpoint.cdr-11/29/04

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STATE PERMIT REVIEW PROCESS

FACT SHEET NO. 3
Proposed North Shore
Converted Marine Transfer Station

Environmental permits (solid waste management facility, air and marine resources) will be required to construct and operate the City of New York Department of Sanitation (DSNY) new Converted Marine Transfer Stations (MTSs) proposed on four existing MTS sites in Queens (North Shore MTS), Brooklyn (Hamilton Avenue MTS and Southwest Brooklyn MTS) and Manhattan (East 91st Street MTS). These permits are issued by the New York State Department of Environmental Conservation (NYSDEC) pursuant to regulations and a permit review process that are triggered by the submission of applications and a determination that the applications are complete (Notice of Complete Application):

- DSNY submitted applications in November 2004 for NYSDEC permits to construct and operate the four Converted MTSs.
- The NYSDEC permit applications are for solid waste management facility, air and marine resources permits required to construct and operate each Converted MTS.
- The NYSDEC permit applications for each Converted MTS are available for review in the public document repositories established for each Converted MTS community (see the back of this handout for information on the North Shore Converted MTS public document repositories).
- Once NYSDEC has deemed the Converted MTS applications to be complete, a step which DSNY hopes will be taken in early 2005, a Notice of Complete Application will be issued. As part of its permit review process, NYSDEC will establish a time period during which it will accept comments from the public on the NYSDEC permit applications for each Converted MTS. Until that comment period is established, DSNY will accept comments on the NYSDEC permit applications as comments that it will consider in connection with the Draft Environmental Impact Statement (DEIS) for the NYC Draft Comprehensive Solid Waste Management Plan for the next 20 years (New SWMP).
- Once the permit review process has begun, NYSDEC will also schedule a hearing on the NYSDEC permit applications for each Converted MTS. The hearings will be held in or near each Converted MTS community.
- DSNY will mail/distribute more information on the NYSDEC permit review process to all stakeholders. Stakeholders are individuals and organizations whose names and addresses were provided by the Community Boards in which the Converted MTSs are located.
- Stakeholders are also those who have submitted written or oral comments during the environmental review process for the New SWMP, or signed in as an attendee at public scoping meetings and/or public hearings for the New SWMP DEIS.

(Over)

STATE PERMIT REVIEW PROCESS

Public document repositories established for the North Shore Converted MTS contain the NYSDEC permit applications for the North Shore Converted MTS for your review. The locations, days and hours of operation and contact information for these public document repositories are provided below:

North Shore Converted MTS Repository Location	Repository Address	Days and Hours of Operation	Contact Name	Contact Phone Number
Queens Community Board 7 Office	133-32 41st Rd., 3rd Floor (between Frame Pl. and Main St.)	M-Fr, 9-5; closed weekends	Marilyn Bitterman, District Manager	718-359-2800
Mitchell-Linden Library	29-42 Union Street (off Bayside Ave.)	M, Th 1-8; Tu 1-6; W & Fr 10-6; closed weekends	Farsana Momeni	718-539-2330

(Over)

Converted MTS Permits and Approvals

- The Converted MTS will require state, federal and local permits and approvals.
- The MTS is subject to the Uniform Land Use Review Procedure (ULURP) as site selection for a capital project.
- The Converted MTS ULURP application was certified on November 15th, and the ULURP process is on-going.
- Queens Community Board 7 will hold meetings and a hearing to consider and vote on the ULURP application.
- The Converted MTS State environmental permit application (solid waste, air and marine) was submitted in November to the New York State Department of Environmental Conservation (NYSDEC).
- NYSDEC will hold a hearing and establish a public comment period on the Converted MTS permit application as part of its permit review process.

Public Comments

How to submit comments on the DEIS and/or State permit applications:

- Provide Verbal Comments (fill out a Speaker Registration Card at the sign-in desk) ***or***
- Fill out a Comment Sheet ***or***
- Submit a Written Statement ***or***
- Mail Comments (to be received no later than 1/24/05) to:

Harry Szarpanski, Assistant Commissioner
Department of Sanitation
44 Beaver Street, 12th floor
New York, NY 10004

Or…

DEIS/Permit Comments
c/o Ecology and Environment, Inc.
90 Broad Street, Suite 1906
New York, NY 10004

Notice Of Informational Meeting On The State Permit Applications And Permit Review Process For The East 91st Street Converted Marine Transfer Station

This notice has been prepared by the City of New York Department of Sanitation (DSNY) in support of DSNY's State environmental permit applications to construct and operate the East 91st Street Converted Marine Transfer Station (MTS) on file with and under review by the New York State Department of Environmental Conservation (State) and in accordance with the DSNY Enhanced Environmental Justice Public Participation Plan for the public outreach component of the State permit review process. DSNY State environmental permit applications for the East 91st St. Converted MTS are available for inspection in two public repositories for the East 91st St. Converted MTS community listed below.

Informational Meeting and ULURP Hearing: DSNY will hold an informational meeting on the East 91st Street Converted MTS State environmental permit applications and permit review process as part of a Uniform Land Use Review Procedure Public Hearing to be held by Manhattan Community Board 8 on January 12, 2005 at 7:00 PM at Hunter College School of Social Work, 129 E.79th Street, Manhattan.

Permit Review Process: As part of a new Solid Waste Management Plan issued in draft for the 20-year planning period (New SWMP), DSNY proposes to construct and operate a Converted MTS on the site of the demolished East 91st Street Marine Transfer Station at York Avenue and East 91st Street in Community District 8, Manhattan, pursuant to State environmental permits (solid waste management facility, air, marine resources). Both the New SWMP and State environmental permit applications to construct and operate the East 91st Street Converted MTS are supported by a Draft Environmental Impact Statement (DEIS). A Final EIS is expected to be issued in February/March 2005.

Public Comment Period: DSNY is accepting public comment on the New SWMP, the DEIS and the State permit applications through 5 pm on January 24, 2005. Comments may be mailed or faxed to Harry Szarpanski, Assistant Commissioner, DSNY, 44 Beaver Street, 12th Floor, New York, NY 10004. Phone: (917) 237-5520; Fax: (212) 269-0788.

Public Repository Locations, Contact Information and Hours:

Repository	Contact Name	Contact Phone Number	Hours	Location
Manhattan Community Board 8 Office	Elizabeth McKee, District Manager	212-758-4340	M-F, 9-5; closed wknds	505 Park Avenue, Suite 620 (between 59th and 60th Streets)
96th Street Regional Library	Bill Seufert	212-289-0908	M & Th 12-8; Tu & F 1-6; W 10-4; Sa 10-5; closed Su.	112 E. 96th Street (between Park and Lexington Avenues)

91st street
Our Town

Notice Of Informational Meeting On The State Permit Applications And Permit Review Process For The Southwest Brooklyn Converted Marine Transfer Station

This notice has been prepared by the City of New York Department of Sanitation (DSNY) in support of DSNY's State environmental permit applications to construct and operate the Southwest Brooklyn Converted Marine Transfer Station (MTS) on file with and under review by the New York State Department of Environmental Conservation (State) and in accordance with the DSNY Enhanced Environmental Justice Public Participation Plan for the public outreach component of the State permit review process. DSNY State environmental permit applications for the Southwest Brooklyn Converted MTS are available for inspection in two public repositories provided for the Southwest Brooklyn Converted MTS community listed below.

Informational Meeting and ULURP Hearing: DSNY will hold an informational meeting on the Southwest Brooklyn Converted MTS State environmental permit applications and permit review process as part of a Uniform Land Use Review Procedure Public Hearing to be held by Brooklyn Community Board 11 on January 13, 2005 at 7:00 PM at I.S. 281, Joseph B. Cavallaro School at 8787 24th Avenue, between Bath and Cropsey Avenues, Brooklyn, NY.

Permit Review Process: As part of a new Solid Waste Management Plan issued in draft for the 20-year planning period (New SWMP), DSNY proposes to construct and operate a Converted MTS, Shore Parkway at Bay 41st Street, on the site of the demolished Southwest Brooklyn Incinerator in Community District 11, Brooklyn, pursuant to State permits (solid waste management facility, air, marine resources). Both the New SWMP and State permit applications to construct and operate the Southwest Brooklyn Converted MTS are supported by a Draft Environmental Impact Statement (DEIS). A Final EIS is expected to be issued in February/March 2005.

Public Comment Period: DSNY is accepting public comment on the New SWMP, the DEIS and the State permit applications through 5 pm on January 24, 2005. Comments may be mailed or faxed to Harry Szarpanski, Assistant Commissioner, DSNY, 44 Beaver Street, 12th Floor, New York, NY 10004. Phone: (917) 237-5520; Fax: (212) 269-0788.

Public Repository Locations, Contact Information and Hours:

Repository	Contact Name	Contact Phone Number	Hours	Location
Brooklyn Community Board 11 Office	Howard Feuer, District Manager	718-266-8800	M-F, 9-5; closed wknds.	2214 Bath Avenue (off Bay Parkway)
New Utrecht Public Library	Ed Jelen	718-236-4086	M & Th 1-6; Tu 1-8; W & F 10-6; Sa 10-5; closed Su.	1743 86th Street (at Bay 17th Street)

Brooklyn - NY Post
Southwest

Notice Of Informational Meeting On The State Permit Applications And Permit Review Process For The Hamilton Avenue Converted Marine Transfer Station

This notice has been prepared by the City of New York Department of Sanitation (DSNY) in support of DSNY's State environmental permit applications to construct and operate the Hamilton Avenue Converted Marine Transfer Station (MTS) on file with and under review by the New York State Department of Environmental Conservation (State) and in accordance with the DSNY Enhanced Environmental Justice Public Participation Plan for the public outreach component of the State permit review process. DSNY's State environmental permit applications for the Hamilton Avenue Converted MTS are available for inspection in two public repositories provided for the Hamilton Avenue Converted MTS community listed below.

Informational Meeting and ULUP Public Hearing: DSNY will hold an informational meeting on the Hamilton Avenue Converted MTS State permit applications and permit review process as part of a Uniform Land Use Review Procedure Public Hearing to be held by Brooklyn Community Board 7 on January 13, 2005 at 6:30 PM at Community Board 7's Offices located at 4201 4th Avenue.

Permit Review Process: As part of a new Solid Waste Management Plan issued in draft for the 20-year planning period (New SWMP), DSNY proposes to construct and operate a Converted MTS at Hamilton Avenue near Second Avenue and the Gowanus Canal on the site of the demolished closed Hamilton Avenue Incinerator and existing MTS in Community District 7, Brooklyn, pursuant to State permits (solid waste management facility, air, marine resources). Both the New SWMP and State permit applications to construct and operate the Hamilton Avenue Converted MTS are supported by a Draft Environmental Impact Statement (DEIS). A Final EIS is expected to be issued in February/March 2005.

Public Comment Period: DSNY is accepting public comment on the New SWMP, the DEIS and the State permit applications through 5 pm on January 24, 2005. Comments may be mailed or faxed to Harry Szarpanski, Assistant Commissioner, DSNY, 44 Beaver Street, 12th Floor, New York, NY 10004. Phone: (917) 237-5520; Fax: (212) 269-0788.

Public Repository Locations, Contact Information and Hours:

Repository	Contact Name	Contact Phone Number	Hours	Location
Brooklyn Community Board 7 Office	Jeremy Laufer, District Manager	718-854-0003	M-F, 9-5; closed wknds.	4201 4th Avenue at corner of 43rd Street
New Utrecht Public Library	Mr. Ohle	718-567-2806	M 1-8; Tu, Th & F 1-6; W 10-6; Sa 10-5; closed Su.	5108 4th Avenue at 51st Street

Brooklyn - NY Post
Hamilton

Notice Of Informational Meeting On The State Permit Applications And Permit Review Process For The North Shore Converted Marine Transfer Station

This notice has been prepared by the City of New York Department of Sanitation (DSNY) in support of DSNY's State environmental permit applications to construct and operate the North Shore Converted Marine Transfer Station (MTS) on file with and under review by the New York State Department of Environmental Conservation (State) and in accordance with the DSNY Enhanced Environmental Justice Public Participation Plan that governs the public outreach component of the State permit review process. DSNY State permit applications for the North Shore Converted MTS are available for inspection in two public repositories provided for the College Point community listed below.

Informational Meeting and ULURP Hearing: DSNY will hold an informational meeting on the North Shore Converted MTS State permit applications and permit review process as part of a Uniform Land Use Review Procedure Public Hearing to be held by Queens Community Board 7 on January 10, 2005 at 7:00 PM at Union Plaza Care Center, 33-23 Union Street, Flushing - 1st Floor.

Permit Review Process: As part of a new Solid Waste Management Plan issued in draft for the 20-year planning period (New SWMP), DSNY proposes to construct and operate a Converted MTS on the site of the former North Shore MTS, 31st Avenue and 122nd Street, Queens, pursuant to State permits (solid waste management facility, air, marine resources). Both the New SWMP and State permit applications to construct and operate the North Shore Converted MTS are supported by a Draft Environmental Impact Statement (DEIS). A Final EIS is expected to be issued in February/March 2005.

Public Comment Period: DSNY is accepting public comment on the New SWMP, the DEIS and the State permit applications through 5 pm on January 24, 2005. Comments may be mailed or faxed to Harry Szarpanski, Assistant Commissioner, DSNY, 44 Beaver Street, 12th Floor, New York, NY 10004. Phone: (917) 237-5520; Fax: (212) 269-0788.

Public Repository Locations, Contact Information and Hours:

Repository	Contact Name	Contact Phone Number	Hours	Location
Queens Community Board 7 Office	Marilyn Bitterman, District Manager	718-359-2800	M-F, 9-5; closed wknds.	133-32 41st Rd., 3rd Floor (between Frame Pl. and Main St.)
Mitchell-Linden Library	Farsana Momeni	718-539-2330	M, Th 1-8; Tu 1-6; W & F 10-6; closed wknds.	29-42 Union Street (off Bayside Ave.)

Queens

REVISED Notice Of Informational Meeting On The State Permit Applications And Permit Review Process For The Southwest Brooklyn Converted Marine Transfer Station

This notice has been prepared by the City of New York Department of Sanitation (DSNY) in support of DSNY's State environmental permit applications to construct and operate the Southwest Brooklyn Converted Marine Transfer Station (MTS) on file with and under review by the New York State Department of Environmental Conservation (State) and in accordance with the DSNY Enhanced Environmental Justice Public Participation Plan for the public outreach component of the State permit review process. DSNY State environmental permit applications for the Southwest Brooklyn Converted MTS are available for inspection in two public repositories provided for the Southwest Brooklyn Converted MTS community listed below.

Informational Meeting and ULURP Hearing: DSNY will hold an informational meeting on the Southwest Brooklyn Converted MTS State environmental permit applications and permit review process as part of a Uniform Land Use Review Procedure Public Hearing to be held by Brooklyn Community Board 11 on January 13, 2005 at 7:00 PM at **Holy Family Home at 1740 84th Street, between Bay 16th and Bay 17th Streets, Brooklyn, NY.** ***(Please note: This is a revised location)***

Permit Review Process: As part of a new Solid Waste Management Plan issued in draft for the 20-year planning period (New SWMP), DSNY proposes to construct and operate a Converted MTS, Shore Parkway at Bay 41st Street, on the site of the demolished Southwest Brooklyn Incinerator in Community District 11, Brooklyn, pursuant to State permits (solid waste management facility, air, marine resources). Both the New SWMP and State permit applications to construct and operate the Southwest Brooklyn Converted MTS are supported by a Draft Environmental Impact Statement (DEIS). A Final EIS is expected to be issued in February/March 2005.

Public Comment Period: DSNY is accepting public comment on the New SWMP, the DEIS and the State permit applications through 5 pm on January 24, 2005. Comments may be mailed or faxed to Harry Szarpanski, Assistant Commissioner, DSNY, 44 Beaver Street, 12th Floor, New York, NY 10004. Phone: (917) 237-5520; Fax: (212) 269-0788.

Public Repository Locations, Contact Information and Hours:

Repository	Contact Name	Contact Phone Number	Hours	Location
Brooklyn Community Board 11 Office	Howard Feuer, District Manager	718-266-8800	M-F, 9-5; closed wknds.	2214 Bath Avenue (off Bay Parkway)
New Utrecht Public Library	Ed Jelen	718-236-4086	M & Th 1-6; Tu 1-8; W & F 10-6; Sa 10-5; closed Su.	1743 86th Street (at Bay 17th Street)

Brooklyn - NY Post
Southwest

INVITATION TO INFORMATIONAL MEETING ON THE STATE PERMIT APPLICATIONS AND PERMIT REVIEW PROCESS FOR THE NORTH SHORE CONVERTED MARINE TRANSFER STATION

Permit Review Process

As part of the City of New York Department of Sanitation's (DSNY) new Solid Waste Management Plan issued in draft for the next 20-year planning period (New SWMP), DSNY proposes to construct and operate a Converted Marine Transfer Station (MTS) on the site of the former North Shore MTS, 31st Avenue and 122nd Street, Queens, pursuant to State permits (solid waste management facility, air, marine resources). Both the New SWMP and State permit applications to construct and operate the North Shore Converted MTS are supported by a Draft Environmental Impact Statement (DEIS). A Final EIS is expected to be issued in February/March 2005.

State Environmental Permit Applications

State environmental permits (solid waste management facility, air and marine resources) will be required to construct and operate the proposed DSNY Converted MTS. The permit applications were submitted by DSNY in November 2004, and are currently on file with and under review by the New York State Department of Environmental Conservation (State) and in accordance with the DSNY Enhanced Environmental Justice Public Participation Plan that guides the public outreach component of the State permit review process. A Notice of Complete Application will be issued once the State has deemed the Converted MTS applications to be complete.

Until the State establishes a time period during which it will accept comments from the public on the State permit applications for each Converted MTS, DSNY will accept comments on the State permit applications in connection with the Draft Environmental Impact Statement (DEIS) for the New SWMP.

Informational Meeting/ULURP Hearing

A meeting on the North Shore Converted MTS State environmental permit applications and permit review process as part of a Uniform Land Use Review Procedure Public Hearing will be held by Queens Community Board 7 on **January 10, 2005 at 7:30 PM at Union Plaza Care Center, 33-23 Union Street Flushing - 1st Floor.**

Public Comment Period

DSNY is accepting public comment on the New SWMP, the DEIS and the State environmental permit applications through 5 pm on January 24, 2005. Comments may be mailed or faxed to Harry Szarpanski, Assistant Commissioner, New York City Department of Sanitation, 44 Beaver Street, 12th Floor, New York, NY 10004. Phone: (917) 237-5520; Fax: (212) 269-0788.

Two public document repositories have been established for the College Point community. The State environmental permit applications for the North Shore Converted MTS can be reviewed at the public document repositories listed below:

Public Repository Locations, Contact Information and Hours:

Repository	Contact Name	Contact Phone Number	Hours	Location
Queens Community Board 7 Office	Marilyn Bitterman, District Manager	718-359-2800	M-F, 9-5; closed wknds.	133-32 41st Rd., 3rd Floor (between Frame Pl. and Main St.)
Mitchell-Linden Library	Farsana Momeni	718-539-2330	M, Th 1-8; Tu 1-6; W & F 10-6; closed wknds.	29-42 Union Street (off Bayside Ave.)

Ecology and Environment, Inc.
90 Broad Street
Suite 1906
New York, NY 10004

STATE PERMIT APPLICATIONS AND PERMIT REVIEW PROCESS FOR THE NORTH SHORE CONVERTED MARINE TRANSFER STATION

Department of Sanitation
Proposed North Shore
Converted Marine Transfer Station

Proposed Action/ Impacts and Mitigation

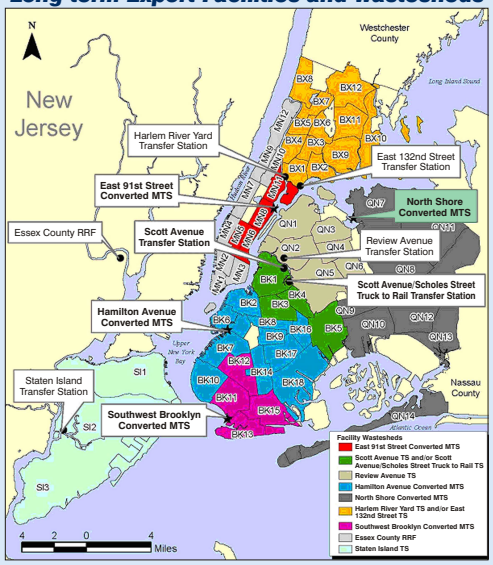
Proposed North Shore Converted Marine Transfer Station

Description

Facilities and programs to fulfill long-term goals are described in the newly issued Draft Comprehensive Solid Waste Management Plan (New SWMP). Key elements of the new SWMP are to:

- Enter into a twenty-year contract for recyclables processing and marketing and for a new processing facility at the South Brooklyn Marine Terminal.
- **Build four new Marine Transfer Stations (MTSs): the East 91st Street, North Shore, Hamilton Avenue, and Southwest Brooklyn Converted MTSs.**
- Use private transfer stations (TSs) for barge/rail export of containerized waste from the Bronx, Brooklyn and Queens communities previously served by the South Bronx and Greenpoint MTSs.
- Complete the Staten Island TS and begin export of Staten Island waste by rail.
- Enter into a long-term agreement for the disposal of a portion of Manhattan waste at the Essex County Resource Recovery Facility (RRF) in New Jersey.

Long-term Export Facilities and Wastesheds



Converted MTS Facility

Water Side View

A City-owned Converted MTS is proposed to be developed on the same site for the wasteshed formerly served by the North Shore MTS. Waste will be placed into containers and exported by barge.

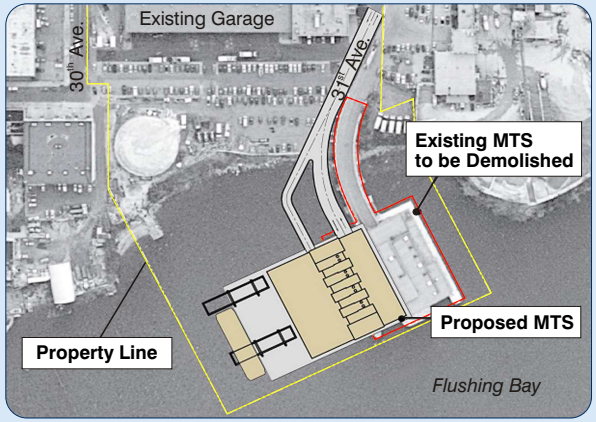
Expected average daily throughput is approximately 2,200 tons per day (tpd) of DSNY-managed waste and, potentially, 1,000 tpd of commercial waste (putrescible only) delivered between 8:00 p.m. and 8:00 a.m.

Impacts

Traffic, Air Quality, Odor, and Noise

- No significant adverse traffic impacts were shown with traffic signal changes in place.
- No significant adverse on-site or off-site air quality impacts were shown.
- Environmental review showed no significant adverse odor impacts.
- The facility would not exceed the Noise Code at the property boundary.
- Noise impact mitigation will be required for commercial waste trucks traveling to the facility between 1:00 a.m. to 5:00 a.m.

Site Location - North Shore Converted MTS



Public Involvement

Environmental Review of the Solid Waste Management Plan

The City must evaluate the environmental consequences of certain proposed actions before it can act. The evaluation is called an environmental review. Some actions, like city-wide plans, call for a detailed environmental review called an Environmental Impact Statement or EIS. The City is preparing an EIS to support its Draft Solid Waste Management Plan for the next twenty years, referred to here as the New SWMP.

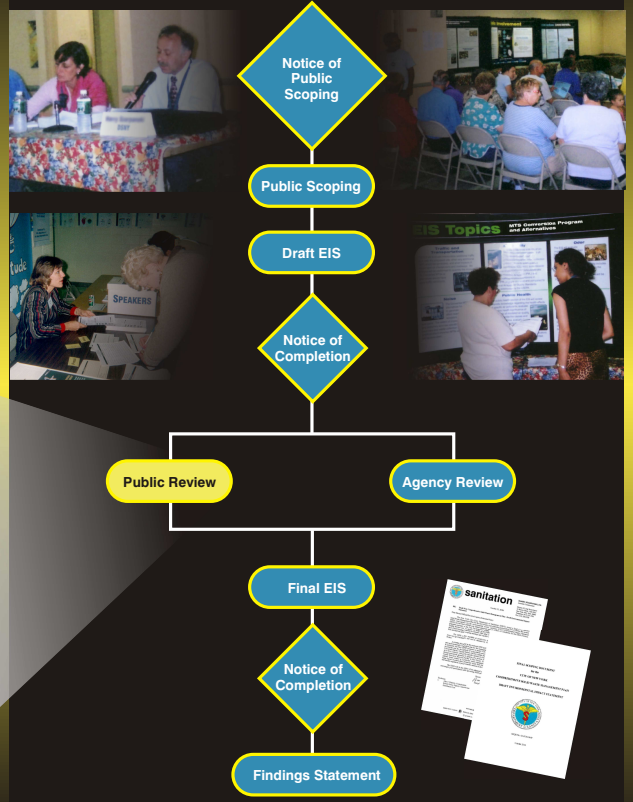
As part of the EIS process in October 2004, the City issued a Draft EIS or DEIS. The DEIS evaluates and describes the consequences of certain actions in the New SWMP, called the Proposed Action, as well as alternatives to the Proposed Action.

Public Review

The EIS process provides meaningful opportunities for the public to get involved. The first was during the public scoping process for the EIS. The City held ten public meetings on the Draft Scoping Document for the EIS and took comments for eight weeks. The comments were considered in the preparation of the Final Scoping Document and DEIS.

The second opportunity is during the comment period for the DEIS that runs from October 22, 2004 through January 24, 2005. The City will hold eight public hearings, at least one in each borough, to take comments. The hearings are being held in communities that host facilities/sites at which the City proposes to containerize and export waste. Also, the City Council plans to hold public hearings on the new SWMP.

Environmental Review Process



Provide Your Comments

All are invited to review and comment on the DEIS. You can speak and submit written comments at any of the public hearings. You can mail written comments to:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

Next Steps

The City will consider and respond to substantive comments received during the DEIS comment period. The Final EIS issued will set forth comments received and responses thereto, as well as revised text, as appropriate.

Please visit www.nyc.gov/sanitation or call the NYC SWMP hotline at (888) NYC-SWMP for more information.

Estimated EIS Schedule

- Notice of Public Scoping — May 2004
- Scoping Meetings — June 2004
- Final Scoping Document — October 2004
- DEIS Issuance/Start of Comment Period — October 22, 2004
- DEIS Public Hearings — December 2004
- End DEIS Comment Period — January 24, 2005
- Final EIS/Finding Statement — February/March 2005

DEIS COMMENT SHEET

FOR THE DRAFT NEW COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN

Name *(Please Print):* _____

Agency/Organization, if applicable: _____

_____

Address: _____

_____

_____

Email: _____

Please provide written comments on this sheet and drop into the comment box or mail to*:

Harry Szarpanski
Department of Sanitation
44 Beaver Street, 12th Fl.
NY, NY 10004.

All mailed comments must be received by 5:00pm on Monday, January 24, 2005.

COMMENTS: _____

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(Over)

COMMENTS:

(Over)

sanitation

HARRY SZARPANSKI, P.E.
Assistant Commissioner

Bureau of Long Term Export
44 Beaver Street, 12th Floor
New York, New York 10004
Telephone (917) 237-5501
Fax (212) 269-0788

October 22, 2004

RE: Draft New Comprehensive Solid Waste Management Plan –Draft Environmental Impact Statement

Dear Elected Official/Involved Agency/Interested Party:

The New York City (City) Department of Sanitation (DSNY) issued a Draft Comprehensive Solid Waste Management Plan for the next twenty-year planning period (New SWMP) earlier this month. DSNY, lead agency for the environmental review, encloses a Draft Environmental Impact Statement (DEIS) for the New SWMP and related approvals and the Notice of Completion for this DEIS (Notice), prepared pursuant to the City Environmental Quality Review Procedures and the State Environmental Quality Review Act. To develop the scope of the DEIS, DSNY issued a Scoping Document in May 2004 and a Final Scoping Document in October 2004 after conducting an enhanced public participation process that included ten public scoping meetings and a public comment period which ran from May 17, 2004.

The DEIS is also available at twenty-two public repositories and on the DSNY web page (www.nyc.gov/sanitation), and can be obtained by contacting DSNY, all as set forth in the enclosed Notice.

As further discussed in the enclosed DEIS and Notice, the New SWMP sets forth a cost-effective and environmentally responsible plan for the management of all of the solid waste generated in the City. In particular, the New SWMP proposes to award a 20-year contract for the processing and marketing of recyclables and the development of a recyclables processing facility in the City, the development of four Converted Marine Transfer Stations (MTSs) (rather than eight as previously contemplated), the award of up to five contracts with private transfer stations for barge or rail export of DSNY-managed waste, and an intergovernmental agreement to dispose of a portion of Manhattan's DSNY-managed waste at the Essex County Resource Recovery Facility in New Jersey. In addition, the New SWMP includes a strategy to address issues related to commercial waste management, including a proposal to provide capacity for barge export of putrescible commercial waste from the City at the West 59th Street MTS in Manhattan, and stricter regulation of private transfer stations in the City.

The DEIS will be the subject of an enhanced public outreach effort and public hearings. DSNY encourages your participation in the upcoming DEIS public process.

Sincerely,

Harry Szarpanski

Enclosure
c: John J. Doherty, Commissioner
Robert Orlin, Deputy Commissioner
Distribution List

(Over)

Distribution List:

Honorable Gifford Miller, Speaker, New York City Council
Honorable Michael McMahon, Chair, Committee on Sanitation
and Solid Waste, New York City Council
Thomas Kunkel, Regional Director, NYS Department of Environmental Conservation, Region 2
Commissioner Erin Crotty, NYS Department of Environmental Conservation, Albany
Michael Vissichelli, U.S. Army Corps of Engineers, New York District Office
NYS Department of State
NYS Office of Parks, Recreation and Historic Preservation
NYS Office of General Services
City Planning Commission
Community Boards
NYC Law Department
NYC Economic Development Corporation
Office of Environmental Coordination
NYC Department of Environmental Protection
NYC Department of Transportation
NYC Health and Mental Hygiene
Landmarks Preservation Commission
22 Public Document Repositories

State Environmental Quality Review Act/City Environmental Quality Review

NOTICE OF DEIS HEARINGS AND EXTENSION OF PUBLIC COMMENT PERIOD

Name of Action: **New Comprehensive Solid Waste Management Plan**
CEQR #: 03DOS004Y
SEQRA Classification: Type I
Lead Agency: New York City Dept. of Sanitation, 125 Worth Street, NY, NY 10013
Location: Citywide

This notice has been prepared in accordance with Article 8 of the Environmental Conservation Law and City Environmental Quality Review procedures. The Department of Sanitation (DSNY) is proposing a new Solid Waste Management Plan for the 20-year planning period (New SWMP), together with related solid waste management facility development and procurement (collectively, the Proposed Action). A series of public hearings will be held to solicit comments on the Draft Environmental Impact Statement (DEIS) for the Proposed Action that was accepted as complete for public review on October 22, 2004. The DEIS may be inspected at the offices of the contact person below or at 22 public repositories located in each of the five boroughs, listed in the Notice of Completion. The New SWMP and both the DEIS and the Notice of Completion are available on the DSNY website http://nyc.gov/sanitation.

Extension of Comment Period: DSNY is extending the public comment period on the DEIS to 5 pm on January 24, 2005. Comments may be made at the public hearings or sent directly to DSNY's Contact Person, from whom further information or a compact disc (CD) of the DEIS and New SWMP may be obtained: Harry Szarpanski, Assistant Commissioner, New York City Department of Sanitation, 44 Beaver Street, 12th Floor, New York, NY 10004. Phone: (917) 237-5520; Fax: (212) 269-0788.

Location of Action: City-wide, with certain specific sites for solid waste management facilities to include four existing DSNY Marine Transfer Station (MTS) sites: Southwest Brooklyn MTS, Shore Parkway at Bay 41st Street, Brooklyn; Hamilton Avenue MTS, Hamilton Avenue near Second Avenue at the Gowanus Canal, Brooklyn; East 91st Street MTS, East 91st Street and York Avenue, Manhattan; and North Shore MTS, 31st Avenue and 122nd Street, Queens. DSNY would contract with up to five existing private transfer stations for DSNY-managed waste (see below), and make the existing MTS located at West 59th Street and Marginal Street, Manhattan available for receipt of commercial putrescible waste. DSNY would procure services from a new private recyclables recovery and processing facility to be built at the 30th Street Pier in the South Brooklyn Marine Terminal, and a recycling education center and recyclables acceptance transfer facility would be located at the site of the former DSNY MTS facility on Pier 52 at Gansevoort Street in the Hudson River Park or at another Manhattan waterfront location to be identified.

DEIS Public Hearing Times and Locations:

Project Area	Date	Time	Location
Staten Island	December 1, 2004	6:00 PM	Staten Island Community Board 2 Office 460 Brielle Avenue, Staten Island, NY
Brooklyn Alternatives to Greenpoint MTS	December 2, 2004	6:00 PM	Swinging Sixties Senior Center 211 Ainslie Street, Brooklyn NY
Private Alternatives to the South Bronx MTS	December 6, 2004	6:00 PM	Alfred E. Smith High School 333 East 151st Street, Bronx, NY
Queens Alternative to Greenpoint MTS	December 8, 2004	6:00 PM	Sunnyside Senior Center 43-31 39th Street, Sunnyside, NY
Hamilton Avenue MTS	December 13 , 2004	6:00 PM	Brooklyn 7 Community District Office 4201 4th Avenue, Brooklyn, NY
North Shore MTS	December 14, 2004	6:00 PM	Union Plaza Health Care Facility 33-23 Union Street, Flushing, NY
Southwest Brooklyn MTS	December 15, 2004	6:00 PM	I.S. 281 Joseph B. Cavallero School 8787 24th Avenue, Brooklyn, NY
East 91st Street MTS	December 20, 2004	5:30 PM	New York Blood Center (Auditorium) 310 E. 67th Street, New York, NY

Description of Proposed Action: The New SWMP would provide for the management of all solid waste generated in New York City (approximately 50,000 tons per day) for the 20-year planning period, of which DSNY collects approximately 11,123 tpd of waste and 2,555 tpd of separately collected recyclables: newspaper and mixed paper; metal, glass and certain plastics (MGP) and yard wastes, while other DSNY and City managed wastes that are recycled (asphalt from road resurfacing, etc.) total approximately 2,840 tpd (FY2002). Commercial waste generated by the private sector averaged approximately 7,248 tpd of putrescible waste, 2,641 tpd of designated recyclable waste; 8,626 tpd of C&D debris, and 19,069 tpd of clean fill material (2003 figures). The New SWMP identifies the quantity and types of solid waste generated in the City and the proposed or existing solid waste management facilities used to manage such waste, and makes projections of future population, waste generation and changes to the waste stream. The New SWMP will generally continue the City's waste reduction and recycling programs and reliance on the export of non-recyclable municipal solid waste from the City for disposal, but proposes several changes in local solid waste management. DSNY proposes a 20-year contract for the receipt, processing and marketing of source-separated recyclable MGP and a portion of the City's paper, to be handled at a new private recyclables recovery and processing facility to be built by Hugo Neu Corporation (HNC) at the 30th Street Pier in the South Brooklyn Marine Terminal. In addition, DSNY proposes to construct and operate a recycling education center and recyclables acceptance facility at the former DSNY MTS facility on Pier 52 at Gansevoort Street in the Hudson River Park in Manhattan or at another location on the Manhattan waterfront.

DSNY also proposes certain solid waste management facility construction and long-term procurement for municipal waste. DSNY would deliver residential waste from Manhattan Community Districts [CD's]1, 2, 3, 4, 7, 9, 10, and 12 to the Essex County Resource Recovery Facility in Newark, N.J. DSNY would deliver residential waste from Manhattan CD's 5, 6, 8 and 11 to a newly constructed City-owned MTS (Converted MTS) where the current E. 91st Street MTS stands, where it would be containerized (loaded into sealed, leak-proof containers) for further transport by barge. DSNY would contract to deliver waste from Bronx CD's 1 through 12 to one or two private waste transfer stations for truck-to-rail disposal of the waste: Waste Management's truck-to-rail transfer station at 98 Lincoln Avenue, and/or Allied Waste Services' transfer station at East 132nd Street, Bronx, using a related intermodal rail facility at Oak Point Rail Yard, Oak Point Avenue and Barry Street, Bronx. DSNY would contract to deliver waste from Brooklyn CD's 1, 3, 4 and 5 to Waste Management's transfer station at 485 Scott Avenue and/or Allied/BFI's transfer station at 72 Scott Avenue/598 Scholes Street, Brooklyn for truck-to-rail or truck-to-barge transport and waste disposal. For waste from Brooklyn CD's 2, 6, 7, 8, 9, 10, 14, 16, 17 and 18, DSNY would develop a City-owned Converted MTS on the same site as the existing Hamilton Avenue MTS, where waste will be received and containerized for export by barge. For waste from Brooklyn CD's 11, 12, 13 and 15, DSNY would develop a City-owned Converted MTS on the site of the former Southwest Brooklyn Incinerator, adjacent to the existing MTS, where DSNY-managed Waste will be received and containerized for export. For waste from Queens CD's 1 through 6, DSNY would enter into a long-term contract with Waste Management for truck-to-rail or truck-to-barge transfer and disposal of DSNY-managed Waste using Waste Management's transfer station at 30-58 Review Avenue, Queens and (potentially) the Maspeth Rail Yard on Maspeth Avenue and Rust Street in Queens, for transloading onto railcars for export from the City. For waste from Queens CD's 7 through 14, DSNY would develop a City-owned Converted MTS on the same site as the existing North Shore MTS, where DSNY-managed Waste will be received and containerized for export. For the four wastesheds to be served by Converted MTSs, DSNY would also enter into 20-year service agreements with one or more waste management companies for transport of containerized waste by barge directly from an MTS to disposal facilities or to intermodal facilities for transloading to railcars or a larger barge for further transport to an appropriately permitted out-of-City disposal facility. Support facilities for the Converted MTSs may include the 52nd Street Barge Staging Area at 52nd Street and First Avenue, Brooklyn used by DSNY in the past, an intermodal Barge-to-Rail yard located at Waste Management's Harlem River Yard transfer station facility at East 132nd Street and St. Ann's Avenue in the Bronx, and an intermodal Barge-to-Rail yard (65th Street Rail Yard) in Brooklyn. The New SWMP also proposes to allow a certain amount of commercial putrescible waste at the Converted MTSs, and to make the existing West 59th Street MTS available to private waste management companies to use for the transfer of such waste.

The proposed Converted MTSs would have advanced odor controls and no queuing of DSNY collection vehicles on city streets. For the Proposed Action, the proposed mitigation measures for impacts related to traffic and noise include adjusting traffic signal timing at a total of 10 intersections, a peak-hour reduction in the number of DSNY vehicles making deliveries to the East 132nd Street Transfer Station facility; and a restriction on the number of Commercial Waste vehicles delivering waste to the Hamilton Avenue, East 91st Street and North Shore Converted MTSs during certain hours to mitigate off-site noise impacts at night. Several alternatives to the Long Term Export elements of the Proposed Action were considered.

November 16, 2004

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
Bureau of Long Term Export

All sites

Acta Estatal de Revisión de la Calidad del Medio Ambiente/
Revisión de la Calidad del Medio Ambiente de la Ciudad

AVISO DE AUDIENCIAS DEL DEIS Y EXTENSION DEL PERIODO DE COMENTARIOS PUBLICOS

Nombre de la Actividad: **Nuevo Plan de Manejo Completo de la Basura Sólida**
CEQR #: 03DOS004Y
Clasificación de SEQRA: Tipo I
Agencia Principal: Departamento de Sanidad de la Ciudad de New York, 125 Worth Street, NY, NY 10013
Lugar: en toda la Ciudad

Este aviso fue preparado de acuerdo con el Artículo 8 de la Ley de Preservación del Medio Ambiente y los procedimientos de Revisión de la Calidad del Medio Ambiente de la Ciudad. El Departamento de Sanidad (DSNY) propone un nuevo Plan de Manejo de Basura Sólida para el período planificado de 20 años (Nuevo SWMP), conjuntamente con el procedimiento y desarrollo del establecimiento relacionado con el manejo de basura sólida (colectivamente, la Actividad Propuesta). Se celebrará una serie de audiencias públicas para solicitar comentarios sobre el Anteproyecto del Informe del Impacto al Medio Ambiente (DEIS) para la Actividad Propuesta que fue aceptado como completo para la revisión pública el 22 de octubre del 2004. El DEIS puede revisarse en las oficinas de la persona de contacto mencionada abajo o en los 22 repositorios públicos ubicados en cada uno de los cinco condados, listados en el Aviso de Terminación. El Nuevo SWMP, el DEIS y el Aviso de Cumplimiento están disponibles en el sitio de la Internet del DSNY http://nyc.gov/sanitation.

Extensión del Período de Comentarios: El DSNY está extendiendo el período de comentarios públicos sobre el DEIS hasta las 5pm del 24 de enero del 2005. Los comentarios pueden hacerse en las audiencias públicas o enviarse directamente a la Persona de Contacto del DSNY, quien puede ofrecer más información o un disco compacto (CD) del DEIS y el Nuevo SWMP: Harry Szarpanski, Assistant Commissioner, New York City Department of Sanitation, 44 Beaver Street, 12th Floor, New York, NY 10004. Teléfono: (917)237-5520; Fax: 212-269-0788.

Ubicación de la Actividad: en toda la ciudad, con ciertos sitios específicos para los establecimientos de manejo de basura sólida para incluir cuatro sitios existentes de Estaciones de Transferencia Marina del DSNY (MTS): MTS del suroeste de Brooklyn, Shore Parkway en Bay 41st Street, Brooklyn; MTS de Hamilton Avenue, avenida Hamilton cerca de la Segunda Avenida en el Gowanus Canal, Brooklyn; MTS de East 91 Street, calle 91 este y avenida York, Manhattan; y MTS de North Shore, avenida 31 y calle 122, Queens. El DSNY haría contrato hasta con cinco estaciones privadas existentes de transferencia de basura para el manejo de la basura por el DSNY (lea debajo) y hacer que la MTS existente en West 59 Street y Marginal Street, Manhattan, disponibles para que reciban la basura comercial putrefacta. El DSNY procuraría los servicios de un nuevo establecimiento privado de procesamiento y recuperación de art. reciclables para que se construya en el Muelle de la calle 30 de la Terminal Marina del sur de Brooklyn, y un centro de educación de reciclables y un establecimiento de transferencia de reciclables que estaría ubicado en el sitio del antiguo establecimiento de MTS del DSNT en el Muelle 52 en la Calle Gansevoort en Hudson River Park o en otro local junto al agua de Manhattan para ser identificado.

Horarios y Lugares de las Audiencias Públicas del DEIS:

Area de Proyecto	Fecha	Hora	Lugar
Staten Island	1ro de diciembre del 2004	6:00 PM	Staten Island Community Board 2 Office 460 Brielle Avenue, Staten Island, NY
Alternativas de Brooklyn para MTS de Greenpoint	2 de diciembre del 2004	6:00 PM	Swinging Sixties Senior Center 211 Ainslie Street, Brooklyn NY
Alternativas Privadas para MTS del Sur de El Bronx	6 de diciembre del 2004	6:00 PM	Alfred E. Smith High School 333 East 151st Street, Bronx, NY
Alternativas de Queens para el MTS de Greenpoint	8 de diciembre del 2004	6:00 PM	Sunnyside Senior Center 43-31 39th Street, Sunnyside, NY
MTS de Hamilton Avenue	13 de diciembre del 2004	6:00 PM	Brooklyn 7 Community District Office 4201 4th Avenue, Brooklyn, NY
MTS de North Shore	14 de diciembre del 2004	6:00 PM	Union Plaza Health Care Facility 33-23 Union Street, Flushing, NY
MTS de Brooklyn Southwest	15 de diciembre del 2004	6:00 PM	I.S. 281 Joseph B. Cavallero School 8787 24th Avenue, Brooklyn, NY
MTS de East 91st Street	20 de diciembre del 2004	5:30 PM	New York Blood Center (Auditorio) 310 E. 67th Street, New York, NY

Descripción de la Actividad Propuesta: El Nuevo SWMP proveerá el manejo de toda la basura sólida generada en la Ciudad de New York (aproximadamente 50,000 toneladas por día) por el período de planeado de 20 años, del cual el DSNY colecta aproximadamente 11,123 tpd de basura y 2,555 tpd de reciclables colectados separadamente: periódicos y papel mixto; metal, cristales y ciertos plásticos (MGP) y basuras de patios, mientras otros DSNY y basuras manejadas por la Ciudad que son recicladas (asfalto de las superficies de las carreteras, etc.) un total aproximado de 2,840 tpd (FY2002). La basura comercial generada por el sector privado promedió aproximadamente 7,248 tpd de basura putrefacta, 2,641 tpd de basura reciclable designada; 8,626 tpd de escombros C&D y 19,069 tpd de material limpio (cifras del 2003). El Nuevo SWMP identifica la cantidad y los tipos de basura sólida generada en la Ciudad y los establecimientos de manejo de basura sólida existentes o propuestos usados para manejar tal basura y hacer proyecciones para la población futura, generación de basura y cambios del flujo de la basura. El Nuevo SWMP continuará la reducción general de la basura de la Ciudad y los programas de reciclaje y la seguridad en la exportación de la basura sólida municipal no reciclable de la Ciudad para eliminar, pero propone varios cambios en el manejo de la basura sólida local. El DSNY propone un contrato por 20 años para la recepción, procesamiento y mercadeo de fuentes-separadas reciclables MGP y una parte del papel de la Ciudad, para que sea manejada en un nuevo y privado establecimiento de procesamiento y recobro de reciclables que sea construida por Hugo Neu Corporation (HNC) en el Muelle de la calle 30 de la Terminal Marina del sur de Brooklyn. En adición, el DSNY propone construir y operar un centro de educación sobre reciclado y un establecimiento de aceptación de reciclables en el establecimiento anterior MTS del DSNY en el Muelle 52 en la calle Gansevoort en el Hudson River Park de Manhattan o en otro local sobre el litoral de Manhattan.

El DSNY también propone la construcción del establecimiento de manejo de cierta basura sólida y obtención a largo plazo para la basura sólida. El DSNY entregaría la basura de los Distritos Comunitarios (CDs) 1, 2, 3, 4, 7, 9, 10 y 12 de Manhattan al Establecimiento de Recobro de Recursos del Condado Essex en Newark, NJ. El DSNY entregaría la basura residencial de los CDs 5, 6, 8 y 11 de Manhattan al nuevo MTS construido de propiedad de la ciudad MTS (MTS Convertido), donde está el actual MTS de la calle 91 este, donde sería embalado en contenedores (cargados en envases impermeables y sellados) para la posterior transportación por las barcazas. El DSNY contrataría para la entrega de la basura desde los CDs 1 hasta la 12 de El Bronx a una o dos estaciones privadas de transferencia de basura para desechar la basura desde el camión hasta el ferrocarril: la estación de transferencia en camión hasta el ferrocarril de la Administración de Basura en 98 Lincoln Avenue, y/o la estación de transferencia Allied Waste Services' de la calle 132 este de El Bronx, usando un establecimiento con rieles intermodales relacionado en Oak Point Rail Yark, de Oak Point Avenue y Barry Street, Bronx. El DSNY contrataría para entregar la basura de los CDs 1, 3, 4 y 5 de Brooklyn a la estación de transferencia de la Administración de Basura en 485 Scott Avenue y/o la estación de transferencia del Allied/BFI en 72 Scott Avenue/598 Scholes Street, Brooklyn, para la transportación de camión a ferrocarril o del camión a la barcaza y el desecho de la basura. Para la basura de los CDs 2, 6, 7, 8, 9, 10, 14, 16, 17 y 18 de Brooklyn, el DSNY desarrollaría un MTS Convertido de propiedad de la Ciudad en el mismo sitio del MTS existente en Hamilton Avenue, donde la basura será recibida y embalada en contenedores para exportación en las barcazas. Para la basura de los CDs 11, 12, 13 y 15 de Brooklyn, el DSNY desarrollaría un MTS Convertido de propiedad de la Ciudad en el sitio del antiguo Icinerador del suroeste de Brooklyn, adyacente al MTS existente, donde la basura manejada por el DSNY será recibida y embalada en contenedores para exportación. Para la basura de los CDs del 1 hasta el 6 de Queens, el DSNY haría un contrato a largo plazo con la Administración de Basura de transferencia de camión a el ferrocarril o de camión a la barcaza y la eliminación de la Basura manejada por el DSNY usando la estación de transferencia de la Administración de Basura en 30-58 Review Avenue, Queens y (potencialmente) el Patio del Ferrocarril de Maspeth en Maspeth Avenue y Rust Street en Queens, para transportar la cargas en vagones para la exportación desde la Ciudad. Para la basura de los CDs del 7 al 14 de Queens, el DSNY desarrollaría un MTS Convertido de propiedad de la Ciudad en el mismo sitio del MTS existente en North Shore, donde la Basura manejada por el DSNY sería recibida y empacada para la exportación. Para que los cuatro basureros sean servidos por las MTSs Convertidas, el DSNY también haría un acuerdo de servicio por 20 años con una o más compañías de manejo de basura para la transportación de la basura en contenedores por las barcazas directamente desde un MTS a los establecimientos de desechos o a los establecimientos intermodales para la transportación de la carga hacia vagones o barcazas más grande para la posterior transportación a un establecimiento de desechos fuera de la Ciudad apropiadamente permitido. Los establecimientos de apoyo para las MTSs Convertidas puede incluirse la Zona de Estacionamiento de Barcazas de la calle 52 en la calle 52 y la Primera Avenida de Brooklyn usada por el DSNY en el pasado, un patio intermodal de Barcaza a Ferrocarril ubicado en el establecimiento de la estación de transferencia del Patio del Harlem River de la Administración de Basura en la calle 132 este y la avenida St. Ann's en El Bronx, y un patio intermodal de Barcaza a Ferrocarril (Patio de Ferrocarril de la calle 65) de Brooklyn. El Nuevo SWMP también propone permitir una cierta cantidad de basura comercial putrefacta en las MTSs Convertidas y hacer la MTS de la calle 59 oeste disponible a las compañías privadas de manejo de basura que la usen para la transferencia de dicha basura.

Los MTSs Convertidos propuestos tendrían control de olores modernos y sin que los vehículos de colección del DSNY tengan que hacer filas en las calles de la ciudad. Para la Actividad Propuesta, las medidas de mitigación propuestas para los impactos relacionados al tráfico y el ruido incluyen señales de tráfico ajustadas con el tiempo en un total de 10 intersecciones, reducción de una hora pico en el número de vehículos del DSNY que hacen las entregas hasta el establecimiento de la Estación de Transferencia de la calle 132 este; y una restricción en el número de vehículos de Basura Comercial entregando basura en las MTSs Convertidas de la avenida Hamilton, la calle 91 este y North Shore durante ciertas horas para mitigar los impactos de ruido en el sitio durante la noche. Fueron consideradas varias alternativas para los elementos de la Exportación a Largo Plazo de la Actividad Propuesta.

16 de noviembre del 2004

Harry Szarpanski, Comisionado Asistente
Departamento de Sanidad de la Ciudad de New York
Buró de Exportación a Largo Plazo

City of New York Department of Sanitation
Comprehensive Solid Waste Management Plan
Draft Environmental Impact Statement (DEIS)

DEIS Public Hearing for the North Shore Community

December 14, 2004

DEIS Hearing – North Shore Converted MTS

- This is a public hearing on the City's DEIS for the Draft Comprehensive Solid Waste Management Plan, called the New SWMP. Both the New SWMP and DEIS were issued by the City of New York Department of Sanitation (DSNY).
- The DEIS also supports the State solid waste, air and marine permits that are required to construct and operate the Converted MTS.
- The DEIS and New SWMP are available on the DSNY website (www.nyc.gov/sanitation), and at four public repositories in Queens, for your review.
- The State permit application for the Converted MTS is also available for review at these public repositories.
- The City Council will also hold public hearings on the New SWMP in January.

Draft New SWMP Overview

The Draft New SWMP is organized into three broad categories:

- Recycling
- DSNY-managed Waste
- Commercial Waste

Draft New SWMP: Recycling Overview

Goals:

- Hold down the cost of recycling and expand barge transport of recyclables.
- Meet a 25% recycling goal for DSNY Curbside Program by 2007.
- Meet a 35% recycling goal for all DSNY-managed Waste by 2007.

Draft New SWMP: Recycling Overview

Initiatives:

- Enter into a 20-year contract for metal, glass and plastic processing and marketing, and for a new recycling processing facility at the South Brooklyn Marine Terminal.
- Enhance composting and waste prevention programs.
- Develop an electronics recycling program.
- Establish a recycling education and recycling acceptance facility at the Gansevoort Peninsula or an alternative Manhattan site.

Queens Recycling

- In July 2004, weekly Queens recycling collections started again.
- DSNY trucks collecting Queens recyclables take them to our processor's Long Island City acceptance facility and then to New Jersey. They will eventually be barged to the new processing facility in Brooklyn.
- Composting began again in Fall 2004 at Idlewild Park; full funding was given to the Queens Botanical Garden for composting information programs.

Draft New SWMP: DSNY-managed Waste

Goals:

- End use of long-haul trucks for waste transport and export more waste by barge or rail.
- Stabilize waste export costs.
- Distribute waste transfer facilities throughout the City.
- Containerize waste to get more transport and disposal options.

Draft New SWMP: DSNY-managed Waste

Long Term Export Program:

- Build four new Marine Transfer Stations at existing MTS sites -- the East 91st Street, North Shore, Hamilton Avenue and Southwest Brooklyn Converted MTSs.
- Use private transfer stations for barge/rail export of containerized waste from the Bronx and from the Brooklyn and Queens communities once served by the South Bronx and Greenpoint Marine Transfer Stations.
- Complete the Staten Island TS and begin export of Staten Island waste by rail.
- Enter into a long-term contract for the disposal of a portion of Manhattan waste at the Essex County Resource Recovery Facility in New Jersey.

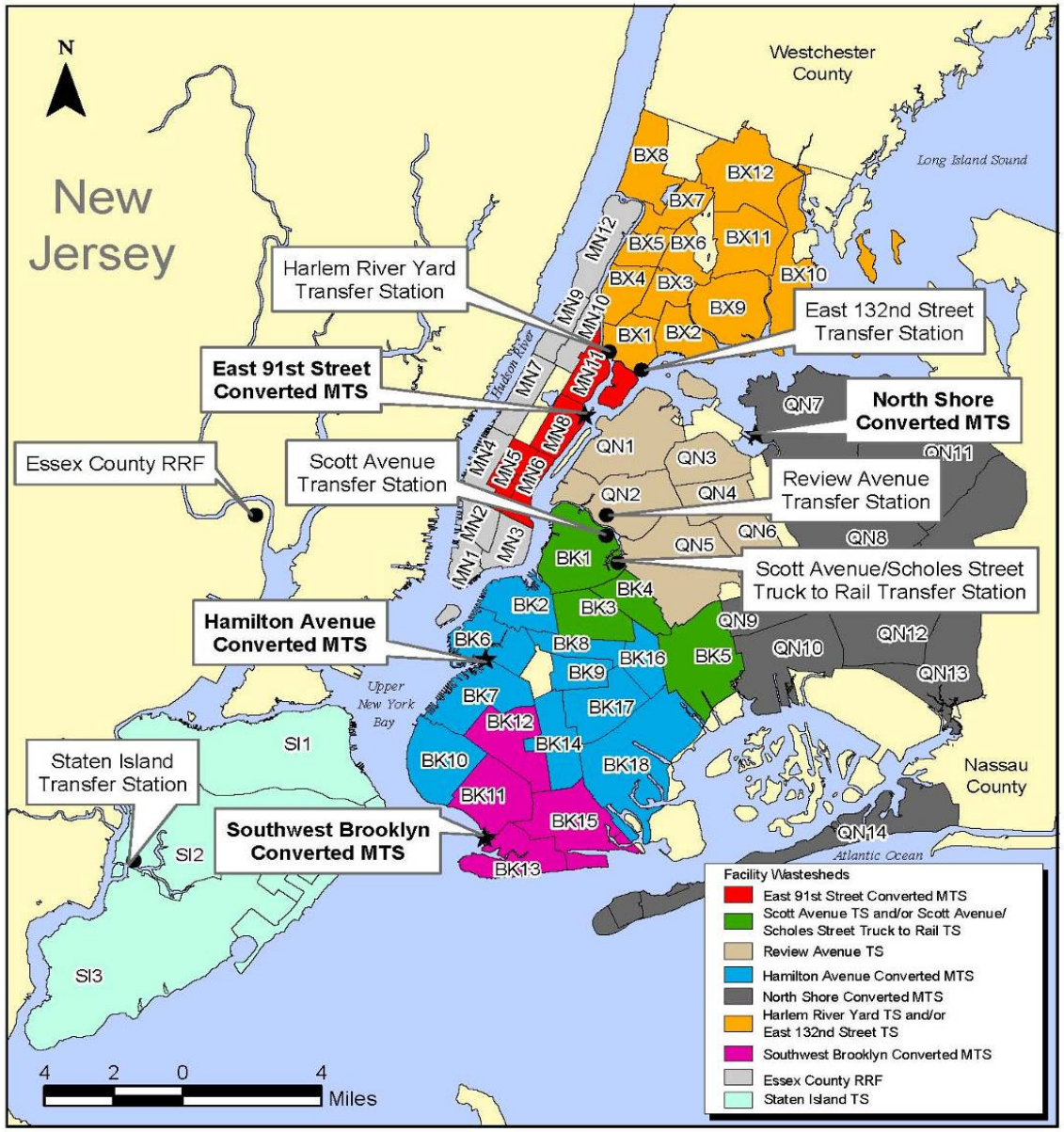
Draft New SWMP: Commercial Waste

- Limit new or expanded transfer stations in communities where they are already concentrated.
- Establish new operational regulations to reduce noise, odor and dust at private waste transfer stations.
- Study how to lessen waste truck transport on truck routes through residential areas.
- Expand barge and rail export of Commercial Waste from DSNY-contracted transfer stations.
- Export some Commercial Waste through the Converted MTSs.
- Offer the West 59th Street MTS for export of Commercial Waste.

DEIS Environmental Review

- The DEIS evaluates the environmental consequences of sites/facilities that are, or may be, part of the Proposed Action in the New SWMP.
- Alternative sites/facilities were also evaluated.
- Identifies the things the City would do to avoid potential significant adverse impacts.
- Meets City and State environmental review and permit requirements.

DSNY-managed Waste: Long Term Export Facilities and Wastesheds



North Shore Converted MTS

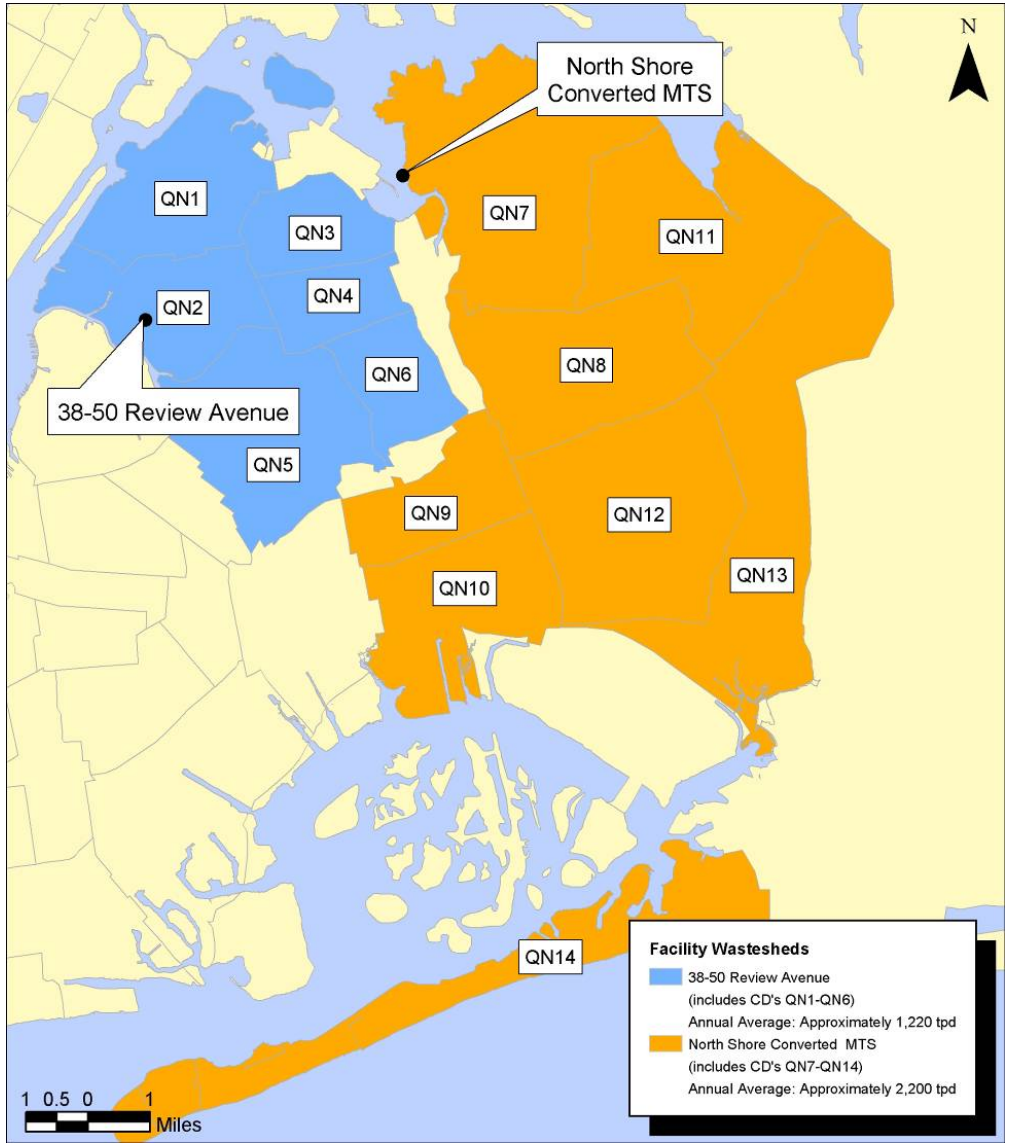
For the wasteshed formerly served by the North Shore MTS, develop a City-owned Converted MTS on the same site, where waste will be placed into containers and exported by barge.

Expected average daily throughput is approximately 2,200 tpd of DSNY waste and potentially 1,000 tpd of Commercial Waste.

Acceptance of Commercial Waste

- Commercial waste would only be accepted during the nighttime (8:00 p.m. to 8:00 a.m.).
- Only putrescible Commercial Waste would be accepted – not construction and demolition debris or fill material.
- No more than about 1,000 tons of Commercial Waste would be delivered during the nighttime, to avoid adverse noise impacts.
- There would be no significant adverse on-site noise, traffic, or air quality impacts.

Queens Wastesheds



Summary of DEIS Impact Analyses: North Shore Converted MTS

Traffic

- No significant adverse traffic impacts shown with traffic signal changes in place.

Air Quality

- No significant adverse on-site or off-site impacts shown.

Odor

- Environmental review showed no significant adverse odor impacts.

Summary of DEIS Impact Analyses: North Shore Converted MTS

Noise

- The facility would not exceed the Noise Code at the property boundary.
- Noise impact mitigation will be required for commercial waste trucks traveling to the facility between 1 a.m. and 5 a.m.

Converted MTS Permits and Approvals

- The Converted MTS will require state, federal and local permits and approvals.
- The MTS is subject to the Uniform Land Use Review Procedure (ULURP) as site selection for a capital project.
- The Converted MTS ULURP application was certified on November 15th, and the ULURP process is on-going.
- Queens Community Board 7 will hold meetings and a hearing to consider and vote on the ULURP application.
- The Converted MTS State environmental permit application (solid waste, air and marine) was submitted in November to the New York State Department of Environmental Conservation (NYSDEC).
- NYSDEC will hold a hearing and establish a public comment period on the Converted MTS permit application as part of its permit review process.

Public Comments

How to submit comments on the DEIS and/or State permit applications:

- Provide Verbal Comments (fill out a Speaker Registration Card at the sign-in desk) ***or***
- Fill out a Comment Sheet ***or***
- Submit a Written Statement ***or***
- Mail Comments (to be received no later than 1/24/05) to:

Harry Szarpanski, Assistant Commissioner
Department of Sanitation
44 Beaver Street, 12th floor
New York, NY 10004

Or…

DEIS/Permit Comments
c/o Ecology and Environment, Inc.
90 Broad Street, Suite 1906
New York, NY 10004

We want to hear from you!

In October 2004, the Department of Sanitation (DSNY) issued a Draft Comprehensive Solid Waste Management Plan, referred to as the "New SWMP." The New SWMP describes how all the waste generated in New York City will be managed over the next twenty years. The New SWMP continues existing programs, but also proposes changes. The way City residential waste will leave the City will change. Now it goes out mostly in transfer trailers, but under the New SWMP most waste would exit by barge or rail. Where recyclables will be processed and how the City's commercial waste will be managed is also slated to change. These changes are referred to as the "Proposed Action." Key elements of the Proposed Action are to:

- Require the City's recycling processor to build a recycling processing facility in the City and to receive most recyclables by barge.
- Build, on existing Marine Transfer Station sites, four new Marine Transfer Stations at which waste would be loaded into containers and placed onto deck barges (Converted MTSs). The Hamilton Avenue and Southwest Brooklyn Converted MTSs in Brooklyn, **the North Shore Converted MTS in Queens,** and the East 91st Street Converted MTS in Manhattan would handle the community district waste they accepted in the past.
- Enter into as many as five contracts with private transfer stations for barge or rail export of the City residential waste formerly handled by the South Bronx MTS or the Greenpoint MTS.
- Provide a site (the existing 59th Street MTS in Manhattan) for barge export of commercial waste (putrescible waste from City businesses, not fill or construction and demolition debris).
- Encourage the export of City commercial waste (putrescible only) by barge from the four Converted MTSs.

The North Shore Converted MTS, located in Queens Community District 7, is proposed in the New SWMP to be a City-owned facility, built on the site of the demolished existing MTS. The Converted MTS would accept the residential waste generated in Queens Community Districts 7 though 14, as in the past, containerize it, and send it out by barge.

A Draft Environmental Impact Statement (DEIS) was issued along with the New SWMP. The DEIS evaluates and discloses the environmental consequences of the Proposed Action.

You are invited to review the DEIS and the New SWMP and to provide comments. DSNY will hold a total of eight public hearings on the DEIS. The public hearings will be held in the communities of the four proposed Converted MTSs, the five private transfer station alternative sites, and in Staten Island.

Land Side View

The DEIS Public Hearing for the North Shore Converted MTS community is scheduled as follows:

Tuesday, December 14, 2004, at 6:00 pm
Union Plaza Health Care Facility
33-23 Union St. (near intersection of Union St. and Willets Point Blvd.)
Flushing, NY

Copies of the DEIS, the New SWMP and other project materials will be available for review at the public hearing. This information is also on DSNY's web site at **www.nyc.gov/sanitation**, and in your community at:

The Mitchell-Linden Public Library
29-42 Union St., Flushing, NY
Hours: Mon. and Thurs. 1-8pm; Tues. 1-6pm;
Wed. and Fri. 10-6pm
(718) 539-2330

Queens Community Board 7 Office
45-35 Kissena Blvd., Flushing, NY
Hours: call 359-2800

Site	Repository Location	Send to:	Repository Address	City, State	Zip
E. 91st St	CD 8 office	Attn: Elizabeth McKee	505 Park Ave	New York, NY	10022
	96th Street Regional Library	Attn: Bill Seufert	112 E. 96th St	New York, NY	10128
Hamilton Ave	Brooklyn CD 7 office	Attn: Jeremy Laufer	4201 4th Ave	Brooklyn, NY	11232
	Sunset Park Library	Attn: Mr. Ohle	5108 Fourth Ave	Brooklyn, NY	11220
Greenpoint Ave	Brooklyn CD 1 office	Attn: Deborah Masters, To be confirmed	435 Graham Ave	Brooklyn, NY	11211
	Leonard Library	Attn: Morris Denmark	8 Devoe Street	Brooklyn, NY	11211
Review Ave/Greenpoint Ave 2 (Queens CD 2)	Queens CD 2 office	Attn: Dolores Rizzotto	43-22 50th St.	Woodside, NY	11377
	Court Square Library	Attn: Daniel Stranberg	25-01 Jackson Ave	Long Island City, NY	11101
North Shore	Queens CB 7 Office	Attn: Marilyn Bitterman	45-35 Kissena Blvd	Flushing, NY	11355
	Mitchell-Linden Library	Attn: Farsana Momeni	29-42 Union St	Queens, NY	11354
South Bronx	Bronx CB 2 office	Attn: John Robert	1029 E. 163rd St.	Bronx, NY	10459
	Hunt's Point Regional Library	Attn: Margaret Hetley	877 Southern Blvd	Bronx, NY	10459
Southwest Brooklyn	Brooklyn CD 11 office	Attn: Howard Feuer	2214 Bath Avenue	Brooklyn, NY	11214
	New Utrecht Library	Attn: Ed Jelen	1743 86th Street	Brooklyn, NY	11214
West 59th St	Riverside Library	Atthn: Michael Watkins	127 Amsterdam Avenue	New York, NY	10023
	Manhattan CB 4 office	Attn: Anthony Borelli	330 W 42nd St, 26th Floor	New York, NY	10036
West 135th St	Manhattan CB 9 office	Attn: Lawrence MacClean	565 W 125th St	New York, NY	10027
	George Bruce Library	Attn: Jane Fisher, Coordinator of Information Services, for George Bruce Library	455 5th Ave	New York, NY	10016
Pt. Morris (Bronx 1)	Bronx CB 1 office	Attn: Cedric Loftin (must confirm)	384 E. 149th St.	Bronx, NY	10455
	Woodstock Library	Attn: Branch Librarian	761 E. 160th St	Bronx, NY	10456
Staten Island	CB 1 Office	Attn: Joseph Carroll	1 Edgewater Plaza, #211	Staten Island, NY	10305

DEPARTMENT OF SANITATION
NEW DRAFT COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN
DRAFT EIS PUBLIC HEARING

Hearing Date and Location: _____

LIST OF ATTENDEES

Name, Agency/Organization (If Applicable) **Please Print Clearly**	Address

ecology and environment, inc.
International Specialists in the Environment

90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

May 28, 2004

Ms. Carmen Perez
Community Board Member, Health Committee
Manhattan Community District #9
565 West 125th Street
New York, NY 10027

Dear Ms. Perez:

Thank you for conferring with Ms. Deepali Weyand and I via telephone on May 4, 2004. As discussed, the intent of the meeting was to introduce the City of New York Department of Sanitation's (DSNY) enhanced Environmental Justice public outreach program for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP) and the permitting process for the proposed Converted Marine Transfer Stations (MTS) and alternatives, as well as to confirm information about the project area.

Specifically, DSNY has asked Ecology and Environment, Inc. to assist its efforts to encourage meaningful public participation and substantive comment. To date, your input has helped us to:

1. obtain public repositories for the Draft Scoping Document and project-related materials;
2. identify potential local newspapers for notice publications;
3. secure easily accessible meeting venues; and
4. assemble local demographic data and special needs of your community.

We have also developed, and continue to update, a potential stakeholder list for the project area.

A Public Scoping Meeting for the New SWMP DEIS will be held in your community at I.S. 195 on June 16, 2004 from 5:30 to 8:30 PM to obtain public comment on the scope of the environmental impacts to be studied in the DEIS. At the Meeting, DSNY will also provide an outline of the New SWMP and describe the proposed Converted MTS or alternative to be evaluated in the DEIS for your project area.

If you have questions before then, please contact Ms. Weyand or me. Thank you for making this a successful outreach effort. We look forward to seeing you at the Public Scoping Meeting.

Sincerely,

Thierry Garcy
Project Manager

cc: S. Dolinar, DSNY
D. Weyand, E & E
J. Saunders, City Legislative Affairs, DSNY Liaison

recycled paper

ecology and environment, inc.
International Specialists in the Environment

90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

May 28, 2004

Mr. Howard Feuer
Community District Manager
Brooklyn Community District 11
2214 Bath Avenue
Brooklyn, NY 11214

Dear Mr. Feuer:

Thank you for meeting with Ms. Deepali Weyand and I on April 22, 2004. As discussed, the intent of the meeting was to introduce the City of New York Department of Sanitation's (DSNY) enhanced Environmental Justice public outreach program for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP) and the permitting process for the proposed Converted Marine Transfer Stations (MTS) and alternatives, as well as to confirm information about the project area.

Specifically, DSNY has asked Ecology and Environment, Inc. to assist its efforts to encourage meaningful public participation and substantive comment. To date, your input has helped us to:

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2. identify potential local newspapers for notice publications;
3. secure easily accessible meeting venues; and
4. assemble local demographic data and special needs of your community.

We have also developed, and continue to update, a potential stakeholder list for the project area.

A Public Scoping Meeting for the New SWMP DEIS will be held in your community at I.S. 227 on June 17, 2004 from 5:30 to 8:30 PM to obtain public comment on the scope of the environmental impacts to be studied in the DEIS. At the Meeting, DSNY will also provide an outline of the New SWMP and describe the proposed Converted MTS or alternative to be evaluated in the DEIS for your project area.

If you have questions before then, please contact Ms. Weyand or me. Thank you for making this a successful outreach effort. We look forward to seeing you at the Public Scoping Meeting.

Sincerely,

Thierry Garcy
Project Manager

cc: S. Dolinar, DSNY
D. Weyand, E & E
J. Saunders, City Legislative Affairs, DSNY Liaison

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90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

May 28, 2004

Ms. Penny J. Ryan
Community District Manager
Manahattan Community Board #7
250 West 87th Street, 2nd Floor
New York, NY 10024

Dear Ms. Ryan:

Thank you for meeting with Ms. Deepali Weyand and Ms. Renee Markham on May 10, 2004. As discussed, the intent of the meeting was to introduce the City of New York Department of Sanitation's (DSNY) enhanced Environmental Justice public outreach program for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP) and the permitting process for the proposed Converted Marine Transfer Stations (MTS) and alternatives, as well as to confirm information about the project area.

Specifically, DSNY has asked Ecology and Environment, Inc. to assist its efforts to encourage meaningful public participation and substantive comment. To date, your input has helped us to:

1. obtain public repositories for the Draft Scoping Document and project-related materials;
2. identify potential local newspapers for notice publications;
3. secure easily accessible meeting venues; and
4. assemble local demographic data and special needs of your community.

We have also developed, and continue to update, a potential stakeholder list for the project area.

A Public Scoping Meeting for the New SWMP DEIS will be held in your community at the West Side Y.M.C.A. on June 21, 2004 from 5:30 to 8:30 PM to obtain public comment on the scope of the environmental impacts to be studied in the DEIS. At the Meeting, DSNY will also provide an outline of the New SWMP and describe the proposed Converted MTS or alternative to be evaluated in the DEIS for your project area.

If you have questions before then, please contact Ms. Weyand or me. Thank you for making this a successful outreach effort. We look forward to seeing you at the Public Scoping Meeting.

Sincerely,

Thierry Garcy
Project Manager

cc: S. Dolinar, DSNY
D. Weyand, E & E
J. Saunders, City Legislative Affairs, DSNY Liaison

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90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

May 28, 2004

Mr. Anthony Borelli
Community District Manager
Manahattan Community Board #4
330 West 42nd Street, 26th Floor
New York, NY 10036

Dear Mr. Borelli:

Thank you for meeting with Ms. Deepali Weyand and Ms. Renee Markham on May 10, 2004. As discussed, the intent of the meeting was to introduce the City of New York Department of Sanitation's (DSNY) enhanced Environmental Justice public outreach program for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP) and the permitting process for the proposed Converted Marine Transfer Stations (MTS) and alternatives, as well as to confirm information about the project area.

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Sincerely,

Thierry Garcy
Project Manager

cc: S. Dolinar, DSNY
D. Weyand, E & E
J. Saunders, City Legislative Affairs, DSNY Liaison

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International Specialists in the Environment

90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

May 28, 2004

Mr. John Robert
Community District Manager
Bronx Community District #2
1029 East 163rd Street
Bronx, NY 10459

Dear Mr. Robert:

Thank you for meeting with Ms. Deepali Weyand and I on May 5, 2004. As discussed, the intent of the meeting was to introduce the City of New York Department of Sanitation's (DSNY) enhanced Environmental Justice public outreach program for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP) and the permitting process for the proposed Converted Marine Transfer Stations (MTS) and alternatives, as well as to confirm information about the project area.

Specifically, DSNY has asked Ecology and Environment, Inc. to assist its efforts to encourage meaningful public participation and substantive comment. To date, your input has helped us to:

1. obtain public repositories for the Draft Scoping Document and project-related materials;
2. identify potential local newspapers for notice publications;
3. secure easily accessible meeting venues; and
4. assemble local demographic data and special needs of your community.

We have also developed, and continue to update, a potential stakeholder list for the project area.

A Public Scoping Meeting for the New SWMP DEIS will be held in your community at P.S. 48 on June 22, 2004 from 5:30 to 8:30 PM to obtain public comment on the scope of the environmental impacts to be studied in the DEIS. At the Meeting, DSNY will also provide an outline of the New SWMP and describe the proposed Converted MTS or alternative to be evaluated in the DEIS for your project area.

If you have questions before then, please contact Ms. Weyand or me. Thank you for making this a successful outreach effort. We look forward to seeing you at the Public Scoping Meeting.

Sincerely,

Thierry Garcy
Project Manager

cc: S. Dolinar, DSNY
D. Weyand, E & E
J. Saunders, City Legislative Affairs, DSNY Liaison

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90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

May 28, 2004

Mr. Jeremy Laufer
Community District Manager
Brooklyn Community District #7
4201 4th Avenue
Brooklyn, NY 11232

Dear Mr. Laufer:

Thank you for meeting with Ms. Deepali Weyand and I on April 22, 2004. As discussed, the intent of the meeting was to introduce the City of New York Department of Sanitation's (DSNY) enhanced Environmental Justice public outreach program for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP) and the permitting process for the proposed Converted Marine Transfer Stations (MTS) and alternatives, as well as to confirm information about the project area.

Specifically, DSNY has asked Ecology and Environment, Inc. to assist its efforts to encourage meaningful public participation and substantive comment. To date, your input has helped us to:

1. obtain public repositories for the Draft Scoping Document and project-related materials;
2. identify potential local newspapers for notice publications;
3. secure easily accessible meeting venues; and
4. assemble local demographic data and special needs of your community.

We have also developed, and continue to update, a potential stakeholder list for the project area.

A Public Scoping Meeting for the New SWMP DEIS will be held in your community at the Brooklyn Community Board 7 Office on June 24, 2004 from 5:30 to 8:30 PM to obtain public comment on the scope of the environmental impacts to be studied in the DEIS. At the Meeting, DSNY will also provide an outline of the New SWMP and describe the proposed Converted MTS or alternative to be evaluated in the DEIS for your project area.

If you have questions before then, please contact Ms. Weyand or me. Thank you for making this a successful outreach effort. We look forward to seeing you at the Public Scoping Meeting.

Sincerely,

Thierry Garcy
Project Manager

cc: S. Dolinar, DSNY
D. Weyand, E & E
J. Saunders, City Legislative Affairs, DSNY Liaison

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90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

May 28, 2004

Ms. Elizabeth McKee & Mr. Richard Thomas
Manhattan Community District Manager & Assistant
505 Park Avenue
New York, NY 10022

Dear Ms. McKee & Mr. Thomas:

Thank you for meeting with Ms. Deepali Weyand on May 10, 2004. As discussed, the intent of the meeting was to introduce the City of New York Department of Sanitation's (DSNY) enhanced Environmental Justice public outreach program for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP) and the permitting process for the proposed Converted Marine Transfer Stations (MTS) and alternatives, as well as to confirm information about the project area.

Specifically, DSNY has asked Ecology and Environment, Inc. to assist its efforts to encourage meaningful public participation and substantive comment. To date, your input has helped us to:

1. obtain public repositories for the Draft Scoping Document and project-related materials;
2. identify potential local newspapers for notice publications;
3. secure easily accessible meeting venues; and
4. assemble local demographic data and special needs of your community.

We have also developed, and continue to update, a potential stakeholder list for the project area.

A Public Scoping Meeting for the New SWMP DEIS will be held in your community at the New York Blood Center on June 28, 2004 from 5:30 to 8:30 PM to obtain public comment on the scope of the environmental impacts to be studied in the DEIS. At the Meeting, DSNY will also provide an outline of the New SWMP and describe the proposed Converted MTS or alternative to be evaluated in the DEIS for your project area.

If you have questions before then, please contact Ms. Weyand or me. Thank you for making this a successful outreach effort. We look forward to seeing you at the Public Scoping Meeting.

Sincerely,

Thierry Garcy
Project Manager

cc: S. Dolinar, DSNY
D. Weyand, E & E
J. Saunders, City Legislative Affairs, DSNY Liaison

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ecology and environment, inc.
International Specialists in the Environment

90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

May 28, 2004

Ms. Marilyn Bitterman
Community District Manager
Queens Community District #7
45-35 Kissena Boulevard
Flushing, NY 11355

Dear Ms. Bitterman:

Thank you for meeting with Ms. Deepali Weyand and I on May 4, 2004. As discussed, the intent of the meeting was to introduce the City of New York Department of Sanitation's (DSNY) enhanced Environmental Justice public outreach program for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP) and the permitting process for the proposed Converted Marine Transfer Stations (MTS) and alternatives, as well as to confirm information about the project area.

Specifically, DSNY has asked Ecology and Environment, Inc. to assist its efforts to encourage meaningful public participation and substantive comment. To date, your input has helped us to:

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2. identify potential local newspapers for notice publications;
3. secure easily accessible meeting venues; and
4. assemble local demographic data and special needs of your community.

We have also developed, and continue to update, a potential stakeholder list for the project area.

A Public Scoping Meeting for the New SWMP DEIS will be held in your community at the Union Plaza Health Care Facility on June 29, 2004 from 5:30 to 8:30 PM to obtain public comment on the scope of the environmental impacts to be studied in the DEIS. At the Meeting, DSNY will also provide an outline of the New SWMP and describe the proposed Converted MTS or alternative to be evaluated in the DEIS for your project area.

If you have questions before then, please contact Ms. Weyand or me. Thank you for making this a successful outreach effort. We look forward to seeing you at the Public Scoping Meeting.

Sincerely,

Thierry Garcy
Project Manager

cc: S. Dolinar, DSNY
D. Weyand, E & E
J. Saunders, City Legislative Affairs, DSNY Liaison

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ecology and environment, inc.
International Specialists in the Environment

90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

AMENDED COPY

June 2, 2004

Ms. Dolores Rizzotto & Ms. Dorothy Morehead
Community District Manager & Board Member
Queens Community District #2
43-22 50th Street
Woodside, NY 11377

Dear Ms. Rizzotto & Ms. Morehead:

Thank you for meeting with Ms. Deepali Weyand and Ms. Aarty Joshi on May 11, 2004. As discussed, the intent of the meeting was to introduce the City of New York Department of Sanitation's (DSNY) enhanced Environmental Justice public outreach program for the Draft Environmental Impact Statement (DEIS) for the New Comprehensive Solid Waste Management Plan (New SWMP) and the permitting process for the proposed Converted Marine Transfer Stations (MTS) and alternatives, as well as to confirm information about the project area.

Specifically, DSNY has asked Ecology and Environment, Inc. to assist its efforts to encourage meaningful public participation and substantive comment. To date, your input has helped us to:

1. obtain public repositories for the Draft Scoping Document and project-related materials;
2. identify potential local newspapers for notice publications;
3. secure easily accessible meeting venues; and
4. assemble local demographic data and special needs of your community.

We have also developed, and continue to update, a potential stakeholder list for the project area.

A Public Scoping Meeting for the New SWMP DEIS will be held in your community at the Sunnyside Senior Center on **June 30, 2004** from 5:30 to 8:30 PM to obtain public comment on the scope of the environmental impacts to be studied in the DEIS. At the Meeting, DSNY will also provide an outline of the New SWMP and describe the proposed Converted MTS or alternative to be evaluated in the DEIS for your project area.

If you have questions before then, please contact Ms. Weyand or me. Thank you for making this a successful outreach effort. We look forward to seeing you at the Public Scoping Meeting.

Sincerely,

Thierry Garcy
Project Manager

cc: S. Dolinar, DSNY
D. Weyand, E & E
J. Saunders, City Legislative Affairs, DSNY Liaison

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ecology and environment, inc.
International Specialists in the Environment

90 Broad Street, Suite 1906, New York, New York 10004
Tel: (212) 742-1713, Fax: (212) 742-1718

November 17, 2004

Elizabeth McKee, District Manager
Manhattan Community Board 8
505 Park Avenue, Suite 620
New York, NY 10022

Dear Ms. McKee:

Thank you for your assistance in the selection of a venue for the upcoming public hearing on the Draft Environmental Impact Statement for the City of New York Draft Comprehensive Solid Waste Management Plan. As discussed, we sought a location in Community District 8 that would offer easy access to attendees and have the capacity for a large number of people. Also, the hearing date could not conflict with or precede your December 15th Full Board Meeting. In this way, your community and constituents would be able to meet and prepare for the public hearing.

When we last spoke, E&E had confirmed the availability of the Rockefeller University venue on December 16th, but had not yet contracted for the space. Because the University's rental agreement sought over broad indemnification by the City that would require a time-consuming redraft and negotiations, the NY Blood Center was determined to be a better venue for the City. The site of the June Public Scoping meeting, it is both familiar and accessible to residents and has a capacity for 350+ people. The first available date after your Full Board meeting was December 20th. As a result, the public hearing for the 91st Street Converted MTS community is scheduled for Monday, December 20th at 5:30 pm.

Working together with the Blood Center's personnel and the Department of Sanitation, we will make every effort to accommodate all meeting attendees over the course of the hearing. Thank you for your assistance.

Sincerely,

Deepali K. Weyand

Deepali Kaur Weyand
ecology and environment, inc.
90 Broad Street, Suite 1906
New York, NY 10004
212/742-1713 (tel)
212/742-1718 (fax)
dweyand@ene.com

cc: Harry Szarpanski, Assistant Commissioner
Bureau of Long Term Export

recycled paper

WELCOME TO THE NEW SOLID WASTE MANAGEMENT PLAN DEIS PUBLIC HEARINGS

We want to hear from you!

In October 2004, the Department of Sanitation (DSNY) issued a Draft Comprehensive Solid Waste Management Plan, referred to as the "New SWMP." The New SWMP describes how all the waste generated in New York City will be managed over the next twenty years. The New SWMP continues existing programs, but also proposes changes. A Draft Environmental Impact Statement (DEIS) was issued that evaluates and discloses the environmental consequences of the changes proposed in the New SWMP.

You are invited to provide comments on the DEIS tonight, at any of the other DEIS Public Hearings, and by mail through January 24, 2004 (Harry Szarpanski, DSNY, 44 Beaver Street, 12th floor, New York, NY 10004). Hearing locations and times are provided below:

DEIS Public Hearing Times and Locations

PROJECT AREA	DATE	TIME	LOCATION
Staten Island	December 1, 2004	6:00 PM	Staten Island Community Board 2 Office 460 Brielle Avenue, Staten Island, NY
Brooklyn Alternatives to Greenpoint MTS	December 2, 2004	6:00 PM	Swinging Sixties Senior Center 211 Ainslie Street, Brooklyn NY
Private Alternatives to the South Bronx MTS	December 6, 2004	6:00 PM	Alfred E. Smith High School 333 East 151st Street, Bronx, NY
Queens Alternative to Greenpoint MTS	December 8, 2004	6:00 PM	Sunnyside Senior Center 43-31 39th Street, Sunnyside, NY
Hamilton Avenue MTS	December 13, 2004	6:00 PM	Brooklyn Community Board 7 Office 4201 4th Avenue, Brooklyn, NY
North Shore MTS	December 14, 2004	6:00 PM	Union Plaza Health Care Facility 33-23 Union Street, Flushing, NY
Southwest Brooklyn MTS	December 15, 2004	6:00 PM	I.S. 281 Joseph B. Cavallaro School 8787 24th Avenue, Brooklyn, NY
East 91st Street MTS	December 20, 2004	5:30 PM	New York Blood Center (Auditorium) 310 E. 67th Street, New York, NY

Copies of the DEIS, the New SWMP and other project materials are available for review on DSNY's web site at www.nyc.gov/sanitation, and at the following locations:

Repository Location	Repository Address	Days and Hours of Operation	Phone Number
Manhattan			
Manhattan CB 8 Office	505 Park Avenue	call for days and hours	212-758-4340
96th Street Public Library	112 East 96th Street	call for days and hours	212-289-0908
Manhattan CB 9 Office	565 West 125th Street	call for days and hours	212-864-6200
George Bruce Public Library	518 West 125th Street	call for days and hours	212-662-9727
Manhattan CB 4 Office	330 West 42nd Street, 26th Floor	call for days and hours	212-736-4536
Riverside Public Library	127 Amsterdam Avenue	call for days and hours	212-870-1810
Brooklyn			
Brooklyn CB 7 Office	4201 4th Avenue	call for days and hours	718-854-0003
Sunset Park Public Library	5108 4th Avenue at 51st	call for days and hours	718-567-2806
Brooklyn CB 11 Office	2214 Bath Avenue	call for days and hours	718-266-8800
New Utrecht Public Library	1743 86th Street	call for days and hours	718-236-4086
Brooklyn CB 1 Office	435 Graham Avenue	call for days and hours	718-389-0009
Leonard Public Library	8 Devoe Street	call for days and hours	718-486-3365
Queens			
Queens CB 2 Office	43-22 50th Street, Woodside	call for days and hours	718-533-8773
Court Square Public Library	25-01 Jackson Avenue, Long Island City	call for days and hours	718-937-2790
Queens CB 7 Office	45-35 Kissena Boulevard, Flushing	call for days and hours	718-359-2800
Mitchell-Linden Public Library	29-42 Union Street, College Point	call for days and hours	718-539-2330
Bronx			
Bronx CB 2 Office	1029 East 163rd Street	call for days and hours	718-328-9125/6
Hunts Point Public Library	877 Southern Boulevard	call for days and hours	718-617-0338
Bronx CB 1 Office	384 East 149th Street	call for days and hours	718-585-7117
Woodstock Public Library	761 East 160th Street	call for days and hours	718-665-6255
Staten Island			
St. George Library Center	5 Central Avenue	call for days and hours	718-442-8560
Office of the Borough President Attn: Nicholas Dmytryszn	Borough Hall, Room 120	call for days and hours	718-816-2200

NEW SOLID WASTE MANAGEMENT PLAN

FACT SHEET NO. 1
CEQR Frequently Asked Questions

What triggers the City Environmental Quality Review (CEQR) process?

New York City Mayor's Executive Order No. 91 of 1977, as amended, establishes an environmental review process (the CEQR process) for actions that are directly undertaken, funded, or approved by a City agency. It requires City agencies to assess, disclose, and mitigate the environmental consequences of such actions. Coordination and review of the CEQR process are the responsibility of the lead agency, which is the City agency directly responsible for determining whether the proposed action requires an environmental review.

How is the lead agency selected?

Under the "Rules of Procedure for CEQR" (62 Rules of the City of New York Section 5-03), agencies involved in a proposed action select the lead agency. When only one City agency is involved in a proposed action, that agency is selected as the lead agency for the CEQR environmental review.

What is a CEQR environmental review?

A CEQR environmental review involves a detailed study of the environmental consequences resulting from the implementation of a proposed action. Some proposed actions require the preparation of an Environmental Impact Statement (EIS). An EIS will include the following:

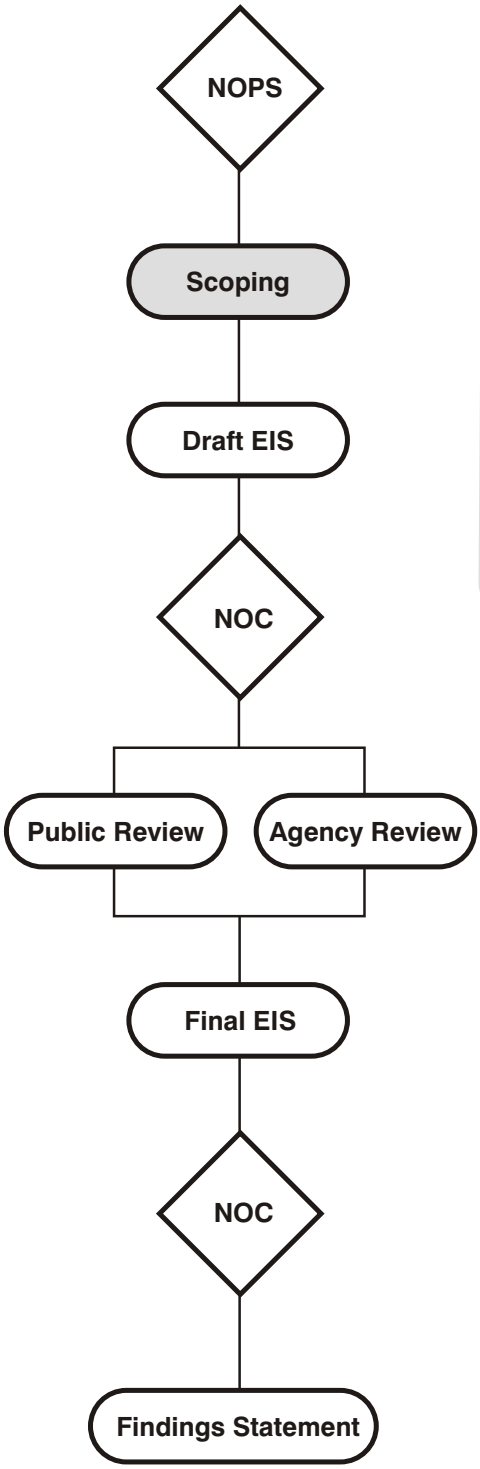
- Purpose and need for action
- Proposed action and alternatives to be evaluated
- Site specific assessments of the proposed action
- Environmental consequences and necessary mitigation
- Required actions, permits and approvals

Which impact categories are considered in an EIS?

- Land use, zoning, and public policy
- Socioeconomic conditions
- Community facilities and services
- Open space
- Shadows
- Historic resources
- Urban design/visual resources
- Neighborhood character
- Natural resources
- Hazardous materials
- Waterfront revitalization program
- Infrastructure
- Solid waste and sanitation services
- Energy
- Traffic and parking
- Transit and pedestrians
- Air quality
- Noise
- Construction impacts
- Public health

NEW SOLID WASTE MANAGEMENT PLAN

FACT SHEET NO. 2
CEQR Process Flowchart for the New SWMP EIS



Notice of Public Scoping (NOPS)
On May 17, 2004, a NOPS was issued to open the public scoping process and announce the City's intent to prepare an EIS. The NOPS also provides the location of the ten public scoping meetings and twenty public document repositories. This notice was published in the City Record and the Environmental Notice Bulletin 30 days before the first scoping meeting will be held and was published in numerous community based newspapers.[1]

Scoping
An early and open process for determining the scope of environmental review and identifying the significant issues related to a proposed action. It provides members of the public with an opportunity to comment on the impacts to be evaluated in the EIS and the methodologies for analyzing those impacts set forth in the Draft Scoping Document. Copies of the Draft Scoping Document were mailed to the involved and interested parties, placed on the Department of Sanitation web site and made available at the public repositories.

Draft EIS
A draft document that discloses the results of the analysis of the environmental consequences of the proposed action. It will be supported by environmental studies and analyses.

Notice of Completion (NOC) for Draft EIS
A formal notice that will open the Draft EIS comment period and announce the completion of the Draft EIS. This notice will be published in the *City Record* and the *Environmental Notice Bulletin* at least 15 days before the Draft EIS public hearings. Copies of the Draft EIS report will be available at document repositories. The Draft EIS comment period will last for at least 60 days or 10 days after the Draft EIS public hearings, whichever is greater.[2]

Final EIS
The final document that will consider all issues that have been raised during the Draft EIS comment period and summarize the environmental consequences of the proposed action.

Notice of Completion (NOC) for Final EIS
A formal notice that will announce the completion of the Final EIS. The Final EIS will be published within 30 days after the Draft EIS hearings.

CEQR Findings Statement
This document will summarize the findings reached on the proposed action by the lead agency. It will be published between 10 and 30 days after the Final EIS is published.

[1, 2] In accordance with the provisions outlined in *New York State Department of Environmental Conservation's Environmental Justice (EJ) and Permitting Policy Document*, dated March 2003, formal written notices will also be provided in readily available community-based newspapers. In addition, the DEIS comment period is extended from 30 days to at least 60 days to promote fair involvement of all people in NYSDEC's environmental-permiting process.

NEW SOLID WASTE MANAGEMENT PLAN

FACT SHEET NO. 3
Proposed Action - Proposed North Shore Converted MTS Facility

Purpose and Need

The City of New York Department of Sanitation (DSNY) is preparing a new Comprehensive Solid Waste Management Plan (New SWMP) and supporting Environmental Impact Statement (New SWMP EIS). Required by State law, the New SWMP will plan for the management of all of the solid waste generated in the City over the next twenty years in an efficient and environmentally responsible manner.

Key goals of the New SWMP are to define the City's solid waste management needs and objectives, describe its continued commitment to the City's current successful programs to prevent, reuse, compost and recycle City waste and propose new programs including the conversion of the City's eight Marine Transfer Stations into facilities that containerize the remaining waste for barge export.

Description of Proposed Action

Among other things, the proposed action to be evaluated in the New SMWP EIS includes:

- Conversion of the City's eight Marine Transfer Stations (MTS) into facilities capable of containerizing waste for export by barge and/or rail and resume barge staging at the 52nd Street pier in Brooklyn.

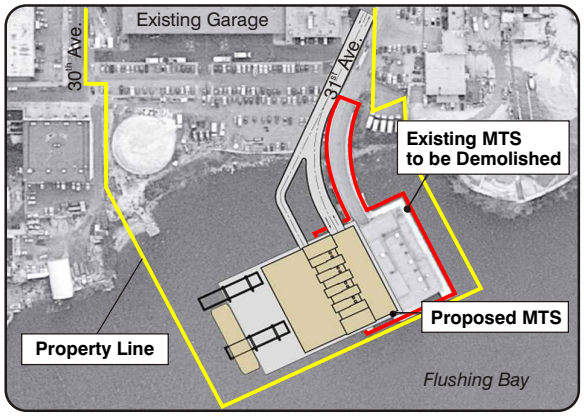
The North Shore MTS site is located in the College Point section of Queens, New York. It is bounded by 30th Avenue to the north, 31st Avenue and 122nd Street to the east, and Flushing Bay to the west. It will handle waste collected from Queens Community Districts 7 through 14. All processed waste will be placed in sealed, leak-proof containers for barge transport.

Description of Alternatives

The following alternatives to the proposed action will also be evaluated in the EIS:

1) Rail/barge export of waste from private transfer stations in the Bronx, Brooklyn and Queens.

Site Location - North Shore MTS



2) Rehabilitate existing MTSs to barge waste to an out-of-city unloading facility.

3) Deliver waste in collection vehicles or barges to an out-of-city waste disposal facility.

Land Side View

Converted MTS Facility

The proposed North Shore Converted MTS facility will be equipped with state-of-the-art odor and environmental control systems. On-site ramps and roadways will provide sufficient space for queuing of DSNY collection vehicles.

Notable Features:

- Enclosed Processing Building
- Odor and Environmental Control Systems
- No Off-Site Truck Queuing
- Waste Containerization

NOTES:

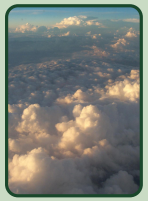
EIS Topics

MTS Conversion Program and Alternatives

Traffic and Transportation

The EIS will evaluate measurable additional traffic at or near the proposed site, when any additional traffic would be generated, and what impacts it would have on intersections and roadways. An analysis will be performed to quantify the impacts the Converted MTSs or alternatives would have upon traffic conditions.

Air Quality



The EIS will evaluate impacts of on-site air pollution emissions and off-site emissions generated by approaching and departing collection vehicles. Air pollutants such as nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM_{10}) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) will be analyzed and compared to the National Ambient Air Quality Standards (NAAQS) established by the USEPA.

Odor

The EIS will evaluate impacts of odors emitted from operations at the Converted MTSs or alternatives. Since the design of the Converted MTS facility includes environmental control systems within the processing building, odor should be minimized. A detailed odor analysis will be performed.

Noise

The Converted MTSs and alternatives have a potential to generate noise that could affect nearby sensitive receptors such as residences and parks. The extent of impact from both mobile and stationary sources operating at the site boundary and waste collection vehicles traveling to and from the Converted MTSs and alternatives will be evaluated.

Public Health

The public health section of the EIS will review scientific knowledge regarding the health effects of specific air pollutants, evaluate the public health significance of the impacts of modeled air quality results, describe the causes and triggers of asthma, evaluate the public health significance of impacts of modeled noise and odor results, and describe vermin control measures. Other public health indicators in project communities will also be presented.

Neighborhood Character

The EIS will assess the neighborhood character of the areas in which the Converted MTSs and alternatives are located. The existing conditions will be described and environmental justice areas will be identified.

Proposed Action

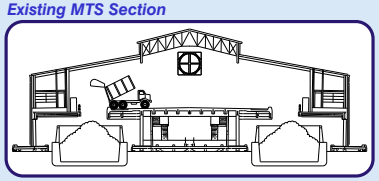
Proposed North Shore Converted MTS Facility

Purpose and Need

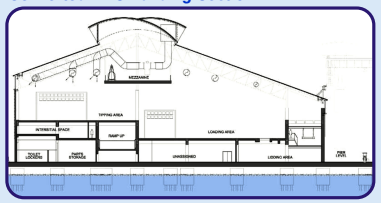
The City of New York Department of Sanitation (DSNY) is preparing a new Comprehensive Solid Waste Management Plan (New SWMP) and supporting Environmental Impact Statement (New SWMP EIS). Required by State law, the New SWMP will plan for the management of all of the solid waste generated in the City over the next twenty years in an efficient and environmentally responsible manner.

Key goals of the New SWMP are to define the City's solid waste management needs and objectives, describe its continued commitment to the City's current successful programs to prevent, reuse, compost and recycle City waste and propose new initiatives including the conversion of the City's eight Marine Transfer Stations into facilities that containerize waste for barge export.

Existing MTS Section



Converted MTS Building Section



Description of Proposed Action

Among other things, the proposed action to be evaluated in the New SWMP EIS includes:

- Conversion of the City's eight Marine Transfer Stations (MTS) into facilities capable of containerizing waste for export by barge and/or rail and resume barge staging at the 52nd Street pier in Brooklyn.

Description of Alternatives

Three alternatives to the proposed action will be evaluated in the New SWMP EIS:

1) Rail/barge export of waste from private transfer stations in the Bronx, Brooklyn and Queens.
2) Rehabilitate existing MTSs to barge waste to an out-of-city unloading facility.
3) Deliver waste in collection vehicles or barges to an out-of-city waste disposal facility.

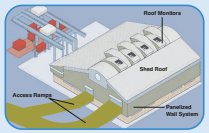
Converted MTS Facility

The proposed Converted MTS facility will include state-of-the-art odor and environmental control systems, as well as on-site ramps and roadways that provide sufficient space for queuing of DSNY collection vehicles.

Notable Features:

- **Enclosed Processing Building**
  - All tipping, loading, and lidding operations occur inside building
  - No exposed waste outside building

- **Odor and Environmental Control Systems**
  - Negative pressure
  - Rapid rollup door
  - Interior water misting system
  - Air neutralizing agent used in building exhaust



- **No Off-Site Truck Queuing**
  - Access ramps are longer
  - Special ramp design
  - Space for 17 DSNY collection vehicles to queue on the on-site ramp, plus 6 collection vehicles in tipping bay area inside the building
- **Waste Containerization**
  - Specially designed intermodal containers
  - Leak-proof seals on containers

Public Involvement

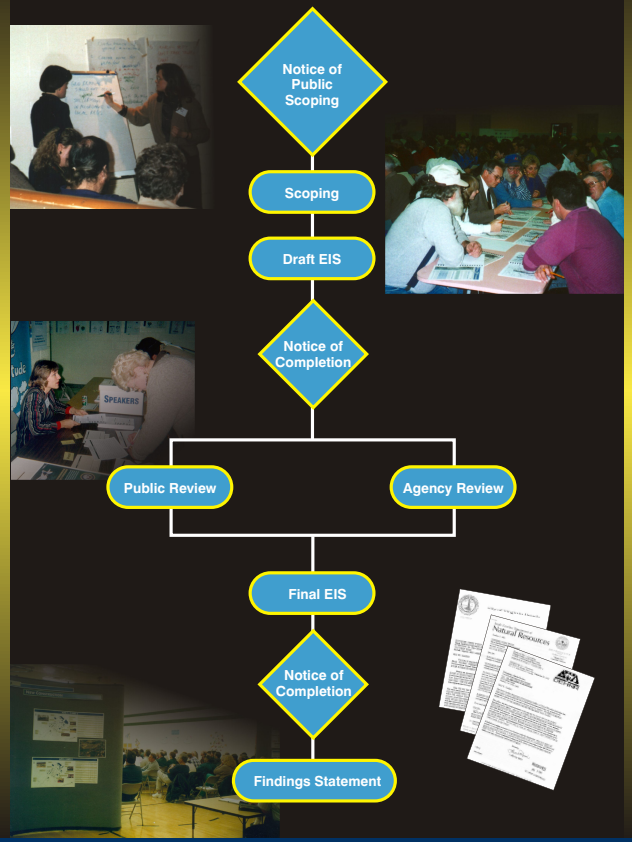
Environmental Impact Statement (EIS)

Under the State Environmental Quality Review Act (SEQRA) and City Environmental Quality Review (CEQR), city and state agencies must conduct an environmental review before they undertake, fund, or approve certain kinds of actions. The SEQR/CEQR process provides opportunities for public involvement, as shown to the right.

The City is preparing an EIS to evaluate the potential impacts of the proposed action. The EIS will include the following:

- Purpose and Need
- Proposed Action
- Alternatives
- Existing Environment
- Environmental Impacts
- Cumulative Impacts
- Mitigative Measures

Environmental Review Process



Public Scoping

Public Scoping provides a meaningful opportunity for the early involvement of the public in the EIS process. Members of the public are invited to comment on the issues set forth in the Draft Scope. To be most helpful, comments should be as specific as possible.

Please Provide Your Comments

Fill out a comment sheet and drop it in the comment box. You may also provide written comments at a later date. However, all comments on the Draft Scope must be postmarked by July 9, 2004 (or delivered by July 11, 2004). Written comments should be submitted to:

New SWMP Comments
c/o Ecology and Environment, Inc.
90 Broad Street, Suite 1906
New York, NY 10004

Also, call the NYC SWMP hotline at (888) NYC-SWMP or visit **www.nyc.gov/sanitation** for more information.

Estimated EIS Schedule

- Notice of Public Scoping — May 2004
- Scoping Meetings — June 2004
- Final Scoping Document — July 2004
- Draft EIS — August 2004
- Public Hearings — September 2004
- Final EIS and Findings Statement — December 2004

고형 폐기물 관리 플랜 환경 검토 범위 설정 회의에 오신 것을 환영합니다.

제안된 North Shore 해양 운송 스테이션 전환 안건

향후 20 년간의 뉴욕 시 종합 고형 폐기물 관리 플랜의 승인을 지원하기 위해, 뉴욕 시는 신 SWMP 제안 안건의 환경 영향을 평가하는 환경 영향 보고서 초안(DEIS)을 작성할 것입니다. DEIS 는 뉴욕 플러싱의 North Shore MTS 를 처분할 폐기물을 바지선으로 수송하는 최첨단 컨테이너 선적 시설로 전환하는 등 8 개의 기존 시 해양 운송 스테이션의 제안된 전환(MTS 전환 프로그램)과 관련된 환경 영향을 평가하게 될 것입니다. DEIS 는 또한 제안 안건에 대한 대안 방안(MTS 전환 프로그램에 대한 대안 방안 등)도 평가할 것입니다.

DSNY 는 North Shore MTS 프로젝트와 관련된 장소 및 환경 영향에 관한 대중의 의견을 최대한 확보하고자 합니다. DSNY 는 EIS 에서 다루어야 할 이슈에 관한 대중의 의견 및 우려 사항을 청취할 준비가 되어 있습니다.

디스플레이를 검토한 후 환경 평가에 초점을 맞출 수 있도록 여러분의 의견을 제공해 주십시오.

귀하에게 가장 중요한 사안은 무엇입니까?
지역사회에 가장 중요한 사안은 무엇입니까?

의견 제시 방법
회의에서:

- 구두로 의견 제시
- 의견 제출 양식 작성

차후에:

- 의견을 작성하여 다음 주소로 발송할 수 있습니다*.

  New SWMP Comments
  c/o Ecology and Environment, Inc.
  90 Broad St., Suite 1906
  New York, NY 10004

* 우편으로 발송하는 의견 제출 양식에는 늦어도 2004 년 7 월 9 일 우편 소인이 찍혀있거나 2004 년 7 월 11 일 오후 5 시까지 배달해야 합니다.

- 부서 웹 사이트 www.nyc.gov/sanitation 을 방문하십시오.
- 무료 전화인 NYC SWMP 핫라인(1-888-NYC-SWMP[1-888-692-7967])으로 월요일~금요일 오전 9 시 30 분에서 오후 5 시 사이에 전화 주십시오.

*** 요청하시는 경우, 번역 서비스를 제공해 드릴 수 있습니다. 자세한 정보를 위해 NYC SWMP 핫라인으로 문의하십시오.**

공공 문서와 일반 대중용 정보를 각 프로젝트 지역과 가까운 곳에서 배포하고 있습니다.

프로젝트 지역	배포 장소	주소	요일 및 시간	전화번호
		맨하탄		
East 91the Street MTS	Manhattan Community Board 8 office	505 Park Avenue	요일 및 시간을 문의하십시오.	(212)758-4340
	96th Street Regional Public Library	112 East 96th Street	월/목 12-8; 화/금 1-6; 수 10-4;토 10-5	(212)289-0908
West 135th Street MTS	Manhattan Community Board 9 office	565 West 125th Street	요일 및 시간을 문의하십시오.	(212)864-6200
	George Bruce Public Library	518 West 125th Street	월 10-6; 수 12-8; 목 11-6; 금 1-6; 토 10-5	(212)662-9727
West 59th Street MTS	Manhattan Community Board 4 office	330 West 42nd Street, 26 층	요일 및 시간을 문의하십시오.	(212)736-4536
	Riverside Public Library (community District 7)	127 Amsterdam Avenue (West 65th Street)	월 10-6; 수 12-8; 목 1-8; 금 1-6; 토 10-5	(212)870-1810
		브룩클린		
Hamilton Avenue MTS	Brooklyn Community Board 7 office	4201 4th Avenue	요일 및 시간을 문의하십시오.	(718)854-0003
	Sunset Park Public Library	5108 4th Avenue (51st)	월 1-8; 화, 목/금 1-6; 수 10-6; 토 10-5	(718)567-2806
Southwest Brooklyn MTS	Brooklyn Community District 11 Office	2214 Bath Avenue	요일 및 시간을 문의하십시오.	(718)266-8800
	New Utrecht Public Library	1743 86th Street (Bay 17th Street)	월/목 1-6; 화 1-8; 수/금 10-6; 토 10-5	(718)236-4086
Greenpoint MTS 및 브룩클린 대안 (485 Scott Ave., 72 Scott Ave./598 Scholes St., 586 Meserole St.)	Brooklyn Community Board 1 office	435 Graham Avenue	요일 및 시간을 문의하십시오.	(718)389-0009
	Leonard Public Library	81 Dove Street (Leonard Street)	월 1-8; 화/목/금 1-6; 수 10-6	(718)486-3365
		퀸즈		
Greenpoint MTS 퀸즈 대안 (30-58 Review Avenue)	Queens Community Board 2 office	43-22 50th Street, Woodside	요일 및 시간을 문의하십시오.	(718)533-8773
	Court Square Public Library	25-01 Jackson Avenue, Long Island City	월 12-7; 화 1-6; 수 10-6; 목/금 12-6	(718)937-2790
North Shore MTS	Queens Community Board 7 office	45-35 Kissena Boulevard, Flushing	요일 및 시간을 문의하십시오.	(718)359-2800
	Mitchell-Linden Public Library	29-42 Union Street, Flushing	월/목 1-8; 화 1-6; 수/금 10-6	(718)539-2330
		브랑스		
South Bronx MTS	Bronx Community Board 2 office	1029 East 163rd Street	요일 및 시간을 문의하십시오.	(718)328-9125/6
	Hunts Point Regional Public Library	877 Southern Boulevard (Tiffany Street)	월 12-7; 화/목 10-6; 수/금 1-6; 토 10-5	(718)671-0338
South Bronx MTS 대안 (98 Linclon Ave. & 920 East 132nd St.)	Bronx Community Board 1 office	384 East 149th Street	요일 및 시간을 문의하십시오.	(718)585-7117
	Woodstock Public Library	761 East 160th Street, Prospect Avenue 서쪽	월/화 10-6; 수 11-6; 목 12-7; 금 1-6	(718)665-6255

의견 제출 양식

제안된 North Shore 해양 운송 스테이션 전환 안건

이름 (인쇄체로 기재해 주십시오.):_____

기관/조직/주민:_____

주소:_____

_____

_____

이메일:_____

□ 우편물 발송 리스트에 이름을 추가해 주십시오.

본 양식에 의견을 기재해 의견 제출 상자에 넣거나 다음 주소로 발송해 주십시오.

New SWMP Comments
c/o Ecology and Environment, Inc.
90 Broad St., Suite 1906
New York, NY 10004

**우편으로 발송하는 의견 제출 양식에는 늦어도 2004 년 7 월 9 일 우편 소인이 찍혀있거나 2004 년 7 월 11 일 오후 5 시까지 배달해야 합니다.*

의견:_____

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새로운 고형 폐기물 관리 플랜	정보 시트 No. 1 CEQR 자주 묻는 질문

시 환경 품질 검토(CEQR) 프로세스를 촉발하는 요인은 무엇입니까?

1977 년 뉴욕 시장 명령 No. 91 개정안은 시 부처가 직접 실행, 자금 조달, 승인하는 조치에 대해 환경 검토 프로세스(CEQR 프로세스)를 실행할 것을 규정합니다. 이 명령은 시 부처들이 그러한 조치의 환경 결과를 평가, 공개, 완화할 것을 요구합니다.제안된 조치가 환경 검토를 필요로 하는 지를 결정하는 시 부처가 주관 부처가 되어 CEQR 프로세스를 조율하고 검토합니다.

주관 부처는 어떻게 선택합니까?

"CEQR 의 절차 규칙"(뉴욕 시 규칙 62 5-03 항)에 따라, 제안된 조치에 관련된 부처들이 주관 부처를 선택합니다. 관련된 시 부처가 하나뿐인 경우, 그 부처가 CEQR 환경 검토 주관 부처로 선정됩니다.

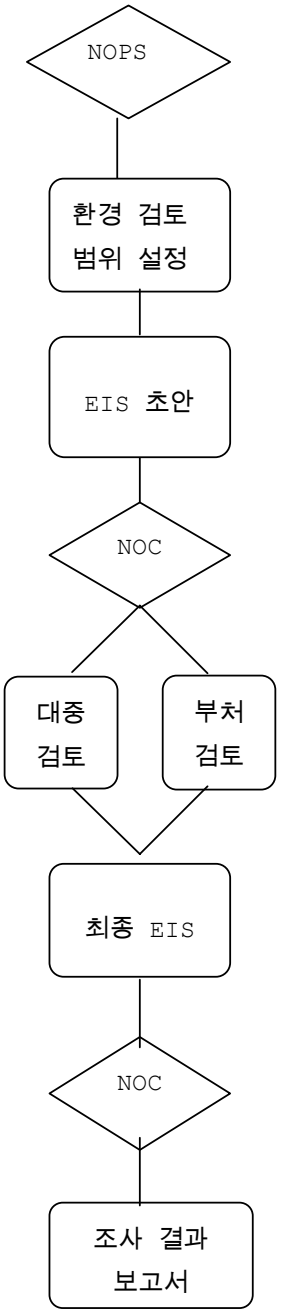
CEQR 환경 검토란 무엇입니까?

CEQR 환경 검토란 제안된 조치를 실행하는 경우 초래되는 환경 결과를 상세히 조사하는 것을 가리킵니다. 일부 제안된 조치는 환경 영향 평가서(EIS) 작성을 요구합니다. EIS 에는 다음의 내용이 포함됩니다.

- 조치의 목적 및 필요
- 제안된 조치 및 대안 방안 평가
- 제안된 조치의 실행 장소 별 평가
- 환경 결과 및 필요한 완화책
- 필요한 조치, 허가, 승인

EIS 에서 고려하는 영향 범주는 무엇입니까?

- 토지 사용, 도시 계획 지구, 공공 정책
- 사회 경제적 조건
- 지역사회 시설 및 서비스
- 열린 공간
- 그림자
- 역사적 리소스
- 도시 설계/시각 리소스
- 동네 특징
- 자연 리소스
- 위험 물질
- 강변 지역 부흥 프로그램
- 인프라
- 고형 폐기물 및 위생 서비스
- 에너지
- 교통 및 주차
- 운송 및 도보자
- 공기 질
- 소음
- 건설 영향
- 공중 보건



공개 환경 검토 범위 설정 공지(NOPS)

2004 년 5 월 17 일 NOPS 를 발행하여 공개 환경 검토 범위 설정 프로세스를 시작하고 시의 EIS 작성 의도를 발표했습니다. NOPS 는 또한 10 개의 공개 환경 검토 범위 설정 회의 장소와 20 개의 공공 문서 배포 장소에 관한 정보를 제공합니다. 이 공지는 첫 번째 범위 설정 회의가 개최되기 30 일 전에 시 레코드 및 환경 공지 게시판에 발표되고 다수의 지역사회 신문에 게재되었습니다[1].

환경 검토 범위 설정

이는 환경 검토 범위를 결정하고 제안된 조치와 관련된 중요한 이슈를 파악하는 조기 공개 프로세스입니다. 이는 일반 대중들이 EIS 에서 평가할 영향 범주와 범위 설정 문서 초안에 명시된 영향들의 분석 방법에 관한 의견을 제시할 수 있는 기회를 제공합니다. 범위 설정 문서 초안은 관련된 분들과 관심 있는 분들에게 우편으로 발송하고 위생부 웹 사이트에 게시하며 공공 배포 장소에서 배포합니다.

EIS 초안

이는 제안된 조치의 환경 결과 분석 결과를 공개하는 초안 문서입니다. 환경 조사 및 분석을 통해 분석 결과를 도출하게 됩니다.

EIS 초안 작성 완료 공지(NOC)

이는 EIS 초안 의견 제시 기간을 시작하고 EIS 초안 작성을 완료했음을 발표하는 공식 공지입니다. 이 공지사항은 적어도 EIS 초안 공청회 15 일 전에 *시 레코드* 및 *환경 공지사항 게시판*에 게재됩니다. EIS 초안 보고서는 문서 배포 장소에서 배포합니다. EIS 초안에 관한 의견은 적어도 60 일 동안 혹은 EIS 초안 공청회 후 10 일 (둘 중 긴 기간 적용)동안 접수합니다[2].

최종 EIS

이는 EIS 초안 의견 제시 기간 동안 제기된 모든 이슈를 고려하여 제안된 조치의 환경 결과를 요약하는 최종 문서입니다.

최종 EIS 작성 완료 공지(NOC)

이는 최종 EIS 작성 완료를 발표하는 공식 공지입니다. 최종 EIS 는 EIS 초안 공청회가 열린 후 30 일 이내에 발표됩니다.

CEQR 조사 결과 보고서

이 문서는 주관 부처가 제안된 조치에 관해 발견한 결과를 요약합니다. 이는 최종 EIS 를 발표한 후 10 일과 30 일 사이에 발표합니다.

[1,2] 2003 년 3 월 발표된 *뉴욕 환경 보존부 환경 정의(EJ)*와 *허용 정책 문서*에 명시된 조항에 따라, 공식 서면 공지는 지역사회 신문에 발표됩니다. 또한 DEIS 의견 제시 기간은 NYSDEC 의 환경 허가 프로세스에 모든 사람들이 참여할 수 있도록 30 일에서 60 일로 연장됩니다.

의견:

목적 및 필요

뉴욕 시 공중위생부(DSNY)는 새로운 종합 고형 폐기물 관리 플랜(신 SWMP)을 수립하고 환경 영향 평가(신 SWMP EIS)를 지원하고 있습니다. 뉴욕 주법에 따라, 신 SWMP 는 향후 20 년간 뉴욕시에서 발생하는 모든 고형 폐기물을 효율적이고 환경 책임적인 방식으로 관리하기 위한 방안을 계획하게 될 것입니다.

신 SWMP 의 주요 목표는 시의 고형 폐기물 관리 필요 및 목적을 정의하고 시 폐기물을 예방, 재사용, 퇴비화, 재활용하는 시의 성공적인 현재 프로그램의 지속적인 실행을 약속하고 새로운 사업(시의 8 개의 해양 운송 스테이션을 바지선 운송을 위해 폐기물을 컨테이너에 선적하는 시설로 전환 등)을 제안하는 것입니다.

제안된 안건 내용

신 SWMP EIS 에서 평가할 제안된 안건은 다음과 같습니다.

- 시의 8 개 해양 운송 스테이션을(MTS) 바지선 및/혹은 철도 운송을 위해 폐기물을 컨테이너에 선적하는 시설로 전환하고 브룩클린의 52 가 부두에서 바지선 정박 재개

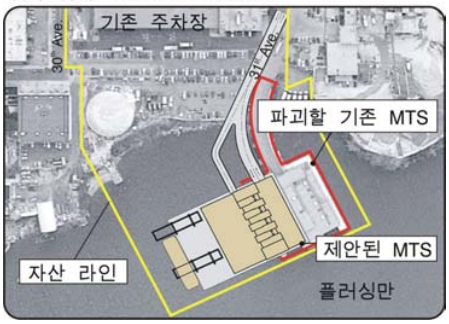
North Shore MTS 사이트는 뉴욕 퀸즈의 College Point 에 위치해 있습니다. 이 사이트는 북쪽으로 30th Avenue, 동쪽으로 31st Avenue and 122nd Street, 서쪽으로 플러싱만에 의해 에워싸져 있습니다. 이 사이트는 Queens Community District 7 - 14 에서 수거한 폐기물을 취급할 것입니다. 모든 처리된 폐기물은 봉인된 누출 방지 컨테이너에 선적하여 바지선으로 운송할 것입니다.

대안 방안

신 EIS 에서 평가할 대안 방안들은 다음과 같습니다.

1) 브랑스, 브룩클린, 퀸즈의 사립 운송 스테이션으로부터 폐기물의 철도/바지선 운송

부지 위치 North Shore MTS



2) 폐기물을 바지선으로 운송하는 기존 MTS 를 시외 하적 시설로 복구

3) 수거 차량 또는 바지선의 폐기물을 시외 처리 시설로 운송

부지 쪽 모습(Land Side View)

전환된 MTS 시설

제안된 전환 MTS 시설은 최첨단 악취 및 환경 제어 시스템을 갖추고, 온-사이트 램프와 차도는 DSNY 의 수거 차량에 충분한 대기 공간을 제공할 것입니다.

주목할 만한 기능:

- 폐쇄된 처리 건물
- 악취 및 환경 제어 시스템
- 시설 밖 트럭 대기 부재
- 폐기물을 컨테이너에 선적

의견:

意見表

關於將North Shore 改造爲海上轉運站之提案

姓名（請列印）：_____

部門/組織/居民：_____

地址：_____

_____

_____

電子郵件：_____

☐ 我想加入你們的郵寄名單。

請在此表上提供書面意見，將其投入意見箱，或寄至*

New SWMP Comments
C/o Ecology and Environment, Inc.
90 Broad St., Suite 1906
New York, NY 10004

****所有意見必須在2004年7月9日前寄出，以郵戳爲準，或者在2004年7月11日下午5點之前送達。***

意見：_____

_____

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_____

歡迎參加
新固體廢物管理計劃
影響範圍公眾聽證會

關於將North Shore 改造爲海上轉運站之提案

爲支援紐約未來20年規劃期間有關「紐約市綜合固體廢物管理計劃」（下稱 NEW SWMP）之審批，市府將提出一份「環境影響說明草案」(下稱DEIS)，以評估 NEW SWMP 之提議對環境造成的影響。DEIS將評估有關「海上轉運站改造計劃」對環境的影響，該計劃提議將現有八個城市海上轉運站（包括紐約市法拉盛 North Shore 海上轉運站）改造成現代化的貨櫃裝運設施，以便用駁船將廢物運走處理。DEIS將評估此項提議的替代方案，包括「海上轉運站改造計劃」的替代方案。

紐約衛生部希望就提議中的 North Shore 海上轉運站方案對環境造成的影響盡量徵集公眾的意見。我們準備就 DEIS 中提及的問題聽取您的意見和建議。

請查閱顯示的內容，然後將您的意見提供給我們，以幫助我們確定環境研究的重點。

對您來說，什麼議題是最重要的？

對於社區來說，什麼議題是最重要的？

提供意見之途徑：

參加會議：

- 提供口頭意見
- 填寫意見表

會議之後：

- 將意見郵寄至*：

  New SWMP Comments
  C/o Ecology and Environment, Inc.
  90 Broad St., Suite 1906
  New York, NY 10004

*** 意見必須在2004年7月9日前寄出，以郵戳爲准，或在2004年7月11日下午5點之前送達。**

- 訪問我們的網站：www.nyc.gov/sanitation
- 撥打免費 NYC SWMP熱線電話：1-888-NYC-SWMP[1-888-692-7967]，周一至周五，上午 9 點 30 分至下午 5 點。

****可根據要求提供翻譯服務。若欲瞭解詳情，請致電 NYC SWMP 熱線。***

政府文件及發佈的資料可在下列每個項目所在地區查閱：

項目地區	檔案室	地址	致電時間	電話號碼
		曼哈頓		
東 91 街 海上轉運站	曼哈頓社區委員會第 8 辦事處	公園大道 505 號	致電時間	(212) 758-4340
	96 街區公共圖書館	東 96 街 112 號	星期一/四 12-8； 星期二/五 1-6； 星期三 10-4； 星期六 10-5	(212)289-0908
西135 街 海上轉運站	曼哈頓社區委員會第 9 辦事處	西 125 街 565 號	致電時間	(212) 864-6200
	George Bruce 公共圖書館	西 125 街 518 號	星期一 10-6；星期三 12-8；星期四 11-6；星期五 1-6；星期六 10-5	(212) 662-9727
西 59 街 海上轉運站	曼哈頓社區委員會第 4 辦事處	西 42 街 330 號，26 樓	致電時間	(212) 736-4536
	Riverside 公共圖書館（第 7 社區）	Amsterdam 大道 127 號，夾西 65 街	星期一 10-6；星期三 12-8；星期四 1-8；星期五 1-6；星期六 10-5	(212) 870-1810
		布碌崙		
Hamilton 大道 海上轉運站	布碌崙社區委員會第 7 辦事處	第四大道 4201 號	致電時間	(718) 854-0003
	Sunset Park 公共圖書館	第四大道 5108 號，夾 51 街	星期一 1-8；星期二、四/五 1-6；星期三 10-6；星期六 10-5	(718) 567-2806
布碌崙西南區 海上轉運站	布碌崙社區第 11 辦事處	Bath 大道 2214 號	致電時間	(718) 266-8800
	New Utrecht 公共圖書館	86 街 1743 號，夾Bay 17 街	星期一/四 1-6；星期二 1-8；星期三/五 10-6；星期六 10-5	(718) 236-4086
Greenpoint 海上轉運站和布碌崙替代方案 (Scott 大道 485 號， Scott 大道 72 號 / Scholes 街 598 號， 以及Meserole 街 568 號)	布碌崙社區委員會第 1 辦事處	Graham 大道 435 號	致電時間	(718) 389-0009
	Leonard 公共圖書館	Devoe 街 81 號，夾 Leonard 街	星期一 1-8；星期二、四/五 1-6；星期三 10-6	(718) 486-3365
		皇后		
Greenpoint 海上轉運站皇后區替代方案 （**Review 街 58 號 30 室**）	皇后社區委員會第 2 辦事處	50 街 22 號 43 室，夾 Woodside	致電時間	(718) 533-8773
	Court Square 公共圖書館	長島市 Jackson 大道 01 號 25 市	星期一 12-7；星期二 1-6；星期三 10-6；星期四/五 12-6	(718) 937-2790
North Shore 海上轉運站	皇后社區委員會第 7 辦事處	法拉盛 Kissena 大街 35 號 45 室	致電時間	(718) 359-2800
	Mitchell-Linden 公共圖書館	法拉盛 Union 街 42 號 29 室	星期一/四 1-8；星期二 1-6；星期三/五 10-6	(718) 539-2330
		布朗士		
布朗士南區 海上轉運站	布朗士社區委員會第 2 辦事處	東 163 街 1029 號	致電時間	(718) 328-9125/6
	Hunts Point 地區 公共圖書館	Southern 大街 877 號，夾 Tiffany 街	星期一 12-7；星期二/四 10-6； 星期三/五 1-6；星期六 10-5	(718) 617-0338
布朗士南區海上轉運站替代方案 （**Lincoln 大道 98 號 和東 132 街 920 號**）	布朗士社區委員會第 1 辦事處	東 149 街 384 號	致電時間	(718) 585-7117
	Woodstock 公共圖書館	東 160 街 761 號，在 Prospect 大道西面	星期一/二 10-6；星期三 11-6；星期四 12-7；星期五 1-6	(718) 665-6255

是什麼引發了城市環境質量審議（下稱 "CEQR"）程序？

紐約市市長的 1977第91號行政命令確立了一項環境審議程序（即 CEQR 程序），適用於由市政府各部門所直接承擔、資助或批准的各項行動。該程序要求市政府各部門評估、披露和減輕此類行動的環境影響。CEQR程序的協調與審議由領導的部門負責，即直接負責確定被提議的行動是否需要接受環境審議的部門。

如何選定領導部門？

根據「CEQR議事規則」（紐約市62規則第5-03部分）的規定，由參與提議行動的各部門選出一個部門，作爲CEQR環境審議的領導部門。

什麼是CEQR環境審議？

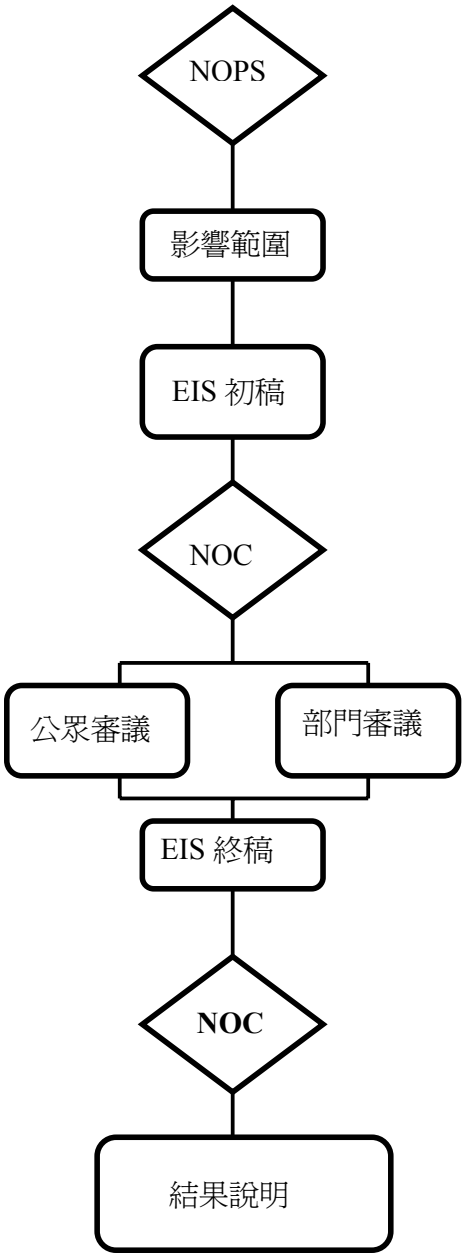
CEQR環境審議是對在執行提議行動中所產生的環境影響進行詳盡的研究。有些提議行動需要制定“環境影響說明”（下稱“EIS”），其內容應包括：

- 該行動的目的與需要；
- 需加以評估的提議行動及其替代方案；
- 提議行動的場地評估；
- 環境後果與必要的緩解措施；
- 必要的行動、許可證、審批。

在 EIS中要考慮哪些影響範疇？

- 土地使用、分區、公眾政策
- 社會經濟狀況
- 社區設施與服務
- 露天場所
- 隱蔽處
- 歷史資源
- 城市設計/視覺資源
- 鄰近地區的特點
- 自然資源
- 危險材料
- 海濱地區重建計劃
- 基礎設施
- 固體廢物與衛生服務
- 能源
- 交通與泊車
- 運輸與行人
- 空氣品質
- 噪音
- 施工影響
- 公眾健康

情況說明頁 2
新的 SWMP EIS 之CEQR程序流程圖



影響範圍公眾聽證會通知（下稱“NOPS”）
2004年5月17日，市政府發出了一份NOPS，以召開公眾聽證會，並宣佈市政府擬制定一份EIS。NOPS還提供了10 個公眾聽證會和 20個政府文件檔案室的地點。該通知已於會議召開之前30天在市政府的記錄與環境公告中公佈，並刊載於多家社區報紙[1]。

影響範圍
這是一個早期的開放式程序，用於確定環境審議的範圍和與提議的行動相關的重要事項，爲公眾提供一個機會，對EIS中將要評估的影響，以及在草擬的影響範圍文件中分析這些影響所用的方法發表意見。該文件初稿的副本已寄給有關各方併發佈在衛生部網站上，亦可在公共檔案室查閱。

EIS初稿
這是一份文件初稿，披露了對提議行動產生的環境後果所作的分析結果，其依據是各種環境研究與分析。

EIS初稿完成通知
這是一份正式通知，旨在開始 EIS 初稿評議階段，並宣佈 EIS 初稿完成。該通知將在召開EIS 初稿公衆聽證會之前至少 15 天在市政府的記錄與環境公告中公佈。EIS 報告初稿的副本可在公共檔案室索取。EIS 初稿的評議階段將持續至少 60 天，或在公衆聽證會後持續10 天，以兩個時間中較長者爲準[2]。

EIS終稿
這是一份最終文件，將考慮在EIS初稿評議階段提出的所有事項，並總結提議行動所產生的環境後果。

EIS 終稿的完成 (NOC) 通知
這是一份正式的通知，將在 EIS 終稿完成時公佈。EIS 終稿將於 EIS 初稿聽證會後的 30 天內公佈。

CEQR結果說明
本文件將總結領導部門在提議行動的審議中所獲得的調查結果，將在EIS終稿公佈後的10 至 30 天內公佈。

1.2
根據2003年3月紐約州環境保護部之「環境公正與許可政策文件」的條款規定，正式的書面通知還應當刊登在居民易於獲取的社區報紙上。此外，DEIS評議階段從30天延長到至少60天，以便所有居民均有機會參加環保部的環境審議程序。

意見：

目的與需要

紐約市衛生部 (DSNY) 正在制定一項新的「綜合固體廢物管理計劃」（下稱 New SWMP）和相應的「環境影響說明」（下稱 New SWMP EIS）。根據州法律的要求，New SWMP計劃在下一個 20 年中，以高效和環保的方式處理本市產生的所有固體廢物。

New SWMP之主要目的是確定城市固體廢物管理的需要及目標，說明其繼續致力於本市目前卓有成效的城市廢物預防、再用、混合處理和循環再生等各項計劃，並提出新方案，包括將本市八個海上轉運站改造成集裝箱設施，以便將剩餘廢物裝入集裝箱，然後用駁船運走。

對提議計畫之說明
New SWMP EIS
將對此項提議計畫評估，其內容包括：

- 將本市八個“海上轉運站” (下稱MTS) 改造成能夠將剩餘廢物裝入集裝箱的設施，以便用駁船和/或鐵路運走，並重新啓用布碌崙52街碼頭的駁船裝置。

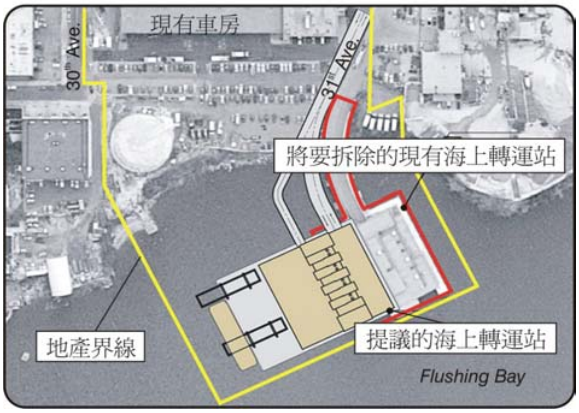
Northshore 的 MTS 現址位於紐約皇后區 College Point 地段，北面是 30 大道，東面是 31 大道和 122 街，西面是法拉盛海灣。該站將負責處理從皇后區7 至 14
街區收集來的廢物。所有經處理的廢物都將被放入密封防漏的集裝箱中，以便用駁船運走。

替代方案說明

EIS 還對該建議的下列替代方案進行評估：

1. 用鐵路/駁船將廢物從布朗士、布碌崙和皇后區的私營轉運站運走；

場址地點 - North Shore 海上轉運站



2. 改建現有的 MTS，以便用駁船將廢物運至城外的卸載設施；
3. 用垃圾車或駁船將廢物運往城外的廢物處理設施。

場地側面照

改造後的 MTS 設施

建議中經改造的 Hamilton 大道 MTS
設施將配置有最先進的氣味與環境控制系統。現場的坡道和車道提供有足夠的空間，可讓紐約市衛生部的垃圾車在那裏排隊等候。

顯著的特點

- 全封閉式處理建築
- 氣味與環境控制系統
- 卡車無需在垃圾車場外排隊等候
- 廢物集裝箱化

備註：

COMMENT SHEET

FOR THE PROPOSED NORTH SHORE CONVERTED MARINE TRANSFER STATION

Name *(Please Print)*: _____

Agency/Organization/Resident: _____

_____

Address: _____

_____

_____

Email: _____

☐ I would like to be added to your mailing list.

Please provide written comments on this sheet and drop into the comment box or mail to*:

New SWMP Comments
c/o Ecology and Environment, Inc.
90 Broad Street, Suite 1906
New York, NY 10004

All mailed comments must be postmarked by July 9th, 2004 or delivered by 5:00pm on July 11th, 2004.

COMMENTS: _____

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COMMENTS:

sanitation

October 20, 2004

RE: Draft New Comprehensive Solid Waste Management Plan –Final Scoping Document for the Draft Environmental Impact Statement

Dear Elected Official/Involved Agency/Interested Party:

The New York City (City) Department of Sanitation (DSNY) issued a Draft Comprehensive Solid Waste Management Plan for the next twenty-year planning period (Draft New SWMP) earlier this month. DSNY, as lead agency, will issue a Draft Environmental Impact Statement (DEIS) for this action, pursuant to the City Environmental Quality Review Procedures and the State Environmental Quality Review Act. To develop the scope of the Draft New SWMP DEIS, DSNY issued a Draft Scoping Document on May 17, 2004 and conducted an enhanced public participation process that included ten public scoping meetings and a public comment period which ran from May 17 through July 11, 2004.

The Final Scoping Document for the DEIS, enclosed for your review, has been revised to reflect refinements to the Proposed Action and the consideration of comments received during the public scoping meetings and public comment period. Members of the public may also view copies of the Draft New SWMP, Final and Draft Scoping Documents and Environmental Assessment Statement on the DSNY web page at www.nyc.gov/sanitation, at the Public Document Repositories listed in the Final Scoping Document (see Table 1.7-1).

As forecast, the enclosed Final Scoping Document contains a detailed synthesis of comments received during the public scoping process and responses thereto (see Attachment C). An Appendix B that contains a compendium of all written comments received during the public comment period, as well as additional copies of the Final Scoping Document, can be obtained by contacting this office (917/237-5520).

As further discussed in the enclosed Final Scoping Document, the Draft New SWMP sets forth a cost-effective and environmentally responsible plan for the management of all of the solid waste generated in the City. In particular, the Draft New SWMP proposes to award a 20-year contract for the processing and marketing of recyclables and the development of a recyclables processing facility in the City, the development of four Converted Marine Transfer Stations (MTSs), the award of up to five contracts with private transfer stations for barge or rail export of DSNY-managed waste, to enter into an intergovernmental agreement to dispose of a portion of Manhattan's DSNY-managed waste at the Essex County Resource Recovery Facility in New Jersey. In addition, the Draft New SWMP includes a strategy to address issues related to commercial waste management, including a proposal to provide capacity for barge export of putrescible commercial waste from the City at the West 59th Street MTS in Manhattan, and stricter regulation of private transfer stations in the City.

The Draft New SWMP DEIS to be issued shortly, based on the Final Scoping Document, will be the subject of an enhanced public outreach effort and public hearings. DSNY encourages your participation in the upcoming New SWMP DEIS public process.

Sincerely,

Harry Szarpanski

Harry Szarpanski

Enclosure

c: John J. Doherty, Commissioner
Robert Orlin, Deputy Commissioner
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www.ci.nyc.ny.us/strongest

(Over)

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Speakers at ten public scoping meetings
Public Document Repositories

PROPOSED ACTION

To support the approval of the City of New York Comprehensive Solid Waste Management Plan for the next 20-year planning period (New SWMP), the City will prepare a Draft Environmental Impact Statement (DEIS) that will evaluate and disclose the environmental impacts of the New SWMP proposed action. Among other things, the DEIS will evaluate the impacts associated with the proposed conversion of the eight existing City Marine Transfer Stations (MTS), including the North Shore MTS in College Point, NY, into state-of-the-art waste containerization facilities from which waste will be barged for disposal. The DEIS will evaluate alternatives to the proposed action, including alternatives to the MTS Conversion Program. These alternatives will be outlined at the scoping meeting.

SCOPING

An early and open process for determining the scope of environmental review and identifying the significant issues related to a proposed action.

Public meetings are often arranged to provide an opportunity for members of the public to comment on the impacts to be evaluated in the DEIS.

Further information will be provided, including an overall project schedule. A public scoping meeting on the New SWMP and the proposed Converted North Shore MTS will be conducted on:

Tuesday, June 29, 2004, at the Union Plaza Health Care Facility (near intersection of Union St. and Willets Point Blvd.)
33-23 Union St.
Flushing, NY
5:30 pm - 8:30 pm

A brief presentation will be provided by DSNY to describe the proposed action and explain the environmental review process.

A Draft Scoping Document was published on May 17, 2004. Copies of the Draft Scope and other project-related materials, including a draft State solid waste facility permit application for the proposed Converted MTS can be found at:

The Mitchell-Linden Public Library
29-42 Union St., Flushing, NY
Hours: Mon. and Thurs. 1-6pm; Tues. 1-8pm; Wed. and Fri. 10-6pm

Queens Community Board 7 Office
45-35 Kissena Blvd., Flushing, NY
Hours: call 359-2800

WAYS TO PROVIDE COMMENTS ON THE PROPOSED ACTION:

At the meeting:

- Provide verbal comments
- Fill out a comment card

At a later date:

- Mail written comments to*:
  New SWMP Comments
  c/o Ecology and Environment, Inc.
  90 Broad St., Suite 1906
  New York, NY 10004

  Comments must be postmarked by July 9, 2004.
- Visit our Web site at **www.nyc.gov/sanitation**
- Call the toll free NYC SWMP Hotline at 1-888-NYC-SWMP [1-888-692-7967] Mon. - Fri., between 9:30 am and 5:00 pm.

**Translation services may be available upon request. Please call the NYC SWMP Hotline for more information.*

Land Side View

PROPOSED NORTH SHORE CONVERTED MTS FACILITY

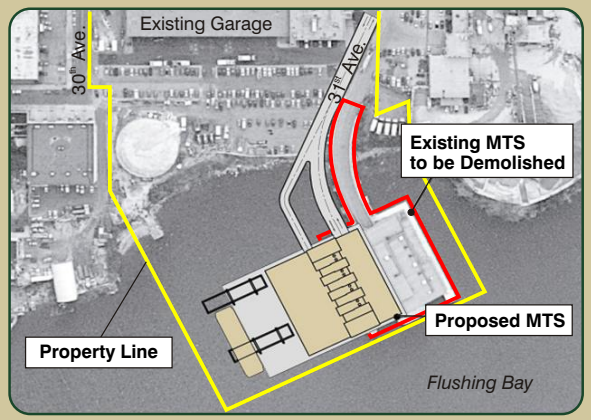
QUEENS, NEW YORK

The North Shore MTS site is located in the College Point section of Queens, New York. It is bounded by 30th Avenue to the north, 31st Avenue and 122nd Street to the east, and Flushing Bay to the west.

The existing MTS facility is proposed to be demolished and replaced with a new MTS facility that will containerize waste for barge transport to out-of-city disposal locations (the Converted MTS). All waste processing and containerization will be accomplished in an enclosed building. The facility design will include state-of-the-art odor and environmental control systems as well as on-site ramps and roadways that will provide sufficient space for the queuing of Department of Sanitation collection vehicles on site.

The Converted MTS will handle waste collected from Queens Community Districts 7 through 14. All processed waste will be placed in sealed, leak-proof containers for barge transport.

Site Location - North Shore Converted MTS



Ecology and Environment, Inc.
90 Broad Street
Suite 1906
New York, NY 10004

001578_HD04_06-trifold-North-Shore

New Solid Waste Management Plan

Public Scoping Meeting

Union Plaza Health Care Facility
33-23 Union St.
Flushing, NY

Tuesday, June 29, 2004
5:30 pm - 8:30 pm

Department of Sanitation
Proposed North Shore
Converted Marine Transfer Station

STATEMENT OF
ASSISTANT COMMISSIONER HARRY SZARPANSKI
AT THE PUBLIC SCOPING MEETING FOR THE
ENVIRONMENTAL REVIEW OF THE PROPOSED
NORTH SHORE CONVERTED MARINE TRANSFER STATION

Good Evening. My name is Harry Szarpanski. I am the Assistant Commissioner for the Bureau of Long Term Export at the New York City Department of Sanitation. I welcome the opportunity to appear before you tonight. I am joined by members of my staff, Walter Czwartacky, Vaughan Arnold and Sarah Dolinar. I would also like to introduce Susan Raila from the firm of Henningson, Durham & Richardson Architecture & Engineering, P.C. or HDR. HDR is responsible for conducting the environmental review for the Department's projects. Representatives of the firm of Ecology and Environment helped organize this meeting and are also here tonight.

As you may know, the Department of Sanitation is preparing a new Comprehensive Solid Waste Management Plan for the City to replace the Plan that will expire at the end of October of this year. The new Solid Waste Management Plan or as we refer to it, the new SWMP, will plan for the management of all of the solid waste generated in the City over the next twenty years. We expect to issue a draft of the new SWMP in September. It will need to be approved by the City Council and by the State. The new SWMP will be supported by an Environmental Impact Statement.

The new SWMP will rely on current programs to recycle, compost and prevent or reduce waste. A key component of the new SWMP is the long-term export of solid waste managed by the Department of Sanitation through state-of-the-art Marine Transfer Station facilities that are proposed to be built at the City's eight existing Marine Transfer Station sites in Brooklyn, Manhattan, Queens and the Bronx. These facilities will containerize waste and transport it by barge for disposal. The proposed North Shore Converted MTS would handle the Department-managed waste from Queens Community Districts 7 through 14 only, as in the past. This program to build new Marine Transfer Stations is called the MTS Conversion Program.

Note that because Staten Island has no existing MTS, a truck-to-container-to- rail waste transfer station for Staten Island Department-managed waste is now being constructed on a former Fresh Kills landfill site. That facility is expected to be operational this November. Rail transport is expected to begin in 2006.

We are before you tonight to hear your comments on the environmental review of the proposed North Shore Converted Marine Transfer Station. In addition, we seek your comments on all of the proposed actions, including the MTS Conversion Program and alternatives, that were outlined in the Draft Scoping Document we issued on May 17th. The Draft Scoping Document was mailed to all of the elected officials and community boards, as well as to environmental organizations and to our regulators. It was placed on the Department's web site and in public repositories in your community and nine other communities that are the proposed sites for the new Marine Transfer Stations or for alternatives.

My comments tonight will be brief. I will make a short power point presentation before the public portion of the meeting begins. Copies of my statement and presentation will be available at the end of the meeting.

Because the real focus of this public meeting will be your comments, please make sure that you take a moment to complete a speaker sign up sheet if you plan to make a statement for the record. You will be assigned a number and I will call your name when it is your turn to speak. Note that elected officials will have an opportunity to speak first. We are interested to make a complete record of your comments so please state your name clearly and slowly for the stenographer.

So that we can hear everyone who wants to speak tonight we ask that you keep your statement to three minutes. If you do not wish to speak, but would like to provide us with written comments, please complete one of the comment cards we have provided for your use. Thank you for coming out tonight. I will now begin my short presentation.

sanitation

HARRY SZARPANSKI, P.E.
Assistant Commissioner

Bureau of Long Term Export
44 Beaver Street, 12th Floor
New York, New York 10004
Telephone (917) 237-5501
Fax (212) 269-0788

May 14, 2004

RE: Environmental Review for the New Comprehensive Solid Waste Management Plan

To Whom It May Concern:

The New York City (City) Department of Sanitation (DSNY) is developing a new Comprehensive Solid Waste Management Plan (New SWMP). The environmental review to support the New SWMP is now being prepared. As part of this process, DSNY has elected to conduct an enhanced public outreach program that will result in the development of stakeholder lists, securing twenty public document repositories, holding ten Public Scoping Meetings, as well as a number of community meetings and Public Hearings over the next several months.

DSNY has enlisted the environmental consulting firm of Ecology and Environment, Inc.(E&E), with offices located at 90 Broad Street, Suite 1906, NY, NY 10004, to assist in its efforts to obtain meeting and repository sites, develop, distribute and publish outreach materials and public notices and generally facilitate the conduct of the public outreach program for the New SWMP environmental review. Although there may be a number of representatives of E&E working on this project, the principal project managers are Thierry Garcy and Deepali Weyand.

Please contact me with any questions or comments. I can be reached at (917)237-5833.

Sincerely,

Sarah Dolinar
Dir., Environmental Review

c: Harry Szarpanski, Assistant Commissioner
Deepali Weyand, E&E
Thierry Garcy, E&E

Notice of Public Scoping

For New Comprehensive Solid Waste Management Plan

The City of New York Department of Sanitation (DSNY) is preparing a Draft Environmental Impact Statement (DEIS) for the proposed new Comprehensive Solid Waste Management Plan for New York City for the next 20 years (New SWMP). The New SWMP will provide for the management of solid waste in New York City, including current programs to reduce, reuse and recycle solid waste, long-term processing and transport of recyclables, long-term export of DSNY-managed waste from Converted Marine Transfer Stations (MTS) or alternatives and commercial waste.

DSNY requests public comment on impacts to be evaluated in the DEIS. As part of an enhanced public outreach effort to facilitate maximum public participation, DSNY will hold ten (10) Public Scoping Meetings, each of which will be near one of the proposed MTS sites and/or alternatives, to take public comments on the Draft Scope for the DEIS. The Public Scoping Meetings will be held, as follows:

Project Area	Date	Time	Location
West 135th Street MTS	June 16, 2004	5:30 PM - 8:30 PM	I.S.195 (Roberto Clemente School) 625 W.133rd Street (between Broadway and 12th Avenue), New York NY
Southwest Brooklyn MTS	June 17, 2004	5:30 PM - 8:30 PM	I.S. 227 (Edward B. Shallow School) 6500 16th Avenue (between 65th and 66th Streets), Brooklyn, NY
West 59th Street MTS	June 21, 2004	5:30 PM - 8:30 PM	West Side Y.M.C.A. 5 West 63rd Street (between Central Park West and Broadway), New York, NY
South Bronx MTS	June 22, 2004	5:30 PM - 8:30 PM	P.S. 48 (Joseph Drake School) 1290 Spofford Avenue (between Faile and Coster Streets), Bronx, NY
South Bronx MTS Alternatives (98 Lincoln Ave. and 920 E. 132nd St.)	June 23, 2004	5:30 PM - 8:30 PM	Alfred E. Smith High School 333 East 151st Street (between Courtlandt and Morris Avenues), Bronx, NY
Hamilton Avenue MTS	June 24, 2004	5:30 PM - 8:30 PM	Brooklyn 7 Community District Office 4201 4th Avenue (between 42nd and 43rd Streets), Brooklyn, NY
East 91st Street MTS	June 28, 2004	5:30 PM - 8:30 PM	New York Blood Center (Auditorium) 310 E. 67th Street (between 1st and 2nd Avenues), New York, NY
North Shore MTS	June 29, 2004	5:30 PM - 8:30 PM	Union Plaza Health Care Facility 33-23 Union Street (between 33rd and 34th Avenues), Flushing, NY
Greenpoint MTS Queens Alternative (30-58 Review Avenue)	June 30, 2004	5:30 PM - 8:30 PM	Sunnyside Senior Center 43-31 39th Street (between Queens Blvd. and 43rd Ave.), Sunnyside, NY
Greenpoint MTS and Brooklyn Alternatives (485 Scott Ave., 72 Scott Ave./598 Scholes St., and 568 Meserole St.)	July 1, 2004	5:30 PM - 8:30 PM	Swinging Sixties Senior Center 211 Ainslie Street (between Manhattan and Graham Avenues), Brooklyn, NY

A copy of the Draft Scope and the Environmental Assessment Statement and Positive Declaration for the New SWMP are available on DSNY's web site at www.nyc.gov/sanitation. These materials can also be obtained by contacting:

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street, 12th Floor, New York, NY 10004
Telephone: (917) 237-5501 and Fax: (212) 269-0788

Oral and written comments can be submitted at the Public Scoping Meeting*. Written comments can also be sent to the above address or fax number, or to:

New SWMP Comments c/o
Ecology and Environment, Inc.
90 Broad Street, Suite 1906, New York, NY 10004

All written comments must be postmarked by July 9, 2004 or received by 5:00 PM on July 11, 2004.

Public documents and outreach materials* are available in the vicinity of each proposed site as follows:

Project Area	Repository	Address	Days and Hours	Phone Number
MANHATTAN				
East 91st Street MTS	Community Board 8 Office	505 Park Avenue	call for days and hours	(212) 758-4340
	96th Street Regional Public Library	112 East 96th Street	M/Th 12-8;Tu/F 1-6; W 10-4; Sa 10-5	(212) 289-0908
West 135th Street MTS	Manhattan Community District 9 office	565 West 125th Street	call for days and hours	(212) 864-6200
	George Bruce Public Library	518 West 125th Street	M 10-6; W 12-8; Th 11-6; F 1-6; Sa 10-5.	(212) 662-9727
West 59th Street MTS	Manhattan Community Board 4 Office	330 West 42nd Street, 26th Floor	call for days and hours	(212) 736-4536
	Riverside Public Library (Community District 7)	127 Amsterdam Avenue at West 65th Street	M 10-6; W 12-8; Th 1-8; F 1-6; Sa 10-5	(212) 870-1810
BROOKLYN				
Hamilton Avenue MTS	Brooklyn Community Board 7 office	4201 4th Avenue	call for days and hours	(718) 854-0003
	Sunset Park Public Library	5108 4th Avenue at 51st	M 1-8; T, Th/F 1-6; W 10-6; Sa 10-5	(718) 567-2806
Southwest Brooklyn MTS	Brooklyn Community Board 11 Office	2214 Bath Avenue	call for days and hours	(718) 266-8800
	New Utrecht Public Library	1743 86th Street at Bay 17th Street	M/Th 1-6; Tu 1-8; W/F 10-6; Sa 10-5	(718) 236-4086
Greenpoint MTS and Brooklyn Alternatives (485 Scott Ave., 72 Scott Ave./598 Scholes St., and 568 Meserole St.)	Brooklyn Community Board Office	435 Graham Avenue	call for days and hours	(718) 389-0009
	Leonard Public Library	8 Devoe Street at Leonard Street	M 1-8; Tu/Th/F 1-6; W 10-6	(718) 486-3365
QUEENS				
Greenpoint MTS Queens Alternative (30-58 Review Avenue)	Queens Community Board 2 Office	43-22 50th Street, Woodside	call for days and hours	(718) 533-8773
	Court Square Public Library	25-01 Jackson Avenue, Long Island City	M 12-7; Tu 1-6; W 10-6; Th/F 12-6	(718) 937-2790
North Shore MTS	Queens Community Board 7 Office	45-35 Kissena Boulevard, Flushing	call for days and hours	(718) 359-2800
	Mitchell-Linden Public Library	29-42 Union Street, Flushing	M/Th 1-8, Tu 1-6, W/F 10-6	(718) 539-2330
BRONX				
South Bronx MTS	Bronx Community Board 2 Office	1029 East 163rd Street	call for days and hours	(718) 328-9125/6
	Hunts Point Regional Public Library	877 Southern Boulevard at Tiffany Street	M 12-7; Tu/Th 10-6; W/F 1-6; Sa 10-5	(718) 617-0338
South Bronx MTS Alternatives (98 Lincoln Ave. and E. 132nd St.)	Bronx Community Board 1 Office	384 East 149th Street	call for days and hours	(718) 585-7117
	Woodstock Public Library	761 East 160th Street, west of Prospect Avenue	M/Tu 10-6; W 11-6; Th 12-7; F 1-6	(718) 665-6255

** DSNY will make available public outreach, public notice materials, and interpreters for languages other than English where appropriate, upon request. Please call the NYC SWMP Hotline or 1-888-NYC-SWMP for more information.*

All sites

Aviso de alcance público

Para nuevo plan completo de gestión de residuos sólidos

El Departamento de Limpieza y Recogida de Basuras de la Ciudad de Nueva York (DSNY) está preparando un informe borrador sobre impacto medioambiental (DEIS) para el propuesto nuevo Plan completo de gestión de residuos sólidos para la Ciudad de Nueva York para los próximos 20 años (Nuevo SWMP). El SWMP suministrará la gestión de residuos sólidos en la Ciudad de Nueva York, incluyendo los programas actuales para reducir, reutilizar y reciclar residuos sólidos, procesamiento a largo plazo y transporte de reciclables, exportación a largo plazo de residuos desde Estaciones de Transferencia Marina Convertidas (MTS) o alternativas y residuos comerciales.

DSNY solicita comentarios públicos sobre los impactos que deben ser evaluados por la DEIS. Como parte de un esfuerzo mejorado para facilitar la máxima participación pública, DSNY celebrará diez (10) reuniones de alcance público, cada una de las cuales tendrá lugar cerca de uno de los sitios propuestos como MTS y/o alternativas, para tomar notas sobre los comentarios públicos sobre el alcance del borrador para DEIS. Las

Área del proyecto	Fecha	Hora	Ubicación
West 135th Street MTS	16 de junio de 2004	5:30 PM - 8:30 PM	I.S.195 (Roberto Clemente School) 625 W.133rd Street (between Broadway and 12th Avenue), New York NY
Southwest Brooklyn MTS	17 de junio de 2004	5:30 PM - 8:30 PM	I.S. 227 (Edward B. Shallow School) 6500 16th Avenue (between 65th and 66th Streets), Brooklyn, NY
West 59th Street MTS	21 de junio de 2004	5:30 PM - 8:30 PM	West Side Y.M.C.A. 5 West 63rd Street (between Central Park West and Broadway), New York, NY
South Bronx MTS	22 de junio de 2004	5:30 PM - 8:30 PM	P.S. 48 (Joseph Drake School) 1290 Spofford Avenue (between Faile and Coster Streets), Bronx, NY
South Bronx MTS	23 de junio de 2004	5:30 PM - 8:30 PM	Alfred E. Smith High School 333 East 151st Street (between Courtlandt and Morris Avenues), Bronx, NY
Hamilton Avenue MTS	24 de junio de 2004	5:30 PM - 8:30 PM	Brooklyn 7 Community District Office 4201 4th Avenue (between 42nd and 43rd Streets), Brooklyn, NY
East 91st Street MTS	28 de junio de 2004	5:30 PM - 8:30 PM	New York Blood Center (Auditorium) 310 E. 67th Street (between 1st and 2nd Avenues), New York, NY
North Shore MTS	29 de junio de 2004	5:30 PM - 8:30 PM	Union Plaza Health Care Facility 33-23 Union Street (between 33rd and 34th Avenues), Flushing, NY
Greenpoint MTS Alternative	30 de junio de 2004	5:30 PM - 8:30 PM	Sunnyside Senior Center 43-31 39th Street (between Queens Blvd. and 43rd Ave.), Sunnyside, NY
Greenpoint MTS	1 de julio de 2004	5:30 PM - 8:30 PM	Swinging Sixties Senior Center 211 Ainslie Street (between Manhattan and Graham Avenues), Brooklyn, NY

Una copia del Borrador de Alcance y del Informe de Evaluación Medioambiental y Declaración Positiva para el Nuevo SWMP están disponibles en la página de internet de DSNY en www.nyc.gov/sanitation. Estos materiales también pueden obtenerse contactando:

Assistant Commissioner Harry Szarpanski
City of New York Department of Sanitation
44 Beaver Street, 12 th floor, New York, NY 1000
Telefono: (917) 237--5501 y fax: (212) 269-0788

Comentarios en forma verbal o escrita pueden presentarse en la reunión de alcance pública.* Comentarios por escrito también pueden enviarse a la arriba mencionada dirección o número de fax, o a:

New SWMP Comments c/o
Ecology and Enviroment, Inc.
90 Broad Street, Suite 1906, New York, NY 10004

Todos los comentarios por escrito deben estar fechados con fecha anterioridad al/o el 9 de julio de 2004 o deben ser recibidos antes de las 5:00 PM del 11 de julio de 2004. Documentos públicos y folletos de información están disponibles en el vecindad de cada sitio propuesto, tal y como se indica a continuación.

Área del proyecto	Depósito	Dirección	Días y horas	Número de teléfono
East 91st Street MTS	Community Board 8 Office	505 Park Avenue	Llamar por días y horas	(212) 758-4340
	96th Street Regional Public Library	112 East 96th Street	Lu/ju 12-8; ma/vi 1-6; mi 10-4; sáb 10-5	(212) 289-0908
West 135th Street MTS	Manhattan Community District 9 office	565 West 125th Street	Llamar por días y horas	(212) 864-6200
	George Bruce Public Library	518 West 125th Street	Lu 10-6; mi 12-8; ju 11-6; vi 1-6; sáb 10-5.	(212) 662-9727
West 59th Street MTS	Manhattan Community Board 4 Office	330 West 42nd Street, 26th Floor	Llamar por días y horas	(212) 736-4536
	Riverside Public Library (Community District 7)	127 Amsterdam Avenue at West 65th Street	Lu 10-6; mi 12-8; ju 1-8; vi 1-6; sáb 10-5	(212) 870-1810
Hamilton Avenue MTS	Brooklyn Community Board 7 office	4201 4th Avenue	Llamar por días y horas	(718) 266-8800
	Sunset Park Public Library	5108 4th Avenue at 51st	Lu 1-8; ma, ju/vi 1-6; mi 10-6; sáb 10-5	(718) 236-4086
Southwest Brooklyn MTS	Brooklyn Community Board 11 Office	2214 Bath Avenue	Llamar por días y horas	(718) 854-0003
	New Utrecht Public Library	1743 86th Street at Bay 17th Street	Lu/ju 1-6; ma, 1-8; mi/vi 10-6; sáb 10-5	(718) 567-2806
Greenpoint MTS and Brooklyn Alternatives (485 Scott Ave., 72 Scott Ave./598 Scholes St., and 568 Meserole St.)	Brooklyn Community Board Office	435 Graham Avenue	Llamar por días y horas	(718) 389-0009
	Leonard Public Library	8 Devoe Street at Leonard Street	Lu1-8; ma/ju/vi 1-6; mi 10-6	(718) 486-3365
Greenpoint MTS Queens Alternative (30-58 Review Avenue)	Queens Community Board 2 Office	43-22 50th Street, Woodside	Llamar por días y horas	(212) 758-4340
	Court Square Public Library	25-01 Jackson Avenue, Long Island City	Lu 12-7; ma 1-6; mi 10-6; ju/vi 12-6	(212) 289-0908
North Shore MTS	Queens Community Board 7 Office	45-35 Kissena Boulevard, Flushing	Llamar por días y horas	(212) 864-6200
	Mitchell-Linden Public Library	29-42 Union Street, Flushing	Lu/ju 1-8; ma 1-6; mi/vi 10-6	(212) 662-9727
South Bronx MTS	Bronx Community Board 2 Office	1029 East 163rd Street	Llamar por días y horas	(212) 758-4340
	Hunts Point Regional Public Library	877 Southern Boulevard at Tiffany Street	Lu 12-7; ma/ju 10-6; mi/vi 1-6; sáb 10-5	(212) 289-0908
South Bronx MTS Alternatives (98 Lincoln Ave. and E. 132nd St.)	Bronx Community Board 1 Office	384 East 149th Street	Llamar por días y horas	(212) 864-6200
	Woodstock Public Library	761 East 160th Street, west of Prospect Avenue	Lu/ma 10-6; mi 11-6; ju 12-7; vi 1-6	(212) 662-9727

**DSNY facilitará en idiomas distintos del inglés folletos, materiales de aviso público e intérpretes, donde así fuere necesario, tras solicitud. Favor, llamar por más información a la Línea abierta del NYC SWMP o 1-888- NYC-SWMP*

City of New York Department of Sanitation
Comprehensive Solid Waste Management Plan
Draft Environmental Impact Statement (DEIS)

Public Scoping Meeting
North Shore Converted MTS

June 29, 2004

New Solid Waste Management Plan Initiatives

- **Long-Term Export of Waste**
- **New Recycling Facilities**
- **Commercial Waste**

Why the Department is Here Today:

To Receive Your Comments on the Scoping Document for the Draft Environmental Impact Statement:

- **Verbal Comments** *(Please fill out a Speaker Registration Card at the sign-in desk, and limit your comments to 3 minutes)*
- **Fill Out a Comment Sheet**
- **Submit a Written Statement**

OR…….

Other Ways to Comment

Mail Comments (no later than 7/9) to:

- Harry Szarpanski, Assistant Commissioner
  Department of Sanitation
  44 Beaver Street, 12th floor
  New York, NY 10004

or

- New SWMP Comments c/o
  Ecology and Environment, Inc.
  90 Broad Street, Suite 1906
  New York, NY 10004

DEIS Review: Long-Term Export Program

- **Proposed Action: Marine Transfer Station (MTS) Conversion Program**
- **Alternatives Being Evaluated:**
  - Rail/Barge Export of Waste from Private Transfer Stations in the Bronx, Brooklyn and Queens
  - Rehabilitate Existing MTSs to Barge Waste to an Out-of-City Unloading Facility
  - Deliver Waste in Collection Vehicles or Barges to an Out-of-City Waste Disposal Facility

Locations of Existing MTSs and Alternatives

Existing South Bronx MTS

920 East 132nd Street

98 Lincoln Avenue

Existing West 135th Street MTS

Existing West 59th Street MTS

Existing East 91st Street MTS

Existing North Shore MTS

38-50 Review Avenue

Existing Greenpoint MTS

485 Scott Avenue

72 Scott Avenue/ 598 Scholes Street

568 Meserole Street

Existing Hamilton Avenue MTS

Existing 52nd Street Barge Staging Area

Existing Southwest Brooklyn MTS

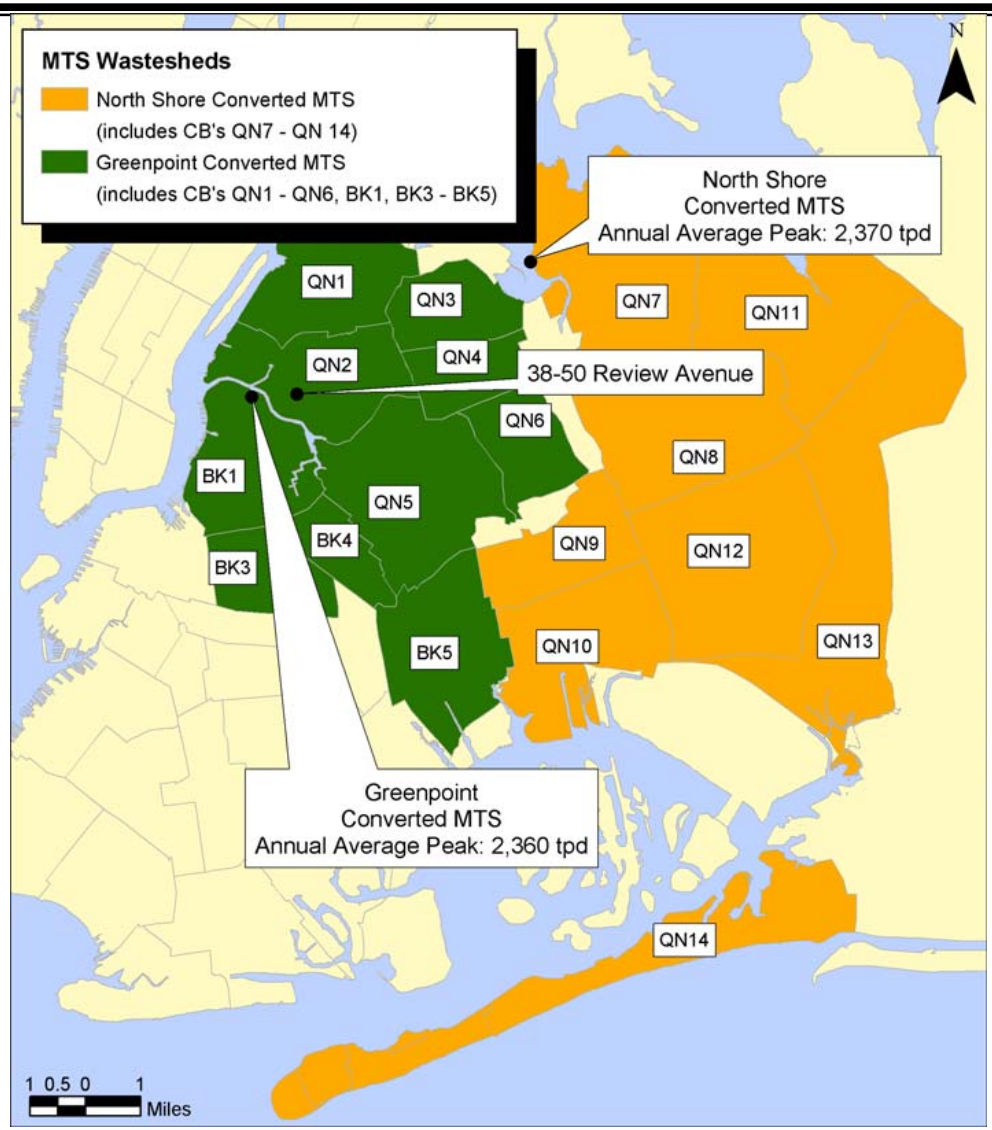
MTS Conversion Program

- **Develop New Facilities (Converted MTSs) to Containerize Waste at Existing MTS Sites**
  - Three in Manhattan
  - Three in Brooklyn
  - One in Queens
  - One in the Bronx
- Reactivate 52nd Street Barge Staging Area in Brooklyn

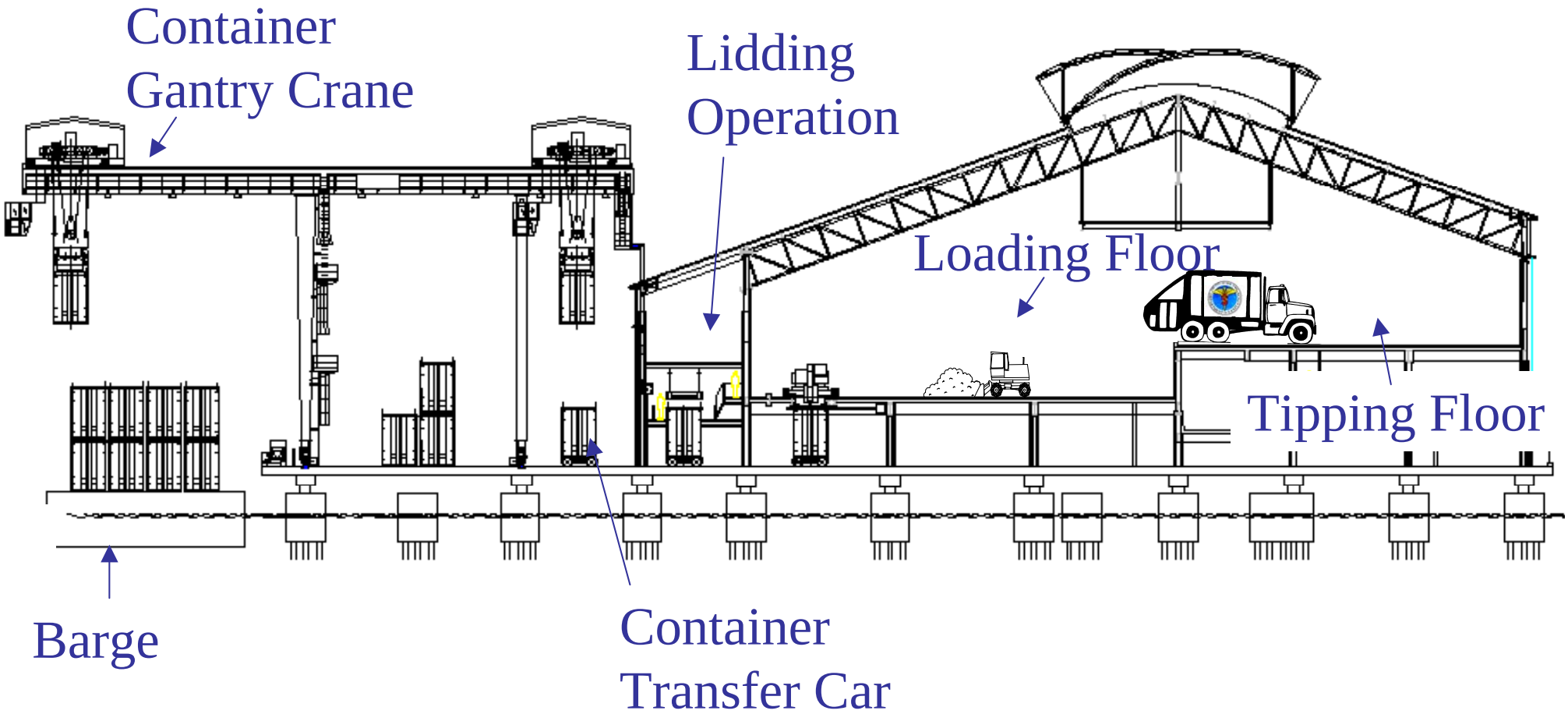
MTS Conversion Program: Objectives

- **Export Waste by Barge and/or Rail**
- **Reduce In-City Transfer Trailer Traffic**
- **Utilize More Economical Disposal Capacity**
- **Provide More Transport and Disposal Options**

Queens Converted MTSs: Wastesheds



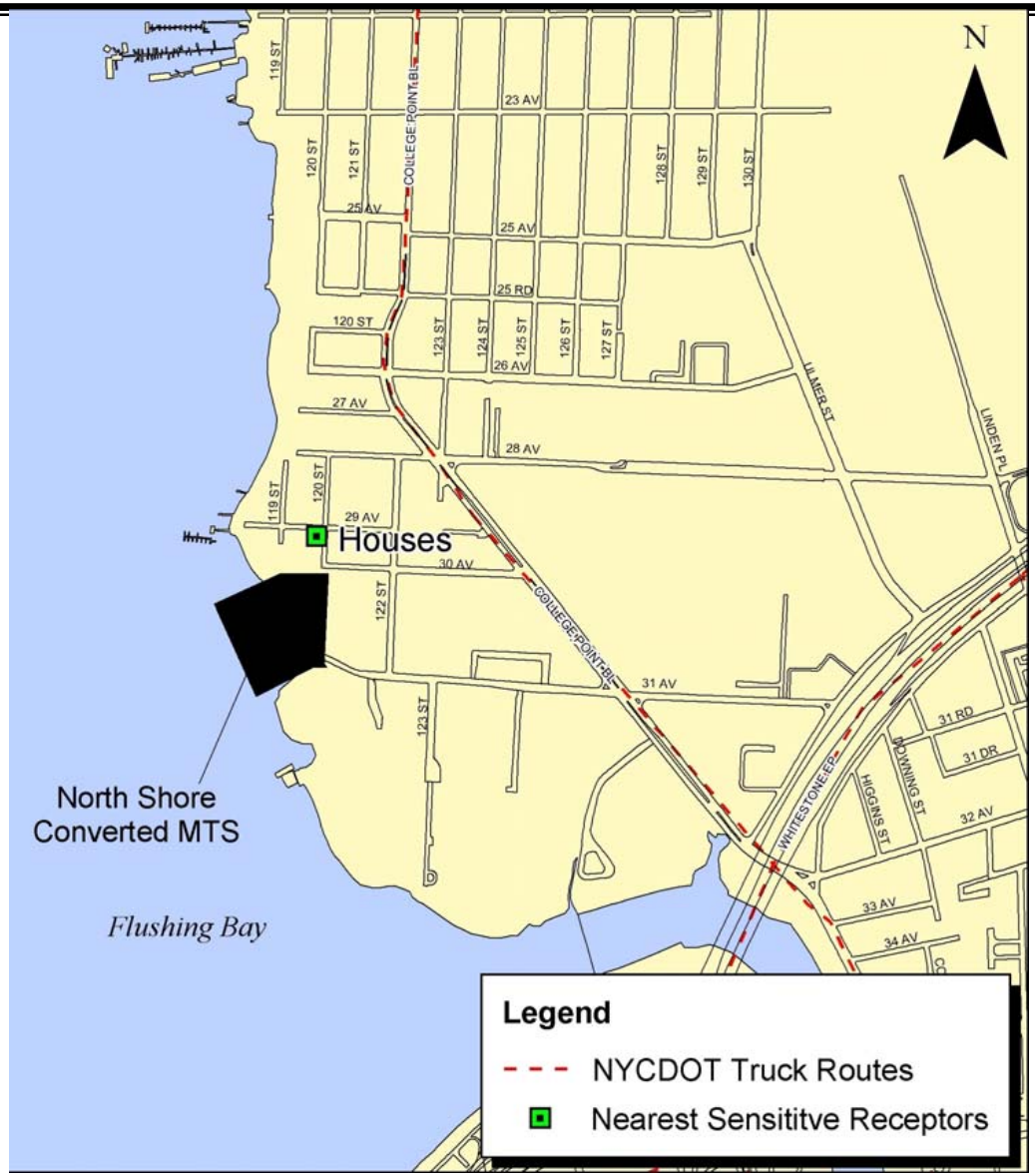
Typical Section View of the Converted North Shore MTS



Odor Control

- **Ventilation System Prevents Air from Escaping Processing Building when Doors are Open**
- **Rapid Rollup Doors Mean Doors Remain Open for Less Time**
- **Interior Water Misting System inside Building Reduces Dust in Exhaust Air**
- **State-of-the-Art Odor Control System Neutralizes (not Masks) Odor in Building Exhaust Air**
- **No Detectable Odors at Sensitive Receptors**

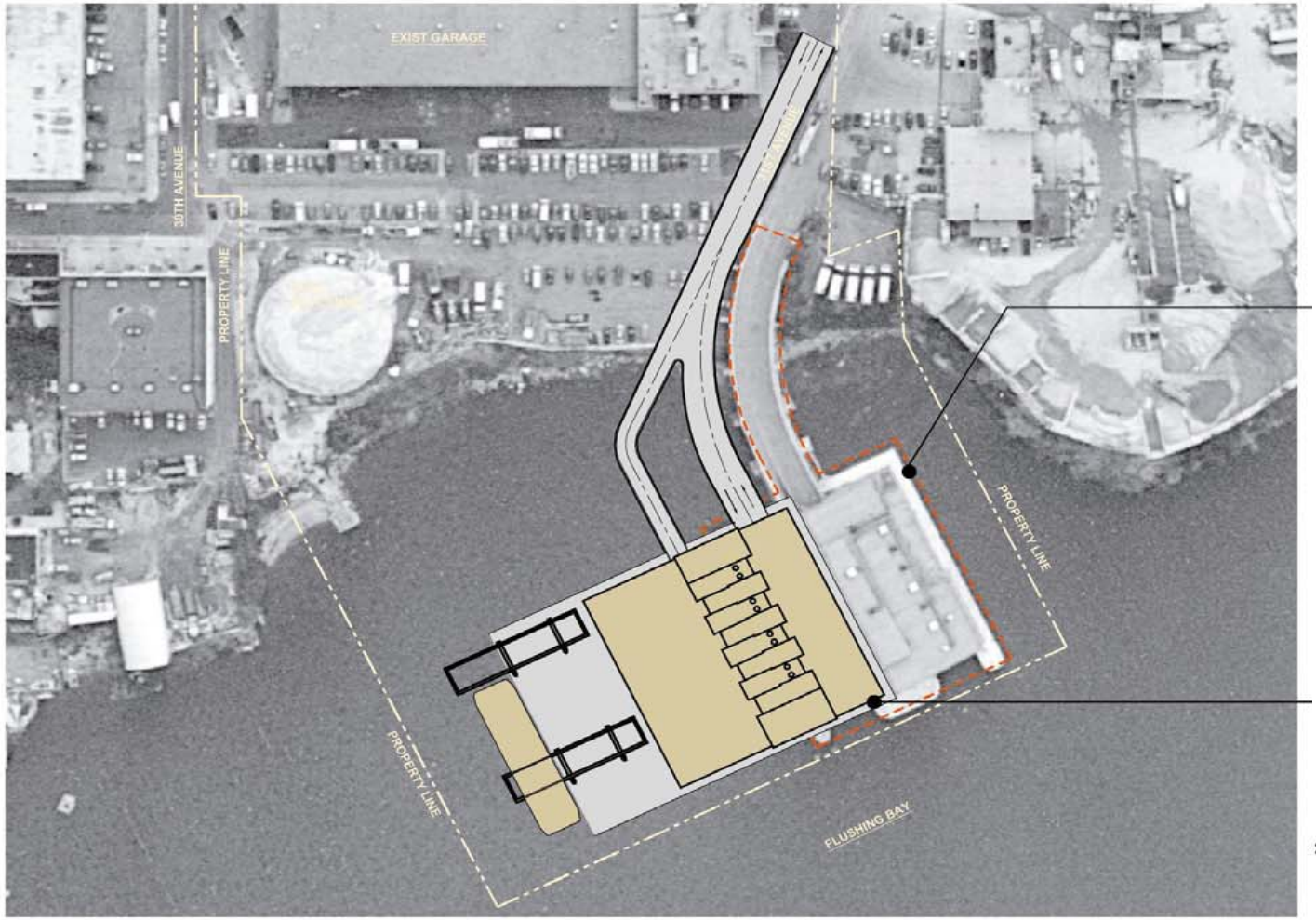
Sensitive Receptor Locations and Major Truck Routes



No Truck Queuing on Streets

- **Access Ramps are Longer**
- **Ramps are Designed to Support Queuing Trucks**
- **21 Collection Vehicles can Queue on Site at North Shore**
- **Tipping Bay Space for 6 Trucks inside the Building**

North Shore Site Plan



Existing MTS
To be demolished

Proposed MTS

Containerization

- **Specially Designed Intermodal Containers**
- **Containers have Leakproof Seals**
- **Containers are Lidded inside Building**
- **Containers are Loaded onto Flat Deck Barges**
- **No Exposed Waste outside of Building**

Container Lifting

Alternatives to MTS Conversion

- **The DEIS will Evaluate the Following Alternative:**
  - Rehabilitate the Existing MTS to Barge Waste to an Out-of-City Unloading Facility

Anticipated Timeline/Public Review and Involvement

- **Public Scoping Meetings:** *June 16 to July 1, 2004*
- **Comments on Draft Scoping Document:** *Due By: July 9th (via mail) and July 11th (via fax)*
- **Issue Final Scoping Document:** *July 14, 2004*
- **Issuance of Draft EIS:** *August 6, 2004*
- **NYSDEC Part 360 Permit/DEIS Hearings:** *September 8 to 28, 2004*
- **City Council Hearings on Draft SWMP:** *September 2004*
- **Comments on DEIS:** *August 6th to October 8th*
- **Close of DEIS Comments:** *October 8, 2004*
- **Publication of FEIS:** *December 9, 2004*
- **Hotline: (888) NYC-SWMP**
- **Review Documents at Public Repositories**

City of New York Department of Sanitation
Comprehensive Solid Waste Management Plan
Draft Environmental Impact Statement (DEIS)

Public Scoping Meeting
North Shore Converted MTS

June 29, 2004

WELCOME TO THE NEW SOLID WASTE MANAGEMENT PLAN SCOPING MEETING

FOR THE PROPOSED NORTH SHORE CONVERTED MARINE TRANSFER STATION

To support the approval of the City of New York Comprehensive Solid Waste Management Plan for the next 20-year planning period (New SWMP), the City will prepare a Draft Environmental Impact Statement (DEIS) that will evaluate the environmental impacts of the New SWMP proposed action. Among other things, the DEIS will evaluate the impacts associated with the proposed conversion of the eight existing City Marine Transfer Stations (MTS Conversion Program), including the North Shore MTS in Flushing, NY, into state-of-the-art waste containerization facilities from which waste will be barged for disposal. The DEIS will evaluate alternatives to the proposed action, including alternatives to the MTS Conversion Program.

DSNY intends to obtain as much public input as possible on the impacts associated with the proposed North Shore MTS project. We are prepared to listen to your comments and concerns on the issues to be addressed in the EIS.

Please review the displays and then provide us with your comments to help focus our environmental study.

What topics are most important to you?

What topics are most important to the community?

Ways to Provide Comments:

At the meeting:

- Provide verbal comments
- Fill out a comment sheet

At a later date:

- Mail written comments to*:

  New SWMP Comments
  c/o Ecology and Environment, Inc.
  90 Broad St., Suite 1906
  New York, NY 10004

***Comments must be postmarked by July 9, 2004 or delivered by 5:00 pm on July 11, 2004**

- Visit our Web site at www.nyc.gov/sanitation
- Call the toll free NYC SWMP Hotline at 1-888-NYC-SWMP [1-888-692-7967]
  Mon. - Fri., between 9:30 am and 5:00 pm.

Translation services may be available upon request. Please call the NYC SWMP Hotline for more information.

Public documents and outreach materials are available in the vicinity of each project area as follows:

Project Area	Repository	Address	Days and Hours	Phone Number
MANHATTAN				
East 91st Street MTS	Manhattan Community Board 8 Office	505 Park Avenue	call for days and hours	(212) 758-4340
	96th Street Regional Public Library	112 East 96th Street	M/Th 12-8;Tu/F 1-6; W 10-4; Sa 10-5	(212) 289-0908
West 135th Street MTS	Manhattan Community Board 9 office	565 West 125th Street	call for days and hours	(212) 864-6200
	George Bruce Public Library	518 West 125th Street	M 10-6; W 12-8; Th 11-6; F 1-6; Sa 10-5	(212) 662-9727
West 59th Street MTS	Manhattan Community Board 4 Office	330 West 42nd Street, 26th Floor	call for days and hours	(212) 736-4536
	Riverside Public Library (Community District 7)	127 Amsterdam Avenue at West 65th Street	M 10-6; W 12-8; Th 1-8; F 1-6; Sa 10-5	(212) 870-1810
BROOKLYN				
Hamilton Avenue MTS	Brooklyn Community Board 7 office	4201 4th Avenue	call for days and hours	(718) 854-0003
	Sunset Park Public Library	5108 4th Avenue at 51st	M 1-8; T, Th/F 1-6; W 10-6; Sa 10-5	(718) 567-2806
Southwest Brooklyn MTS	Brooklyn Community District 11 Office	2214 Bath Avenue	call for days and hours	(718) 266-8800
	New Utrecht Public Library	1743 86th Street at Bay 17th Street	M/Th 1-6; Tu 1-8; W/F 10-6; Sa 10-5	(718) 236-4086
Greenpoint MTS and Brooklyn Alternatives (485 Scott Ave., 72 Scott Ave./598 Scholes St., and 568 Meserole St.)	Brooklyn Community Board 1 Office	435 Graham Avenue	call for days and hours	(718) 389-0009
	Leonard Public Library	81 Devoe Street at Leonard Street	M 1-8; Tu/Th/F 1-6; W 10-6	(718) 486-3365
QUEENS				
Greenpoint MTS Queens Alternative (30-58 Review Avenue)	Queens Community Board 2 Office	43-22 50th Street, Woodside	call for days and hours	(718) 533-8773
	Court Square Public Library	25-01 Jackson Avenue, Long Island City	M 12-7; Tu 1-6; W 10-6; Th/F 12-6	(718) 937-2790
North Shore MTS	Queens Community Board 7 Office	45-35 Kissena Boulevard, Flushing	call for days and hours	(718) 359-2800
	Mitchell-Linden Public Library	29-42 Union Street, Flushing	M/Th 1-8, Tu 1-6, W/F 10-6	(718) 539-2330
BRONX				
South Bronx MTS	Bronx Community Board 2 Office	1029 East 163rd Street	call for days and hours	(718) 328-9125/6
	Hunts Point Regional Public Library	877 Southern Boulevard at Tiffany Street	M 12-7; Tu/Th 10-6; W/F 1-6; Sa 10-5	(718) 617-0338
South Bronx MTS Alternatives (98 Lincoln Ave. and 920 East 132nd St.)	Bronx Community Board 1 Office	384 East 149th Street	call for days and hours	(718) 585-7117
	Woodstock Public Library	761 East 160th Street, west of Prospect Avenue	M/Tu 10-6; W 11-6; Th 12-7; F 1-6	(718) 665-6255

sanitation

JOHN J. DOHERTY
Commissioner
125 Worth Street, Room 720
New York, New York 10013
Telephone (646) 885-4974
Fax (212) 385-2560

April 12, 2004

Honorable Gifford E. Miller
Speaker, New York City Council
City Hall
New York, New York 10007

Honorable Michael E. McMahon
Chair, Committee on Sanitation and
Solid Waste Management
New York City Council
250 Broadway – 14th Floor
New York, New York 10007

Dear Speaker Miller and Chairman McMahon:

I am pleased to present the Consolidated Executive Summaries of the New York City Department of Sanitation Commercial Waste Management Study, prepared by a consultant as required by Local Law 74 of 2000. This Study, which examines how commercial waste in the City is managed, is one part of the Department's larger commercial waste planning and policy initiatives that will unfold over the course of this year. The complete Study will be sent to you shortly.

Local Law 74 established the goals of this Study. The first was to assess potential environmental and public health impacts on communities in which a number of privately owned solid waste transfer stations are located. The second was to provide a foundation for the Department's efforts to develop a new Comprehensive Solid Waste Management Plan (SWMP).

As part of achieving the Study's first goal, three separate evaluations were conducted after a public scoping process had been completed. The first identified four areas of the City with geographically proximate, privately owned transfer stations (Hunts Point and Port Morris in the Bronx; East Williamsburg/ Newton Creek area of Brooklyn; and, Jamaica, Queens), and evaluated the potential overlapping impacts to the environment (air quality, odor, noise, traffic, water quality, public health). The second evaluation surveyed over half of the commercial waste transfer stations in these Study Areas, in order to identify any operational measures and design modifications to improve the environmental performance of these facilities. The third evaluation assessed the effectiveness of current permitting and enforcement activities of City and State agencies that oversee transfer station operations, under existing rules and regulations.

The Department's transfer station enforcement staff has doubled since 2000, and the Department is committed to ensuring that transfer stations comply with all applicable regulatory requirements. The number of transfer station facilities in the City has declined from 153 in 1990 to 62 today, including 7

facilities with multiple permits. Of these, 22 are permitted to receive putrescible waste, while the others receive construction and demolition debris or clean fill material.

The Study recommends practical and effective design and operational improvements which, together with continued strong enforcement efforts, will lead to even better regulatory compliance and improved environmental performance at privately owned transfer stations in the City. The Department welcomes these recommendations and, as necessary, will move forward quickly, through a public rule-making process, to amend its regulations governing transfer stations. These more stringent design and operations regulations will apply not only to new transfer stations, but also to existing transfer stations, many of which will need to comply by retrofitting their facilities and upgrading their operations.

The findings of the Study will also help inform the Department's new transfer station siting regulations. The 1998 siting regulations imposed certain new restrictions on the locations in which transfer stations could be sited. The Department will promulgate new siting rules this summer, and will provide opportunity for public comment from communities, the regulated transfer station industry, and other interested parties.

The second goal of the Study was to help the City to assess and plan for management of both the residential and commercial waste streams in an efficient manner through the development of the new SWMP. The SWMP will set forth the Department's plans for managing solid waste generated in the City over the next 20 years. The Study provides useful data and an effective context for considering how the residential and commercial waste management systems might operate more effectively.

For example, the Study provides an estimate of the capacity at the Department's converted Marine Transfer Stations (MTSs) that is potentially available for commercial waste. However, the Study does not address the business arrangements or possible regulatory policies that would be necessary elements of a City policy to handle commercial waste at the converted MTSs. These will be important considerations for future study and analysis.

Other valuable Study data includes the quantities of commercial waste generated in the City today and projections of commercial waste generation rates in the City over the next 20 years. Waste disposal capacity at landfills available to the City by truck or rail over the next 20 years is also analyzed. The Department expects to present the draft SWMP to the Council in September. The Commercial Waste Management Study makes an important contribution to the City's on-going planning efforts and evolving understanding of solid waste management strategies and alternatives. The Department is pleased to make the Study available to the Council and the interested public.

Sincerely,

John J. Dofferty

Int. No. 842/Local Law 74 of 2000

By The Speaker (Council Member Vallone), Council Members Michels, Robles, Fisher, Rodriguez, DiBrienza, Boyland, Carrion, Fiala, Marshall, Provenzano, Quinn, Oddo, Clarke, Dear, Malave-Dilan, Eisland, Espada, Foster, Linares, Moskowitz, Nelson, O'Donovan, Pinkett, Abel, Golden, Stabile and Ognibene (in conjunction with the Mayor)

A Local Law to amend the administrative code of the city of New York, in relation to requiring a comprehensive study of the commercial solid waste management system within New York city.

Be it enacted by the Council as follows:

Section 1. Declaration of Legislative Intent and Findings. The legislatively mandated closure of the Fresh Kills Landfill by January 1, 2002 opens a new era in solid waste management in New York City and affords an opportunity to reexamine all aspects of how solid waste is managed, including that generated by the commercial sector. Moreover, New York City must now begin development of its next Comprehensive Solid Waste Management Plan.

Until the late 1980s, private carters paid a tipping fee to dispose of solid waste in the City's Fresh Kills landfill. In 1988, the tipping fee was raised to discourage private carters from using the Fresh Kills landfill in order to extend the landfill's useful life. This resulted in increased amounts of solid waste being sent to private transfer stations in New York City and the region.

Solid waste transfer stations and the trucks transporting waste to and from those facilities may generate such problems as dust, debris, noise~~,~~ odors, air pollutants, vermin and traffic congestion. The Council is concerned that transfer stations and private carters in New York City may need more regulation

in order to protect the communities in which they are located and conduct business and to ensure effective enforcement of the rules governing their operation.

The Council finds that a comprehensive study of the commercial solid waste management system within the City of New York is critical in order to enable the City to assess and plan for management of both the residential and commercial waste streams in the most efficient manner, to minimize the potential adverse impacts on the City's residential and business communities and the environment, and to assist in developing a new comprehensive solid waste management plan.

§2. The administrative code of the city of New York is amended by adding a new section 16-134 to read as follows:

<u>§16-134 Comprehensive study of commercial solid waste management system required. a. 1. "Long haul transport vehicle" shall mean any motor vehicle used to remove solid waste or other material from a putrescible or non-putrescible solid waste transfer station for final disposal, reuse or recycling.</u>

<u>2. "Private carter" shall mean any individual or business entity required to obtain a license from the trade waste commission pursuant to subdivision a of section 16-505 of this title.</u>

<u>3. "Trade waste commission" shall mean the New York city trade waste commission as established by section 16-502 of this title.</u>

b. The department, in consultation with the trade waste commission, shall enter into one or more contracts for the performance of a comprehensive study of the existing commercial solid waste management system within the city of New York. In performing the study, the department and/or the contractor or contractors shall solicit and consider the views of elected officials, the citywide recycling advisory board, the borough solid waste advisory boards and the public, including residents of affected communities, environmental advocacy organizations, transfer station operators, private carters, business entities and academicians, and respond to substantive issues raised. The study shall include, but need not be limited to, an analysis of the following:

1. the effectiveness of procedures employed and the criteria applied by the department for the issuance and renewal of permits for the operation of putrescible and non-putrescible solid waste transfer stations in minimizing potential adverse environmental, economic and public health impacts on the communities in which such transfer stations are located by examining such issues as (i) the effectiveness of the criteria applied by the department to the siting of putrescible and non-putrescible solid waste transfer stations, including the aggregate effect of the geographic proximity of solid waste transfer stations to each other and (ii) the scope and effectiveness of the operational restrictions imposed upon putrescible and non-putrescible solid waste transfer stations, including the hours of operation and any performance standards established in the zoning resolution of the city of New York;

2. the manner in which all applicable laws, rules and regulations relating to the operation of putrescible and non-putrescible solid waste transfer stations, private carters and long haul transport vehicles are enforced, including who should be responsible for such enforcement, and the effectiveness of such enforcement in obtaining compliance with such laws, rules and regulations and in minimizing potential environmental, economic and public health impacts and an analysis of rules relating to routes for transporting material to or from such transfer stations;

3. the means and potential effects of limiting the number and capacity of putrescible and non-putrescible solid waste transfer stations in the city;

4. the size and type of vehicles that should be authorized to transport solid waste to or from putrescible and non-putrescible solid waste transfer stations and fuel-type requirements for such vehicles;

5. whether putrescible and non-putrescible solid waste transfer stations and city-owned marine transfer stations should receive and process both residential and commercial solid waste and the options for transporting such solid waste to and from such transfer stations, including an analysis of potential environmental, economic and public health impacts; and

6. potential environmental, economic and public health impacts on communities in which large numbers of privately-owned putrescible and non-putrescible solid waste transfer stations are located such as, but not limited to,

potential impacts related to air quality, water quality, odors, traffic congestion and noise.

c. The study required by subdivision b of this section, and a report containing a detailed analysis of the findings of such study, as well as recommendations based on such analysis and findings, shall be completed no later than eighteen months after registration of the consultant contract and at least two months before the next draft comprehensive solid waste management plan is submitted to the council or the New York state department of environmental conservation. Such report shall be submitted to the mayor and the council immediately upon its completion. A preliminary report containing data necessary to perform the analyses described in subdivision b of this section shall be submitted by the department to the mayor and the council during or before the last quarter of calendar year two thousand one.

d. Such study shall be performed and such report shall be prepared in a manner designed to assist in the preparation of the next comprehensive solid waste management plan for the city of New York required by section 27-0107 of the New York state environmental conservation law.

§3. This local law shall take effect immediately.

JH
H:/lsreques/comm waste study3.doc
11/26/00 4:30 pm

COMMERCIAL WASTE MANAGEMENT STUDY
FINAL SCOPE OF WORK

New York City Department of Sanitation

JULY 31, 2003

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CITY OF NEW YORK
DEPARTMENT OF SANITATION
COMMERCIAL WASTE MANAGEMENT STUDY
FINAL SCOPE OF WORK

1.0 INTRODUCTION

The New York City (City) Department of Sanitation (DSNY) collects and/or disposes of waste generated by residences, institutions, not-for-profit organizations, DSNY lot cleaning operations, and other City, state and federal agencies (hereinafter referred to as DSNY-managed Waste[1]). Private waste carting companies collect and dispose of waste from commercial sources in the City. Both DSNY and private companies recycle materials, including paper, cardboard, metal, glass and plastic.

DSNY has the responsibility to manage all of the waste generated in the City and to develop a new Comprehensive Solid Waste Management Plan (New Plan) for both DSNY-managed Waste and commercial waste for the planning period 2004 through 2024. Because the City has no operating landfill, incinerator or resource recovery facilities, pursuant to interim export contracts, all DSNY-Managed Waste is either transferred from private transfer stations within the City or carted out of the City in DSNY collection vehicles for transfer and/or disposal at facilities outside of the City. Except for DSNY-managed Waste transferred out of the Bronx, DSNY's interim export arrangements depend on truck transport. Under its long-term export program, the City is converting its existing Marine Transfer Stations (MTSs), designed to transfer waste in open hopper barges to the now-closed Fresh Kills landfill, into facilities that containerize waste for transport by container barge. It is anticipated that the waste will reach a disposal facility through a combination of barge and/or rail movements. Since 1989, when DSNY raised the fees for private waste disposal at Fresh Kills, the City's commercial waste has been carted or transferred from the City by truck, much of it through private transfer stations located in the City.

[1] DSNY-managed Waste is solid waste that DSNY collects from all residential households in the City and the institutional waste of City, state and federal agencies that DSNY collects and/or for which DSNY arranges disposal.

The Commercial Waste Management Study (Study), described herein, addresses issues related to the management of commercial waste in the City. Private waste transfer stations process three categories of waste: (i) *putrescible waste* (garbage that can cause odors); (ii) *non-putrescible waste* (typically including construction and demolition debris and/or other recyclable materials that do not cause odors); (iii) and *clean fill* (a subset of non-putrescible, but handling only excavated dirt, rock, concrete, gravel, stone, asphalt millings or sand). At *putrescible waste* transfer stations, waste is transferred to long haul trucks or rail cars for export. *Non-putrescible waste* transfer stations and *clean fill* transfer stations typically engage in sorting, crushing and processing of material; therefore, much of the material that they receive is recycled or reused.

Under the City's Zoning Resolution, transfer stations can be sited in the City's industrial zones (manufacturing districts M1, M2, and M3). Zoning performance standards for such districts establish standards for the emission of odors and dust, vibration, heat, glare, and explosive hazard. M1 districts have the highest performance standards, M2 districts have medium performance standards and M3 districts have the least restrictive performance standards. DSNY and the New York State Department of Environmental Conservation (NYSDEC) issue permits regulating the design and operation of private transfer stations in the City. Applicants for permits must also submit an Environmental Assessment Statement, which assesses all impacts the facility and operation would have on the surrounding environment. NYSDEC and DSNY act as co-lead agencies in the environmental review process for such permits. DSNY rules for permitting putrescible waste transfer stations were adopted in 1991. In 1998, the City adopted Siting Rules that increased the restrictions on where transfer stations could be located. There are now 69 operating transfer stations, including 22 stations handling putrescible waste, 25 stations handling non-putrescible waste and 22 stations handling only clean fill.

To help determine whether transfer stations and private carters in the City may need more regulation to ensure effective enforcement of the rules governing their operation, the City Council enacted Local Law 74 (LL 74), effective December 19, 2000, requiring a comprehensive assessment of commercial solid waste management in the City. The Study is intended to enable the City to assess and plan for management of the commercial waste stream in the most efficient manner, to minimize potential adverse impacts on the City's residential and business communities and the environment, and to assist in developing the New Plan.

In June 2002, DSNY published a Preliminary Report, required to be issued in compliance with LL 74, that contained data on the volumes, types, origins and destinations of the commercial waste managed by private companies in the New York Metropolitan area, and included information on residential and institutional waste collected by DSNY and managed through commercial waste transfer stations following the phased closure of Fresh Kills. The Study proposed to be undertaken now, among other things, will analyze and assess the adequacy and impacts of the siting, permitting, operations and regulation of commercial waste transfer stations.

In March 2003, DSNY proposed rules that would temporarily restrict (until July 31, 2004) the permitting of new waste transfer stations, except intermodal facilities. The proposed rules would allow putrescible facility expansions upon the completion of the City Environmental Quality Review process; putrescible expansions would be prohibited in Brooklyn Community Board 1 and Bronx Community Board 2, unless equivalent capacity were closed within the same community board. DSNY held a hearing to receive public comments in April 2003 and expects to publish the final text of the temporary restrictions shortly. DSNY anticipates that it will draft and publish proposed permanent siting rules after the issuance of the Study Report and a review of its recommendations. The proposed rules and the transcript of the April hearing appear on the DSNY website.

In developing the Draft Scope of Work for the Study (Draft Study Scope), DSNY conducted a series of meetings in November and December of 2002 to solicit comments from elected officials, the public, the Citywide Recycling Advisory Board (CRAB), the Borough Solid Waste Advisory Boards (SWABs), Community Boards, environmental organizations, academics and other interested organizations. A public meeting was held in each borough on the following dates:

- Brooklyn – November 18, 2002
- Queens – November 19, 2002
- Staten Island – November 20, 2002
- Manhattan – November 25, 2002
- Bronx – December 2, 2002

DSNY invited the public to speak at these meetings, and to submit written comments through December 16, 2002. The transcripts of the public meeting testimonies were posted on DSNY's website in tandem with the Draft Study Scope.

DSNY and its consultants prepared the Draft Study Scope to reflect public comments and the specific requirements of LL 74, as discussed above. On March 3, 2003, the Draft Study Scope was posted on the DSNY website (www.nyc.gov/sanitation) for further public comment for a period of 21 days, until March 24, 2003. Concurrently, the Draft Study Scope was mailed to all elected officials and Community Boards, the CRAB, the SWABs and to individuals who attended the public meetings held in 2002 and/or submitted comments in connection with the development of the Draft Study Scope. A sample letter enclosing the Study Scope and describing the public comment process established to finalize the Study Scope was posted on DSNY's website in tandem with the Draft Study Scope.

Public Comments on the Draft Study Scope

Public comments received both during and after the established public comment period consisted of nineteen letters (three from elected officials, two from solid waste industry respresentatives, one from a national environmental organization, four from City solid waste advisory boards, six from neighborhood organizations or coalitions and three from special interest representatives). The letters were reviewed and considered by DSNY and the consultant team in preparation for the issuance of this Final Study Scope.

The majority of comments highlighted issues already addressed in the Draft Study Scope. Among these were requests that the consultant team:

- Investigate potential transfer station sites in Manhattan;
- Consider waste management strategies such as flow control and commercial waste franchising;
- Acknowledge the economic value of a robust commercial waste management system;
- Develop data on recyclables destinations;
- Consider the use of bio-diesel as an alternative fuel;

- Consider the decline in waste after the events of September 11th and Preliminary Report data in developing capacity projections for the planning period;
- Consider the economics of the fee structure for accepting commercial waste at the new MTSs;
- Evaluate incentives to barge and rail transfer;
- Consider the value to the City of reserve capacity when evaluating facility impacts;
- Analyze PM10 and PM2.5 air impacts;
- Use, to the extent available, Business Integrity Commission information to develop waste routing, generation and origination data; and
- Solicit and consider community concerns.

As a result of these comments, DSNY and the consultant team are taking specific note of the concerns raised and will amplify the discussion in the Study Report to address these concerns.

The remaining comments contained suggestions that did not result in Study Scope changes; many focused on issues that fall outside the Study Scope, but will be addressed in the development of the New Plan. These comments included suggestions on:

- Proposed alternatives to MTS containerization sites;
- MTS containerization design;
- MTS containerization environmental review;
- Alternative waste processing and disposal technologies;
- Grandfathering existing transfer facilities;
- Performance standards in specific zoning use groups;
- Communities to be considered as additional Study Areas;
- Transfer station site investigations outside of Manhattan;
- A Study advisory panel;
- Targeted outreach to be required in the development of the New Plan;
- Programmatic waste prevention, recycling and composting issues appropriately addressed in the New Plan; and
- Commercial/institutional food waste disposers more appropriate for study by the New York City Department of Environmental Protection.

Scope Changes

In addition to text changes in this Introduction that describe the content and consideration of public comments received, the issuance of the Final Study Scope, updating the definition of clean fill to include asphalt millings, and proposed transfer station temporary siting restrictions, revisions to the Final Study Scope correct formatting and typographical errors and reflect:

- Changes in the availability and form of the base data to be relied on to develop estimates on waste generation, including employment-based estimates of commercial waste generation (see Section 2.0 paragraph 1; Section 3.0 Summary of Task 4.1; Subtasks 4.1.2, 4.1.4 and 4.1.6);
- The addition of neighborhood character as an element of impact assessments (see Section 3.0 Summary of Task 4.2 and Task 4.4; Subtasks 4.2.2, 4.4.1 and 4.4.3);
- Changes in the predictive quality of information to be relied on to develop economic trend analysis on waste transportation and disposal markets and costs (see Section 3.0 Summary of Task 4.3; Task 4.3);
- New survey data to be generated by the City's Business Integrity Commission (see Section 3.0. Summary of Task 4.1; Subtask 4.1.3); and
- DSNY's extensive experience with alternative fuels and engine controls (see Section 3.0 Summary of Task 4.7; Task 4.7).

The Final Study Scope can also be obtained in printed form through a request directed to the DSNY Contact Person:

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
Bureau of Long Term Export
44 Beaver Street, 12th Floor
New York, New York 10004
Fax: (212) 269-0788

It is anticipated that the Study and accompanying report (Study Report) containing findings and recommendations will be issued in March 2004. There will be public involvement in reviewing the draft findings and recommendations that result from the Study. Thereafter, findings and recommendations that DSNY proposes to incorporate in the New Plan will be subject to public comment during the public review process for the New Plan. The environmental impact of the implementation of such recommendations proposed for inclusion in the New Plan will be evaluated in the Draft EIS prepared to support the adoption of the New Plan.

1.1 Summary of Objectives

In assessing the current regulations of commercial transfer stations as mandated by LL 74, the Study will evaluate the need for and may recommend changes in the regulatory system, including the strategies, incentives, new regulations and new legislation necessary to implement these recommendations. These recommendations may address:

- The siting and operation of private transfer stations and waste collection operations;
- The future demand for commercial transfer capacity and evaluating long-term economic trends affecting waste disposal; and
- The means of facilitating a transition from the current mode of truck-based export to export by barge and/or rail.

1.1.1 Requirements of Local Law 74 of 2000, New York Administrative Code §16-134

LL 74 mandates that the Study address the following:

1. <u>Permitting Criteria, Environmental Review and Mitigation</u>

   The effectiveness of DSNY permitting procedures and criteria in minimizing potential adverse environmental, economic and public health impacts on the communities in which privately-owned transfer stations (Transfer Stations) are located by examining such issues as the:

   - Effectiveness of the criteria applied by DSNY to the siting of Transfer Stations [16 RCNY 4-32], including the aggregate effect of the geographic proximity of solid waste transfer stations to each other; and
   - Scope and effectiveness of the operational restrictions imposed upon Transfer Stations, including the hours of operation and any performance standards established in the New York City Zoning Resolution.

2. <u>Regulatory Enforcement; Truck Traffic</u>

   The manner in which all applicable laws, rules and regulations relating to the operation of Transfer Stations, private carters and long haul transport vehicles are enforced, including:

- Who should be responsible for such enforcement;
- The effectiveness of such enforcement in obtaining compliance with such laws, rules and regulations and in minimizing potential environmental, economic and public health impacts; and
- Analysis of rules relating to routes for transporting material to or from such transfer stations.

3. Limits on Transfer Stations

   The means and potential effects of limiting transfer station capacity in the City.

4. Waste Transportation Vehicles

   The size and type of vehicles that should be authorized to transport solid waste and the fuel-type requirements for such vehicles.

5. Processing of DSNY-managed Waste and Commercial Waste in the same Facility

   Whether private Transfer Stations and the City's MTSs should receive and process both residential and commercial solid waste, and the options for transporting such solid waste to and from such Transfer Stations, including an analysis of potential environmental, economic and public health impacts.

6. Impacts of Relative Concentrations of Transfer Stations

   Potential environmental and public health impacts on communities in which concentrations of Transfer Stations are located such as potential impacts related to air quality, water quality, odors, traffic congestion and noise.

1.1.2 Other Study Objectives

Other objectives of the Study are to:

- Provide for the projected need for transfer station capacity over the planning period for the New Plan;
- Further refine information in the Preliminary Report on the quantity of commercial waste generated in the City; and
- Evaluate trends in the supply and cost of waste disposal capacity that will be available to the City.

1.2 Scope Organization

Section 2.0 of this Scope summarizes the issues that will be addressed in the Study. Section 3.0 describes the detailed analyses and methodologies that will be applied by DSNY's Consultant Team to evaluate these issues.

2.0 SUMMARY OF ISSUES TO BE ADDRESSED

The following summarizes the issues to be evaluated in the Study:

1. In June 2002, DSNY published a Preliminary Report in accordance with the requirements of LL 74 that contained information on commercial waste quantities by type and borough of origin that had been collected and analyzed by DSNY and its consultants from sources such as available reporting systems and interviews with waste management companies involved in aspects of the commercial waste management business. As noted in the Preliminary Report, there is no single comprehensive system for recording data on commercial waste generation in the City. Furthermore, the data in the Preliminary Report were for the calendar year 2000, and the events of September 11, 2001 and the subsequent decline in business activity in the City since 2000 have all affected commercial waste generation. The Study will apply methods to adjust the year 2000 data to year 2002 to account for these economic effects. Additionally, the Study will evaluate and apply alternative methods to those used in the Preliminary Report to supplement existing estimates of commercial waste generation. The recycled material in the commercial waste stream that is not accounted for in the Preliminary Report data will also be quantified. The Study will project changes in commercial waste generation over the New Plan period based on an employment forecast for the same period.

2. The Study will assess: (i) the means and potential effects of limiting the number of privately owned/managed putrescible and non-putrescible commercial waste transfer capacity in the City over the 20-year New Plan horizon; and (ii) the potential effects of converting the City's Marine Transfer Stations (MTSs) to containerization facilities for the export of commercial waste. The assessment of MTS conversion to commercial waste export will consider technical feasibility, the potential for environmental impacts, and economic viability. Beyond the use of converted MTSs, the Study will assess the potential for additional barge or rail-based waste transfer capacity for the commercial waste generated in midtown and downtown Manhattan.

3. The Study will evaluate the volume of out-of-City waste disposal capacity that is economically accessible by export in transfer trailers from the City. If the Study projects a decline, the Study will also identify the means to encourage a shift in commercial waste transport operations to barge or rail modes to ensure access to more remote disposal sites.

4. The Study will identify Community Districts in which commercial waste transfer stations are currently most concentrated, evaluate whether the types of potential impacts referenced in LL 74 may be attributable to the operation of these facilities, and, if so, evaluate remedial measures.

5. The Study will evaluate the effectiveness of existing regulations and the potential need for improved enforcement practices and/or new regulations that could prevent or minimize impacts on the City's residents and businesses that are attributable to

transfer operations. As appropriate, the Study will recommend means of improving enforcement of existing regulations or the adoption of new regulations to address identified problems.

6. The Study will identify and evaluate the effectiveness of potential new policy initiatives that could improve the overall long-term utility of the commercial waste transfer system to the City and mitigate or minimize impacts associated with commercial waste transfer operations.

7. The Study will assess means of reducing the potential for impacts, such as air emissions and noise, associated with the operation of private collection and long haul vehicles.

The Study will produce a summary of findings and recommendations from the evaluations of the issues defined above. These findings and recommendations, with associated technical analyses, will provide a framework for consideration of the policies proposed for the management of commercial waste in the New Draft Plan.

3.0 TASK OVERVIEW

This Section 3.0 summarizes the objective and content of the detailed Task descriptions and methodologies presented in Section 4.0.

Summary of Task 4.1 Quantification of Commercial Waste

The waste quantification effort includes six Subtasks that focus on refining the commercial waste data contained in the Preliminary Report. The approach involves making certain updates to the Preliminary Report data and applying alternative methods of estimating waste generation. The information obtained will be compared to the Preliminary Report estimates, and will supplement or refine the information contained therein. These Subtasks include the following:

- The Preliminary Report data was from the calendar year 2000. In the intervening period, the events of September 11, 2001 and the economic decline of the City's economy are assumed to have affected commercial waste generation. Additionally, some of the data in the Preliminary Report reflect the fact that, at that time, the City was still disposing of some waste at Fresh Kills. Subtask 4.1.1 describes the method that will be used to update and/or adjust the Preliminary Report data to provide a foundation for forecasting future year commercial waste generation.

- Subtask 4.1.2 will apply an alternative waste estimation methodology. Employment-based waste generation factors derived from multiple sources, year 2000 Census data on employment categorized in two-digit SIC codes, and adjusted employment forecast data through 2025 will be used to develop a long-term forecast of commercial waste generation. Additionally, similar factors applicable to commercially-generated recyclables will be used to characterize and quantify the recycled fraction of commercial waste. Estimates of recycled quantities will be supplemented and refined through contact with large generators, recyclers, and end users (i.e., paper mills and dealers) in the region.

- To develop Subtask 4.1.3 data, DSNY and the consultant team will rely on a survey being performed by the Business Integrity Commission (BIC), which regulates the commercial waste carting industry in the City, for information on carter collection routes and types of businesses served. Additionally, information will be sought on the garaging and dispatching of collection vehicles by carters serving the Manhattan business districts and the City as a whole.

- The Preliminary Report relied on the DSNY Transfer Station Reports and interviews with carters operating in the City to estimate total waste generated. Subtask 4.1.4 will focus on supplementing this information by contacting out-of-City operators of

waste-to-energy facilities and commercial waste transfer stations in the New York Metropolitan area to obtain information on quantities of commercial waste generated in the City and delivered to these facilities.

- As reported in the Preliminary Report, Construction and Demolition Waste (C&D) is the largest component of waste and recycled material. The variability in generation of C&D waste over time is influenced by different factors than that of the putrescible category of commercial waste. Subtask 4.1.5 will focus on developing factors that can predict how the C&D stream will vary as a function of construction activity in the City and, on this basis, estimate the City's need for transfer/recycling capacity for this material.

- Information developed in Subtasks 4.1.1 through 4.1.4 will be used to project quantities of commercial waste generated, disposed and recycled over the Plan period of 2004 through 2023.

Summary of Task 4.2 Needs Assessment for Commercial Transfer Station Capacity

The potential need for new commercial waste transfer station capacity will be investigated in two areas:

- Subtask 4.2.1 will investigate potential sites for truck-to-barge or truck-to-rail transfer stations in lower and midtown Manhattan. This analysis will define facility design criteria, identify any sites that conform to these criteria, conduct a fatal flaw analysis of factors that would preclude siting at these locations, and, if no such flaws are identified, summarize the advantages and disadvantages of the sites that appear feasible.

- The Mayor, in his announcement of the MTS conversion program for DSNY-managed Waste, indicated that the using of these converted facilities to containerize and transfer commercial putrescible waste by barge would be considered, as well. Subtask 4.2.2 will: (i) assess the MTS conversion designs to determine if significant quantities of commercial putrescible waste, in addition to DSNY-managed Waste, can be transferred from the converted MTSs; and, (ii) if there is a potential for commercial transfer capacity at an MTS site, the potential incremental impacts of receiving and transferring commercial putrescible waste will be evaluated to determine if any unmitigatable adverse impacts might result. These environmental analyses will assess potential traffic, air quality, water quality, noise, odor and public health and neighborhood character impacts that might result from the transfer of an increment of commercial putrescible waste through the converted MTSs.

Summary of Task 4.3 Evaluation of Waste Disposal Capacity Potentially Available to the City

To better understand the City's requirements for a commercial waste transfer infrastructure over the 20-year period of the New Plan, an economic study will be performed in Task 4.3 that will seek to develop information on the economic market for transport and disposal of waste exported from the City. The assessment will survey existing and proposed landfill and waste to energy facility capacity, identify available historical data on disposal costs and capacity, and develop estimates of the economics of waste transport and disposal by truck, rail and barge. This information will be organized to define the service area in which the City is one of many buyers of remote disposal, and to develop approaches for estimating long-term waste transport and disposal costs in this marketplace.

Summary of Task 4.4 Assessment of the Potential Impacts of Relative Concentrations of Commercial Waste Transfer Capacity

As mandated in LL 74, Study Task 4.4 will assess the environmental, economic and public health impacts from the relative concentration of commercial transfer stations in four selected Study Areas. The assessment will address both on-site and off-site related impacts. The purpose of this assessment is to evaluate whether and how the total volume of waste processing activity in areas with relative concentrations of transfer stations may cause potentially adverse air quality, odor, traffic, noise, water quality public health and neighborhood character impacts. This Task, in combination with the enforcement effectiveness evaluation (Task 4.6), will also evaluate whether new or revised regulations and ordinances applicable to the siting, design and operation of transfer stations would significantly diminish the potential for adverse impacts.

Summary of Task 4.5 Assessment of the Design and Operation of Existing Commercial Transfer Stations

A field survey will be conducted in Study Task 4.5 to assess the design and operation of a select sample of existing putrescible, C&D and fill material commercial waste transfer stations. The purpose of the field survey is to assess and identify potential changes to facility designs (i.e., perimeter fencing, on-site queuing space, exhaust controls, etc.) and/or operational practices

(waste storage and handling, locations of equipment, hours of operation, etc.) that would mitigate the potential for impacts to nearby communities. The recommended design and/or operational changes may be incorporated into the policy strategies that are the outcome of this Study, as changes to regulatory requirements for permitting existing, modified or new transfer stations in the City.

Summary of Task 4.6 Evaluation of Permitting and Enforcement Effectiveness in Regulating Commercial Waste Collection and Transfer Operations

The focus of this Task is the detailed analysis of existing City and New York State controls on transfer station development and the evaluation of the effectiveness of current enforcement policies. The Consultant Team will research current policies governing the issuance of permits and existing practices regarding the evaluation of their impacts. The Consultants will prepare an inventory of the responsible agencies and their respective permitting and enforcement authorities that apply to the construction and operation of transfer stations in the City. This work is intended to plot the scope of the regulations governing transfer stations. The principal regulatory mechanisms are: (i) DSNY Siting Rule requirements and NYSDEC Part 360 permitting requirements for new and expanded or modified transfer stations; (ii) Zoning Performance Standard requirements; (iii) DSNY Permitting Regulations; and (iv) City DOT Traffic Regulations. Studies in the effectiveness of the enforcement of applicable regulations will be performed to identify gaps in enforcement coverage. If deficiencies are identified through a review of community complaints and notices of violation issued, the extent of impacts due to deficiencies in existing regulations and enforcement practices will be tested, and an Enforcement Effectiveness Report will be prepared.

Summary of Task 4.7 Evaluation of Alternative Collection Vehicles

Under almost any scenario for the future, the movement of solid waste in the City will remain heavily dependent upon diesel-powered trucks. The ideal and most effective measures to reduce air pollution would be to reduce the emissions by these trucks. The main objective of this Task is to determine if alternate fuels, fuel-efficient engine technologies or truck types might be feasible means of reducing truck emissions.

Summary of Task 4.8 Findings and Recommendations

Findings from each of the Tasks completed in the Study will be summarized in the Study Report. The Report will also identify recommendations for policy strategies that may be implemented by the DSNY or proposed for adoption in the New Plan. Results of the Study and recommended policy strategies will be included in the Study Report.

4.0 DETAILED SCOPE OF WORK

This section describes the Study Tasks corresponding to the items enumerated, including the proposed methodologies that will be used in performing the Study.

Task 4.1 Quantification of Commercial Waste

The following six Subtasks describe various methods that will be used to adjust, refine and cross-reference the estimates of commercial waste generation presented in the Preliminary Report and also to develop estimates of the major recycled components of commercial waste that are not accounted for in the Preliminary Report data.

4.1.1 Adjustment of Preliminary Report Data

The database used to prepare the Preliminary Report will be updated to reflect 2002 waste disposal volumes in order to account for the potentially significant effects on waste generation attributable to the September 11 event and the decline in the City's economy since the data were originally collected. The update will only use information available from the DSNY Transfer Station Quarterly Reports for calendar year 2002 and compare this more current information to the data from the same source for 2000. These current reports will be entered into the database according to the type of waste collected and disposal destination. The change in reported quantities between 2000 and 2002 will be evaluated to derive adjustment factors for change in commercial waste in each borough. These adjustment factors will be applied to the origin patterns of waste that were obtained in the 2000 survey of private carters to re-estimate the pattern of 2002 waste origins. The changes over the elapsed two-year period in volume, type and destination of waste will be compared.

4.1.2 Employment-Based Waste Estimation Model

A methodology originally developed for the U. S. Environmental Protection Agency (USEPA) by a member of the Consultant Team will be used to estimate the quantity and composition of the commercial putrescible waste stream. This methodology has been modified for application at

the local level. Generation estimates, presented at the Borough and Community District levels, will be developed with available employment data. The employment data is derived from year 2000 Census Tract level projections prepared by the New York Metropolitan Transportation Council (NYMTC), which was subsequently adjusted for the effects of the September 11, 2001 disaster and the decline in business activity in the City. These adjusted data will be used in projecting commercial waste volumes over the planning period for the New Plan. Waste generation estimates will be categorized by type of business, depending on the level of detail in the available employment data.

Waste composition factors derived from specific commercial subsector studies – office sector, health providers, manufacturers (other than waste byproducts from manufacturing processes), food establishments (restaurants and supermarkets), retail and wholesale stores – will also be used to:

- Adjust components based on the City-specific characterizations derived by the model; and
- Adjust components to reflect national trends in the intervening decade using available historical data – for example, the increase in plastics and the relative decrease in glass as a packaging material.

The characterization and quantification of waste generation provide a basis for estimating the quantity of commercial materials that are recycled. Recovery estimates will be developed from data in the Preliminary Report combined with new information obtained from large generators, recyclers, and end users (i.e., paper mills and dealers).

4.1.3 Collection Operations Assessments

The Preliminary Report estimated total tonnage from interviews with commercial carters. These interviews did not provide information on the number of collection vehicles dispatched by carters to the various boroughs or on the amount of waste generated in specific Community Districts. In this Subtask, the Consultant Team will use the results of a new survey now being

conducted by BIC of commercial carters operating in the City. The results will be evaluated to identify relevant information of collection route patterns, types of business served, quantities of waste collected and the location of garages from which vehicles are dispatched into the City.

The Consultant Team will seek similar information for all major carters operating in the City, identifying, for example, the location of vehicle staging areas (i.e., garages, yards), the number of vehicles operated, the time spent and the number of stops en route. The information obtained will be summarized in the Study.

Information regarding collection services in midtown and downtown Manhattan will be correlated with data regarding the type of business and level of employment in order to more accurately estimate waste generation. The goals of this approach are twofold: (i) to obtain an additional aggregate estimate of commercial waste and recyclables generated in Manhattan's business districts; and (ii) to obtain information concerning the routing of collection vehicles in these districts. The data collected in this Subtask will provide another source of verification of the waste generation estimates for the applicable Manhattan Community Districts developed in Subtask 4.1.2.

This Task will also seek to develop information on the quantity of commercial recyclables hauled by recyclers from commercial generators directly to local markets and/or dealers. These recyclers are not categorized as waste collection companies and their activities are neither regulated by DSNY nor recorded in DSNY reports.

4.1.4 Facilities Method

To develop more complete estimates of commercial waste carted out of the City for transfer or disposal, the Consultant Team will gather information from facilities located outside of the City that receive commercial waste. Transfer stations and waste-to-energy facilities in New Jersey, along with nearby facilities in Long Island and Connecticut, will be contacted. Data obtained from these contacts will be correlated with reports produced by the relevant state regulatory agencies to estimate the total in-City generated waste that is transferred or disposed of at out-of-City facilities.

4.1.5 Quantification of Construction and Demolition Waste and Fill

The Preliminary Report shows that C&D and fill material comprise the majority of commercially generated waste in the City. To effectively plan for adequate capacity for these materials over time, it is necessary to formulate a methodology to predict quantities of C&D and fill material. The Consultant Team will incorporate specific plans for major reconstruction, such as that which is planned for Lower Manhattan, in projecting levels of activity and consequent generation levels for C&D debris and fill material.

The Consultant Team will: (i) contact facilities that receive C&D and fill material, and obtain historic data to enable a calibration of the relationship between the level of construction activity and the quantity of materials generated; and (ii) interview officials of relevant organizations, including local organizations, such as the Associated General Contractors, regarding C&D generation. Data from non-City sources will also be collected to assess differences in generation rates between the City and other communities.

4.1.6 Projections of Commercial Waste for 2004 through 2024

The Consultant Team will use the data derived from Subtasks 4.1.1 through 4.1.5 as a base for the projections. Changes in total quantities generated and waste composition will be projected through 2024, based on best judgment, reasonable extrapolations of observed trends, and an assumed level of success in policies, such as waste reduction.

Forecasts of population and employment by Census Tract from 2000-2025 (in five year intervals) based on the 2000 Census are available from NYMTC, the Metropolitan Planning Organization (MPO) for the New York Region. The data have been adjusted by NYMTC to account for the shift in employment resulting from the disaster on September 11, 2001 and will be aggregated to Community Districts for use in projections of commercial waste. Note that work on NYMTC's expanded 2025 forecast (of age cohorts, labor rates, household size, and employment based on the North American Industrial Classification Standard code) will begin in mid-2003, but the forecast results will not be available for this Study. C&D debris and other inert

wastes will be projected separately over the 20-year horizon based on economic projections, incorporating expected variances resulting from, for example, reconstruction of the World Trade Center site, economic cycles, and expected regional growth.

Task 4.2 Assessments of Commercial Transfer Station Capacity

4.2.1 Siting Investigations in Lower and Midtown Manhattan for Additional Commercial Waste Transfer Capacity

To address public comments on the scope of the Study, an investigation will be conducted to identify and evaluate potential sites in lower and midtown Manhattan where commercial waste transfer facilities could be sited. Criteria for siting such facilities will be defined based on zoning, design and operational criteria, DSNY's Siting Rules (taking into account the potential for revision of these rules), consideration of potential environmental impacts and other applicable requirements. The Consultant Team will identify the minimum site size and related throughput capacity required for efficient waste containerization and transfer by barge or rail to out-of-City disposal facilities. Proximity and accessibility to intermodal yards will be considered. The Consultant Team will identify sites below 80th Street in Manhattan that meet these minimum criteria and will prepare conceptual designs to determine the additional transfer capacity potentially available at these sites. If no fatal flaws (that would prohibit such siting) are identified, an analysis of the advantages/disadvantages of potential sites will be performed.

4.2.2 Assessment of Containerizing Commercial Waste at the City's MTSs

As designs are developed to convert the City's eight MTSs (South Bronx, West 59th Street, East 91st Street, West 135th Street, Hamilton Avenue, Greenpoint, Southwest Brooklyn and North Shore) to containerization and container barge transfer facilities, the design capacity and site-specific conditions of the planned conversions will be evaluated for the potential to also process commercial waste. The Consultant Team will evaluate the potential quantity of commercial waste that could be accepted at each of the converted MTSs, in addition to DSNY-managed Waste, without causing unmitigatable adverse environmental impacts. The waste quantity data

developed in the Study (see Task 4.1) and the information developed for the Study Area Analysis (see Task 4.5) will be used to perform this analysis. Using updated methodologies and information from the 2000 Final Environmental Impact Statement (2000 FEIS) for the 2001 Comprehensive Solid Waste Management Plan Modification (2001 Plan), site-specific environmental reviews (traffic, on-site and off-site air quality and noise, on-site odor public health and neighborhood character) consistent with current SEQRA/CEQR requirements will be conducted at the eight MTS locations to identify the capacity of each MTS to accept an increment of commercial waste, without causing unmitigatable adverse environmental impacts. This environmental evaluation will have the following elements:

Engineering Capacity Analysis:

The capacity of each MTS to accept an assumed increment of commercial putrescible waste will be evaluated. An engineering analysis that is focused on design and operating constraints and site limitations will be performed for each of the eight MTSs to determine whether processing waste in excess of the quantities that are anticipated to be delivered by DSNY would be feasible. Based on DSNY's historical waste delivery patterns to the MTSs and assumptions on the delivery patterns of commercial waste and equipment throughput, the analysis will assess the hours of MTS operation during which the increment of commercial waste could be processed to avoid off-site queuing of waste delivery vehicles. Sufficient time will be allowed to containerize and load all waste received each day, considering available container storage capacity and barge shift time.

Site-specific environmental reviews (traffic, on-site and off-site air quality and noise and on-site odor) will be conducted at the MTSs to determine whether this increment of commercial waste would cause unmitigatable adverse environmental impacts. Existing conditions will be defined for 2003 (the year in which data is collected). Future no-build conditions will be characterized, including deliveries of DSNY-managed Waste to the MTSs under the long-term export program. Future build year conditions will be characterized by deliveries of commercial waste to the MTSs (in addition to DSNY-managed Waste).

Traffic:

The Consultant Team will perform a traffic analysis at key intersections to establish the impact of shifting private waste disposal to the MTSs. The traffic analysis will be performed as follows:

- Establish baseline conditions;
- Project numbers of commercial vehicles that would deliver waste to each MTS (based on available excess capacity);
- Assign trucks to the street network (commercial waste vehicles will be assigned to existing truck routes providing access to the MTSs – these commercial waste vehicle trucks will be added to the baseline traffic volumes at the Study intersections identified for each MTS); and
- Analyze the impact of the additional commercial waste vehicles. (The impact of sending commercial waste to the MTS will be quantitatively evaluated by performing a Highway Capacity Manual Software (HCMS) analysis at each of the study intersections, per CEQR criteria. Shift variability will be included in a qualitative discussion of potential reduction of private transfer station numbers and capacity.)

Air Quality (On-Site and Off-Site):

The on-site air quality impacts of the converted MTSs will be evaluated to address the additional equipment and modified facility operations required to accept commercial waste using the methodologies employed in the 2000 FEIS. On-site air quality sources will include: wheel loaders and forklifts from waste handling operations; tugboats delivering barges to and from the MTS; DSNY and commercial waste delivery vehicles queuing on-site; and waste delivery vehicles unloading in the MTS. Off-site air quality sources will be waste delivery vehicles (including both DSNY and commercial collection vehicles) that exceed screening criteria identified in the City CEQR Manual.

Odor (On-Site):

On-site odor sources will be limited to emissions from the addition of commercial waste handling operations in the MTS. Off-site odor sources will not be evaluated; vehicles will not idle at off-site locations for extended periods of time.

Water Quality:

For each proposed site, pollutant loadings for selected water quality parameters will be calculated for the addition of commercial waste. Runoff pollutant concentrations of pollutants will be determined through a review of available literature concerning solid waste management facilities or other industrial facilities and/or stormwater quality databases (e.g., USEPA's National Urban Runoff Program (NURP) database, etc.).

Noise (On-Site and Off-Site):

On-site noise sources will include: wheel loaders and forklifts from waste handling operations; tugboats delivering container barges to and from the MTS; compactors, gantry cranes, car pullers; and commercial waste delivery vehicles queuing on-site and operating in the MTS during unloading operations. Off-site noise sources will be waste delivery vehicles (including DSNY and commercial vehicles) that exceed screening criteria identified in the City CEQR Manual.

Public Health:

The Consultant Team will compare the potential public health impacts of MTS operations under no-build (i.e. without commercial waste) and build scenarios, preparing a non-site-specific analysis based on available published data and literature to describe the MTSs. The public health assessment will be performed in the same manner as the Study Area analyses. (See Section 4.5.1.)

Neighborhood Character:

Using available data from the current MTS EIS, neighborhood character will be described based on the area's characteristics, including: Land Use, Population Characteristics, Urban Design and Visual Quality, Parks and other Community Facilities and Cultural Resources. Neighborhood character will be further defined based on data and findings collected in the previous subtasks.

The overall effect on surrounding neighborhoods of commercial waste deliveries at the MTSs on the surrounding neighborhoods will be assessed based on the impact findings of the traffic, air quality, odor, water quality and public health studies. Consequences predicted as the result of work performed in Task 4.5 for Study Areas where the re-assigned commercial waste had been previously handled, will be discussed qualitatively, drawing on the conclusions identified during the traffic, air quality, odor, water quality and public health evaluations. These conditions will be compared to predicted conditions with only DSNY-managed waste handling at the MTSs.

Economic Factors:

The qualitative and, to the extent practical based on available data, quantitative economic impacts of the proposed regulatory and/or economic incentive mechanisms to encourage or require commercial carters to deliver waste to the MTS facilities will be assessed. Such mechanisms would include, under Section 16-201 of the New York Administrative Code, consideration of regulatory changes, such as transfer station permit sunset provisions or permit renewal/modification provisions that entail the concept of offsets; new legislation, such as "flow control;" a text amendment to the Zoning Resolution and application of the principle of "termination upon amortization," as embodied in the Zoning Resolution. The assessment will also consider the possible effects of processing commercial waste at the converted MTSs on the commercial carting industry and its customers.

These findings will be reported in the Study.

Task 4.3 Evaluation of Waste Disposal Capacity Potentially Available to the City

At present, approximately two-thirds of DSNY-managed Waste that is exported from the City is disposed of in Pennsylvania. Using available data from state regulatory agencies, along with information from prior DSNY surveys, the Consultant Team will survey current trends in utilization rates, newly proposed facilities and permit renewal policies, in Pennsylvania and other states, to assess the potential volume and location of disposal capacity that could be available for

disposal of both DSNY-managed and commercial waste generated in the City, during the 20-year New Plan period. The assessment will also consider competing demands for this capacity.
For the purpose of this assessment, the availability of landfill and waste to energy capacity is defined as the volume of out-of-City waste disposal capacity that is economically accessible by export from the City. Estimates of the available disposal capacity, supply, demand and prevailing market prices within a defined service area will be made. This analysis will be used to project the waste disposal capacity available to the City over the planning period and to estimate the cost of transporting and disposing of commercial waste generated within the City.

The service area to be studied will be defined to limit the assessment to states that can be reasonably accessed from the City by truck transfer, ocean-going vessel transport and rail. The results of prior DSNY surveys will initially define a "preliminary" Study Area. Potential redefinition of the service area will be evaluated throughout the Study and will be based upon reasonable truck, rail and shipping routes and expected economic breakpoints.

Disposal capacity available to the market area may increase over time as demand increases. The trend in the industry has been for the major waste companies to develop mega-regional landfills. These landfills are usually located in remote areas. The assessment will evaluate, within the service area, the balance of the supply and demand for disposal capacity.

Estimates of the cost of exporting commercial waste will be developed, if sufficient data is available, using the following three methods: (i) reviewing historical market price survey data; (ii) estimating the "willingness to pay" of competing users for this disposal capacity; and (iii) conducting an econometric model study of supply and demand relationships in the service area.

Available data on historic market prices in the survey area will be reviewed. Although historical market prices may not reflect future prices, the data obtained may reveal some simple trends and will form a basis for the more detailed analyses. This information will be used to estimate the amount each major demand center would be "willing to pay" for disposal capacity.

Econometric analyses (e.g., multi-linear regression) are routinely used to project future market prices as supply, demand or other exogenous variables change. To obtain statistically significant results, this approach requires a relatively large and reliable database. An econometric model approach will be formulated and an assessment made of whether the reasonably available data can be used to obtain meaningful results. If so, the econometric model will be used to project future market conditions.

The findings from this investigation will be reported in the Study. Based on these findings, the Consultant Team will also assess the need and related timing for development of additional intermodal waste transfer capacity in or readily accessible to the City to achieve more favorable waste transport economics to remote disposal capacity.

Task 4.4 Assessment of the Potential Impacts of the Relative Concentrations of Commercial Waste Transfer Capacity

In up to four locations in the City (two in the Bronx and one each in Brooklyn and Queens) where commercial waste transfer stations are currently most concentrated, a "Study Area" Analysis will be performed. A "top down" evaluation methodology will be use to determine existing conditions for: (i) traffic, mobile air quality and mobile noise at key intersections along major corridors leading to and from Study Area locations; and (ii) odor and noise from transfer stations located within each Study Area at nearby sensitive receptors.

Existing conditions will be defined through data collection during 2003. Reference may also be made to criteria based upon CEQR thresholds for traffic, noise, air quality and odor as a possible means of assessing whether potentially adverse impacts can be attributed to the concentrations of transfer stations in the Study Areas. As background information, the Study will provide an inventory of as-of-right land uses in manufacturing zones (M-zones).

This assessment will evaluate the impacts of the transfer stations on the Study Area as compared to impacts from alternative industrial uses on the transfer station sites. Existing conditions will be evaluated in the Study Area (with the transfer stations in place) in terms of traffic, air quality

and the other applicable Study Area criteria. A hypothetical existing condition would then be defined by "backing out" the transfer station's impacts from the Study Area, assuming that the existing transfer station sites would be occupied by other M-zone land uses typical of existing conditions in the Study Area. The traffic, air quality and other analyses would then be recalculated. The comparative effects on Study Areas with existing transfer stations and with alternative, as-of-right, M-zoned land uses would be determined by comparing the two analyses.

4.4.1 Study Area Evaluations

The Consultant Team has identified those areas where transfer stations are currently most concentrated; Hunts Point and Port Morris in the Bronx, Greenpoint/Williamsburg in Brooklyn and Jamaica in Queens. These will constitute the Study Areas. The Consultant Team will also identify the locations of commercial waste hauling vehicle storage yards and garages through information provided by the Business Integrity Commission.

Traffic Evaluations:

A traffic analysis will be performed at key intersections in each of the Study Areas to establish the impact of transfer station concentrations on the Levels of Service (LOS) on major roadways. A traffic analysis methodology will be developed for the following areas:

- Agreement on operational standards: CEQR traffic assessments typically measure an individual's incremental impact on average driver delay. However, when evaluating the combined effect that transfer stations have, criteria designed around the incremental impacts of a single event are inappropriate. The development of an absolute standard will thus be attempted to assess the traffic impact on acceptable LOS for an intersection approach and individual movements that have a significant adverse impact.
- Select study locations: Analysis intersections will be selected on major truck routes accessing the Study Area locations.
- Classifications for counts: Turning movement counts will be performed at each analysis intersection. At 16 of the 20 intersections, vehicle classifications will consist of auto, non-waste truck and two categories of waste-related trucks (packer and long distance). Six of each set of 20 intersections are assumed to be air quality study locations. At these intersections, the traditional seven-way classification will be supplemented by the two categories of waste-related trucks.

- Hours for counts: The counts will be performed for one weekday with Automatic Traffic Recorder (ATR) counts or three weekdays (Tuesday through Thursday) with one two- to three-hour period in the morning and one two- to three-hour period midday or evening/night.
- Analysis of existing conditions: Existing conditions will be analyzed using the Highway Capacity Manual Software (HCMS). This condition will represent the "impacted" condition for the transfer station Study Areas.
- Analysis of effects of commercial waste vehicles: Based on the detailed classification counts performed, the effects of adding back the commercial waste vehicles (net of the vehicles resulting from the replacement of the assumed land uses) will be analyzed.

Air Quality Evaluations:

Off-Site Operations – The modeling procedures used in the 2000 FEIS will be used for this analysis. Critical intersections will be selected in the four Study Areas for air quality analysis based on traffic volumes, LOS, and locations of sensitive land uses. Air quality levels, based on regulatory standards, will be estimated near each of the critical intersections using actual traffic data and roadway configurations.

Pollutant concentrations estimated at selected intersections within each geographic area will be compared with applicable ambient air quality standards.

On-Site Operations – Analyses will be conducted for facilities located within a specified distance of other transfer stations at four Study Area locations. Up to three facilities per Study Area will be evaluated. Site-specific emission-related data (i.e., stack emission rates and parameters, truck operations, etc.) will be developed from a combination of available information (e.g., owner or vendor information, and NYSDEC or New York City Department of Environmental Protection records for permitted facilities, etc.) and assumptions based on each facility's size and operations. Assumptions will be made regarding the simultaneous operation of all applicable emission sources. Air quality levels at receptor sites (i.e., site boundary locations and sensitive receptor locations identified from land use maps and field observations) potentially affected by the combined emissions of adjacent facilities will be calculated. Following CEQR guidelines, emissions from other major commercial or industrial sources (i.e., other than transfer stations) located within 400 feet of these Study Areas will be considered in these analyses.

Odor Evaluations:

Emission factors for the major odor sources will be developed using the same procedures that were used in the 2000 FEIS (i.e., sampling at source locations representative of emissions from each type of transfer station [putrescible, non-putrescible, fill material], as appropriate, dispersion modeling based on data developed through odor assessment methodologies. Assumptions will be made as to the simultaneous operation of emission sources from more than one facility, and these sources will be considered in the same modeling runs. Odor levels at receptor sites (i.e., site boundary locations and sensitive receptor locations identified from land use maps and field observations) that may be affected by the combined emissions of adjacent facilities will be estimated. The distance between facilities within a Study Area will be the same as that established for the on-site air quality analysis.

Water Quality Evaluations:

Cumulative impacts to water quality due to the grouping of commercial waste transfer stations will be evaluated. Individual transfer stations within a Study Area will be evaluated using readily available information from DSNY or the facilities (if directed by DSNY), to determine the disposition of wastewater and stormwater at these sites. A conservative analysis will then be conducted to evaluate the potential impact of transfer station operations in these Study Areas upon surface water quality. For each facility evaluated within a Study Area: (i) The volume of stormwater runoff and the associated pollutant loading from the facility will be calculated using precipitation data and available databases on stormwater pollution concentration; and (ii) the estimated pollutant loading for each site within a Study Area will be developed by calculating the runoff flow and assigning an average stormwater concentration for each water quality parameter of concern. For each site evaluated, pollutant loadings for selected water quality parameters will be calculated by assigning a pollutant concentration to the runoff flow, as determined through a review of available literature concerning solid waste management facilities or other industrial facilities and/or stormwater quality databases (e.g., NURP database, etc.). The estimated pollutant loading for each site within a Study Area will be developed by calculating the runoff flow and assigning an average stormwater concentration for each water quality parameter of concern. Runoff flow will be calculated from the facility footprint, the average

rainfall intensity (inches/hour) and an applicable runoff coefficient. Estimates of the footprints of the individual transfer stations within each Study Area will be prepared from available drawings, permit applications submitted to the DSNY or aerial photographs.

The impacts to water quality associated with the transfer stations within these Study Areas will then be determined through an evaluation of the total pollutant loading associated with all of the facilities within a Study Area and their discharge to surface waters. Potential cumulative impacts due to the operation of multiple facilities within a given Study Area will be estimated by combining the incremental difference in water quality calculated by the model with existing water quality data, comparing these with NYSDEC water quality standards and discussing whether the pollutant loading is significant.

Noise Evaluations:

Off-Site Operations – Off-site operations are principally related to noise generated from transportation of waste material by heavy trucks to and from the facilities. The potential noise sensitivity of receptors located along Study Area-related routes will determine the magnitude and extent of the noise impacts from heavy truck operations. The noise analysis approach will include performing noise monitoring at selected sites and making detailed noise predictions at a number of other sensitive sites to establish baseline conditions. The noise predictions will utilize the latest Federal Highway Administration (FHWA) TNM 2.0 model. The results from monitoring and modeling will be used in the noise impact assessment, which will follow CEQR and FHWA procedures and regulations. Noise monitoring will be performed at the selected sensitive sites during the peak truck traffic hour using calibrated noise measuring equipment. Noise readings will be taken at the free flowing sections of roadways under low wind speed and dry road surface conditions.

Standard procedures will be followed during noise monitoring. Following standard practice, traffic noise impacts will be assessed when the vehicle/roadway noise emission levels are at their maximum and the roadway noise includes noise contribution from Study Area-related trucks. Major truck routes leading to the Study Areas will be identified and traffic counts near sensitive

land uses where monitoring and modeling were performed will be utilized. The traffic counts will include total vehicle counts and specific data on DSNY and commercial waste transfer trucks, speeds, and classification of the type of vehicle (i.e., cars, medium trucks with two axles and six wheels, and heavy trucks with more than two axles). The noise contribution from Study Area-related trucks will be calculated based on monitored and modeled data and from existing truck traffic volume data.

On-Site Operations – On-site noise is generated largely from stationary equipment operations within each facility. The potential impact of transfer stations within a Study Area depends on the types and number of stationary sources operating within the Study Area. As there are no screening procedures available to evaluate noise from the transfer stations within a Study Area, the noise model previously developed by the Consultant Team, and utilized to predict stationary source noise levels from containerization facilities in the 2000 FEIS, will also be employed here. An inventory of equipment from each facility in the Study Area will be obtained or assumed. Noise emission levels of each equipment type within each facility will be obtained either from on-site measurement or from manufacturer's data. The noise model will be used to plot 55 dBA noise contours around each facility, taking into account existing screening, the contours from all of the facilities in a Study Area will be combined to obtain cumulative noise from the entire Study Area. Impact determination will be based on the size of the composite contour, the Noise Code and the Zoning Code Standards and the sensitivity of encompassed land uses.

Public Health Evaluation:

Health impacts of data collected during earlier phases of this Subtask and other publicly available data for the Study Areas and in the published literature will be synthesized and assessed. Specifically, the analysis will on a non-site specific basis will address the dilution of odors with distance from transfer stations at the nearest sensitive receptor, the modeled incremental contributions of vehicle emissions to ambient carbon monoxide and particulate matter concentrations in air along major thoroughfares near and/or in each Study Area, and the modeled incremental noise levels along routes and at the nearest sensitive receptor. Impacts of on-site operations on air quality, modeled by each facility, will also be collected.

Measured and modeled impacts of transfer station operations will be evaluated in light of: (i) local, state, or federal standards (where available); and (ii) scientific literature pertaining to the health effects associated with ambient carbon monoxide and particulate matter, obnoxious odors, noise and MSW.

Neighborhood Character Evaluations:

Using available sources (including the SWMP FEIS) generalized data will be gathered for each Community District where the concentrations are located. Contributing factors include: Land Use, Population Characteristics, Urban Design and Visual Quality, Parks and other Community Facilities and Cultural Resources. Neighborhood character will further be defined based on existing traffic, air quality, odor, water quality and public health findings defined in the previous subtasks. The distance of each transfer station from the nearest residential district will be presented.

Potential changes to neighborhood character will then be qualitatively evaluated under various conditions (as described in the Traffic Evaluation Scope above) such as: with operational adjustments made to existing transfer stations; with commercial waste trucks removed and replaced with other hypothetical trucks generated by non-waste uses that could be potentially developed under current zoning; and with some of the commercial waste trucks and operations removed, as may be required to ensure Study Areas operate within CEQR impact thresholds and performance standards). Given these conditions, the neighborhood character will be described as to whether it would likely change or improve, or remain the same as with existing conditions and how these conditions compare to CEQR standards.

4.4.2 DSNY Siting Rules Assessment

The results of the Study Area Analysis will be further evaluated to determine what, if any, revisions should be considered in DSNY's 1998 Transfer Station Siting Rules and permitting requirements. This assessment will focus on ascertaining the potential effects of modifying the Siting Rules or permit requirements to mitigate potential adverse impacts associated with the future siting of new transfer stations. This assessment will consider the findings of the Study

Area Evaluations Tasks in formulating and testing the applicability of siting policies that would: (i) mitigate the potential for an undue concentration of facilities in a given community; and (ii) achieve a more equitable distribution of facilities in manufacturing zones consistent with zoning and other applicable regulatory standards, taking into account the purpose of the zoning resolution to site industrial uses in defined districts.

The evaluation for the potential siting of new commercial waste transfer stations in the City will require the generation and incorporation of numerous data layers into the GIS database. These layers include, but are not limited to, zoning, parks and sensitive receptors. The Consultant Team will use numerous public and private data sources and, as necessary, verify data through field investigations as appropriate for applicability of siting rule restrictions. The Siting Rules will be used as the basis to develop specific criteria to buffer, edit, analyze and query the GIS database. This analysis will allow a visual representation of how the Siting Rules affect the existing transfer stations and what potential areas would accept development of new commercial waste stations without violating existing Siting Rule restrictions and will note factors that typically drive siting decisions, such as access to rail and highways.

4.4.3 Mitigation Summary

The Consultant Team will summarize the results of the Study Area analyses to determine the need for new mitigation policies. The Consultant Team will summarize findings from air, odor, noise, water quality, traffic, economic impact, public health, and neighborhood character evaluations in the Study Area analyses. Possible mitigation strategies will be outlined and evaluated to develop measures that can be instituted by modifying existing policies, practices and regulations.

Mitigation strategies that might be considered for re-permitting of existing or siting of new commercial waste transfer station permits or expansions may include: (i) requiring new transfer station owners to make or fund certain improvements (i.e., intersection improvements, such as lane striping, signals and signs) in the immediate vicinity of the proposed facility or within the Study Area prior to development of a new transfer station; (ii) obtaining air quality offsets by

closing other existing commercial waste transfer stations under the same ownership or by other offsets resulting in an overall zero net air quality impact; (iii) limiting the number of waste hauling vehicles along specific roadways during certain periods of time; and (iv) designating specific intersections or routes to be avoided.

Task 4.5 Assessment of the Design and Operation of Existing Commercial Transfer Stations

A field survey will be conducted to assess the design and operation and compliance with applicable zoning standards of a select sample of existing putrescible, C&D and fill material commercial waste transfer stations. The purpose of the field survey is to identify potential changes to facility designs (i.e., perimeter fencing, on-site queuing space, exhaust controls, etc.) and/or operational practices (waste storage and handling, locations of equipment, hours of operation, etc.) that would mitigate the potential for impacts to nearby communities. The recommended design and/or operational changes may be proposed for consideration as recommended policy measures that would modify the regulatory requirements for permitting existing, modified or new transfer stations in the City.

A survey checklist will be prepared to identify design and operational parameters to be reviewed during each visit. The survey checklist will include parameters that are required by City and State regulations governing solid waste and C&D transfer stations, including zoning standards, and additional parameters that, if implemented, would improve the conditions of the facility and its potential impact on the surrounding community. During the field survey, information reported on the Department's Quarterly Reports will be compared to observed conditions (e.g., use of scales) and scale records maintained by the facility to assess the relative accuracy of reported information. Up to 20 transfer stations will be visited with DSNY Permit Inspection Unit personnel. Once checklists are completed for each location, the data will be summarized and assessed to identify common design or operational parameters that are present at each type of facility, and those that are not present, that could result in an improvement to the community. Unit pricing and a range of comparative costs for improvements will be prepared.

Task 4.6 Evaluation of Permitting and Enforcement Effectiveness in Regulating Commercial Waste Collection and Transfer Operations

This Subtask focuses on the detailed analysis of existing State, City and DSNY controls on commercial carting and transfer station development and evaluation of the enforcement of current policies. The Consultant Team will research current policies governing the issuance of permits and the existing practices regarding the evaluation of their impacts. This work will initially inventory the responsible agencies and the respective authority they exercise over the commercial carting industry, waste set-out, and the siting, design, construction and operation of transfer stations. The key regulatory mechanisms are: (i) DSNY Siting Rule requirements and NYSDEC's Part 360 Solid Waste Facility Permits for new and expanded or modified transfer stations; (ii) Zoning Performance Standard requirements; (iii) DSNY Permitting Regulations; and (iv) City DOT Traffic Regulations.

Studies of the effectiveness of enforcement of applicable regulations will be performed to identify gaps in enforcement coverage. The Consultant Team will describe the existing enforcement structure, including: (i) lines of responsibility for enforcement activity within an agency and among several agencies within similar enforcement responsibilities (including DSNY, the City Departments of Buildings, Transportation, and Health, the Business Integrity Commission, and the Police Department – the areas of responsibility and the extent of coordination with other agencies will be noted); (ii) offenses for which summonses may be issued (for each agency, the specific regulations enforced will be listed along with the types of penalties that are associated with particular violations); (iii) analysis of DSNY summons history; and (iv) complaints received from the public. (A limited research effort of DSNY and Environmental Control Board records will be undertaken. The purpose will be to determine the most common types of summonses issued to commercial waste generators, carters and transfer stations, the frequency of violations averaged at transfer stations, and the number of violations typically issued during a single inspection by DSNY personnel.)

The Consultant Team will evaluate enforcement practices, for deficiencies, which may include: (i) gaps in line of responsibility or offenses not addressed; (ii) the need for in-the-field monitoring and measurement technology (i.e., noise meters) to document violations; and (iii) the

lack of deterrence resulting in repeat offenders. The Consultant Team will test the extent of impacts due to the limitations of the enforcement program (e.g., agent training in use of noise meters and dust sampling equipment) and a lack of enforcement in the field at select locations. The testing program will be structured as follows:

- Select Test Criteria: In consultation with DSNY, the Consultant Team will select criteria (grouped according to regulatory agency) to be finalized in consultation with DSNY. The recommended criteria should include: (i) conformance to limits on hours and operating requirements; (ii) compliance with enclosure restrictions; (iii) noise levels; (iv) adherence to truck routes; and (iv) compliance with restrictions on off-site queuing, idling and parking.
- Select Test Locations: Test locations will be based on a review of the violation data compiled as a result of this Task.
- Sample Transfer Station-Related Violations: Visits will be made on two separate days to each of the sample transfer stations. Notes will be made if previously cited violations still exist.
- Sample Truck Route Violations: Along major roads leading from the Study Area into or through a residentially zoned area, but which are not designated truck routes, classification counts will be performed to determine the presence of commercial waste-related trucks and other industry trucks. One day of traffic counts will be performed at five intersections per Study Area. The counts will be performed at the two major approaches of each intersection.

An Enforcement Effectiveness Report will be prepared with findings regarding any perceived gaps in enforcement procedures and the extent and nature of any other enforcement deficiencies. Potential modifications to enforcement procedures will be identified, including procedures that may be directed at facility owners/operators who have carter customers with a significant history of repeated violations by, for example, restricting the receipt of waste from these carters.

Task 4.7 Evaluation of Alternative Collection Vehicles

Under almost any scenario for the future, the movement of solid waste in the City will remain heavily dependent upon diesel-powered trucks. The ideal and most effective measure to reduce air pollution would be to reduce the emissions by these trucks. The main objective of this Task is to determine if particulate traps, alternate fuels or truck types might be feasible and lawful

means of reducing truck emissions. In consultation with DSNY, which has extensive experience in testing alternative fuels and emissions control equipment on its collection fleet, the Consultant Team will provide an overview of the different options for alternative fuels and vehicle types/retrofits. The focus will be on proven technologies and vehicle types. If regulations are to be imposed or incentives provided, they must represent realistic emission reduction technology and options that would not create undue hardship for truck fleet operators. The two initial review components are as follows:

- Alternative Fuel Options: At the present time, all of the vehicles transporting private waste in the City are powered by either gasoline or diesel fuel produced from petroleum. In recent years, several alternate fuels have been explored; none, however, have been found to be acceptable replacements for gasoline and diesel-fueled vehicles. The options with the most potential for efficient and cost effective emission reductions will be evaluated. The Consultant Team will review the: (i) ability of existing vehicles to be retrofitted with devices that reduce emissions; (ii) safety; (iii) ease of use; (iv) power output of alternative fuels, such as natural gas, methanol, ethanol; (v) the impact of USEPA-proposed and promulgated regulations mandating cleaner burning diesel engines and the use of certain fuels in vehicles; and (vi) the availability of alternative fuel stations. The Consultant Team will also address the use of biodiesel fuels, including the potential generation of biodiesel from putrescible waste.

- Vehicle Size Alternatives: Currently, vehicles hauling private waste in the City vary in size from small, two-axle, six-wheel vehicles to large, articulated 18-wheelers. This alternative will seek to evaluate if one or a variety of sizes of trucks could better serve communities by balancing air quality, noise, and congestion issues with economic feasibility. The analysis will focus on whether regulation of carter vehicle fleets, much like the regulation of City taxi fleets, would yield any environmental or economic benefits over the present system. If standard fleets are used, they may facilitate regulation and streamline inspection of vehicles, which may, in turn, yield a cost savings to the City.

- Noise Suppression Technology: The availability of equipment designed into vehicles and add-on devices that reduce vehicle noise in collection and transfer operations will be investigated. The effectiveness and cost of using this equipment in waste collection and transfer operations will also be assessed.

An evaluation will be performed to determine if a particular type or types of vehicle would be more economically and environmentally feasible. To assess whether alternatives can be implemented, the following will be examined:

- Regulatory Options: The regulatory framework presently in place to license and inspect vehicles and operators hauling trade waste in the City will be analyzed to determine where regulations on fuel type could best be introduced and the procedures for the introduction of those changes.
- Institutional Barriers: The Consultant Team will explore institutional barriers that may pose problems with introducing new legislation or rules.

Task 4.8 Findings and Recommendations

Findings from each of the Tasks completed in the Study will be summarized in a detailed Report. This Report will also identify recommendations for policy strategies that may be implemented by DSNY or proposed for adoption in the New Plan. Results of the Study and recommended policy strategies will be included in the Study Report.

COMMERCIAL WASTE MANAGEMENT STUDY

CONSOLIDATED EXECUTIVE SUMMARIES

VOLUMES I THROUGH VI

March 2004

Prepared for:

New York City Department of Sanitation
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LIST OF ATTACHMENTS

Attachment A – Local Law 74 of 2000
Attachment B – Final Study Scope

List of Acronyms/Definitions

Acronyms	
ach	air changes per hour
BIC	Business Integrity Commission
C&D	construction and demolition
CD	community district
CEQR	City Environmental Quality Review
CH_4	methane
CNG	compressed natural gas
CO	carbon monoxide
CRAB	Citywide Recycling Advisory Board
DOC	diesel oxidation catalyst
DPF	diesel particulate filter
DSNY	New York City Department of Sanitation
ECB	New York City Department of Environmental Protection's Environmental Control Board
ECL	State Environmental Conservation Law
FHWA	Federal Highway Administration
HC	hydrocarbons
HCS	Highway Capacity Software
HEV	hybrid electric vehicle
ISCST3	Industrial Source Complex Short Term
ITE	Institute of Transportation Engineers

Acronyms	
LL74	Local Law 74, effective December 19, 2000, enacted by the City Council, requiring a comprehensive assessment of commercial solid waste management in New York City
LOS	level of service
MSW	municipal solid waste
MTS	marine transfer station
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NO_X	nitrogen oxide
NYAC	New York Air Code
NYCAC	New York City Administrative Code
NYCDEP	New York City Department of Environmental Protection
NYCDOT	New York City Department of Transportation
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
OEM	original equipment manufacturers
PADEP	Pennsylvania Department of Environmental Protection
PCE	passenger car equivalent
PIU	DSNY's Permit and Inspection Unit
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter

Acronyms	
PM_{10}	particulate matter less than 10 microns in diameter
ppm	parts per million
RCNY	Rules of the City of New York
RFP	Request for Proposals
SCR	selective catalytic reduction
SO_2	sulfur dioxide
SPDES	State Pollution Discharge Elimination System
SWAB	Borough Solid Waste Advisory Board
TNM	Traffic Noise Model
tpd	tons per day
ULSD	ultra-low-sulfur diesel fuel
USEPA	United States Environmental Protection Agency
$\mu g/m^3$	micrograms per cubic meter
WTE	waste-to-energy

Definitions	
Building Code	New York City's Building Code
City	New York City
Commercial Waste Capacity Scenario	Scenario which identifies the available capacity on an hourly basis at each Converted MTS, and provides the basis on which potential air quality and noise impacts associated with the delivery of commercial waste in nighttime hours can be evaluated
Consultant	The DSNY's Consultant Team, including Henningson, Durham & Richardson Architecture and Engineering, P.C.; Parsons Brinckerhoff Quade and Douglas, Inc.; Ecodata, Inc.; Franklin Associates, Ltd.; Urbitran Associates, Inc.; HydroQual, Inc.; and Cambridge Environmental, Inc., who prepared the Commercial Waste Management Study
Converted MTS	One of DSNY's eight marine transfer stations, modified to containerize waste for out-of-City export by barge or rail
Draft Study Scope	Commercial Waste Management Study Draft Scope of Work issued February 2003
DSNY-managed Waste	Solid waste that DSNY collects from all residential households in the City and the institutional waste of City, state and federal agencies that DSNY collects and/or for which DSNY arranges disposal
DSNY-managed Waste Reserved Capacity Scenario	Scenario which determines the Converted MTS capacity that would be required for DSNY-managed Waste to provide for an adequate margin to meet its peak demand requirements under all conditions except declared waste disposal emergencies

Definitions	
Final Study Scope or Final Scope of Work	Commercial Waste Management Study Final Scope of Work issued on July 31, 2003
MTS Conversion Program	The City's initiative to develop, at the sites of the existing marine transfer stations (MTSs), new converted MTSs that will containerize solid waste for long-term export by barge with the potential for additional intermodal transfers to enable delivery of containerized waste to disposal facilities outside of the City
New SWMP	The new comprehensive Solid Waste Management Plan to be developed in 2004 for both DSNY-managed Waste and commercial waste for the planning period 2004 through 2024
New SWMP Planning Period	The 20-year period from 2004 to 2024 addressed by the City's New Solid Waste Management Plan
Preliminary Report	The New York City Comprehensive Commercial Waste Management Study Preliminary Report dated June 2002
Quarterly Reports	Quarterly Transfer Station Report system
Study	Commercial Waste Management Study
Study Area	One of the following four locations with high concentrations of commercial waste Transfer Stations: Jamaica, Queens CD #12; Brooklyn CD #1; Port Morris, Bronx CD #1; and Hunts Point, Bronx CDs #2 and #9
Transfer Station	Privately owned and operated transfer station in New York City that accepts, transfers and transports some portion of municipal solid waste or construction and demolition debris or fill material generated in the private sector for out-of-City disposal

Definitions	
Waste Hauling Vehicle	Collection vehicle/transfer trailer that is used to transport municipal solid waste, C&D debris or fill material to or from the Transfer Stations
Zoning Resolution	New York City's Zoning Resolution

1.0 BACKGROUND

Every day, private carting companies collect the commercial solid waste generated in New York City (City)[1] and transport most of it to local facilities known as "Transfer Stations" where, after any sorting and processing, it is transferred to larger vehicles for further transport and final disposition. The City currently has 69 Transfer Station permits or other authorizations for the 62 private facilities at which such waste is transferred.[2] In addition to disposal of putrescible, non-putrescible and fill material wastes, private carters, Transfer Station operators and recycling companies divert significant quantities of materials to recycling, including paper, cardboard, metal, glass, plastic and materials recovered from processing construction and demolition (C&D) debris and the processing of fill material. Because the City has no operating landfills, incinerators or resource recovery facilities, all waste[3] generated in the City is either transferred from privately owned and operated Transfer Stations within the City or carted directly out-of-City for transfer and/or disposal. Except for waste transported by rail from one Transfer Station in the Bronx and another in Brooklyn, practically all waste exported from the City is dependent upon truck transport. The private waste management industry is an essential part of the City's infrastructure that the City's residents and businesses depend on every day to maintain the public health and attractiveness of the City.

Under City Department of Sanitation (DSNY) regulations, private carters and privately owned Transfer Stations are permitted to receive and process specific types of waste material, either putrescible waste, non-putrescible waste or fill material. These three types of waste are described below.

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[1] The City Department of Sanitation (DSNY) is responsible for the collection and/or arranging for disposal of all waste generated by City households, as well as waste from City, state and federal agencies and not-for-profit institutions in the City (DSNY-managed Waste).

[2] A few Transfer Stations hold dual permits to process putrescible and non-putrescible waste in separate areas at the same site. A few Transfer Stations have permits at separate addresses that are contiguous and operate as an integrated facility. Two intermodal facilities transload sealed, containerized waste from truck to rail but involve no waste processing.

[3] Under Interim Export contracts in 2003, approximately 7,250 tons per day (tpd) of DSNY-managed Waste were transferred out-of-City through in-City private Transfer Stations. Approximately 6,209 tpd of the total 7,248 tpd of commercial putrescible waste disposed were also transferred at these facilities.

1. *"Putrescible waste" is solid waste containing organic matter having the tendency to decompose with the formation of malodorous by-products. Putrescible waste generated by the City's businesses is principally office and retail waste with small quantities of putrescible material, but also includes restaurant and other waste. Significant amounts of office waste are recycled directly at the source by carters that primarily collect recyclable office paper from commercial buildings and deliver it to recyclers, exporters or paper manufacturers. Consistent with DSNY rules, putrescible waste referred to in this report includes the portions of commercial putrescible waste that are both disposed and recycled (such as office paper).*

2. *"Non-putrescible" waste is waste that does not contain organic matter having the tendency to decompose with the formation of malodorous by-products, including but not limited to dirt, earth, plaster, concrete, rock, rubble, slag, ashes, waste timber, lumber, Plexiglas, fiberglass, ceramic tiles, asphalt, sheetrock, tar paper, tree stumps, wood, window frames, metal, steel, glass, plastic pipes and tubes, rubber hoses and tubes, electric wires and cables, paper and cardboard.*

3. *"Fill material" is a subset of non-putrescible waste and, as defined in DSNY rules, is clean material consisting of earth, ashes, dirt, concrete, rock, gravel, asphalt millings, stone or sand.*

It is important to keep in mind these definitions in reviewing the Executive Summaries for each of the individual volumes, which follow.

DSNY is developing the City's new comprehensive Solid Waste Management Plan (New SWMP) that will address the long-term management, for the planning period 2004 through 2024 (New SWMP Planning Period), of both DSNY-managed Waste and commercial waste. To assess the effectiveness of the existing framework of rules and regulations and current enforcement practices governing operation of Transfer Stations and the operations of private carters in the City, the City Council enacted Local Law 74 of 2000 (LL74), effective December 19, 2000. LL74 mandated a study of commercial waste management in the City by a Consultant engaged by DSNY. This Commercial Waste Management Study (Study) undertaken

to comply with LL74 is intended to enable the City to assess and plan for management of the commercial waste stream in the most efficient and environmentally sound manner, and to assist in the development of the New SWMP. A copy of LL74 is provided as Attachment A.

To develop the Draft Scope of Work for the Study (Draft Study Scope), DSNY conducted a series of meetings in November and December of 2002 to solicit comments from elected officials, the public, the Citywide Recycling Advisory Board (CRAB), the Borough Solid Waste Advisory Boards (SWABs), community boards, environmental organizations, academics and other interested organizations. On March 3, 2003, the Draft Study Scope was posted on the DSNY website (www.nyc.gov/sanitation) for further public comment. Concurrently, the Draft Study Scope was mailed to all elected officials and Community Boards, the CRAB, the SWABs and to individuals who attended the public meetings held in 2002 and/or submitted comments in connection with the development of the Final Study Scope. Public comments received both during and after the established public comments period consisted of 19 letters (three from elected officials, two from solid waste industry representatives, one from a national environmental organization, four from the CRAB, six from neighborhood organizations or coalitions and three from special interest representatives). The letters were reviewed and a Final Study Scope was issued on July 31, 2003, and is provided as Attachment B. The Final Study Scope broadened the set of issues to be addressed in the Study by, for example, including studies of commercial waste generation, potential siting of new Transfer Stations in Manhattan and the availability of long-term volume waste disposal capacity to the City.

2.0 STUDY ORGANIZATION

The Study has been organized into six separate volumes, which provide a detailed discussion of the work undertaken and the findings, as well as any relevant recommendations. Additional technical backup data is included as attachments in the individual volumes or, in cases where it is voluminous, it is available in CD form on request. A brief description of the content of each volume is provided below.

2.1 Volume I: Private Transfer Station Evaluations:

This volume reports on the results of three separate evaluations.

- Four Study Areas with Transfer Stations in Geographical Proximity;
- Engineering and Operations Survey of Selected Transfer Stations; and
- Effectiveness of Enforcement

The first study examines Transfer Stations in geographical proximity located in the four Study Areas of Port Morris, Bronx Community District (CD) #1; Hunts Point, Bronx CDs #2 and #9; Jamaica, Queens CD #12; and Brooklyn CD #1 and provides the results of evaluations undertaken to assess the potential overlapping effects of such proximity on air quality, odor, noise, traffic, neighborhood character, public health and water quality. The second study reports the results of a survey of selected Transfer Stations within the Study Areas to identify operational measures and design modifications to improve the environmental performance of these facilities, and the third study evaluates the effectiveness of enforcement activities and permitting procedures and criteria of City and state agencies that oversee Transfer Station operations, under existing rules and regulations. Appendices A through K of Volume I provide the details for each of the analyses undertaken.

2.2 Volume II: Commercial Waste Generation and Projections

The Summary Report in Volume II synopsizes the results of five separate evaluations, included as Appendices A through E, which together constitute the basis for determining the quantities of putrescible, non-putrescible and fill material waste generated within the City that is managed by the private sector. Twenty-year projections of this commercial waste stream are presented through the New SWMP Planning Period, which will aid in determining the adequacy of planned facilities.

2.3 Volume III: Converted Marine Transfer Stations – Commercial Waste Processing and Analysis of Potential Impacts

Volume III reports on the capacity required by DSNY at each of the eight Converted Marine Transfer Stations (MTSs) to handle DSNY-managed Waste, and the remaining capacity potentially available to private carters for commercial putrescible waste deliveries at these facilities based upon the results of environmental analyses. These environmental analyses applied City Environmental Quality Review (CEQR) methodologies in evaluating whether that capacity could be utilized without causing potentially unmitigatible adverse impacts. However, the business arrangements, economics, possible regulatory policies, and a number of other significant variables that would be elements of a City policy to attract commercial waste to the Converted MTSs, were not addressed in this report.

As a foundation for the environmental analysis of potential commercial waste processing at these facilities, Appendix A of Volume III, MTS Environmental Evaluation, provides a comprehensive environmental evaluation, based on CEQR methodologies, of processing DSNY-managed Waste from the wasteshed that historically delivered to City MTSs at these locations.

2.4 Volume IV: Evaluation of Waste Disposal Capacity Potentially Available to New York City

Volume IV examines the waste disposal capacity potentially available within seven states (Georgia, New York, New Jersey, Ohio, Pennsylvania, South Carolina and Virginia) for accepting City waste, either via truck transfer or by barge or rail. Historic market price information was also gathered and reviewed.

2.5 Volume V: Manhattan Transfer Station Siting Report

Volume V investigates and evaluates potential sites for locating new truck-to-barge or truck-to-rail transfer stations in Manhattan, since no private putrescible waste Transfer Stations are located in this borough.

2.6 Volume VI: Waste Vehicle Technology Assessment

Volume VI reports on a survey of alternative fuels, new engine technologies and vehicle emission retrofit options that are appropriate for use on waste collection vehicles and profiles the innovative DSNY programs and initiatives implemented to evaluate alternative fuels, engine technologies and retrofit options. This volume provides an assessment of the advantages and disadvantages of the various options to reduce consumption of fossil fuels and/or reduce vehicle emissions, and recommends cleaner technologies, including technologies that DSNY had previously tested and, in some cases, targeted for implementation.

3.0 CONSOLIDATED EXECUTIVE SUMMARIES

3.1 Volume I: Private Transfer Station Evaluations

Privately owned and operated commercial waste Transfer Stations play a vital role in the City's solid waste management system. Putrescible Transfer Stations currently transfer approximately 6,200 tons per day (tpd)[4] of commercial waste and 7,250 tpd of DSNY-managed Waste disposed by City residents, agencies and not-for-profit institutions to disposal facilities outside the City. Non-putrescible and fill material Transfer Stations play a similarly important role in the recycling and disposal of C&D debris and excavation material, with approximately 8,630 tpd and 19,070 tpd handled at these facilities in 2003, respectively. While critical to the City's waste infrastructure, these facilities must operate and be maintained in an environmentally sound manner, and in accordance with City and state rules and regulations. This volume consists of three independent but inter-related studies on Transfer Stations located throughout the City that examine the effects of geographical proximity in four Study Areas, assess whether the enforcement of existing regulations and the permitting procedures and criteria are effective, and recommend practical means to improve the operation of these facilities which may impact upon the quality of life in the surrounding communities.

It is important to note in this Study that DSNY's MTS Conversion Program relies on shipping DSNY-managed Waste by barge and rail, and so is expected to reduce the numbers of trucks currently hauling DSNY-managed waste from private Transfer Stations for disposal. Moreover, DSNY has taken the initiative to issue three Requests for Proposals (RFPs) solicitations to private vendors that may result in the award of a contract that would have the effect of reducing transfer trailer truck traffic associated with the transport of commercial waste in the Study Areas. Specifically, DSNY long-term export RFPs seek vendor proposals to containerize DSNY-managed Waste at private transfer facilities and transport it out of the City by barge or rail. These RFPs seek alternatives to the rebuilding of the Greenpoint and Bronx MTSs, and a contract entered into by the City would specify that <u>all</u> waste (not just DSNY-managed Waste)

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[4] Tons per day are calculated on the basis of a six-day week, 312-day year.

accepted at Transfer Stations on which proposals are based be containerized and transported out of the City by barge or rail. This would have the potential effect of significantly reducing the volume of outbound traffic from Transfer Stations in portions of Brooklyn, Queens and the Bronx.

The approach taken and findings for each of these studies is summarized below.

3.1.1 Four Study Areas with Transfer Stations in Geographical Proximity

3.1.1.1 Scope of Analysis/Approach

The objective of the Study Area analysis was to evaluate whether areas with a number of Transfer Stations in geographical proximity have the potential of producing overlapping environmental effects on air quality, odor, noise, neighborhood character and water quality. In addition, the off-site effects of these facilities on traffic, air quality and noise from mobile sources (Waste Hauling Vehicles) were analyzed. The potential public health effects of the findings of these evaluations were also considered.

The Study Areas were selected based upon a review of the location and geographical proximity of the 69 operating private Transfer Station in the five boroughs. (See Footnote #2.) Four Study Areas encompassing 43 of the facilities were identified for analysis: Port Morris, Bronx CD #1; Hunts Point, Bronx CDs #2 and #9; Jamaica, Queens CD #12; and Brooklyn CD #1 (primarily East Williamsburg, but including three facilities with four permits in Queens). Table ES-1 shows the name, location and type of Transfer Station in each Study Area.

First, current conditions (including the presence of the Transfer Stations) in each of the Study Areas were evaluated. Second, the conditions without the Transfer Stations were evaluated to determine the net contribution of the Transfer Stations. Third, the conditions without the Transfer Stations, but with assumed other industrial uses occupying the same sites, were evaluated assuming the Transfer Stations were replaced by as-of-right general light industrial land uses (e.g., printing plants, laboratories) in the Study Area. This land use replacement scenario assumed that the Transfer Station land uses would be occupied by other M-zone land

Table ES-1
Permitted Commercial Waste Transfer Stations within Study Areas

Name	Address	Type Of Transfer Station
Port Morris, Bronx CD #1		
Bronx County Recycling	475 Exterior Street	Fill
Felix Equities	290 East 132nd Street	Fill
Tilcon NY	980 East 149th Street	Fill
USA Waste Services of NY (Waste Management)	98 Lincoln Avenue	Putrescible
USA Waste Services of NY (Waste Management) (1)	132nd Street & Saint Ann's Avenue	Putrescible (Intermodal)
Waste Services of NY	920 East 132nd Street	Putrescible
Total Number in Port Morris, Bronx CD #1 Study Area		**6**
Hunts Point, Bronx CDs #2 and #9		
A.J. Recycling	325 Faile Street	Non-Putrescible
Bronx City Recycling	1390 Viele Avenue	Fill
G. M. Transfer	216-222 Manida Avenue	Non-Putrescible
Kids Waterfront Corp.	1264 Viele Avenue	Non-Putrescible
IESI NY Corp	325 Casanova Street	Putrescible
John Danna and Sons	318 Bryant Avenue	Non-Putrescible
Metropolitan Transfer Station	287 Halleck Street	Putrescible
Paper Fibers Corp.	960 Bronx River Avenue	Putrescible
Waste Management of NY (1)	Oak Point & Barry Avenue	Putrescible (Intermodal)
Waste Management of NY	620 Truxton Street	Non-Putrescible
Waste Management of NY	315 Baretto Street	Non-Putrescible
Total Number in Hunts Point, Bronx CDs #2 and #9 Study Area		**11**

Table ES-1 (Continued)
Permitted Commercial Waste Transfer Stations within Study Areas

Name	Address	Type Of Transfer Station
Brooklyn CD #1		
Point Recycling Ltd	686 Morgan Avenue	Non-Putrescible
Waste Management of NY (2)	75 Thomas Avenue	Non-Putrescible
Waste Management of NY(2)	485 Scott Avenue	Putrescible
Waste Management of NY	215 Varick Avenue	Putrescible
Waste Management of NY	123 Varick Avenue	Non-Putrescible
Waste Management of NY	232 Gardner Avenue	Non-Putrescible
Maspeth Recycling (3)	58-08 48th Street	Fill
IESI NY Corp	548 Varick Avenue	Non-Putrescible
Astoria Carting Company (3)	538-545 Stewart Avenue	Non-Putrescible
City Recycling Corp	151 Anthony Street	Non-Putrescible
Cooper Tank and Welding	222 Maspeth Avenue	Non-Putrescible
Pebble Lane Associates (3)	57-00 47th Street	Fill
Keyspan Energy	287 Maspeth Avenue	Fill
New Style Recycling Corp (2)(3)	49-10 Grand Avenue	Putrescible
New Style Recycling Corp (2)(3)	49-10 Grand Avenue	Non-Putrescible
BFI Waste Systems of NJ (4)	598-636 Scholes Street	Putrescible
BFI Waste Systems of NJ (4)	594 Scholes Street	Non-Putrescible
BFI Waste Systems of NJ (4)	575 Scholes Street	Non-Putrescible
BFI Waste Systems of NJ	115 Thames Street	Putrescible
Hi-Tech Resource Recovery	130 Varick Avenue	Putrescible
Total Number in Brooklyn CD #1 Study Area		**20**

Table ES-1 (Continued)
Permitted Commercial Waste Transfer Stations within Study Areas

Name	Address	Type Of Transfer Station
Jamaica, Queens CD #12		
American Recycling Management [(2)]	172-33 Douglas Avenue	Putrescible
American Recycling Management [(2)]	172-33 Douglas Avenue	Non-Putrescible
Regal Recycling [(2) (5)]	172-06 Douglas Avenue	Putrescible
Regal Recycling [(2) (5)]	172-06 Douglas Avenue	Non-Putrescible
T. Novelli [(2)]	94-07 Merrick Avenue	Fill
T. Novelli [(2)]	94-20 Merrick Avenue	Non-Putrescible
Total Number in Jamaica, Queens CD #12 Study Area		**6**
Total Number of Transfer Stations Evaluated		**43**

Notes:

(1) These two facilities are permitted as intermodal terminals that ship containerized waste by rail. No waste processing is conducted at these sites.

(2) Denotes one facility with two permits.

(3) Four Transfer Stations on the Brooklyn CD #1 list are actually in Queens near the border of Brooklyn but were evaluated as part of the Brooklyn CD #1 Study Area.

(4) These three locations constitute one facility with three DSNY permits under state regulations.

(5) Regal Recycling is enclosing the non-putrescible waste processing operations; therefore, this facility was modeled as an enclosed non-putrescible Transfer Station.

uses typical of current conditions in the Study Area. The off-site effects of these replacement land uses were calculated using trip generation rates published by the Institute of Transportation Engineers (ITE).

Analyses were conducted for: (1) air quality, odor, noise, neighborhood character, public health and water quality from Transfer Stations located within each Study Area; and (2) traffic, off-site air quality and off-site noise at key intersections/locations along major corridors leading to and from the Study Areas. Although this evaluation is not an environmental review, it uses CEQR and other planning and engineering review criteria as the best available measure of the environmental effects of Transfer Stations on the surrounding community. Standard models for air quality (United States Environmental Protection Agency [USEPA]-approved Industrial Source Complex Short Term [ISCST3], CAL3QHCR, MOBILE5b and Part 5), noise (Federal Highway Administration's [FHWA's] Traffic Noise Model [TNM] 2.1) and traffic (Highway Capacity Software [HCS] version 4.1c) were used to predict combined effects of the Transfer Stations.

Criteria were identified for each environmental parameter, as described in the "Summary Report on Four Study Areas with Transfer Stations in Geographical Proximity." If the criteria were not exceeded, the Study Area analysis concludes that the overlapping effects of the Transfer Stations were not considered to be adverse. If these criteria were exceeded, means of reducing environmental effects through operational measures or design modifications were identified and then evaluated. If the current conditions for traffic and its attendant effects still exceeded the applicable criteria, further analysis was undertaken, as more fully described in the Summary Report.

3.1.1.2 Findings and Recommendations

Air quality, odor, noise, traffic, neighborhood character and water quality analyses were conducted to evaluate the potential effects from the geographic proximity of the Transfer Stations within the Study Areas. The analyses modeled areas where the potential effects of Transfer Stations in proximity to each other overlapped (combined effects) and evaluated whether these effects were potentially adverse. It considered combined effects at sensitive receptors in these areas of overlap in manufacturing zones -- for example non-conforming residences, not just contiguous residential zones -- but did not consider new siting actions. The overall results of the Study Area analyses show that the geographical proximity of the existing Transfer Stations in these Study Areas do not cause adverse combined or cumulative effects using reasonable criteria adapted from the CEQR and planning and engineering criteria. There are no findings in the Study Area analyses that indicate there are combined adverse effects to the environment from existing Transfer Stations that would warrant a reduction in the number and capacity of Transfer Stations in the Study Area.

The Study makes certain recommendations for, among other things, better odor control systems at putrescible Transfer Stations to improve the operations and to limit the effects of Transfer Stations. As described in the Volume I, Summary Report, the regulatory regime for siting of new Transfer Stations in the City consists of zoning, operating requirements, siting restrictions, environmental review, the state's detailed Part 360 regulations, the City's Noise and Air Codes, and Vehicle and Traffic Laws. Together the application of these current requirements would tend to mitigate the potential for adverse impacts from a future siting action.

1. ***On-site Air Quality***: The maximum predicted combined contribution of existing Transfer Stations in the Study Area combined with background levels from the closest air quality monitor showed results all below National Ambient Air Quality Standards (NAAQS) for criteria pollutants (carbon monoxide [CO], sulfur dioxide [SO_2], nitrogen dioxide [NO_2] and particulate matter less than 10 microns in diameter [PM_{10}]). For particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), the maximum predicted annual neighborhood average from combined on-site and off-site sources ranges from 1% to 6% of contribution to the latest monitored concentration from the nearest monitoring station within each Study Area.

2. ***On-site Odor:*** Sampling of odors was undertaken in the summer when odor generation from waste decomposition would be at its highest. A review of the controlled and uncontrolled odor emissions from the same facilities revealed that the controlled Transfer Station emissions were no more than 38% lower than the uncontrolled facilities, and in some cases the controlled emissions were deemed higher than the uncontrolled emissions, which is most likely due to the use of scented masking agents instead of more effective neutralizing agents to control odors. The highest frequency of conservatively predicted odor levels exceeding the criteria, assuming no odor controls, was for a receptor in the Brooklyn CD #1 Study Area, where the model predicted an exceedance just under 0.82% of the time (72 non-consecutive hours per year). If more effective (90% efficient) odor controls were implemented at all commercial putrescible waste facilities, the odor levels would be reduced substantially (by 90%), and there would be no overlapping contributions from multiple Transfer Stations in the Study Areas.

3. ***On-site Noise:*** Transfer Stations in the Port Morris, Bronx CD #1 Study Area do not have overlapping noise effects because they are not located in close proximity to each other. However, there were areas of potential overlapping effects from multiple Transfer Stations in Brooklyn CD #1; Jamaica, Queens CD #12; and Hunts Point, Bronx CDs #2 and #9 Study Areas, but the analyses did not predict effects at sensitive receptors located within these Study Area overlap areas. Waste Hauling Vehicles queuing on and off site make the greatest contributions to noise levels. The removal of off-site queuing of Waste Hauling Vehicles reduces noise levels attributable to overlapping effects.

4. ***Traffic:*** Fifty-eight (58) intersections were analyzed in the Study Areas for the traffic analysis. Results indicate that many of the intersections operate at an overall level of service (LOS) C or better under current conditions (six in Port Morris, Bronx CD #1 Study Area; seven in Hunts Point, Bronx CDs #2 and #9 Study Area; 16 in Jamaica, Queens CD #12 Study Area and 23 in Brooklyn CD #1 Study Area). The current conditions at six of the intersections in the Study Areas operate at an overall LOS D, E or F.[5] The percentage of Waste Hauling Vehicles analyzed ranged from 0% to 7% of the total number of vehicles traveling through the intersections during the hours analyzed. Subtracting the Waste Hauling Vehicles from the analysis did not significantly improve the LOS at any intersection analyzed. And when replacement industry trips (that is, traffic that would be generated by other light industrial uses for the Transfer Station sites if the Transfer Stations were absent) were substituted for Waste Hauling Vehicles in the analysis, the LOS remained the same or deteriorated.

5. ***Off-site Air Analysis:*** For the mobile air quality analyses, current conditions were analyzed at two "worst case" links each in the Port Morris, Bronx CD #1 and the Hunts Point, Bronx CDs #2 and #9 Study Areas and at four links each in Brooklyn CD #1 and Jamaica, Queens CD #12. In all instances, results are below NAAQS for all the criteria pollutants. For $PM_{2.5}$, the 24-hour maximum contribution from off-site emission sources ranged from 0.03 to 1 $\mu g/m^3$ (or 0.08% to 2.4% of the latest monitored concentration). The annual neighborhood maximum contribution from off-site emission sources ranges from 0.01 to 0.17 $\mu g/m^3$ (or 0.08% to 0.9% of the latest monitored concentration).

6. ***Off-site Noise:*** Two levels of screening were conducted on 23 locations where sensitive receptors exist near convergence points along truck routes to and from the Study Areas -- eight in Port Morris, Bronx CD #1; four in Hunts Point, Bronx CDs #2 and #9; six in Brooklyn CD #1; and five in Jamaica, Queens, CD #12. The first level of screening used total traffic volumes and axle factors from the New York State Department of

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[5] Brooklyn CD #1 Study Area: (1) Meeker Avenue and Union Avenue, and (2) Flushing Avenue/Melrose Street and Varick Avenue/Irving Avenue; Port Morris, Bronx CD #1 Study Area: (1) Bruckner Boulevard and Alexander Street; Hunt's Point, Bronx CDs #2 and #9 Study Area: (1) Hunt's Point Avenue and Bruckner Boulevard, (2) Longwood Avenue and Bruckner Boulevard, and (3) Leggett Avenue and Bruckner Boulevard.

Transportation (NYSDOT) to conservatively estimate the existing traffic volumes, and whether the addition of Waste Hauling Vehicles would have the potential to double passenger car equivalent (PCE) noise levels, requiring a further evaluation of potential effects (first-level screening).[6] Based on this first-level screening, 17 locations (five in Port Morris, Bronx CD #1; four in Hunts Point, Bronx CDs #2 and #9; three in Brooklyn CD #1; and five in Jamaica, Queens, CD #12) were identified for further screening (second-level screening) using actual field traffic classification counts at these locations to determine the potential for doubling PCEs. Based on this second-level screening, five locations (two locations in Brooklyn CD #1 and three locations in Jamaica, Queens, CD #12) were identified for modeling using Federal Highway Administration's (FHWA's) Traffic Noise Model (TNM) version 2.1. Predicted results from TNM modeling at these five locations were compared to the Study noise threshold (an increase in 3dBA or greater attributable to the Waste Hauling Vehicles). The modeled mobile noise from the Waste Hauling Vehicles at the intersections analyzed did not exceed the threshold. Therefore, there are no predicted noise effects from these Waste Hauling Vehicles.

7. ***Water Quality:*** Twenty-nine of the 43 Transfer Stations within the Study Areas are not near or adjacent to surface water. The remaining 14 Transfer Stations that are adjacent to or near surface water do not have adverse individual or combined effects on water quality in the Study Areas.

8. ***Neighborhood Character:*** The neighborhood character analyses in all four Study Areas determined that overlapping effects of Transfer Stations, where such effects exist, do not contribute adversely to the typically industrial neighborhood character of the four Study Areas. Moreover, where the technical analyses compared existing conditions to the replacement scenario, in which reasonably anticipated development were assumed to occur in place of the Transfer Stations, it was found that the conditions studied would not necessarily be better than existing conditions. In certain cases, larger volumes of traffic

[6]See Volume I Summary Report for intersection locations.

predicted under the replacement scenario could potentially result in diminished neighborhood character quality, compared to existing conditions with the Transfer Stations. The assumption used in creating the replacement industry scenario is that all components of neighborhood character conditions (zoning, socioeconomics, etc.) remain fundamentally the same as existing conditions.

9. ***Public Health:*** Using the conservative assumption that commercial waste Transfer Stations do not control odors at all, receptors in two Study Areas were found likely to experience potentially unacceptable odors at times from overlapping effects. These effects were predicted to be infrequent, occurring less than 1% of the time for all receptors (i.e., less than 72 non-consecutive hours per year), and are not likely to generate sustained annoyance or symptoms. With regard to regulated pollutants, cumulative effects on air quality were predicted to be minimal (for $PM_{2.5}$, 1% to 6% of contribution to the latest monitored background values). The Transfer Stations, in aggregate, do not appear to be important determinants of air quality for any of the pollutants regulated by the USEPA on the basis of human health effects.

3.1.2 Engineering and Operations Survey of Selected Transfer Stations

3.1.2.1 Scope of Analysis/Approach

This report supplemented the work undertaken as part of the Study Area evaluations through on-site surveys of 24 of the 43 Transfer Stations located in the Study Areas, including putrescible, non-putrescible and fill material facilities. These surveys involved a review of existing information made available by DSNY from its permit records and environmental review documents, and site visits to observe facility operations and collect data on facility designs and operating performance. The data collection activities included odor (at existing transfer stations) and noise sampling (at nearby receptors) and analysis. These data were evaluated to determine if various design or operational measures could improve the environmental performance of existing Transfer Stations in terms of a reduction in pollutant and odor emissions and noise attenuation. Details are provided in Appendix J of Volume I.

3.1.2.2 Findings and Recommendations

The following recommendations, pertaining to the design and operation of Transfer Stations, are the result of this evaluation.

1. **Ventilation and Odor Control** – The ventilation systems of putrescible Transfer Stations should be upgraded with the addition of state-of-the-art odor control technology to "neutralize" odors in exhaust air, and ventilation capacity should be increased to prevent the escape of odors when facilities are operating with doors open, by maintaining sufficient negative air pressure. The combination of an odor neutralizing system treating exhaust air in conjunction with increased fan capacity, operated correctly, would have synergistic effects to substantially reduce potential odors.

   A number of the putrescible Transfer Stations inspected used rudimentary odor control systems that could be more effective. An example of a state-of-the-art odor control system option is a hard-piped system, suspended above the processing floor, which would introduce an odor-neutralizing agent into exhaust air, as it is ventilated from the building. Implementing this recommendation could include a provision for an equivalent system acceptable to the DSNY Commissioner that is sufficient to meet Zoning Code and Air Code standards.

   The fan capacity recommendation would surpass current Building Code standards. It would require increasing fan capacity from 6 air changes per hour (ach) to 8 to 12 ach and treating the exhaust air. Fans would automatically operate at 8 ach with doors closed and at 12 ach with doors open. The additional fan capacity addresses the practical reality that Transfer Station doors are generally open during operating hours when inbound and outbound traffic is heavy and consequently odors can be more readily released from the building.

2. **Odor Prevention** – DSNY's Permit and Inspection Unit (PIU) staff should continue focusing their enforcement efforts on operating conditions that contribute to odor formation during waste processing operations. Inspectors should take particular care to continue to identify and take enforcement action to correct the following conditions, when observed:

   - Floor-wear conditions that contribute to pooling of leachate on the floor. These conditions may be indicated by exposed rebar.
   - Excessive dust accumulation on facility walls that can become a source of odor formation.
   - Clogged trench drains in the floor drain system or grit and grease traps that are not routinely maintained.

In addition, inspectors should continue to monitor and focus on compliance with a daily ½-hour "clean time" during which the floor is cleared of waste to allow housekeeping functions, such as floor and wall wash-down, cleaning of drains, and maintaining ventilation and odor control systems.

3. **Dust Control** – Both DSNY and New York State Department of Environmental Conservation (NYSDEC) regulations require measures to control dust from waste processing operations. Of the three types of Transfer Stations, non-putrescible and fill material facilities generally operate outdoors, while all waste processing activity at putrescible Transfer Stations must occur in an enclosed building. Dust control should continue to be a focus of PIU's enforcement action, particularly when dust from operations is observed crossing property lines at non-putrescible and fill material Transfer Stations or exiting from the exhaust vents of putrescible Transfer Stations. Persistent enforcement will induce facility operators to use relatively simple and effective dust control measures.

   Different means of controlling dust are applicable to each type of facility:

   - Non-putrescible and fill material facilities – Installation of a sprinkler-type system that sprays water on the working pile will substantially reduce the transport of dust from processing operations more effectively than hand-held hoses currently used at many facilities.

- Putrescible – Installation of a water-misting system for dust suppression within the enclosed processing building is an effective method of minimizing dust in the exhaust air. The system commonly used in the solid waste industry involves pumping water through ¼" to ¾" steel pipe to high-pressure mist nozzles that atomize water, creating a fine mist that reduces dust generation. The atomization process does not cause water to pool on the processing floor. These systems, when operated properly, are effective at reducing as much as 90% of the dust generated at putrescible Transfer Stations.

4. **Stormwater Control** – This issue is specific to non-putrescible and fill material facilities that do not have concrete paved surfaces with appropriate drainage where material is processed. This absence of pavement with appropriately installed stormwater drainage creates two potential problems: (i) runoff into surface water or storm sewers; and (ii) tracking of mud and debris during wet weather onto neighboring streets.

   The first issue is being addressed by NYSDEC under the authority established by Article 27 of the Environmental Conservation Law (ECL) and more specifically by Article 17, Titles 7 and 8 of the ECL. Implementing regulations for Article 17, Titles 7 and 8 are provided under 6 New York Codes, Rules and Regulations (NYCRR) Part 750. These regulations are the basis of the State Pollution Discharge Elimination System (SPDES) program that requires permits for management of stormwater that discharges to surface water or separate storm sewers. Obtaining coverage under the statewide general permit for stormwater associated with industrial activities (GP-98-03) or an individual stormwater permit requires the preparation of a Stormwater Pollution Prevention Plan that would typically entail installation of a paved surface with controlled drainage directed through grit and grease traps or other pretreatment systems prior to discharge to surface waters or storm sewers. Discharge of stormwater containing "leachate" to the sanitary or combined sewer system requires permits from the City Department of Environmental Protection (NYCDEP). NYSDEC is in the process of requiring Transfer Stations in the City to obtain SPDES permits.

   The second issue (tracking of mud and debris during wet weather onto neighboring streets) can be effectively addressed by washing the tires of vehicles as they exit the Transfer Station. This can be accomplished through the installation of an automated tire washing system or using manually operated hoses.

5. **Noise Control** – Noise emissions are regulated under the City's Noise Code §24-243, the Zoning Resolution and Transfer Station Operating Rules. Noise effects may arise at the property boundary where equipment operates outdoors, as is the case with non-putrescible and fill material Transfer Stations (waste processing operations at putrescible Transfer Stations are in an enclosed building), or from Waste Hauling Vehicles queuing in the street in front of these facilities (which was found to be the principal source of noise at Transfer Stations.) However, the Noise Code and Zoning Code do not prohibit the levels of vehicular noise associated with queuing trucks at Transfer Stations. Also, space limitations at many existing facilities limit the options for mitigating this problem. DSNY's operating rules prohibit non-putrescible Transfer Stations from operating between 7:00 p.m. and 6:00 a.m., to limit noise from such facilities. NYSDEC, during its permit renewal process, is focusing on design measures and permit conditions to limit off-site queuing. These combined approaches can mitigate noise problems in areas where they are most likely to affect residential dwellings.

6. **Air Quality** – The primary sources of air pollution from Transfer Stations are the non-road engines, such as front end loaders, used in waste processing operations, not diesel Waste Hauling Vehicles. This issue is discussed more fully in the evaluation reports of the four Study Areas. It is important to note here that: (i) these engines will be subject to increasingly stringent emission standards promulgated by the USEPA that over time will significantly reduce emissions as older equipment is replaced; and (ii) federal law appears to preempt the City from establishing more stringent standards for these non-road engines. The New York Air Code (NYAC) §24-143, contains a prohibition on *"visible air contaminants from an internal combustion engine of (a) a motor vehicle while the vehicle is stationary for longer than 10 consecutive seconds; or (b) a motor vehicle after the vehicle has moved more than 90 yards from a place where the vehicle was stationary."* This regulation provides a basis for enforcement actions by DSNY's PIU inspectors where old or poorly maintained mobile equipment, such as front end loaders or bulldozers, is emitting visible smoke. Air Code §24-109 and §24-142 provide authority to regulate stationary equipment such as crushers. DSNY should institute a training program for its inspectors in the application of USEPA's (40 CFR 60,

Appendix A) Method 9 procedures for opacity testing. (The threshold for human recognition of visible emissions is generally considered to be around 5% opacity.) Certified inspectors issuing citations for opacity violations would induce Transfer Station operators to better maintain or upgrade their equipment.

3.1.3 Effectiveness of Enforcement

3.1.3.1 Scope of Analysis/Approach

Both the City and New York State regulate the privately owned Transfer Stations. DSNY is the primary local agency responsible for permitting, regulating and inspecting Transfer Stations and NYCDEP's Environmental Control Board (ECB) adjudicates notices of violation that DSNY officers write. DSNY derives its powers to control waste Transfer Station operation from the City Charter, Title 16, of the New York City Administrative Code (NYCAC) and Title 16 of the Rules of the City of New York (RCNY). The New York State Department of Environmental Conservation (NYSDEC)'s regulatory authority derives from the Environmental Conservation Law (ECL) and Title 6 of NYCRR, Part 360. The Business Integrity Commission (BIC) does background investigations into character and fitness to operate a Transfer Station and also licenses the vehicles operated by private carters in the City.

As the primary inspector of the City's Transfer Stations, DSNY's PIU conducts most of the on-site inspections. The unit is comprised of twenty-two (22) officers -- 17 Environmental Police Officers and five Environmental Lieutenants. The PIU force conducts a full inspection of each putrescible and non-putrescible Transfer Station at least once per week, and conducts additional, frequent, limited drive-by inspections of such facilities.

During the course of this Study, current management policies governing the City's Transfer Stations were reviewed and evaluated based on infraction statistics gathered from the inspection records at DSNY and NYSDEC to determine the effectiveness of enforcement procedures on the City's Transfer Stations. In addition, other City and state agencies involved with various aspects

of enforcement were contacted and the rules and regulations defining their authority reviewed. Details of these analyses can be found in Volume I, Appendix K, Effectiveness of Enforcement. In addition, a review of historical violation records from 1991 to 2002 was completed as well as an in-depth study of inspection reports for Fiscal Year 2003. The pattern of violation issuance and the type of infraction that led to such summonses were evaluated to gain a better understanding of current enforcement measures and to address potential improvements to the system.

Various fine structures exist depending on the type, severity and frequency of a violation. Certain Transfer Station-type violations, such as operating a Transfer Station without a valid permit or being in violation of operational rules, are termed "major ECB violations" for the purpose of this Study and warrant a fine ranging from $2,500 for a first offense, $5,000 for a second offense and up to $10,000 for third and subsequent offenses. Violations that this Study terms "minor ECB violations" relate to sidewalk and street infractions and have lower liability amounts that warrant fines between $100 and $300, while the Study category of "minor action violations," such as illegal dumping or the presence of noxious liquids, has a maximum fine of up to $450. (The "minor" classification used here is not meant to suggest that such violations are less important, merely that the monetary penalties are less than those for "major" Transfer Station violations.)

City enforcement of regulatory standards on Transfer Station operation is guided by the applicable performance standard for the facility under the Zoning Resolution, as supplemented by the Air and Noise Code and DSNY's regulations. The City has established three kinds of industrial districts, each with specific performance standards: Light Manufacturing (M1 - High Performance), Medium Manufacturing (M2 - Medium Performance) and Heavy Manufacturing (M3 - Low Performance). Transfer Stations are considered a Use Group 18 use. Use Group 18 uses are appropriate in M3 districts subject to low performance standards, and are allowed in M1 and M2 districts provided they meet the more stringent performance standards applicable to those zones with respect to odor, noise, vibration, dust and smoke. Additional noise and vibration restrictions apply to a manufacturing district located adjacent to a residential district. M1 districts often serve to buffer residential and commercial districts from heavier industrial M2 or M3 zones. M2 districts occupy the middle ground between light and heavy industrial areas. Performance standards in this district are less stringent than in M1 areas, as more noise, vibration

and smoke are permitted. M3 districts are designated for heavy industries (such as foundries, cement plants, salvage yards, chemical manufacturing, asphalt plants) that generate more objectionable influences and hazards, including noise, dust, smoke and odors, as well as heavy traffic. New residences and community facilities may not locate in M3 districts. These districts are usually situated near the waterfront and are buffered -- for example by M1 districts -- from residential areas. With their low performance standards, M3 zones are particularly well-suited for the siting of Transfer Stations

A field observation was conducted to sample the level of compliance with truck route restrictions around Transfer Stations. Trucks must travel on designated routes, except where they deviate to reach their final destination. Truck route violations are important to monitor as they directly affect the quality of life on residential streets in the surrounding community. (The City Department of Transportation [NYCDOT] is currently conducting a Citywide study of truck traffic.) The survey counted Waste Hauling Vehicles using non-truck routes at key intersections in the vicinity of Transfer Stations and compared their number to the number of other trucks and automobile traffic. Intersections with a high potential to be used illegally by Waste Hauling Vehicles -- either key local non-truck route intersections or crossings of local arteries and truck routes -- were selected as observation sites.

3.1.3.2 Findings

1. Only approximately 0.3% to 6% of total traffic at a non-truck route intersection can be attributed to Waste Hauling Vehicles.

2. There has been a 100% increase in DSNY inspection frequency over the last four years following a doubling in inspection staff and an increase in the closure of negligent facilities. In general, the number of Transfer Stations has declined. In 1990, 153 Transfer Stations were in operation, compared to 96 in 1996 and only 69 in 2004.

3. According to DSNY historical summons data, over the past 12 years (1991 to 2002), roughly 15% of putrescible Transfer Stations, 12% of non-putrescible Transfer Stations and 8% of fill material Transfer Stations accrued more than 20 violations each in the 12-year span.

4. The majority of the City's Transfer Stations are sited in M3 zones (68%), thus reducing their potential effect on the residential community.

5. In 1998, DSNY promulgated new Transfer Station Siting Rules (implemented as a new subsection of the existing rules governing Transfer Stations found in 4 RCNY 16) that included restrictions on the locations in which new Transfer Stations could be sited and limitations on their hours of operation. They included the following general provisions:

   - No siting of new putrescible and non-putrescible Transfer Stations in M1 zones;
   - No siting within 400 feet of residential districts and sensitive receptors such as public parks and schools;
   - No siting of a new non-putrescible Transfer Station within 400 feet of an existing non-putrescible Transfer Station; and
   - No operating of non-putrescible Transfer Stations in an M1 zone between 7:00 p.m. and 6:00 a.m.

   Additionally, the rules required Transfer Stations to submit engineering reports and transportation plans with all permit applications. These requirements mean that new facilities would be less likely to be in a location that impacts local residents. The rules apply to applications filed after October 1998, and so did not apply to certain pending applications. Additionally, DSNY promulgated temporary siting restrictions in 2003 that expire later this year and will promulgate new permanent Siting Rules this year.

6. On average, seven "major" DSNY violations were issued at Transfer Stations each month between July of 2002 and June of 2003, and roughly 30 major violations were issued to each type of Transfer Station. Despite the fact that fill material inspections occur much less frequently, fill material violations accounted for roughly 29% of the violations issued by DSNY to Transfer Station operators between July 2002 and June 2003. Putrescible Transfer Stations had the most violations, accounting for 45% of those issued; non-putrescible Transfer Stations accounted for only 26%.

7. According to DSNY violation statistics, on average, 50 "minor" Environmental Control Board (ECB) violations, 351 parking violations and 51 traffic violations were issued per month between July 2002 and June 2003. With an annual count of 5,505 summonses, DSNY issues approximately 460 violation summonses of varying severity each month.

8. According to DSNY statistics for Fiscal Year 2003, pile height/volume over the limit was the most common violation at non-putrescible Transfer Stations; and operating without a permit was the second most common violation. The most common violation reported at putrescible Transfer Stations was an unclean tipping floor.

9. Ten violations were issued by DSNY in Fiscal Year 2003 to persons unlawfully operating a fill material Transfer Station without a permit. This violation results in closing an illegal operation.

10. Spillage from trucks and/or receptacles is a relatively frequent violation. Illegal dumping by both the owner and operator are also relatively common violations issued by DSNY. Causing a street obstruction and the presence of noxious liquids were also reported frequently.

11. The majority of parking violations issued by DSNY are in response to trucks standing or parking without proper equipment, or having a detached trailer. Parking for over three hours in a commercial zone or parking in the wrong direction are also relatively common violations. The transportation of loose cargo without a cover is the most commonly violated traffic rule, with 300 summonses issued by DSNY within Fiscal Year 2003.

3.1.3.3 Conclusions and Recommendations

In summary, Transfer Station enforcement quality has shown major improvements over the last decade due to the increased frequency of inspections. However, further improvements can be made to improve the level of coordination within and between the City agencies responsible for enforcement, by creating a fully computerized system of inspection forms at the agency level. The improvements in productivity over manual collection and input of inspection data, as well as the overall benefit of a multi-agency coordinated enforcement structure, greatly justifies the investment of resources to create this system. An accessible digital database that will heighten inter-agency cooperation and improve information management is the critical path to improving enforcement practices.

3.2 Volume II: Commercial Waste Generation and Projections

Volume II: Commercial Waste Generation and Projections, reports the results of five different evaluations. The reports and appendices providing the analyses and data in support of this Executive Summary are:

Summary Report on Commercial Waste Generation and Projections

Appendices:

A: Facilities Estimate of Putrescible Waste Generation Year 2002
B: Employment-Based Estimate of Putrescible Waste Generation Year 2002
C: Commercial Putrescible Waste Disposed and Recycled: BIC-DSNY Carter Survey
D: Commercial Putrescible Waste 20-Year Forecast
E: Non-Putrescible Commercial Waste Quantification and Projections

This volume examines the quantities of waste generated within the City that is collected and managed by private carters, i.e., the commercial waste stream. DSNY regulates[7] putrescible, non-putrescible and fill material Transfer Stations that are permitted to receive and process these categories of waste materials. The NYSDEC also regulates[8] the design, construction and operation of Transfer Stations.

3.2.1 Scope of Analysis/Approach

The Study employed three different methodologies to develop independent estimates of commercial putrescible waste quantities for the years 2002 and 2003, as described in Appendix A (Facilities Estimate of Putrescible Waste Generation Year 2002), Appendix B (Employment-Based Estimate of Putrescible Waste Generation Year 2002), and Appendix C

[7] DSNY's regulatory authorities derive from Titles 16, 17 and 25 of the NYCAC, Title 16 of RCNY and the CEQR Procedures.
[8] NYSDEC's regulatory authority derives from Title 6 of NYCRR Part 360 and Title 6 NYCRR Part 617 under the state's Environmental Conservation Law (ECL).

(Commercial Putrescible Waste Disposed and Recycled: BIC-DSNY Carter Survey) of Volume II. The independent estimates were compared for reasonableness to the data obtained through DSNY's Quarterly Transfer Station Report system (Quarterly Reports). Quarterly Reports are required to be completed by DSNY-regulated Transfer Station operators/owners. The Quarterly Reports do not account for all of the commercial waste generated in the City. Waste not reflected in the Quarterly Reports includes waste that is disposed out-of-City or recycled commercial waste that does not pass through the City's network of private Transfer Stations. The waste quantity estimates developed from the other estimation methodologies corroborated the Quarterly Report data for quantities processed at City Transfer Stations.

All these data sources were used to establish a new, year 2003 baseline estimate inclusive of the total commercial putrescible waste generated, i.e., disposed in and out of the City, and recycled. The new baseline year 2003 estimate accounts for the job loss effects of 9/11 and the subsequent economic recession, and therefore provides a sound starting point for projecting waste generation for the New SWMP Planning Period.

These data sources were also compared to the year 2000 waste quantity estimates in the Preliminary Report (which did not include recycled material) and used as a basis for adjusting Preliminary Report estimates of putrescible waste disposed to eliminate inconsistencies in waste-type definitions and carter classifications, and to establish a revised year 2000 estimate of 8,381 tpd disposed. Comparing the year 2000 estimate of putrescible waste disposed with the 2003 total net disposed (based on three quarters of DSNY Quarterly Reports and direct export totals estimated from the BIC-DSNY carter survey), shows a decline of 1,131 tpd, or 13.5%, in putrescible waste disposed over that period of time.

The ***Facilities Estimate*** (Appendix A) relies upon DSNY's Quarterly Reports for data on waste quantities delivered to Transfer Stations in the City in 2002. Through an extensive survey effort, new data were collected on waste carted out-of-City for disposal and also on recycled waste from commercial sources in the City that was processed in or out of the City or directly exported to foreign sources. Approximately 31% of the City's commercial putrescible waste was recycled in 2002.

The ***Employment-Based Estimate*** (Appendix B) used post-9/11 estimates of City employment that reflected the effects of the economic recession on employment, and relied on waste generation factors for commercial business sectors developed through a literature search. These data were used to estimate citywide waste generation for the year 2002 as a function of employment in the City.

The ***BIC-DSNY Carter Survey*** (Appendix C) assembled information from a survey of the City's licensed carting industry conducted in the fall of 2003. The surveys collected from all carters collecting in the City and followed up in person or via phone interviews, developed data that resulted in an estimate of commercial putrescible waste disposed and recycled in 2003 that included the quantities processed at in-City and out-of-City locations and quantities collected for recycling. Approximately, 27% of the City's commercial putrescible waste was recycled in 2003, a decline of 4% from the prior year. This decline is consistent with nationally reported data on paper markets.

The 2003 baseline waste estimate was allocated among the five boroughs using collection route data obtained from the BIC-DSNY carter survey. Based on this borough allocation, and using projected employment over this period, the quantity of commercial waste generated (both disposed and recycled) was forecast for the New SWMP Planning Period, for each borough. The relative proportions of waste generated by each borough change as a function of changes in projected employment over time. The forecast assumes that the percentage of materials recycled by each borough, would remain constant at 2003 levels for the New SWMP Planning Period. These projections are discussed in Appendix D: ***Commercial Putrescible Waste 20-Year Forecast***.

Quantities of non-putrescible waste, which include C&D debris and fill material, were estimated based upon waste generation rates derived from a literature search for three types of residential and commercial construction projects: new construction, demolition and renovation. A regression analysis of data obtained from F.W. Dodge on actual and projected construction activity in the City in each of these respective areas over the period of 2000 to 2007 was used to develop projections of the generation of C&D waste over the New SWMP Planning Period. Non-building-related C&D, which would include clean fill, was estimated by obtaining waste

generation factors expressed as tons per $1,000 of activity. These factors were applied to the value of this construction in the City obtained from F.W. Dodge. Details of these estimates are discussed in Appendix E: ***Non-Putrescible Commercial Waste Quantification and Projections***.

The estimates of commercial putrescible and non-putrescible waste are relevant in determining the Transfer Station capacity required to serve the City's businesses over the next 20 years.

3.2.2 Findings

- In 2003, approximately 3,085,370 tons, or 9,889 tpd, of putrescible waste and 8,640,840 tons, or 27,695 tpd, of non-putrescible waste and clean fill material were generated by the commercial sector in the City. Quantities of waste generated include that which is disposed and recycled.
- In 2003, approximately 6,209 tpd of commercial putrescible waste[9] were processed for disposal at in-City Transfer Stations and 1,039 tpd were processed at out-of-City facilities. (Although some material is recycled at putrescible Transfer Stations, the vast majority is material destined for disposal.) An estimated 2,641 tpd were recycled directly. The quantities processed out-of-City represent a 21% increase over 2002.
- Of the total commercial putrescible waste generated, 42% is generated in Manhattan[10], 19% in Brooklyn, 13% in the Bronx, 20% in Queens and 5% in Staten Island.[11]
- Overall, approximately 27% of the commercial putrescible waste was recycled in 2003.
- Quantities of commercial putrescible waste generated are anticipated to increase to approximately 3,414,000 tons, or 10,940 tpd by 2024, which represents an annual average rate of increase of 0.5%.
- Quantities of non-putrescible commercial waste and clean fill are more difficult to predict in the future due to the variability in generation from year to year, but are anticipated to range from approximately 8.0 to 10.9 million tons, (25,640 to 34,810 tpd), by the end of the New SWMP Planning Period.
- The City's commercial putrescible waste (disposed and recycled) is collected by approximately 124 licensed carters.

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[9] These quantities do not include DSNY-managed Waste processed at in-City Transfer Stations.
[10] Sixty-one percent (61%) of the City's jobs are located in Manhattan.
[11] Numbers may not add due to rounding.

3.3 Volume III: Converted Marine Transfer Stations – Commercial Waste Processing and Analysis of Potential Impacts

3.3.1 Scope of Analysis/Approach

LL74 requires the Study to consider whether the City's MTS system could accommodate commercial waste as well. When LL74 was adopted, the concept of developing an MTS Conversion Program for containerizing waste for long-term export was not established as a policy objective of the City. Given this policy objective, addressing the issue of processing commercial waste at the Converted MTSs first required, as a foundation, an environmental review of the potential impacts associated with processing DSNY-managed Waste at the new facilities. That environmental review, using CEQR methodologies, is reported in Volume III, Appendix A, MTS Environmental Evaluation, to this report. It concludes that the DSNY-managed Waste generated in the wastesheds that historically delivered to the MTS system can be containerized for export without causing potentially unmitigatible significant adverse environmental impacts. The next step was to analyze what impacts would result from the potential delivery of commercial putrescible waste to the Converted MTSs.

It is important to emphasize that this assessment focuses solely on environmental considerations. It should not be interpreted as a general conclusion that export of commercial waste through the Converted MTSs is feasible. Some of the additional factors that bear on the issue of feasibility that are <u>not</u> addressed in this report are:

- The economics of export through the MTSs, which will be determined in part by proposals from private vendors for transport and disposal of containerized waste from the Converted MTSs. The City has just received and begun evaluating these proposals. Thus the economics of commercial waste export through the Converted MTSs is not yet known.
- The types of business arrangements that the City would enter into with carters for exporting commercial waste through the MTSs are not yet defined.
- Whether further development of the designs for the Converted MTSs will substantiate the operational assumptions or necessitate that the assumed operational capacity be reduced.

- The comparative cost of exporting through the existing private Transfer Stations could be more attractive.
- The potential permit limitations that NYSDEC may place on the operation of the Converted MTSs.
- The location of some MTSs in relation to the sources of commercial waste generation may not provide the same efficiencies and consequently be as attractive to private carters as delivering to private Transfer Stations.

The evaluation of processing commercial putrescible waste at the Converted MTSs is an incremental analysis, complying with the CEQR procedures, that builds on the foundation of the Volume III, Appendix A, MTS Environmental Evaluation report. The analysis of the potential on-site-related impacts associated with processing DSNY-managed Waste is based on the design capacities of the Converted MTSs and concluded that there were no unmitigatible significant adverse impacts. Since commercial putrescible waste deliveries would not exceed these facility design capacities, the potential processing of some quantities of the City's commercial putrescible waste would not cause any incremental significantly adverse impacts attributable to on-site operations.

The analysis of off-site impacts associated with processing putrescible commercial waste required an incremental environmental review of the potential for on-site air quality and off-site (mobile) air quality and noise impacts attributable to delivery of such commercial waste.

The starting point in evaluating the potential capacity available for commercial putrescible waste was defining a scenario for DSNY's capacity requirements that reserved the block of time from 8:00 a.m. to 8:00 p.m. for processing DSNY-managed Waste and assumed that deliveries of DSNY-managed Waste during the 8:00 p.m. to 8:00 a.m. period would have priority over deliveries of commercial waste. Table ES-2 summarizes:

- The design capacity in tpd that each Converted MTS is capable of processing under a normal operations scenario;
- The capacity reserved for DSNY-managed Waste; and
- The potential available excess capacity at each of the Converted MTSs.

The column showing DSNY-managed Waste reserved capacity reflects the historical average peak day generation in the respective MTS wastesheds. Under conditions of high peak generation, the MTSs can be operated to process DSNY-managed Waste in excess of the tpd quantities shown in the table.

Table ES-2
DSNY-managed Waste Reserved Capacity Scenario

Converted MTS Facility	Converted MTS Design Capacity[1] (tpd)	DSNY-managed Waste Reserved Capacity (tpd)	Excess Capacity, 8:00 a.m. to 8:00 p.m. (tons)	Excess Capacity, 8:00 p.m. to 8:00 a.m. (tons)
West 135th Street	4,290	1,180	1,211	1,853
East 91st Street	4,290	880	1,227	2,183
West 59th Street[2]	2,145	880	279	956
South Bronx	4,290	2,190	333	1,732
North Shore	4,290	2,370	622	1,000
Greenpoint	4,290	2,360	575	1,145
Hamilton Avenue	4,290	2,170	630	1,337
Southwest Brooklyn	4,290	1,090	1,418	1,725
Totals	32,175	13,120	6,295	11,931

Notes:
(1) Based on operating MTSs under normal operating conditions. Spare operating lines are not used to process waste.
(2) West 59th Street is a lift and load operation, not an open top-loading slot system.
tpd = tons per day

Given the DSNY-managed Waste Reserved Capacity Scenario, a Commercial Waste Capacity Scenario was defined to determine the potential available capacity that could be used by private carters delivering waste from commercial sources. This scenario identified the potential available capacity on an hourly basis at each Converted MTS, and provided the basis for evaluating the potential on-site air quality, off-site air quality and off-site noise impacts associated with the delivery of commercial waste in nighttime hours. The maximum capacity potentially available for processing commercial waste was evaluated with a spreadsheet model that incorporates both Converted MTS design and operating parameters developed by the DSNY's Consultant design team and arrival profiles for DSNY-managed Waste. It is assumed that, between the hours of 8:00 p.m. and 8:00 a.m., both DSNY-managed Waste and commercial waste could be received and processed at the Converted MTSs. Table ES-3 summarizes the

results of this evaluation. As shown in the "Potential Available Capacity, 8:00 p.m. to 8:00 a.m." column, the total capacity potentially available for processing commercial waste during this period totals 11,931 tons, allocated among the eight MTSs. This does not take into account any environmental constraints that may limit the potential delivery of commercial waste.

Table ES-3
Available Potential Excess Capacity at Converted MTSs
Based on the Capacity Reserved for DSNY-managed Waste

Converted MTS Facility	Average Day Design Capacity [1] (tpd)	Potential Available Capacity, Average Peak Day (tpd)	Average Peak Day			Maximum Number of DSNY Collection Vehicles, 8:00 a.m. to 8:00 p.m. (peak hour)	Potential Range of Maximum Number of Collection Vehicles[3] 8:00 p.m. to 8:00 a.m. (peak hour)
			Potential Available Capacity, 8:00 a.m. to 8:00 p.m. (tons)	Potential Available Capacity, 8:00 p.m. to 8:00 a.m. (tons)	Potential Additional Number of Commercial Vehicles, 8:00 p.m. to 8:00 a.m.[2] (per day)		
West 135th Street	4,290	3,110	1,211	1,853	175	30	20-22
East 91st Street	4,290	3,410	1,227	2,183	199	28	19-21
West 59th Street [4]	2,145	1,265	279	956	91	21	10-12
South Bronx	4,290	2,100	333	1,732	163	64	21-23
North Shore	4,290	1,920	622	1,000	95	39	24-26
Greenpoint	4,290	1,930	575	1,145	109	61	22-24
Hamilton Avenue	4,290	2,120	630	1,337	129	32	23-25
Southwest Brooklyn	4,290	3,200	1,418	1,725	162	27	21-23
Totals	**32,175**	**19,055**	**6,295**	**11,931**	**1,123**		

Notes:

(1) Based on operating the MTSs under normal operating conditions. Spare operating line is not used to process waste.
(2) Assuming commercial collection vehicles deliver an average of 11 tons per truck. (Field data indicates commercial collection vehicles average between 11 and 13 tons per truck.)
(3) DSNY collection vehicles and commercial Waste Hauling Vehicles.
(4) West 59th Street is a lift and load operation - not an open top-loading slot system.

3.3.2 Findings

3.3.2.1 Processing of Commercial Waste at the Converted MTSs

1. The CEQR analyses in the MTS Environmental Evaluation show there are no potentially significant unmitigatible adverse environmental impacts associated with on-site processing of DSNY-managed Waste. This would also apply to processing of

commercial waste at each converted MTS in the quantities shown in Table ES-3. However, further evaluation of potential on-site air quality, off-site noise and off-site air quality impacts from nighttime deliveries of commercial waste was required.

2. The on-site air quality analysis of processing DSNY-managed Waste at some of the Converted MTS sites showed that using the facility average design capacity (including the processing of commercial waste) to estimate pollutants did not cause an exceedance of annual average standards.

3. The off-site air quality analysis of processing DSNY-managed Waste at some of the Converted MTS sites showed that using the conservative assumption that peak hour conditions occur 24 hours per day (a Tier I analysis) resulted in unmitigatible environmental impacts for PM_{10} and $PM_{2.5}$. (See Section 10 of the individual chapters in the MTS Environmental Evaluation for these analyses.) Therefore, a Tier II air quality analysis was also performed for deliveries of commercial waste at intersections near each of the Converted MTS sites. The analysis used data on actual hourly traffic volumes on routes to and from the site and included the higher number of commercial collection vehicles assumed to deliver to each Converted MTS during the 8:00 p.m. to 8:00 a.m. period. No significant adverse unmitigatible environmental off-site air quality impacts were identified.

4. Evaluating the potential for off-site noise impacts required the use of a second-level noise screening analysis. (See Section 3.14.5.2 of Volume III, Appendix A for a detailed explanation.) The results of this analysis indicate that the number of potential commercial Waste Hauling Vehicles that could be routed to the MTSs during various hours within the 8:00 p.m. to 8:00 a.m. period must be limited to less than the available excess capacity to avoid causing potential impacts at sensitive receptors on the analyzed routes these vehicles might take to the MTSs. The amount of available capacity that can potentially be used to process commercial waste during the hours of 8:00 a.m. to 8:00 p.m. without causing any significant adverse noise impacts is summarized in Table ES-4.

Table ES-4
Converted MTS
Potential Commercial Waste Capacities Summary Table

Location	Converted MTS Design Capacity		DSNY-managed Waste Delivered 8 p.m. to 8 a.m. (tons)	Potential Converted MTS Capacity with Off-Site Noise Constraints	
	Total Potential Commercial Vehicles (per day)	Potential Commercial Waste Tonnage 8 p.m. to 8 a.m. (tons)		Total Potential Commercial Vehicles (per day)	Potential Commercial Waste Tonnage 8 p.m. to 8 a.m. (tons)
West 135th Street	175	1,853	301	95	1,029
East 91st Street(1)	199	2,183	17	71	781
West 59th Street(2)	91	956	114	91	956
South Bronx(1)	163	1,732	433	150	1,611
North Shore(3)	95	1,000	901	95	1,000
Greenpoint(1)	109	1,145	793	109	1,145
Hamilton Avenue(1)	129	1,337	710	124	1,306
Southwest Brooklyn(4)	162	1,725	418	76	828
Total	**1,123**	**11,931**	**3,687**	**811**	**8,656**

Notes:

(1) Need to use different routes for potential commercial Waste Hauling Vehicles to deliver the full amount of excess capacity for commercial waste.

(2) Can take all potential commercial Waste Hauling Vehicles without any noise constraints.

(3) There is a route to the North Shore Converted MTS that does not pass sensitive receptors that must be used from 12:00 a.m. to 6:00 a.m. to deliver the full amount available for commercial capacity. The route should not be used at other times upon request from NYCDOT due to congestion that occurs at certain intersections along the route during daytime traffic hours.

(4) Outbound trucks passing 26th Street between Cropsey Avenue and Shore Road limit the number of inbound commercial Waste Hauling Vehicles that can be accommodated at the Southwest Brooklyn Converted MTS.

Since these results are based on a second-level screening for noise impacts, a detailed off-site noise analysis, utilizing FHWA TNM Version 2.1, is being performed to determine if noise impacts would actually occur at these sensitive receptor locations and/or if additional potential commercial Waste Hauling Vehicles could be routed to the MTS during the 8:00 p.m. to 8:00 a.m. hour, without causing unmitigatible significant adverse off-site noise impacts, to fully utilize the potentially available capacity of the MTSs. The results of the off-site detailed noise analyses will be available at a later date.

5. This evaluation of potential processing commercial waste at the Converted MTSs was limited to an environmental review that focused on traffic, on-site and off-site air quality and noise, and on-site odor impacts.

3.3.2.2 Processing of DSNY-Managed Waste at the Converted MTSs

This section summarizes key findings from Volume III, Appendix A, the MTS Environmental Evaluation, an environmental review of operations for the Converted MTSs in processing DSNY-managed Waste.

1. Table ES-5 summarizes the facility design capacity assumptions and the assumed tons of DSNY-managed Waste processed during average peak days that were the basis of the MTS Environmental Evaluation. The assumed tons of DSNY-managed Waste in this table vary from the tons shown in the DSNY-managed Waste Reserved Capacity Scenario Table ES-2. This reflects a contingency added to DSNY average peak day deliveries to provide a margin of conservatism in the analysis.

2. Based on the design capacity and operating assumption, described in more detail in Volume III, the MTS Environmental Evaluation found there were no unmitigatible significant adverse environmental impacts associated with processing the average peak day deliveries of DSNY-managed Waste. The environmental evaluation demonstrates the Converted MTSs will enable export of DSNY-managed Waste in an efficient and environmentally sound manner. This summary conclusion is supported by the environmental evaluation that addressed: Land Use, Zoning and Public Policy;

Table ES-5
MTS Environmental Analysis Information

Converted MTS Facility	Total Number of Loading Slots	DSNY-managed Waste Average Peak Day Deliveries, (tons)[1]	Number of DSNY-Managed Vehicles, Average Peak Day	Average Day Design Capacity[2] (tpd)	Peak-Hour Number of DSNY Collection Vehicles
West 135th Street	4	1,416	222	4,290	30
East 91st Street	4	1,093	130	4,290	28
West 59th Street[3]	3	1,068	124	2,145	21
South Bronx	4	2,804	363	4,290	64
North Shore	4	2,672	329	4,290	39
Greenpoint	4	3,387	423	4,290	61
Hamilton Avenue	4	2,248	267	4,290	32
Southwest Brooklyn	4	1,388	166	4,290	27
Totals		**16,076**	**2,024**	**32,175**	

Notes:

(1) All MTSs based on scale data from Fiscal Year 1998 received from the DSNY Bureau of Cleaning and Collection with a 20% contingency allowance, except for the South Bronx MTS. South Bronx MTS data is based on Fiscal Year 1997 with a 20% contingency allowance.

(2) Based on operating the MTS under normal operating conditions. Spare operating line is not used to process waste.

(3) West 59th Street is a lift and load operation - not an open top-loading slot system.

Socioeconomic Conditions; Neighborhood Character; Community Facilities and Services; Open Space and Parklands; Cultural Resources; Traffic and Transportation; Air Quality; Noise; Infrastructure and Energy and Solid Waste; Natural Resources (including Endangered Species and Habitats); Water Quality; Waterfront Revitalization Program; Hazardous Materials; and Urban Design and Visual Quality. For the eight MTSs, the following measures were identified to mitigate estimated adverse impacts for traffic and on-site noise.

- Traffic signal timing adjustments would mitigate estimated traffic impacts identified at five intersections near the South Bronx Converted MTS; three intersections near the Southwest Brooklyn Converted MTS; three intersections near the Greenpoint Converted MTS; two intersections near the Hamilton Avenue Converted MTS; one intersection near the West 135th Street Converted MTS; two intersections near the East 91st Street Converted MTS; and two intersections near the North Shore Converted MTS. No traffic impacts were estimated at traffic study intersections identified near the West 59th Street Converted MTS.
- Construction of a 20-foot-tall noise barrier located on the southern property line at the South Bronx Converted MTS would mitigate the potential noise impact on a nearby prison barge. A 20-foot-tall noise barrier located on the southeast property line of the Southwest Brooklyn Converted MTS and a restriction on the number of nighttime arrivals of collection vehicles queuing on trucks and ramps would mitigate the potential noise impact on a nearby residential complex.
- Subsurface site investigations at the Southwest Brooklyn, Greenpoint, and Hamilton Avenue Converted MTS sites are underway. Results will be provided at a later date.

These analyses and findings are detailed in the MTS Environmental Evaluation, the appendix to this volume.

3.4 Volume IV: Evaluation of Waste Disposal Capacity Potentially Available to New York City

This volume provides an assessment of disposal capacity available within seven states (Georgia, New York, New Jersey, Ohio, Pennsylvania, South Carolina and Virginia) for accepting City waste.

3.4.1 Scope of Analysis/Approach

The survey was primarily based on interviews with landfill and waste-to-energy (WTE) operators and municipal solid waste management employees. (The surveyed area includes states that can be reasonably accessed by truck transfer, ocean-going vessel transport, and rail.)

In addition to conducting the surveys, data on historic market prices in the surveyed area were reviewed. Historical market price information was gathered from *Solid Waste Digest* published reports.

An attempt was made to develop a reasonable econometric model based on the survey results. The econometric model approach was formulated and a determination was made that the data gathered was not sufficient to obtain meaningful results, primarily due to the lack of responses from the landfill operators on questions concerning long-term contract tip fees. Though the econometric model was not developed, the data was analyzed to estimate or determine:

- The excess capacity at high-capacity[12] landfills;
- Trends of historical spot market disposal price (i.e., tip fee) levels;
- Ownership of high-capacity landfills with rail access;
- Comparison of tip fees at rail-accessible and non-rail-accessible landfills; and
- Inflation-adjusted, real per ton tip fees.

3.4.2 Findings

The results of this assessment are summarized below:

- In the list of high-capacity[13] disposal sites, there are a number of mega-landfills (landfills with a substantially larger capacity than 1,000 tpd) in states within the mid-Atlantic, Southeast and Midwest regions, exclusive of Pennsylvania and New York, that appear to have sufficient physical capacity to meet the additional demand of both DSNY-managed Waste and commercial waste generated by the City.

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[12] High-capacity landfills are those that accepted at least 1,000 tpd of municipal solid waste (MSW) in 2003.
[13] There were 87 high-capacity landfills identified in this report. Of these 87 landfills, 30 have rail access and one has barge access.

- Dispose of all the DSNY-managed Waste and commercial waste generated by the City over the New SWMP Planning Period. Most of the identified long-term disposal capacity is located more than 400 miles from the City and, therefore, is most likely economically accessible by rail, and to a lesser extent, by barge.

- Assuming the continuation of existing regulatory policies, landfill capacity in Pennsylvania will continue to decrease, and real tip fees should increase. (It is reasonable to assume, however, that some additional landfill capacity will be permitted to accommodate waste generated in Pennsylvania.) Data gathered during 2002 and 2003 indicate that there have been limited expansion/modification permits granted to mega-landfills in Pennsylvania, and while real (inflation-adjusted) spot market tip fee prices decreased over the six-year period of 1997 to 2003, these fees have increased in real dollars during the past two years (2002 to 2003). Part, but not all, of this increase is due to the Pennsylvania Department of Environmental Protection (PaDEP)-imposed $4.00 per ton fee applied to all solid waste disposed of in Pennsylvania municipal solid waste (MSW) landfills, which went into effect in June of 2002.

- Assuming a relatively competitive marketplace, and given that there appears to be a sufficient amount of landfill capacity in the surveyed area, it is reasonable to expect that the long-term real (inflation-adjusted) contract tip fees in the surveyed area (exclusive of New York and Pennsylvania) will remain relatively stable in the near term.

- The above conclusion assumes a relatively competitive marketplace for disposal capacity. Two firms own approximately 70% of the high-capacity landfills with rail access, including 100% of the capacity in both Georgia and South Carolina, and more than 80% of the landfills meeting this criteria in Pennsylvania. The result of this effective duopoly could lead to market conditions and pricing structures that deviate from normal, competitive marketplaces.

3.5 Volume V: Manhattan Transfer Station Siting Report

This study investigates and evaluates potential sites for locating new transfer stations in Manhattan.

3.5.1 Scope of Analysis/Approach

The purpose of this report is to evaluate the potential to develop Manhattan-based truck-to-barge or truck-to-rail transfer stations. Facility conceptual designs and site plans were prepared to determine the feasibility of using each site as a transfer station, and research on land use regulations and applicable laws was also undertaken to identify other obstacles to development.

Five screening criteria were established, which, for further consideration, potential sites were required to meet. These criteria were:

- Technical and operationally feasible transfer station sites with the capability to process at least 1,000 tpd of waste.
- Conformance to the zoning and proximity to sensitive-use criteria outlined in DSNY's Siting Rules.
- Adherence to legislative restrictions on the use of the site for transfer stations.
- Suitability for export of waste by barge or rail.
- Collection vehicle access from nearby truck routes.

Four sites were evaluated: West 140th Street, Pier 42, West 30th Street and West 13th Street (Gansevoort Property). None of these four sites currently serve or are permitted as waste transfer facilities.

- The West 140th Street site was determined to be infeasible due to technical reasons. Specifically, there is insufficient property available to ramp trucks up to the required site level and at an acceptable grade due to the rail elevation. Other operational problems included lack of maneuvering room, traffic problems and limited on-site parking. In addition, the site is zoned M1 and is within 400 feet of Riverbank State Park.

- The Pier 42 site has significant technical disadvantages. Prohibitions against its use as a transfer station agreed to between the City and other parties present serious obstacles to its development as a transfer station. In addition, it is located in an M1-4 zone and is within 400 feet of a playground and park.

- The West 30th Street site was determined to be infeasible for technical reasons. It lies within two zones -- M1-6 and M2-3 -- and the portion located within the compliant M2-3 zone is too small to construct a 1,000 tpd transfer station. In addition, due to the site's limited size, rail operations would not be feasible, there would be insufficient space for storage of waste or for containers, there would be no room for on-site parking, and there would be limited queuing and maneuvering space.

- The West 13th Street site is overseen and operated by the Hudson River Park Trust and is situated within the Hudson River Park. It formerly served as the location of an MTS and is zoned M3-2. In order for it to serve as a site for a new waste transfer facility, the state legislation that created the Hudson River Park would have to be amended. Additionally, federal and state permits issued to allow for the development of the park, in particular those related to development over the water, would have to be modified. Important obstacles exist to making this site a transfer station.

As a result of the considerations noted above, all four Manhattan sites were determined to either be technically infeasible or have significant legislative, zoning, land use and/or technical obstacles for the development of a private putrescible transfer stations.

3.6 Volume VI: Waste Vehicle Technology Assessment

This report consists of a survey of alternative fuels, new engine technologies and vehicle emission retrofit options that are appropriate for use on waste collection vehicles. DSNY's extensive experience in alternative fuels, engine technology and retrofit options research and the results of numerous successful pilot programs implemented by DSNY are highlighted. The report assesses the advantages and disadvantages of the various options in terms of reducing consumption of fossil fuels and/or reducing vehicle emissions.

3.6.1 Scope of Analysis/Approach

The purpose of this evaluation is to explore the different types of alternative and clean fuel technologies available to determine which clean and alternative fuel technologies are most feasible for the unique demands of heavy-duty refuse haulers operating in the City. The review presented in the Waste Vehicle Technology Assessment report weighs the economic, environmental and logistical advantages and disadvantages of various clean and alternative fuel technologies. After thorough research and analysis of all available viable options, including several case studies, options that are best suited for heavy-duty refuse haulers operating in the City are presented.

3.6.2 Findings

The report found that clean diesel technology is best suited for the City's refuse hauling vehicles. It provides substantial emission reduction benefits without having a major impact on fuel efficiency and cost. Natural gas technologies are also well suited for the City's refuse hauling vehicles. However, the use of this technology entails significant infrastructure investment, and, because of high demand for natural gas, has greater cost uncertainties.

Clean Diesel Options

The clean diesel options discussed in the report can cut vehicle emissions by 90% or more.

Engine tune-ups are the least expensive way to reduce particulate matter (PM) emissions. This emission reduction strategy can also lower operating costs, extend engine life and improve fuel economy. However, it should be noted that repairs and maintenance of diesel engines tend to increase nitrogen oxide (NO_X) emissions.

In addition to tune-ups, in certain circumstances, the **replacement of older diesel engines and equipment** may be the most sensible and cost-effective emissions improvement options. When old vehicles are replaced, fleet managers can substitute their oldest and worst emissions performers with new technology present in new diesel engines that are designed to produce much lower emissions.

Sulfur found in fuel degrades the effectiveness and life of after-treatment devices by inhibiting the function of existing filters and catalysts. By using **ultra-low-sulfur diesel** (ULSD) (which has a sulfur content of 15 parts per million [ppm] or less) and/or low-sulfur diesel fuel (sulfur content between 30 ppm and 15 ppm), there can be improvements in the performance of after-treatment technologies seeking to reduce emission levels. However, ULSD fuel only reduces PM and SO_2 emissions. Without after-treatment devices, it does not reduce emissions such as hydrocarbons (HC), CO or NO_X emissions. Some operating and maintenance concerns associated with ULSD fuel include a slightly lower fuel economy as compared with regular diesel, and concerns regarding the lubrication properties of the fuel. DSNY, a leader in experimenting with heavy-duty refuse vehicles, currently has 600 of its 2,040 refuse collection trucks using low-sulfur diesel fuel.

Diesel oxidation catalysts (DOCs) devices are considered the most proven of after-treatment options and can be used with existing or used engines to pollute less by retrofitting them.[14] According to the Diesel Technology Forum, emissions benefits include reductions of total PM by 20% to 50% and CO and HC by 60% to 90%.[15] They do not reduce NO_X emissions.

Diesel particulate filters (DPFs), when used with ULSD fuel, can reduce PM emissions by 50% to 90%, and HC and CO emissions by as much as 90%. However, like oxidation catalysts, these devices do not reduce NO_X emissions.

Although the use of DOCs and DPFs is not yet widely available for waste collection trucks, tests are ongoing that are assessing the use of these after-treatment options. DSNY is taking the lead in testing these technologies.

Another emission reduction strategy is to use **exhaust gas recirculation** to decrease NO_X levels. With the new, lower-sulfur diesel fuels, production of sulfuric acid will be minimized. This technology can reduce NO_X emissions by as much as 40%, and can also be used with engines being retrofitted.

Selective catalytic reduction (SCR) has been used for over 15 years to reduce NO_X emissions from stationary sources. Emission reductions include NO_X by 75% to 90%, HC reductions up to 80% and PM reductions of 20% to 30%.

Currently, **NO_X catalysts** are being experimented with in the United States on retrofitted vehicles. Two NOx catalyst technologies, "lean NO_X catalyst" and "NO_X absorber," are currently being developed, and can reduce NO_X emissions up to 70%.

Natural Gas

The main incentive for choosing natural gas as an alternative fuel for heavy-duty refuse trucks is the emissions benefits. Studies of heavy-duty engines running on compressed natural gas (CNG)

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[14] Diesel Technology Forum, *Clean Air, Better Performance*, 2003.

[15] *Ibid.*

and diesel have shown that engines fueled with CNG emit significantly less PM (80% to 90% less) and NO_X (50% to 60% less) emissions than diesel engines. Another benefit of using a CNG engine is the reduction of engine noise, as CNG engines are significantly quieter than diesel engines. Furthermore, investing in CNG facilities now will ease future transitions to hydrogen fuel cells as a vehicle-fueling source.[16]

One of the major disincentives to creating a CNG refuse truck fleet is the cost related to purchasing the trucks and the infrastructure needed for a CNG facility. A CNG trash hauler can cost up to $70,000 more than a conventional diesel truck. In addition, the cost of a CNG facility with fueling, proper ventilation and leakage alarms can cost $500,000 to $1,250,000 to construct.[17] Another disadvantage of CNG is that most of the natural gas used in CNG engines comes from reserves in North America. Due to unmet demand for natural gas in the U.S., natural gas has seen extreme price fluctuations. In addition to the high costs, other issues, such as lower fuel efficiency than conventional diesel garbage trucks (due to heavier weight and longer size of vehicles), limited vehicle range, and high methane (CH_4) and CO_2 emissions, must be considered.

Other Available Technologies

The report also evaluates the costs and benefits of other alternatives, including biodiesel, fuel cells, battery electric, propane, ethanol, methanol, and hybrid electric vehicles (HEVs), but none were deemed as promising and cost effective to DSNY as the clean diesel and natural gas options.

Based on this report, DSNY should consider the following options:

- Continuing to utilize and experiment with ULSD fuel and clean diesel technology in existing vehicles with the goal of all diesel vehicles, currently in operation, utilizing clean diesel technology to meet USEPA 2004 and 2007 emissions standards.

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[16] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[17] *Ibid.*

- Continuing to make clean diesel technology the preferred vehicle standard for new heavy-duty refuse vehicle purchases.
- Continuing to test and compare alternative fuel exhaust emissions in order to evaluate hybrid electric refuse vehicles.
- Continuing to pursue its CNG heavy-duty program, so that DSNY will be able to take advantage of potential advancements in CNG technology and fuel cell technology.
- Continuing to develop partnerships with fuel suppliers, original equipment manufacturers (OEMs) and infrastructure providers in order to help reduce the cost of clean fuel implementation.
- For light-duty vehicles, continuing with ethanol purchase and plans for ethanol fueling facilities.
- Utilizing government grants and economic incentives to offset the higher costs associated with natural gas, hybrid electric and ethanol vehicles.

Private waste haulers in the City should consider these options:

- Retrofitting old diesel vehicles with clean diesel technology.
- Beginning to use ULSD ahead of June 2006 mandate.
- Deploying and purchasing clean diesel vehicles now to avoid future expenses that will be needed to meet new strict USEPA emission standards.
- Utilizing government grants and economic incentives to help offset the incremental capital costs associated with natural gas refuse vehicles.
- In conjunction with infrastructure supplier and engine manufacturers, exploring the future option of CNG heavy-duty refuse vehicles.

ATTACHMENT A

LOCAL LAW 74 OF 2000

Int. No. 842/Local Law 74 of 2000

By The Speaker (Council Member Vallone), Council Members Michels, Robles, Fisher, Rodriguez, DiBrienza, Boyland, Carrion, Fiala, Marshall, Provenzano, Quinn, Oddo, Clarke, Dear, Malave-Dilan, Eisland, Espada, Foster, Linares, Moskowitz, Nelson, O'Donovan, Pinkett, Abel, Golden, Stabile and Ognibene (in conjunction with the Mayor)

A Local Law to amend the administrative code of the city of New York, in relation to requiring a comprehensive study of the commercial solid waste management system within New York city.

Be it enacted by the Council as follows:

Section 1. Declaration of Legislative Intent and Findings. The legislatively mandated closure of the Fresh Kills Landfill by January 1, 2002 opens a new era in solid waste management in New York City and affords an opportunity to reexamine all aspects of how solid waste is managed, including that generated by the commercial sector. Moreover, New York City must now begin development of its next Comprehensive Solid Waste Management Plan.

Until the late 1980s, private carters paid a tipping fee to dispose of solid waste in the City's Fresh Kills landfill. In 1988, the tipping fee was raised to discourage private carters from using the Fresh Kills landfill in order to extend the landfill's useful life. This resulted in increased amounts of solid waste being sent to private transfer stations in New York City and the region.

Solid waste transfer stations and the trucks transporting waste to and from those facilities may generate such problems as dust, debris, noise~~,~~ odors, air pollutants, vermin and traffic congestion. The Council is concerned that transfer stations and private carters in New York City may need more regulation

in order to protect the communities in which they are located and conduct business and to ensure effective enforcement of the rules governing their operation.

The Council finds that a comprehensive study of the commercial solid waste management system within the City of New York is critical in order to enable the City to assess and plan for management of both the residential and commercial waste streams in the most efficient manner, to minimize the potential adverse impacts on the City's residential and business communities and the environment, and to assist in developing a new comprehensive solid waste management plan.

§2. The administrative code of the city of New York is amended by adding a new section 16-134 to read as follows:

<u>§16-134 Comprehensive study of commercial solid waste management system required. a. 1. "Long haul transport vehicle" shall mean any motor vehicle used to remove solid waste or other material from a putrescible or non-putrescible solid waste transfer station for final disposal, reuse or recycling.</u>

<u>2. "Private carter" shall mean any individual or business entity required to obtain a license from the trade waste commission pursuant to subdivision a of section 16-505 of this title.</u>

<u>3. "Trade waste commission" shall mean the New York city trade waste commission as established by section 16-502 of this title.</u>

b. The department, in consultation with the trade waste commission, shall enter into one or more contracts for the performance of a comprehensive study of the existing commercial solid waste management system within the city of New York. In performing the study, the department and/or the contractor or contractors shall solicit and consider the views of elected officials, the citywide recycling advisory board, the borough solid waste advisory boards and the public, including residents of affected communities, environmental advocacy organizations, transfer station operators, private carters, business entities and academicians, and respond to substantive issues raised. The study shall include, but need not be limited to, an analysis of the following:

1. the effectiveness of procedures employed and the criteria applied by the department for the issuance and renewal of permits for the operation of putrescible and non-putrescible solid waste transfer stations in minimizing potential adverse environmental, economic and public health impacts on the communities in which such transfer stations are located by examining such issues as (i) the effectiveness of the criteria applied by the department to the siting of putrescible and non-putrescible solid waste transfer stations, including the aggregate effect of the geographic proximity of solid waste transfer stations to each other and (ii) the scope and effectiveness of the operational restrictions imposed upon putrescible and non-putrescible solid waste transfer stations, including the hours of operation and any performance standards established in the zoning resolution of the city of New York;

2. the manner in which all applicable laws, rules and regulations relating to the operation of putrescible and non-putrescible solid waste transfer stations, private carters and long haul transport vehicles are enforced, including who should be responsible for such enforcement, and the effectiveness of such enforcement in obtaining compliance with such laws, rules and regulations and in minimizing potential environmental, economic and public health impacts and an analysis of rules relating to routes for transporting material to or from such transfer stations;

3. the means and potential effects of limiting the number and capacity of putrescible and non-putrescible solid waste transfer stations in the city;

4. the size and type of vehicles that should be authorized to transport solid waste to or from putrescible and non-putrescible solid waste transfer stations and fuel-type requirements for such vehicles;

5. whether putrescible and non-putrescible solid waste transfer stations and city-owned marine transfer stations should receive and process both residential and commercial solid waste and the options for transporting such solid waste to and from such transfer stations, including an analysis of potential environmental, economic and public health impacts; and

6. potential environmental, economic and public health impacts on communities in which large numbers of privately-owned putrescible and non-putrescible solid waste transfer stations are located such as, but not limited to,

potential impacts related to air quality, water quality, odors, traffic congestion and noise.

c. The study required by subdivision b of this section, and a report containing a detailed analysis of the findings of such study, as well as recommendations based on such analysis and findings, shall be completed no later than eighteen months after registration of the consultant contract and at least two months before the next draft comprehensive solid waste management plan is submitted to the council or the New York state department of environmental conservation. Such report shall be submitted to the mayor and the council immediately upon its completion. A preliminary report containing data necessary to perform the analyses described in subdivision b of this section shall be submitted by the department to the mayor and the council during or before the last quarter of calendar year two thousand one.

d. Such study shall be performed and such report shall be prepared in a manner designed to assist in the preparation of the next comprehensive solid waste management plan for the city of New York required by section 27-0107 of the New York state environmental conservation law.

§3. This local law shall take effect immediately.

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ATTACHMENT B

FINAL STUDY SCOPE

COMMERCIAL WASTE MANAGEMENT STUDY
FINAL SCOPE OF WORK

New York City Department of Sanitation

JULY 31, 2003

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CITY OF NEW YORK
DEPARTMENT OF SANITATION
COMMERCIAL WASTE MANAGEMENT STUDY
FINAL SCOPE OF WORK

1.0 INTRODUCTION

The New York City (City) Department of Sanitation (DSNY) collects and/or disposes of waste generated by residences, institutions, not-for-profit organizations, DSNY lot cleaning operations, and other City, state and federal agencies (hereinafter referred to as DSNY-managed Waste[1]). Private waste carting companies collect and dispose of waste from commercial sources in the City. Both DSNY and private companies recycle materials, including paper, cardboard, metal, glass and plastic.

DSNY has the responsibility to manage all of the waste generated in the City and to develop a new Comprehensive Solid Waste Management Plan (New Plan) for both DSNY-managed Waste and commercial waste for the planning period 2004 through 2024. Because the City has no operating landfill, incinerator or resource recovery facilities, pursuant to interim export contracts, all DSNY-Managed Waste is either transferred from private transfer stations within the City or carted out of the City in DSNY collection vehicles for transfer and/or disposal at facilities outside of the City. Except for DSNY-managed Waste transferred out of the Bronx, DSNY's interim export arrangements depend on truck transport. Under its long-term export program, the City is converting its existing Marine Transfer Stations (MTSs), designed to transfer waste in open hopper barges to the now-closed Fresh Kills landfill, into facilities that containerize waste for transport by container barge. It is anticipated that the waste will reach a disposal facility through a combination of barge and/or rail movements. Since 1989, when DSNY raised the fees for private waste disposal at Fresh Kills, the City's commercial waste has been carted or transferred from the City by truck, much of it through private transfer stations located in the City.

[1] DSNY-managed Waste is solid waste that DSNY collects from all residential households in the City and the institutional waste of City, state and federal agencies that DSNY collects and/or for which DSNY arranges disposal.

The Commercial Waste Management Study (Study), described herein, addresses issues related to the management of commercial waste in the City. Private waste transfer stations process three categories of waste: (i) *putrescible waste* (garbage that can cause odors); (ii) *non-putrescible waste* (typically including construction and demolition debris and/or other recyclable materials that do not cause odors); (iii) and *clean fill* (a subset of non-putrescible, but handling only excavated dirt, rock, concrete, gravel, stone, asphalt millings or sand). At *putrescible waste* transfer stations, waste is transferred to long haul trucks or rail cars for export. *Non-putrescible waste* transfer stations and *clean fill* transfer stations typically engage in sorting, crushing and processing of material; therefore, much of the material that they receive is recycled or reused.

Under the City's Zoning Resolution, transfer stations can be sited in the City's industrial zones (manufacturing districts M1, M2, and M3). Zoning performance standards for such districts establish standards for the emission of odors and dust, vibration, heat, glare, and explosive hazard. M1 districts have the highest performance standards, M2 districts have medium performance standards and M3 districts have the least restrictive performance standards. DSNY and the New York State Department of Environmental Conservation (NYSDEC) issue permits regulating the design and operation of private transfer stations in the City. Applicants for permits must also submit an Environmental Assessment Statement, which assesses all impacts the facility and operation would have on the surrounding environment. NYSDEC and DSNY act as co-lead agencies in the environmental review process for such permits. DSNY rules for permitting putrescible waste transfer stations were adopted in 1991. In 1998, the City adopted Siting Rules that increased the restrictions on where transfer stations could be located. There are now 69 operating transfer stations, including 22 stations handling putrescible waste, 25 stations handling non-putrescible waste and 22 stations handling only clean fill.

To help determine whether transfer stations and private carters in the City may need more regulation to ensure effective enforcement of the rules governing their operation, the City Council enacted Local Law 74 (LL 74), effective December 19, 2000, requiring a comprehensive assessment of commercial solid waste management in the City. The Study is intended to enable the City to assess and plan for management of the commercial waste stream in the most efficient manner, to minimize potential adverse impacts on the City's residential and business communities and the environment, and to assist in developing the New Plan.

In June 2002, DSNY published a Preliminary Report, required to be issued in compliance with LL 74, that contained data on the volumes, types, origins and destinations of the commercial waste managed by private companies in the New York Metropolitan area, and included information on residential and institutional waste collected by DSNY and managed through commercial waste transfer stations following the phased closure of Fresh Kills. The Study proposed to be undertaken now, among other things, will analyze and assess the adequacy and impacts of the siting, permitting, operations and regulation of commercial waste transfer stations.

In March 2003, DSNY proposed rules that would temporarily restrict (until July 31, 2004) the permitting of new waste transfer stations, except intermodal facilities. The proposed rules would allow putrescible facility expansions upon the completion of the City Environmental Quality Review process; putrescible expansions would be prohibited in Brooklyn Community Board 1 and Bronx Community Board 2, unless equivalent capacity were closed within the same community board. DSNY held a hearing to receive public comments in April 2003 and expects to publish the final text of the temporary restrictions shortly. DSNY anticipates that it will draft and publish proposed permanent siting rules after the issuance of the Study Report and a review of its recommendations. The proposed rules and the transcript of the April hearing appear on the DSNY website.

In developing the Draft Scope of Work for the Study (Draft Study Scope), DSNY conducted a series of meetings in November and December of 2002 to solicit comments from elected officials, the public, the Citywide Recycling Advisory Board (CRAB), the Borough Solid Waste Advisory Boards (SWABs), Community Boards, environmental organizations, academics and other interested organizations. A public meeting was held in each borough on the following dates:

- Brooklyn – November 18, 2002
- Queens – November 19, 2002
- Staten Island – November 20, 2002
- Manhattan – November 25, 2002
- Bronx – December 2, 2002

DSNY invited the public to speak at these meetings, and to submit written comments through December 16, 2002. The transcripts of the public meeting testimonies were posted on DSNY's website in tandem with the Draft Study Scope.

DSNY and its consultants prepared the Draft Study Scope to reflect public comments and the specific requirements of LL 74, as discussed above. On March 3, 2003, the Draft Study Scope was posted on the DSNY website (www.nyc.gov/sanitation) for further public comment for a period of 21 days, until March 24, 2003. Concurrently, the Draft Study Scope was mailed to all elected officials and Community Boards, the CRAB, the SWABs and to individuals who attended the public meetings held in 2002 and/or submitted comments in connection with the development of the Draft Study Scope. A sample letter enclosing the Study Scope and describing the public comment process established to finalize the Study Scope was posted on DSNY's website in tandem with the Draft Study Scope.

Public Comments on the Draft Study Scope

Public comments received both during and after the established public comment period consisted of nineteen letters (three from elected officials, two from solid waste industry respresentatives, one from a national environmental organization, four from City solid waste advisory boards, six from neighborhood organizations or coalitions and three from special interest representatives). The letters were reviewed and considered by DSNY and the consultant team in preparation for the issuance of this Final Study Scope.

The majority of comments highlighted issues already addressed in the Draft Study Scope. Among these were requests that the consultant team:

- Investigate potential transfer station sites in Manhattan;
- Consider waste management strategies such as flow control and commercial waste franchising;
- Acknowledge the economic value of a robust commercial waste management system;
- Develop data on recyclables destinations;
- Consider the use of bio-diesel as an alternative fuel;

- Consider the decline in waste after the events of September 11th and Preliminary Report data in developing capacity projections for the planning period;
- Consider the economics of the fee structure for accepting commercial waste at the new MTSs;
- Evaluate incentives to barge and rail transfer;
- Consider the value to the City of reserve capacity when evaluating facility impacts;
- Analyze PM10 and PM2.5 air impacts;
- Use, to the extent available, Business Integrity Commission information to develop waste routing, generation and origination data; and
- Solicit and consider community concerns.

As a result of these comments, DSNY and the consultant team are taking specific note of the concerns raised and will amplify the discussion in the Study Report to address these concerns.

The remaining comments contained suggestions that did not result in Study Scope changes; many focused on issues that fall outside the Study Scope, but will be addressed in the development of the New Plan. These comments included suggestions on:

- Proposed alternatives to MTS containerization sites;
- MTS containerization design;
- MTS containerization environmental review;
- Alternative waste processing and disposal technologies;
- Grandfathering existing transfer facilities;
- Performance standards in specific zoning use groups;
- Communities to be considered as additional Study Areas;
- Transfer station site investigations outside of Manhattan;
- A Study advisory panel;
- Targeted outreach to be required in the development of the New Plan;
- Programmatic waste prevention, recycling and composting issues appropriately addressed in the New Plan; and
- Commercial/institutional food waste disposers more appropriate for study by the New York City Department of Environmental Protection.

Scope Changes

In addition to text changes in this Introduction that describe the content and consideration of public comments received, the issuance of the Final Study Scope, updating the definition of clean fill to include asphalt millings, and proposed transfer station temporary siting restrictions, revisions to the Final Study Scope correct formatting and typographical errors and reflect:

- Changes in the availability and form of the base data to be relied on to develop estimates on waste generation, including employment-based estimates of commercial waste generation (see Section 2.0 paragraph 1; Section 3.0 Summary of Task 4.1; Subtasks 4.1.2, 4.1.4 and 4.1.6);
- The addition of neighborhood character as an element of impact assessments (see Section 3.0 Summary of Task 4.2 and Task 4.4; Subtasks 4.2.2, 4.4.1 and 4.4.3);
- Changes in the predictive quality of information to be relied on to develop economic trend analysis on waste transportation and disposal markets and costs (see Section 3.0 Summary of Task 4.3; Task 4.3);
- New survey data to be generated by the City's Business Integrity Commission (see Section 3.0. Summary of Task 4.1; Subtask 4.1.3); and
- DSNY's extensive experience with alternative fuels and engine controls (see Section 3.0 Summary of Task 4.7; Task 4.7).

The Final Study Scope can also be obtained in printed form through a request directed to the DSNY Contact Person:

Harry Szarpanski, Assistant Commissioner
New York City Department of Sanitation
Bureau of Long Term Export
44 Beaver Street, 12th Floor
New York, New York 10004
Fax: (212) 269-0788

It is anticipated that the Study and accompanying report (Study Report) containing findings and recommendations will be issued in March 2004. There will be public involvement in reviewing the draft findings and recommendations that result from the Study. Thereafter, findings and recommendations that DSNY proposes to incorporate in the New Plan will be subject to public comment during the public review process for the New Plan. The environmental impact of the implementation of such recommendations proposed for inclusion in the New Plan will be evaluated in the Draft EIS prepared to support the adoption of the New Plan.

1.1 Summary of Objectives

In assessing the current regulations of commercial transfer stations as mandated by LL 74, the Study will evaluate the need for and may recommend changes in the regulatory system, including the strategies, incentives, new regulations and new legislation necessary to implement these recommendations. These recommendations may address:

- The siting and operation of private transfer stations and waste collection operations;
- The future demand for commercial transfer capacity and evaluating long-term economic trends affecting waste disposal; and
- The means of facilitating a transition from the current mode of truck-based export to export by barge and/or rail.

1.1.1 Requirements of Local Law 74 of 2000, New York Administrative Code §16-134

LL 74 mandates that the Study address the following:

1. <u>Permitting Criteria, Environmental Review and Mitigation</u>

   The effectiveness of DSNY permitting procedures and criteria in minimizing potential adverse environmental, economic and public health impacts on the communities in which privately-owned transfer stations (Transfer Stations) are located by examining such issues as the:

   - Effectiveness of the criteria applied by DSNY to the siting of Transfer Stations [16 RCNY 4-32], including the aggregate effect of the geographic proximity of solid waste transfer stations to each other; and
   - Scope and effectiveness of the operational restrictions imposed upon Transfer Stations, including the hours of operation and any performance standards established in the New York City Zoning Resolution.

2. <u>Regulatory Enforcement; Truck Traffic</u>

   The manner in which all applicable laws, rules and regulations relating to the operation of Transfer Stations, private carters and long haul transport vehicles are enforced, including:

- Who should be responsible for such enforcement;
- The effectiveness of such enforcement in obtaining compliance with such laws, rules and regulations and in minimizing potential environmental, economic and public health impacts; and
- Analysis of rules relating to routes for transporting material to or from such transfer stations.

3. Limits on Transfer Stations

   The means and potential effects of limiting transfer station capacity in the City.

4. Waste Transportation Vehicles

   The size and type of vehicles that should be authorized to transport solid waste and the fuel-type requirements for such vehicles.

5. Processing of DSNY-managed Waste and Commercial Waste in the same Facility

   Whether private Transfer Stations and the City's MTSs should receive and process both residential and commercial solid waste, and the options for transporting such solid waste to and from such Transfer Stations, including an analysis of potential environmental, economic and public health impacts.

6. Impacts of Relative Concentrations of Transfer Stations

   Potential environmental and public health impacts on communities in which concentrations of Transfer Stations are located such as potential impacts related to air quality, water quality, odors, traffic congestion and noise.

1.1.2 Other Study Objectives

Other objectives of the Study are to:

- Provide for the projected need for transfer station capacity over the planning period for the New Plan;
- Further refine information in the Preliminary Report on the quantity of commercial waste generated in the City; and
- Evaluate trends in the supply and cost of waste disposal capacity that will be available to the City.

1.2 Scope Organization

Section 2.0 of this Scope summarizes the issues that will be addressed in the Study. Section 3.0 describes the detailed analyses and methodologies that will be applied by DSNY's Consultant Team to evaluate these issues.

2.0 SUMMARY OF ISSUES TO BE ADDRESSED

The following summarizes the issues to be evaluated in the Study:

1. In June 2002, DSNY published a Preliminary Report in accordance with the requirements of LL 74 that contained information on commercial waste quantities by type and borough of origin that had been collected and analyzed by DSNY and its consultants from sources such as available reporting systems and interviews with waste management companies involved in aspects of the commercial waste management business. As noted in the Preliminary Report, there is no single comprehensive system for recording data on commercial waste generation in the City. Furthermore, the data in the Preliminary Report were for the calendar year 2000, and the events of September 11, 2001 and the subsequent decline in business activity in the City since 2000 have all affected commercial waste generation. The Study will apply methods to adjust the year 2000 data to year 2002 to account for these economic effects. Additionally, the Study will evaluate and apply alternative methods to those used in the Preliminary Report to supplement existing estimates of commercial waste generation. The recycled material in the commercial waste stream that is not accounted for in the Preliminary Report data will also be quantified. The Study will project changes in commercial waste generation over the New Plan period based on an employment forecast for the same period.

2. The Study will assess: (i) the means and potential effects of limiting the number of privately owned/managed putrescible and non-putrescible commercial waste transfer capacity in the City over the 20-year New Plan horizon; and (ii) the potential effects of converting the City's Marine Transfer Stations (MTSs) to containerization facilities for the export of commercial waste. The assessment of MTS conversion to commercial waste export will consider technical feasibility, the potential for environmental impacts, and economic viability. Beyond the use of converted MTSs, the Study will assess the potential for additional barge or rail-based waste transfer capacity for the commercial waste generated in midtown and downtown Manhattan.

3. The Study will evaluate the volume of out-of-City waste disposal capacity that is economically accessible by export in transfer trailers from the City. If the Study projects a decline, the Study will also identify the means to encourage a shift in commercial waste transport operations to barge or rail modes to ensure access to more remote disposal sites.

4. The Study will identify Community Districts in which commercial waste transfer stations are currently most concentrated, evaluate whether the types of potential impacts referenced in LL 74 may be attributable to the operation of these facilities, and, if so, evaluate remedial measures.

5. The Study will evaluate the effectiveness of existing regulations and the potential need for improved enforcement practices and/or new regulations that could prevent or minimize impacts on the City's residents and businesses that are attributable to

transfer operations. As appropriate, the Study will recommend means of improving enforcement of existing regulations or the adoption of new regulations to address identified problems.

6. The Study will identify and evaluate the effectiveness of potential new policy initiatives that could improve the overall long-term utility of the commercial waste transfer system to the City and mitigate or minimize impacts associated with commercial waste transfer operations.

7. The Study will assess means of reducing the potential for impacts, such as air emissions and noise, associated with the operation of private collection and long haul vehicles.

The Study will produce a summary of findings and recommendations from the evaluations of the issues defined above. These findings and recommendations, with associated technical analyses, will provide a framework for consideration of the policies proposed for the management of commercial waste in the New Draft Plan.

3.0 TASK OVERVIEW

This Section 3.0 summarizes the objective and content of the detailed Task descriptions and methodologies presented in Section 4.0.

Summary of Task 4.1 Quantification of Commercial Waste

The waste quantification effort includes six Subtasks that focus on refining the commercial waste data contained in the Preliminary Report. The approach involves making certain updates to the Preliminary Report data and applying alternative methods of estimating waste generation. The information obtained will be compared to the Preliminary Report estimates, and will supplement or refine the information contained therein. These Subtasks include the following:

- The Preliminary Report data was from the calendar year 2000. In the intervening period, the events of September 11, 2001 and the economic decline of the City's economy are assumed to have affected commercial waste generation. Additionally, some of the data in the Preliminary Report reflect the fact that, at that time, the City was still disposing of some waste at Fresh Kills. Subtask 4.1.1 describes the method that will be used to update and/or adjust the Preliminary Report data to provide a foundation for forecasting future year commercial waste generation.

- Subtask 4.1.2 will apply an alternative waste estimation methodology. Employment-based waste generation factors derived from multiple sources, year 2000 Census data on employment categorized in two-digit SIC codes, and adjusted employment forecast data through 2025 will be used to develop a long-term forecast of commercial waste generation. Additionally, similar factors applicable to commercially-generated recyclables will be used to characterize and quantify the recycled fraction of commercial waste. Estimates of recycled quantities will be supplemented and refined through contact with large generators, recyclers, and end users (i.e., paper mills and dealers) in the region.

- To develop Subtask 4.1.3 data, DSNY and the consultant team will rely on a survey being performed by the Business Integrity Commission (BIC), which regulates the commercial waste carting industry in the City, for information on carter collection routes and types of businesses served. Additionally, information will be sought on the garaging and dispatching of collection vehicles by carters serving the Manhattan business districts and the City as a whole.

- The Preliminary Report relied on the DSNY Transfer Station Reports and interviews with carters operating in the City to estimate total waste generated. Subtask 4.1.4 will focus on supplementing this information by contacting out-of-City operators of

waste-to-energy facilities and commercial waste transfer stations in the New York Metropolitan area to obtain information on quantities of commercial waste generated in the City and delivered to these facilities.

- As reported in the Preliminary Report, Construction and Demolition Waste (C&D) is the largest component of waste and recycled material. The variability in generation of C&D waste over time is influenced by different factors than that of the putrescible category of commercial waste. Subtask 4.1.5 will focus on developing factors that can predict how the C&D stream will vary as a function of construction activity in the City and, on this basis, estimate the City's need for transfer/recycling capacity for this material.

- Information developed in Subtasks 4.1.1 through 4.1.4 will be used to project quantities of commercial waste generated, disposed and recycled over the Plan period of 2004 through 2023.

Summary of Task 4.2 Needs Assessment for Commercial Transfer Station Capacity

The potential need for new commercial waste transfer station capacity will be investigated in two areas:

- Subtask 4.2.1 will investigate potential sites for truck-to-barge or truck-to-rail transfer stations in lower and midtown Manhattan. This analysis will define facility design criteria, identify any sites that conform to these criteria, conduct a fatal flaw analysis of factors that would preclude siting at these locations, and, if no such flaws are identified, summarize the advantages and disadvantages of the sites that appear feasible.

- The Mayor, in his announcement of the MTS conversion program for DSNY-managed Waste, indicated that the using of these converted facilities to containerize and transfer commercial putrescible waste by barge would be considered, as well. Subtask 4.2.2 will: (i) assess the MTS conversion designs to determine if significant quantities of commercial putrescible waste, in addition to DSNY-managed Waste, can be transferred from the converted MTSs; and, (ii) if there is a potential for commercial transfer capacity at an MTS site, the potential incremental impacts of receiving and transferring commercial putrescible waste will be evaluated to determine if any unmitigatable adverse impacts might result. These environmental analyses will assess potential traffic, air quality, water quality, noise, odor and public health and neighborhood character impacts that might result from the transfer of an increment of commercial putrescible waste through the converted MTSs.

Summary of Task 4.3 Evaluation of Waste Disposal Capacity Potentially Available to the City

To better understand the City's requirements for a commercial waste transfer infrastructure over the 20-year period of the New Plan, an economic study will be performed in Task 4.3 that will seek to develop information on the economic market for transport and disposal of waste exported from the City. The assessment will survey existing and proposed landfill and waste to energy facility capacity, identify available historical data on disposal costs and capacity, and develop estimates of the economics of waste transport and disposal by truck, rail and barge. This information will be organized to define the service area in which the City is one of many buyers of remote disposal, and to develop approaches for estimating long-term waste transport and disposal costs in this marketplace.

Summary of Task 4.4 Assessment of the Potential Impacts of Relative Concentrations of Commercial Waste Transfer Capacity

As mandated in LL 74, Study Task 4.4 will assess the environmental, economic and public health impacts from the relative concentration of commercial transfer stations in four selected Study Areas. The assessment will address both on-site and off-site related impacts. The purpose of this assessment is to evaluate whether and how the total volume of waste processing activity in areas with relative concentrations of transfer stations may cause potentially adverse air quality, odor, traffic, noise, water quality public health and neighborhood character impacts. This Task, in combination with the enforcement effectiveness evaluation (Task 4.6), will also evaluate whether new or revised regulations and ordinances applicable to the siting, design and operation of transfer stations would significantly diminish the potential for adverse impacts.

Summary of Task 4.5 Assessment of the Design and Operation of Existing Commercial Transfer Stations

A field survey will be conducted in Study Task 4.5 to assess the design and operation of a select sample of existing putrescible, C&D and fill material commercial waste transfer stations. The purpose of the field survey is to assess and identify potential changes to facility designs (i.e., perimeter fencing, on-site queuing space, exhaust controls, etc.) and/or operational practices

(waste storage and handling, locations of equipment, hours of operation, etc.) that would mitigate the potential for impacts to nearby communities. The recommended design and/or operational changes may be incorporated into the policy strategies that are the outcome of this Study, as changes to regulatory requirements for permitting existing, modified or new transfer stations in the City.

Summary of Task 4.6 Evaluation of Permitting and Enforcement Effectiveness in Regulating Commercial Waste Collection and Transfer Operations

The focus of this Task is the detailed analysis of existing City and New York State controls on transfer station development and the evaluation of the effectiveness of current enforcement policies. The Consultant Team will research current policies governing the issuance of permits and existing practices regarding the evaluation of their impacts. The Consultants will prepare an inventory of the responsible agencies and their respective permitting and enforcement authorities that apply to the construction and operation of transfer stations in the City. This work is intended to plot the scope of the regulations governing transfer stations. The principal regulatory mechanisms are: (i) DSNY Siting Rule requirements and NYSDEC Part 360 permitting requirements for new and expanded or modified transfer stations; (ii) Zoning Performance Standard requirements; (iii) DSNY Permitting Regulations; and (iv) City DOT Traffic Regulations. Studies in the effectiveness of the enforcement of applicable regulations will be performed to identify gaps in enforcement coverage. If deficiencies are identified through a review of community complaints and notices of violation issued, the extent of impacts due to deficiencies in existing regulations and enforcement practices will be tested, and an Enforcement Effectiveness Report will be prepared.

Summary of Task 4.7 Evaluation of Alternative Collection Vehicles

Under almost any scenario for the future, the movement of solid waste in the City will remain heavily dependent upon diesel-powered trucks. The ideal and most effective measures to reduce air pollution would be to reduce the emissions by these trucks. The main objective of this Task is to determine if alternate fuels, fuel-efficient engine technologies or truck types might be feasible means of reducing truck emissions.

Summary of Task 4.8 Findings and Recommendations

Findings from each of the Tasks completed in the Study will be summarized in the Study Report. The Report will also identify recommendations for policy strategies that may be implemented by the DSNY or proposed for adoption in the New Plan. Results of the Study and recommended policy strategies will be included in the Study Report.

4.0 DETAILED SCOPE OF WORK

This section describes the Study Tasks corresponding to the items enumerated, including the proposed methodologies that will be used in performing the Study.

Task 4.1 Quantification of Commercial Waste

The following six Subtasks describe various methods that will be used to adjust, refine and cross-reference the estimates of commercial waste generation presented in the Preliminary Report and also to develop estimates of the major recycled components of commercial waste that are not accounted for in the Preliminary Report data.

4.1.1 Adjustment of Preliminary Report Data

The database used to prepare the Preliminary Report will be updated to reflect 2002 waste disposal volumes in order to account for the potentially significant effects on waste generation attributable to the September 11 event and the decline in the City's economy since the data were originally collected. The update will only use information available from the DSNY Transfer Station Quarterly Reports for calendar year 2002 and compare this more current information to the data from the same source for 2000. These current reports will be entered into the database according to the type of waste collected and disposal destination. The change in reported quantities between 2000 and 2002 will be evaluated to derive adjustment factors for change in commercial waste in each borough. These adjustment factors will be applied to the origin patterns of waste that were obtained in the 2000 survey of private carters to re-estimate the pattern of 2002 waste origins. The changes over the elapsed two-year period in volume, type and destination of waste will be compared.

4.1.2 Employment-Based Waste Estimation Model

A methodology originally developed for the U. S. Environmental Protection Agency (USEPA) by a member of the Consultant Team will be used to estimate the quantity and composition of the commercial putrescible waste stream. This methodology has been modified for application at

the local level. Generation estimates, presented at the Borough and Community District levels, will be developed with available employment data. The employment data is derived from year 2000 Census Tract level projections prepared by the New York Metropolitan Transportation Council (NYMTC), which was subsequently adjusted for the effects of the September 11, 2001 disaster and the decline in business activity in the City. These adjusted data will be used in projecting commercial waste volumes over the planning period for the New Plan. Waste generation estimates will be categorized by type of business, depending on the level of detail in the available employment data.

Waste composition factors derived from specific commercial subsector studies – office sector, health providers, manufacturers (other than waste byproducts from manufacturing processes), food establishments (restaurants and supermarkets), retail and wholesale stores – will also be used to:

- Adjust components based on the City-specific characterizations derived by the model; and
- Adjust components to reflect national trends in the intervening decade using available historical data – for example, the increase in plastics and the relative decrease in glass as a packaging material.

The characterization and quantification of waste generation provide a basis for estimating the quantity of commercial materials that are recycled. Recovery estimates will be developed from data in the Preliminary Report combined with new information obtained from large generators, recyclers, and end users (i.e., paper mills and dealers).

4.1.3 Collection Operations Assessments

The Preliminary Report estimated total tonnage from interviews with commercial carters. These interviews did not provide information on the number of collection vehicles dispatched by carters to the various boroughs or on the amount of waste generated in specific Community Districts. In this Subtask, the Consultant Team will use the results of a new survey now being

conducted by BIC of commercial carters operating in the City. The results will be evaluated to identify relevant information of collection route patterns, types of business served, quantities of waste collected and the location of garages from which vehicles are dispatched into the City.

The Consultant Team will seek similar information for all major carters operating in the City, identifying, for example, the location of vehicle staging areas (i.e., garages, yards), the number of vehicles operated, the time spent and the number of stops en route. The information obtained will be summarized in the Study.

Information regarding collection services in midtown and downtown Manhattan will be correlated with data regarding the type of business and level of employment in order to more accurately estimate waste generation. The goals of this approach are twofold: (i) to obtain an additional aggregate estimate of commercial waste and recyclables generated in Manhattan's business districts; and (ii) to obtain information concerning the routing of collection vehicles in these districts. The data collected in this Subtask will provide another source of verification of the waste generation estimates for the applicable Manhattan Community Districts developed in Subtask 4.1.2.

This Task will also seek to develop information on the quantity of commercial recyclables hauled by recyclers from commercial generators directly to local markets and/or dealers. These recyclers are not categorized as waste collection companies and their activities are neither regulated by DSNY nor recorded in DSNY reports.

4.1.4 Facilities Method

To develop more complete estimates of commercial waste carted out of the City for transfer or disposal, the Consultant Team will gather information from facilities located outside of the City that receive commercial waste. Transfer stations and waste-to-energy facilities in New Jersey, along with nearby facilities in Long Island and Connecticut, will be contacted. Data obtained from these contacts will be correlated with reports produced by the relevant state regulatory agencies to estimate the total in-City generated waste that is transferred or disposed of at out-of-City facilities.

4.1.5 Quantification of Construction and Demolition Waste and Fill

The Preliminary Report shows that C&D and fill material comprise the majority of commercially generated waste in the City. To effectively plan for adequate capacity for these materials over time, it is necessary to formulate a methodology to predict quantities of C&D and fill material. The Consultant Team will incorporate specific plans for major reconstruction, such as that which is planned for Lower Manhattan, in projecting levels of activity and consequent generation levels for C&D debris and fill material.

The Consultant Team will: (i) contact facilities that receive C&D and fill material, and obtain historic data to enable a calibration of the relationship between the level of construction activity and the quantity of materials generated; and (ii) interview officials of relevant organizations, including local organizations, such as the Associated General Contractors, regarding C&D generation. Data from non-City sources will also be collected to assess differences in generation rates between the City and other communities.

4.1.6 Projections of Commercial Waste for 2004 through 2024

The Consultant Team will use the data derived from Subtasks 4.1.1 through 4.1.5 as a base for the projections. Changes in total quantities generated and waste composition will be projected through 2024, based on best judgment, reasonable extrapolations of observed trends, and an assumed level of success in policies, such as waste reduction.

Forecasts of population and employment by Census Tract from 2000-2025 (in five year intervals) based on the 2000 Census are available from NYMTC, the Metropolitan Planning Organization (MPO) for the New York Region. The data have been adjusted by NYMTC to account for the shift in employment resulting from the disaster on September 11, 2001 and will be aggregated to Community Districts for use in projections of commercial waste. Note that work on NYMTC's expanded 2025 forecast (of age cohorts, labor rates, household size, and employment based on the North American Industrial Classification Standard code) will begin in mid-2003, but the forecast results will not be available for this Study. C&D debris and other inert

wastes will be projected separately over the 20-year horizon based on economic projections, incorporating expected variances resulting from, for example, reconstruction of the World Trade Center site, economic cycles, and expected regional growth.

Task 4.2 Assessments of Commercial Transfer Station Capacity

4.2.1 Siting Investigations in Lower and Midtown Manhattan for Additional Commercial Waste Transfer Capacity

To address public comments on the scope of the Study, an investigation will be conducted to identify and evaluate potential sites in lower and midtown Manhattan where commercial waste transfer facilities could be sited. Criteria for siting such facilities will be defined based on zoning, design and operational criteria, DSNY's Siting Rules (taking into account the potential for revision of these rules), consideration of potential environmental impacts and other applicable requirements. The Consultant Team will identify the minimum site size and related throughput capacity required for efficient waste containerization and transfer by barge or rail to out-of-City disposal facilities. Proximity and accessibility to intermodal yards will be considered. The Consultant Team will identify sites below 80th Street in Manhattan that meet these minimum criteria and will prepare conceptual designs to determine the additional transfer capacity potentially available at these sites. If no fatal flaws (that would prohibit such siting) are identified, an analysis of the advantages/disadvantages of potential sites will be performed.

4.2.2 Assessment of Containerizing Commercial Waste at the City's MTSs

As designs are developed to convert the City's eight MTSs (South Bronx, West 59th Street, East 91st Street, West 135th Street, Hamilton Avenue, Greenpoint, Southwest Brooklyn and North Shore) to containerization and container barge transfer facilities, the design capacity and site-specific conditions of the planned conversions will be evaluated for the potential to also process commercial waste. The Consultant Team will evaluate the potential quantity of commercial waste that could be accepted at each of the converted MTSs, in addition to DSNY-managed Waste, without causing unmitigatable adverse environmental impacts. The waste quantity data

developed in the Study (see Task 4.1) and the information developed for the Study Area Analysis (see Task 4.5) will be used to perform this analysis. Using updated methodologies and information from the 2000 Final Environmental Impact Statement (2000 FEIS) for the 2001 Comprehensive Solid Waste Management Plan Modification (2001 Plan), site-specific environmental reviews (traffic, on-site and off-site air quality and noise, on-site odor public health and neighborhood character) consistent with current SEQRA/CEQR requirements will be conducted at the eight MTS locations to identify the capacity of each MTS to accept an increment of commercial waste, without causing unmitigatable adverse environmental impacts. This environmental evaluation will have the following elements:

Engineering Capacity Analysis:

The capacity of each MTS to accept an assumed increment of commercial putrescible waste will be evaluated. An engineering analysis that is focused on design and operating constraints and site limitations will be performed for each of the eight MTSs to determine whether processing waste in excess of the quantities that are anticipated to be delivered by DSNY would be feasible. Based on DSNY's historical waste delivery patterns to the MTSs and assumptions on the delivery patterns of commercial waste and equipment throughput, the analysis will assess the hours of MTS operation during which the increment of commercial waste could be processed to avoid off-site queuing of waste delivery vehicles. Sufficient time will be allowed to containerize and load all waste received each day, considering available container storage capacity and barge shift time.

Site-specific environmental reviews (traffic, on-site and off-site air quality and noise and on-site odor) will be conducted at the MTSs to determine whether this increment of commercial waste would cause unmitigatable adverse environmental impacts. Existing conditions will be defined for 2003 (the year in which data is collected). Future no-build conditions will be characterized, including deliveries of DSNY-managed Waste to the MTSs under the long-term export program. Future build year conditions will be characterized by deliveries of commercial waste to the MTSs (in addition to DSNY-managed Waste).

Traffic:

The Consultant Team will perform a traffic analysis at key intersections to establish the impact of shifting private waste disposal to the MTSs. The traffic analysis will be performed as follows:

- Establish baseline conditions;
- Project numbers of commercial vehicles that would deliver waste to each MTS (based on available excess capacity);
- Assign trucks to the street network (commercial waste vehicles will be assigned to existing truck routes providing access to the MTSs – these commercial waste vehicle trucks will be added to the baseline traffic volumes at the Study intersections identified for each MTS); and
- Analyze the impact of the additional commercial waste vehicles. (The impact of sending commercial waste to the MTS will be quantitatively evaluated by performing a Highway Capacity Manual Software (HCMS) analysis at each of the study intersections, per CEQR criteria. Shift variability will be included in a qualitative discussion of potential reduction of private transfer station numbers and capacity.)

Air Quality (On-Site and Off-Site):

The on-site air quality impacts of the converted MTSs will be evaluated to address the additional equipment and modified facility operations required to accept commercial waste using the methodologies employed in the 2000 FEIS. On-site air quality sources will include: wheel loaders and forklifts from waste handling operations; tugboats delivering barges to and from the MTS; DSNY and commercial waste delivery vehicles queuing on-site; and waste delivery vehicles unloading in the MTS. Off-site air quality sources will be waste delivery vehicles (including both DSNY and commercial collection vehicles) that exceed screening criteria identified in the City CEQR Manual.

Odor (On-Site):

On-site odor sources will be limited to emissions from the addition of commercial waste handling operations in the MTS. Off-site odor sources will not be evaluated; vehicles will not idle at off-site locations for extended periods of time.

Water Quality:

For each proposed site, pollutant loadings for selected water quality parameters will be calculated for the addition of commercial waste. Runoff pollutant concentrations of pollutants will be determined through a review of available literature concerning solid waste management facilities or other industrial facilities and/or stormwater quality databases (e.g., USEPA's National Urban Runoff Program (NURP) database, etc.).

Noise (On-Site and Off-Site):

On-site noise sources will include: wheel loaders and forklifts from waste handling operations; tugboats delivering container barges to and from the MTS; compactors, gantry cranes, car pullers; and commercial waste delivery vehicles queuing on-site and operating in the MTS during unloading operations. Off-site noise sources will be waste delivery vehicles (including DSNY and commercial vehicles) that exceed screening criteria identified in the City CEQR Manual.

Public Health:

The Consultant Team will compare the potential public health impacts of MTS operations under no-build (i.e. without commercial waste) and build scenarios, preparing a non-site-specific analysis based on available published data and literature to describe the MTSs. The public health assessment will be performed in the same manner as the Study Area analyses. (See Section 4.5.1.)

Neighborhood Character:

Using available data from the current MTS EIS, neighborhood character will be described based on the area's characteristics, including: Land Use, Population Characteristics, Urban Design and Visual Quality, Parks and other Community Facilities and Cultural Resources. Neighborhood character will be further defined based on data and findings collected in the previous subtasks.

The overall effect on surrounding neighborhoods of commercial waste deliveries at the MTSs on the surrounding neighborhoods will be assessed based on the impact findings of the traffic, air quality, odor, water quality and public health studies. Consequences predicted as the result of work performed in Task 4.5 for Study Areas where the re-assigned commercial waste had been previously handled, will be discussed qualitatively, drawing on the conclusions identified during the traffic, air quality, odor, water quality and public health evaluations. These conditions will be compared to predicted conditions with only DSNY-managed waste handling at the MTSs.

Economic Factors:

The qualitative and, to the extent practical based on available data, quantitative economic impacts of the proposed regulatory and/or economic incentive mechanisms to encourage or require commercial carters to deliver waste to the MTS facilities will be assessed. Such mechanisms would include, under Section 16-201 of the New York Administrative Code, consideration of regulatory changes, such as transfer station permit sunset provisions or permit renewal/modification provisions that entail the concept of offsets; new legislation, such as "flow control;" a text amendment to the Zoning Resolution and application of the principle of "termination upon amortization," as embodied in the Zoning Resolution. The assessment will also consider the possible effects of processing commercial waste at the converted MTSs on the commercial carting industry and its customers.

These findings will be reported in the Study.

Task 4.3 Evaluation of Waste Disposal Capacity Potentially Available to the City

At present, approximately two-thirds of DSNY-managed Waste that is exported from the City is disposed of in Pennsylvania. Using available data from state regulatory agencies, along with information from prior DSNY surveys, the Consultant Team will survey current trends in utilization rates, newly proposed facilities and permit renewal policies, in Pennsylvania and other states, to assess the potential volume and location of disposal capacity that could be available for

disposal of both DSNY-managed and commercial waste generated in the City, during the 20-year New Plan period. The assessment will also consider competing demands for this capacity.
For the purpose of this assessment, the availability of landfill and waste to energy capacity is defined as the volume of out-of-City waste disposal capacity that is economically accessible by export from the City. Estimates of the available disposal capacity, supply, demand and prevailing market prices within a defined service area will be made. This analysis will be used to project the waste disposal capacity available to the City over the planning period and to estimate the cost of transporting and disposing of commercial waste generated within the City.

The service area to be studied will be defined to limit the assessment to states that can be reasonably accessed from the City by truck transfer, ocean-going vessel transport and rail. The results of prior DSNY surveys will initially define a "preliminary" Study Area. Potential redefinition of the service area will be evaluated throughout the Study and will be based upon reasonable truck, rail and shipping routes and expected economic breakpoints.

Disposal capacity available to the market area may increase over time as demand increases. The trend in the industry has been for the major waste companies to develop mega-regional landfills. These landfills are usually located in remote areas. The assessment will evaluate, within the service area, the balance of the supply and demand for disposal capacity.

Estimates of the cost of exporting commercial waste will be developed, if sufficient data is available, using the following three methods: (i) reviewing historical market price survey data; (ii) estimating the "willingness to pay" of competing users for this disposal capacity; and (iii) conducting an econometric model study of supply and demand relationships in the service area.

Available data on historic market prices in the survey area will be reviewed. Although historical market prices may not reflect future prices, the data obtained may reveal some simple trends and will form a basis for the more detailed analyses. This information will be used to estimate the amount each major demand center would be "willing to pay" for disposal capacity.

Econometric analyses (e.g., multi-linear regression) are routinely used to project future market prices as supply, demand or other exogenous variables change. To obtain statistically significant results, this approach requires a relatively large and reliable database. An econometric model approach will be formulated and an assessment made of whether the reasonably available data can be used to obtain meaningful results. If so, the econometric model will be used to project future market conditions.

The findings from this investigation will be reported in the Study. Based on these findings, the Consultant Team will also assess the need and related timing for development of additional intermodal waste transfer capacity in or readily accessible to the City to achieve more favorable waste transport economics to remote disposal capacity.

Task 4.4 Assessment of the Potential Impacts of the Relative Concentrations of Commercial Waste Transfer Capacity

In up to four locations in the City (two in the Bronx and one each in Brooklyn and Queens) where commercial waste transfer stations are currently most concentrated, a "Study Area" Analysis will be performed. A "top down" evaluation methodology will be use to determine existing conditions for: (i) traffic, mobile air quality and mobile noise at key intersections along major corridors leading to and from Study Area locations; and (ii) odor and noise from transfer stations located within each Study Area at nearby sensitive receptors.

Existing conditions will be defined through data collection during 2003. Reference may also be made to criteria based upon CEQR thresholds for traffic, noise, air quality and odor as a possible means of assessing whether potentially adverse impacts can be attributed to the concentrations of transfer stations in the Study Areas. As background information, the Study will provide an inventory of as-of-right land uses in manufacturing zones (M-zones).

This assessment will evaluate the impacts of the transfer stations on the Study Area as compared to impacts from alternative industrial uses on the transfer station sites. Existing conditions will be evaluated in the Study Area (with the transfer stations in place) in terms of traffic, air quality

and the other applicable Study Area criteria. A hypothetical existing condition would then be defined by "backing out" the transfer station's impacts from the Study Area, assuming that the existing transfer station sites would be occupied by other M-zone land uses typical of existing conditions in the Study Area. The traffic, air quality and other analyses would then be recalculated. The comparative effects on Study Areas with existing transfer stations and with alternative, as-of-right, M-zoned land uses would be determined by comparing the two analyses.

4.4.1 Study Area Evaluations

The Consultant Team has identified those areas where transfer stations are currently most concentrated; Hunts Point and Port Morris in the Bronx, Greenpoint/Williamsburg in Brooklyn and Jamaica in Queens. These will constitute the Study Areas. The Consultant Team will also identify the locations of commercial waste hauling vehicle storage yards and garages through information provided by the Business Integrity Commission.

Traffic Evaluations:

A traffic analysis will be performed at key intersections in each of the Study Areas to establish the impact of transfer station concentrations on the Levels of Service (LOS) on major roadways. A traffic analysis methodology will be developed for the following areas:

- Agreement on operational standards: CEQR traffic assessments typically measure an individual's incremental impact on average driver delay. However, when evaluating the combined effect that transfer stations have, criteria designed around the incremental impacts of a single event are inappropriate. The development of an absolute standard will thus be attempted to assess the traffic impact on acceptable LOS for an intersection approach and individual movements that have a significant adverse impact.
- Select study locations: Analysis intersections will be selected on major truck routes accessing the Study Area locations.
- Classifications for counts: Turning movement counts will be performed at each analysis intersection. At 16 of the 20 intersections, vehicle classifications will consist of auto, non-waste truck and two categories of waste-related trucks (packer and long distance). Six of each set of 20 intersections are assumed to be air quality study locations. At these intersections, the traditional seven-way classification will be supplemented by the two categories of waste-related trucks.

- Hours for counts: The counts will be performed for one weekday with Automatic Traffic Recorder (ATR) counts or three weekdays (Tuesday through Thursday) with one two- to three-hour period in the morning and one two- to three-hour period midday or evening/night.
- Analysis of existing conditions: Existing conditions will be analyzed using the Highway Capacity Manual Software (HCMS). This condition will represent the "impacted" condition for the transfer station Study Areas.
- Analysis of effects of commercial waste vehicles: Based on the detailed classification counts performed, the effects of adding back the commercial waste vehicles (net of the vehicles resulting from the replacement of the assumed land uses) will be analyzed.

Air Quality Evaluations:

Off-Site Operations – The modeling procedures used in the 2000 FEIS will be used for this analysis. Critical intersections will be selected in the four Study Areas for air quality analysis based on traffic volumes, LOS, and locations of sensitive land uses. Air quality levels, based on regulatory standards, will be estimated near each of the critical intersections using actual traffic data and roadway configurations.

Pollutant concentrations estimated at selected intersections within each geographic area will be compared with applicable ambient air quality standards.

On-Site Operations – Analyses will be conducted for facilities located within a specified distance of other transfer stations at four Study Area locations. Up to three facilities per Study Area will be evaluated. Site-specific emission-related data (i.e., stack emission rates and parameters, truck operations, etc.) will be developed from a combination of available information (e.g., owner or vendor information, and NYSDEC or New York City Department of Environmental Protection records for permitted facilities, etc.) and assumptions based on each facility's size and operations. Assumptions will be made regarding the simultaneous operation of all applicable emission sources. Air quality levels at receptor sites (i.e., site boundary locations and sensitive receptor locations identified from land use maps and field observations) potentially affected by the combined emissions of adjacent facilities will be calculated. Following CEQR guidelines, emissions from other major commercial or industrial sources (i.e., other than transfer stations) located within 400 feet of these Study Areas will be considered in these analyses.

Odor Evaluations:

Emission factors for the major odor sources will be developed using the same procedures that were used in the 2000 FEIS (i.e., sampling at source locations representative of emissions from each type of transfer station [putrescible, non-putrescible, fill material], as appropriate, dispersion modeling based on data developed through odor assessment methodologies. Assumptions will be made as to the simultaneous operation of emission sources from more than one facility, and these sources will be considered in the same modeling runs. Odor levels at receptor sites (i.e., site boundary locations and sensitive receptor locations identified from land use maps and field observations) that may be affected by the combined emissions of adjacent facilities will be estimated. The distance between facilities within a Study Area will be the same as that established for the on-site air quality analysis.

Water Quality Evaluations:

Cumulative impacts to water quality due to the grouping of commercial waste transfer stations will be evaluated. Individual transfer stations within a Study Area will be evaluated using readily available information from DSNY or the facilities (if directed by DSNY), to determine the disposition of wastewater and stormwater at these sites. A conservative analysis will then be conducted to evaluate the potential impact of transfer station operations in these Study Areas upon surface water quality. For each facility evaluated within a Study Area: (i) The volume of stormwater runoff and the associated pollutant loading from the facility will be calculated using precipitation data and available databases on stormwater pollution concentration; and (ii) the estimated pollutant loading for each site within a Study Area will be developed by calculating the runoff flow and assigning an average stormwater concentration for each water quality parameter of concern. For each site evaluated, pollutant loadings for selected water quality parameters will be calculated by assigning a pollutant concentration to the runoff flow, as determined through a review of available literature concerning solid waste management facilities or other industrial facilities and/or stormwater quality databases (e.g., NURP database, etc.). The estimated pollutant loading for each site within a Study Area will be developed by calculating the runoff flow and assigning an average stormwater concentration for each water quality parameter of concern. Runoff flow will be calculated from the facility footprint, the average

rainfall intensity (inches/hour) and an applicable runoff coefficient. Estimates of the footprints of the individual transfer stations within each Study Area will be prepared from available drawings, permit applications submitted to the DSNY or aerial photographs.

The impacts to water quality associated with the transfer stations within these Study Areas will then be determined through an evaluation of the total pollutant loading associated with all of the facilities within a Study Area and their discharge to surface waters. Potential cumulative impacts due to the operation of multiple facilities within a given Study Area will be estimated by combining the incremental difference in water quality calculated by the model with existing water quality data, comparing these with NYSDEC water quality standards and discussing whether the pollutant loading is significant.

Noise Evaluations:

Off-Site Operations – Off-site operations are principally related to noise generated from transportation of waste material by heavy trucks to and from the facilities. The potential noise sensitivity of receptors located along Study Area-related routes will determine the magnitude and extent of the noise impacts from heavy truck operations. The noise analysis approach will include performing noise monitoring at selected sites and making detailed noise predictions at a number of other sensitive sites to establish baseline conditions. The noise predictions will utilize the latest Federal Highway Administration (FHWA) TNM 2.0 model. The results from monitoring and modeling will be used in the noise impact assessment, which will follow CEQR and FHWA procedures and regulations. Noise monitoring will be performed at the selected sensitive sites during the peak truck traffic hour using calibrated noise measuring equipment. Noise readings will be taken at the free flowing sections of roadways under low wind speed and dry road surface conditions.

Standard procedures will be followed during noise monitoring. Following standard practice, traffic noise impacts will be assessed when the vehicle/roadway noise emission levels are at their maximum and the roadway noise includes noise contribution from Study Area-related trucks. Major truck routes leading to the Study Areas will be identified and traffic counts near sensitive

land uses where monitoring and modeling were performed will be utilized. The traffic counts will include total vehicle counts and specific data on DSNY and commercial waste transfer trucks, speeds, and classification of the type of vehicle (i.e., cars, medium trucks with two axles and six wheels, and heavy trucks with more than two axles). The noise contribution from Study Area-related trucks will be calculated based on monitored and modeled data and from existing truck traffic volume data.

On-Site Operations – On-site noise is generated largely from stationary equipment operations within each facility. The potential impact of transfer stations within a Study Area depends on the types and number of stationary sources operating within the Study Area. As there are no screening procedures available to evaluate noise from the transfer stations within a Study Area, the noise model previously developed by the Consultant Team, and utilized to predict stationary source noise levels from containerization facilities in the 2000 FEIS, will also be employed here. An inventory of equipment from each facility in the Study Area will be obtained or assumed. Noise emission levels of each equipment type within each facility will be obtained either from on-site measurement or from manufacturer's data. The noise model will be used to plot 55 dBA noise contours around each facility, taking into account existing screening, the contours from all of the facilities in a Study Area will be combined to obtain cumulative noise from the entire Study Area. Impact determination will be based on the size of the composite contour, the Noise Code and the Zoning Code Standards and the sensitivity of encompassed land uses.

Public Health Evaluation:

Health impacts of data collected during earlier phases of this Subtask and other publicly available data for the Study Areas and in the published literature will be synthesized and assessed. Specifically, the analysis will on a non-site specific basis will address the dilution of odors with distance from transfer stations at the nearest sensitive receptor, the modeled incremental contributions of vehicle emissions to ambient carbon monoxide and particulate matter concentrations in air along major thoroughfares near and/or in each Study Area, and the modeled incremental noise levels along routes and at the nearest sensitive receptor. Impacts of on-site operations on air quality, modeled by each facility, will also be collected.

Measured and modeled impacts of transfer station operations will be evaluated in light of: (i) local, state, or federal standards (where available); and (ii) scientific literature pertaining to the health effects associated with ambient carbon monoxide and particulate matter, obnoxious odors, noise and MSW.

Neighborhood Character Evaluations:

Using available sources (including the SWMP FEIS) generalized data will be gathered for each Community District where the concentrations are located. Contributing factors include: Land Use, Population Characteristics, Urban Design and Visual Quality, Parks and other Community Facilities and Cultural Resources. Neighborhood character will further be defined based on existing traffic, air quality, odor, water quality and public health findings defined in the previous subtasks. The distance of each transfer station from the nearest residential district will be presented.

Potential changes to neighborhood character will then be qualitatively evaluated under various conditions (as described in the Traffic Evaluation Scope above) such as: with operational adjustments made to existing transfer stations; with commercial waste trucks removed and replaced with other hypothetical trucks generated by non-waste uses that could be potentially developed under current zoning; and with some of the commercial waste trucks and operations removed, as may be required to ensure Study Areas operate within CEQR impact thresholds and performance standards). Given these conditions, the neighborhood character will be described as to whether it would likely change or improve, or remain the same as with existing conditions and how these conditions compare to CEQR standards.

4.4.2 DSNY Siting Rules Assessment

The results of the Study Area Analysis will be further evaluated to determine what, if any, revisions should be considered in DSNY's 1998 Transfer Station Siting Rules and permitting requirements. This assessment will focus on ascertaining the potential effects of modifying the Siting Rules or permit requirements to mitigate potential adverse impacts associated with the future siting of new transfer stations. This assessment will consider the findings of the Study

Area Evaluations Tasks in formulating and testing the applicability of siting policies that would: (i) mitigate the potential for an undue concentration of facilities in a given community; and (ii) achieve a more equitable distribution of facilities in manufacturing zones consistent with zoning and other applicable regulatory standards, taking into account the purpose of the zoning resolution to site industrial uses in defined districts.

The evaluation for the potential siting of new commercial waste transfer stations in the City will require the generation and incorporation of numerous data layers into the GIS database. These layers include, but are not limited to, zoning, parks and sensitive receptors. The Consultant Team will use numerous public and private data sources and, as necessary, verify data through field investigations as appropriate for applicability of siting rule restrictions. The Siting Rules will be used as the basis to develop specific criteria to buffer, edit, analyze and query the GIS database. This analysis will allow a visual representation of how the Siting Rules affect the existing transfer stations and what potential areas would accept development of new commercial waste stations without violating existing Siting Rule restrictions and will note factors that typically drive siting decisions, such as access to rail and highways.

4.4.3 Mitigation Summary

The Consultant Team will summarize the results of the Study Area analyses to determine the need for new mitigation policies. The Consultant Team will summarize findings from air, odor, noise, water quality, traffic, economic impact, public health, and neighborhood character evaluations in the Study Area analyses. Possible mitigation strategies will be outlined and evaluated to develop measures that can be instituted by modifying existing policies, practices and regulations.

Mitigation strategies that might be considered for re-permitting of existing or siting of new commercial waste transfer station permits or expansions may include: (i) requiring new transfer station owners to make or fund certain improvements (i.e., intersection improvements, such as lane striping, signals and signs) in the immediate vicinity of the proposed facility or within the Study Area prior to development of a new transfer station; (ii) obtaining air quality offsets by

closing other existing commercial waste transfer stations under the same ownership or by other offsets resulting in an overall zero net air quality impact; (iii) limiting the number of waste hauling vehicles along specific roadways during certain periods of time; and (iv) designating specific intersections or routes to be avoided.

Task 4.5 Assessment of the Design and Operation of Existing Commercial Transfer Stations

A field survey will be conducted to assess the design and operation and compliance with applicable zoning standards of a select sample of existing putrescible, C&D and fill material commercial waste transfer stations. The purpose of the field survey is to identify potential changes to facility designs (i.e., perimeter fencing, on-site queuing space, exhaust controls, etc.) and/or operational practices (waste storage and handling, locations of equipment, hours of operation, etc.) that would mitigate the potential for impacts to nearby communities. The recommended design and/or operational changes may be proposed for consideration as recommended policy measures that would modify the regulatory requirements for permitting existing, modified or new transfer stations in the City.

A survey checklist will be prepared to identify design and operational parameters to be reviewed during each visit. The survey checklist will include parameters that are required by City and State regulations governing solid waste and C&D transfer stations, including zoning standards, and additional parameters that, if implemented, would improve the conditions of the facility and its potential impact on the surrounding community. During the field survey, information reported on the Department's Quarterly Reports will be compared to observed conditions (e.g., use of scales) and scale records maintained by the facility to assess the relative accuracy of reported information. Up to 20 transfer stations will be visited with DSNY Permit Inspection Unit personnel. Once checklists are completed for each location, the data will be summarized and assessed to identify common design or operational parameters that are present at each type of facility, and those that are not present, that could result in an improvement to the community. Unit pricing and a range of comparative costs for improvements will be prepared.

Task 4.6 Evaluation of Permitting and Enforcement Effectiveness in Regulating Commercial Waste Collection and Transfer Operations

This Subtask focuses on the detailed analysis of existing State, City and DSNY controls on commercial carting and transfer station development and evaluation of the enforcement of current policies. The Consultant Team will research current policies governing the issuance of permits and the existing practices regarding the evaluation of their impacts. This work will initially inventory the responsible agencies and the respective authority they exercise over the commercial carting industry, waste set-out, and the siting, design, construction and operation of transfer stations. The key regulatory mechanisms are: (i) DSNY Siting Rule requirements and NYSDEC's Part 360 Solid Waste Facility Permits for new and expanded or modified transfer stations; (ii) Zoning Performance Standard requirements; (iii) DSNY Permitting Regulations; and (iv) City DOT Traffic Regulations.

Studies of the effectiveness of enforcement of applicable regulations will be performed to identify gaps in enforcement coverage. The Consultant Team will describe the existing enforcement structure, including: (i) lines of responsibility for enforcement activity within an agency and among several agencies within similar enforcement responsibilities (including DSNY, the City Departments of Buildings, Transportation, and Health, the Business Integrity Commission, and the Police Department – the areas of responsibility and the extent of coordination with other agencies will be noted); (ii) offenses for which summonses may be issued (for each agency, the specific regulations enforced will be listed along with the types of penalties that are associated with particular violations); (iii) analysis of DSNY summons history; and (iv) complaints received from the public. (A limited research effort of DSNY and Environmental Control Board records will be undertaken. The purpose will be to determine the most common types of summonses issued to commercial waste generators, carters and transfer stations, the frequency of violations averaged at transfer stations, and the number of violations typically issued during a single inspection by DSNY personnel.)

The Consultant Team will evaluate enforcement practices, for deficiencies, which may include: (i) gaps in line of responsibility or offenses not addressed; (ii) the need for in-the-field monitoring and measurement technology (i.e., noise meters) to document violations; and (iii) the

lack of deterrence resulting in repeat offenders. The Consultant Team will test the extent of impacts due to the limitations of the enforcement program (e.g., agent training in use of noise meters and dust sampling equipment) and a lack of enforcement in the field at select locations. The testing program will be structured as follows:

- Select Test Criteria: In consultation with DSNY, the Consultant Team will select criteria (grouped according to regulatory agency) to be finalized in consultation with DSNY. The recommended criteria should include: (i) conformance to limits on hours and operating requirements; (ii) compliance with enclosure restrictions; (iii) noise levels; (iv) adherence to truck routes; and (iv) compliance with restrictions on off-site queuing, idling and parking.
- Select Test Locations: Test locations will be based on a review of the violation data compiled as a result of this Task.
- Sample Transfer Station-Related Violations: Visits will be made on two separate days to each of the sample transfer stations. Notes will be made if previously cited violations still exist.
- Sample Truck Route Violations: Along major roads leading from the Study Area into or through a residentially zoned area, but which are not designated truck routes, classification counts will be performed to determine the presence of commercial waste-related trucks and other industry trucks. One day of traffic counts will be performed at five intersections per Study Area. The counts will be performed at the two major approaches of each intersection.

An Enforcement Effectiveness Report will be prepared with findings regarding any perceived gaps in enforcement procedures and the extent and nature of any other enforcement deficiencies. Potential modifications to enforcement procedures will be identified, including procedures that may be directed at facility owners/operators who have carter customers with a significant history of repeated violations by, for example, restricting the receipt of waste from these carters.

Task 4.7 Evaluation of Alternative Collection Vehicles

Under almost any scenario for the future, the movement of solid waste in the City will remain heavily dependent upon diesel-powered trucks. The ideal and most effective measure to reduce air pollution would be to reduce the emissions by these trucks. The main objective of this Task is to determine if particulate traps, alternate fuels or truck types might be feasible and lawful

means of reducing truck emissions. In consultation with DSNY, which has extensive experience in testing alternative fuels and emissions control equipment on its collection fleet, the Consultant Team will provide an overview of the different options for alternative fuels and vehicle types/retrofits. The focus will be on proven technologies and vehicle types. If regulations are to be imposed or incentives provided, they must represent realistic emission reduction technology and options that would not create undue hardship for truck fleet operators. The two initial review components are as follows:

- Alternative Fuel Options: At the present time, all of the vehicles transporting private waste in the City are powered by either gasoline or diesel fuel produced from petroleum. In recent years, several alternate fuels have been explored; none, however, have been found to be acceptable replacements for gasoline and diesel-fueled vehicles. The options with the most potential for efficient and cost effective emission reductions will be evaluated. The Consultant Team will review the: (i) ability of existing vehicles to be retrofitted with devices that reduce emissions; (ii) safety; (iii) ease of use; (iv) power output of alternative fuels, such as natural gas, methanol, ethanol; (v) the impact of USEPA-proposed and promulgated regulations mandating cleaner burning diesel engines and the use of certain fuels in vehicles; and (vi) the availability of alternative fuel stations. The Consultant Team will also address the use of biodiesel fuels, including the potential generation of biodiesel from putrescible waste.

- Vehicle Size Alternatives: Currently, vehicles hauling private waste in the City vary in size from small, two-axle, six-wheel vehicles to large, articulated 18-wheelers. This alternative will seek to evaluate if one or a variety of sizes of trucks could better serve communities by balancing air quality, noise, and congestion issues with economic feasibility. The analysis will focus on whether regulation of carter vehicle fleets, much like the regulation of City taxi fleets, would yield any environmental or economic benefits over the present system. If standard fleets are used, they may facilitate regulation and streamline inspection of vehicles, which may, in turn, yield a cost savings to the City.

- Noise Suppression Technology: The availability of equipment designed into vehicles and add-on devices that reduce vehicle noise in collection and transfer operations will be investigated. The effectiveness and cost of using this equipment in waste collection and transfer operations will also be assessed.

An evaluation will be performed to determine if a particular type or types of vehicle would be more economically and environmentally feasible. To assess whether alternatives can be implemented, the following will be examined:

- Regulatory Options: The regulatory framework presently in place to license and inspect vehicles and operators hauling trade waste in the City will be analyzed to determine where regulations on fuel type could best be introduced and the procedures for the introduction of those changes.
- Institutional Barriers: The Consultant Team will explore institutional barriers that may pose problems with introducing new legislation or rules.

Task 4.8 Findings and Recommendations

Findings from each of the Tasks completed in the Study will be summarized in a detailed Report. This Report will also identify recommendations for policy strategies that may be implemented by DSNY or proposed for adoption in the New Plan. Results of the Study and recommended policy strategies will be included in the Study Report.

COMMERCIAL WASTE MANAGEMENT STUDY

VOLUME I

PRIVATE TRANSFER STATION EVALUATIONS:

- **Four Study Areas with Transfer Stations in Geographical Proximity**
- **Engineering and Operations Survey of Selected Transfer Stations**
- **Effectiveness of Enforcement**

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PREFACE

Local Law 74 of 2000 (LL74) mandated a comprehensive study of commercial waste management (Commercial Waste Management Study or Study) in New York City (City) by a Consultant funded by the City Department of Sanitation (DSNY). This Study undertaken to comply with LL74 will assist the City in managing the commercial waste stream in the most efficient and environmentally sound manner, and assist in the development of the City's Solid Waste Management Plan (New SWMP) for the New SWMP Planning Period.

Volume I addresses the following topics, as specified in LL74:

1. *"the effectiveness of procedures employed and the criteria applied by the department for the issuance and renewal of permits for the operation of putrescible and non-putrescible solid waste transfer stations in minimizing potential adverse environmental, economic and public health impacts on the communities in which such transfer stations are located by examining such issues as (i) the effectiveness of the criteria applied by the department to the siting of putrescible and non-putrescible solid waste transfer stations, including the aggregate effect of the geographic proximity of solid waste transfer stations to each other and (ii) the scope and effectiveness of the operational restrictions imposed upon putrescible and non-putrescible solid waste transfer stations, including the hours of operation and any performance standards established in the zoning resolution of the city of New York;*

2. *the manner in which all applicable laws, rules and regulations relating to the operation of putrescible and non-putrescible solid waste transfer stations, private carters and long haul transport vehicles are enforced, including who should be responsible for such enforcement, and the effectiveness of such enforcement in obtaining compliance with such laws, rules and regulations and in minimizing potential environmental, economic and public health impacts and an analysis of rules relating to routes for transporting material to or from such transfer stations; . . . and*

3. *potential environmental, economic and public health impacts on communities in which large numbers of privately-owned putrescible and non-putrescible solid waste transfer stations are located such as, but not limited to, potential impacts related to air quality, water quality, odors, traffic congestion and noise."*

In addition to this Volume I, the Study consists of five other volumes:

- Volume II: Commercial Waste Generation and Projections;
- Volume III: Converted Marine Transfer Stations – Commercial Waste Processing and Analysis of Potential Impacts;
- Volume IV: Evaluation of Waste Disposal Capacity Potentially Available to New York City;
- Volume V: Manhattan Transfer Station Siting Study; and
- Volume VI: Waste Vehicle Technology Assessment.

This volume, Volume I: Private Transfer Station Evaluations, reports the results of three inter-related evaluations focused on privately owned and operated Transfer Stations:

- **Four Study Areas with Transfer Stations in Geographical Proximity** – which examines potential areas of overlapping effects from Transfer Stations in geographical proximity to each other within four Study Areas.

- **Engineering and Operations Survey of Selected Transfer Stations** – which surveyed selected Transfer Stations to identify means and measures to improve their environmental performance.

- **Effectiveness of Enforcement –** which evaluates the existing enforcement activities that govern Transfer Stations under City and state rules and regulations.

The reports and appendices that provide the analyses and data in support of this Executive Summary are:

"Summary Report on Four Study Areas with Transfer Stations in Geographical Proximity," and its **Appendices and Attachments:**

Appendix A: Neighborhood Character Summary

Appendix B: On-Site Prototype Designs

Appendix C: On- and Off-Site Air Quality Protocol

Appendix D: Odor Sampling

Appendix E: Odor Modeling Methodology

Appendix F: On- and Off -Site Noise Protocol

Appendix G: Water Quality Assessment Summary

Appendix H: Traffic Protocol

Appendix I: Public Health Evaluation of Multi-Facility Effects

Appendix J: Engineering and Operations Survey of Selected Transfer Stations

Appendix K: Effectiveness of Enforcement

Attachment: Technical Backup Data (Available on Request from DSNY Bureau of Long Term Export, Assistant Commissioner, Harry Szarpanski, P.E., (917) 237-5501)

DSNY regulates[1] the privately owned putrescible, non-putrescible and fill material Transfer Stations that are authorized to receive and process these categories of waste materials. The New York State Department of Environmental Conservation (NYSDEC) also regulates[2] the design, construction and operation of Transfer Stations. These Transfer Stations process three types of waste, as defined in DSNY rules:

1. *"Putrescible waste" is solid waste containing organic matter having the tendency to decompose with the formation of malodorous by-products. Putrescible waste generated by the City's businesses is principally office and retail waste with small quantities of putrescible material, but also includes restaurant and other waste. Significant amounts*

[1] DSNY's regulatory authorities derive from Titles 16, 17 and 25 of the New York City Administrative Code (NYCAC), Title 16 of the Rules of the City of New York (RCNY) and the City Environmental Quality Review (CEQR) Procedures.

[2] NYSDEC's regulatory authority derives from Title 6 of New York Codes, Rules and Regulations (NYCRR), Part 360 and Title 6 NYCRR Part 617 under the state's Environmental Conservation Law (ECL).

of office waste are recycled directly at the source by carters that primarily collect recyclable office paper from commercial buildings and deliver it to recyclers, exporters or paper manufacturers. Consistent with DSNY rules, putrescible waste referred to in this report includes the portions of commercial putrescible waste that are both disposed and recycled (such as office paper).

2. *"Non-putrescible" waste is waste that does not contain organic matter having the tendency to decompose with the formation of malodorous by-products, including but not limited to dirt, earth, plaster, concrete, rock, rubble, slag, ashes, waste timber, lumber, Plexiglas, fiberglass, ceramic tiles, asphalt, sheetrock, tar paper, tree stumps, wood, window frames, metal, steel, glass, plastic pipes and tubes, rubber hoses and tubes, electric wires and cables, paper and cardboard.*

3. *"Fill material" is a subset of non-putrescible waste and, as defined in DSNY rules, is clean material consisting of earth, ashes, dirt, concrete, rock, gravel, asphalt millings, stone or sand.*

EXECUTIVE SUMMARY

Privately owned and operated commercial waste Transfer Stations play a vital role in the City's solid waste management system. Putrescible Transfer Stations currently transfer approximately 6,200 tons per day (tpd)[3] of commercial waste and 7,250 tpd of DSNY-managed Waste disposed by City residents, agencies and not-for-profit institutions to disposal facilities outside the City. Non-putrescible and fill material Transfer Stations play a similarly important role in the recycling and disposal of C&D debris and excavation material, with approximately 8,630 tpd and 19,070 tpd handled at these facilities in 2003, respectively. While critical to the City's waste infrastructure, these facilities must operate and be maintained in an environmentally sound manner, and in accordance with City and state rules and regulations. This volume consists of three independent but inter-related studies on Transfer Stations located throughout the City that examine the effects of geographical proximity in four Study Areas, assess whether the enforcement of existing regulations and the permitting procedures and criteria are effective, and recommend practical means to improve the operation of these facilities which may impact upon the quality of life in the surrounding communities.

It is important to note in this Study that DSNY's Marine Transfer Station (MTS) Conversion Program relies on shipping DSNY-managed Waste by barge and rail, and so is expected to reduce the numbers of trucks currently hauling DSNY-managed Waste from private Transfer Stations for disposal. Moreover, DSNY has taken the initiative to issue three Requests for Proposals (RFPs) solicitations to private vendors that may result in the award of a contract that would have the effect of reducing transfer trailer truck traffic associated with the transport of commercial waste in the Study Areas. Specifically, DSNY long-term export RFPs seek vendor proposals to containerize DSNY-managed Waste at private transfer facilities and transport it out of the City by barge or rail. These RFPs seek alternatives to the rebuilding of the Greenpoint and Bronx MTSs, and a contract entered into by the City would specify that <u>all</u> waste (not just DSNY-managed Waste) accepted at Transfer Stations on which proposals are based be containerized and transported out of the City by barge or rail. This would have the potential effect of significantly reducing the volume of outbound traffic from Transfer Stations in portions of Brooklyn, Queens and the Bronx.

The approach taken and findings for each of these studies is summarized below.

Four Study Areas with Transfer Stations in Geographical Proximity

Scope of Analysis/Approach

The objective of the Study Area analysis was to evaluate whether areas with a number of Transfer Stations in geographical proximity have the potential of producing overlapping environmental effects on air quality, odor, noise, neighborhood character and water quality. In addition, the off-site effects of these facilities on traffic, air quality and noise from mobile sources (Waste Hauling Vehicles) were analyzed. The potential public health effects of the findings of these evaluations were also considered.

The Study Areas were selected based upon a review of the location and geographical proximity of the 69 operating private Transfer Station in the five boroughs. Four Study Areas encompassing 43 of the facilities were identified for analysis: Port Morris, Bronx Community District (CD) #1; Hunts Point, Bronx CDs #2 and #9; Jamaica, Queens CD #12; and Brooklyn CD #1 (primarily East Williamsburg, but including three facilities with four permits in Queens). Table ES-1 shows the names, locations and types of Transfer Stations in each Study Area.

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[3] Tons per day are calculated on the basis of a six-day week, 312-day year.

Table ES-1
Permitted Commercial Waste Transfer Stations within Study Areas

Name	Address	Type Of Transfer Station
Port Morris, Bronx CD #1		
Bronx County Recycling	475 Exterior Street	Fill
Felix Equities	290 East 132nd Street	Fill
Tilcon NY	980 East 149th Street	Fill
USA Waste Services of NY (Waste Management)	98 Lincoln Avenue	Putrescible
USA Waste Services of NY (Waste Management) (1)	132nd Street & Saint Ann's Avenue	Putrescible (Intermodal)
Waste Services of NY	920 East 132nd Street	Putrescible
Total Number in Port Morris, Bronx CD #1 Study Area		**6**
Hunts Point, Bronx CDs #2 and #9		
A.J. Recycling	325 Faile Street	Non-Putrescible
Bronx City Recycling	1390 Viele Avenue	Fill
G. M. Transfer	216-222 Manida Avenue	Non-Putrescible
Kids Waterfront Corp.	1264 Viele Avenue	Non-Putrescible
IESI NY Corp	325 Casanova Street	Putrescible
John Danna and Sons	318 Bryant Avenue	Non-Putrescible
Metropolitan Transfer Station	287 Halleck Street	Putrescible
Paper Fibers Corp.	960 Bronx River Avenue	Putrescible
Waste Management of NY (1)	Oak Point & Barry Avenue	Putrescible (Intermodal)
Waste Management of NY	620 Truxton Street	Non-Putrescible
Waste Management of NY	315 Baretto Street	Non-Putrescible
Total Number in Hunts Point, Bronx CDs #2 and #9 Study Area		**11**

Table ES-1 (Continued)
Permitted Commercial Waste Transfer Stations within Study Areas

Name	Address	Type Of Transfer Station
Brooklyn CD #1		
Point Recycling Ltd	686 Morgan Avenue	Non-Putrescible
Waste Management of NY (2)	75 Thomas Avenue	Non-Putrescible
Waste Management of NY(2)	485 Scott Avenue	Putrescible
Waste Management of NY	215 Varick Avenue	Putrescible
Waste Management of NY	123 Varick Avenue	Non-Putrescible
Waste Management of NY	232 Gardner Avenue	Non-Putrescible
Maspeth Recycling (3)	58-08 48th Street	Fill
IESI NY Corp	548 Varick Avenue	Non-Putrescible
Astoria Carting Company (3)	538-545 Stewart Avenue	Non-Putrescible
City Recycling Corp	151 Anthony Street	Non-Putrescible
Cooper Tank and Welding	222 Maspeth Avenue	Non-Putrescible
Pebble Lane Associates (3)	57-00 47th Street	Fill
Keyspan Energy	287 Maspeth Avenue	Fill
New Style Recycling Corp (2)(3)	49-10 Grand Avenue	Putrescible
New Style Recycling Corp (2)(3)	49-10 Grand Avenue	Non-Putrescible
BFI Waste Systems of NJ (4)	598-636 Scholes Street	Putrescible
BFI Waste Systems of NJ (4)	594 Scholes Street	Non-Putrescible
BFI Waste Systems of NJ (4)	575 Scholes Street	Non-Putrescible
BFI Waste Systems of NJ	115 Thames Street	Putrescible
Hi-Tech Resource Recovery	130 Varick Avenue	Putrescible
Total Number in Brooklyn CD #1 Study Area		**20**

Table ES-1 (Continued)
Permitted Commercial Waste Transfer Stations within Study Areas

Name	Address	Type Of Transfer Station
Jamaica, Queens CD #12		
American Recycling Management [(2)]	172-33 Douglas Avenue	Putrescible
American Recycling Management [(2)]	172-33 Douglas Avenue	Non-Putrescible
Regal Recycling [(2) (5)]	172-06 Douglas Avenue	Putrescible
Regal Recycling [(2) (5)]	172-06 Douglas Avenue	Non-Putrescible
T. Novelli [(2)]	94-07 Merrick Avenue	Fill
T. Novelli [(2)]	94-20 Merrick Avenue	Non-Putrescible
Total Number in Jamaica, Queens CD #12 Study Area		**6**
Total Number of Transfer Stations Evaluated		**43**

Notes:

(1) These two facilities are permitted as intermodal terminals that ship containerized waste by rail. No waste processing is conducted at these sites.

(2) Denotes one facility with two permits.

(3) Four Transfer Stations on the Brooklyn CD #1 list are actually in Queens near the border of Brooklyn but were evaluated as part of the Brooklyn CD #1 Study Area.

(4) These three locations constitute one facility with three DSNY permits under state regulations.

(5) Regal Recycling is enclosing the non-putrescible waste processing operations; therefore, this facility was modeled as an enclosed non-putrescible Transfer Station.

First, current conditions (including the presence of the Transfer Stations) in each of the Study Areas were evaluated. Second, the conditions without the Transfer Stations were evaluated to determine the net contribution of the Transfer Stations. Third, the conditions without the Transfer Stations, but with assumed other industrial uses occupying the same sites, were evaluated assuming the Transfer Stations were replaced by as-of-right general light industrial land uses (e.g., printing plants, laboratories) in the Study Area. This land use replacement scenario assumed that the Transfer Station land uses would be occupied by other M-zone land uses typical of current conditions in the Study Area. The off-site effects of these replacement land uses were calculated using trip generation rates published by the Institute of Transportation Engineers (ITE).

Analyses were conducted for: (1) air quality, odor, noise, neighborhood character, public health and water quality from Transfer Stations located within each Study Area; and (2) traffic, off-site air quality and off-site noise at key intersections/locations along major corridors leading to and from the Study Areas. Although this evaluation is not an environmental review, it uses City

Environmental Quality Review (CEQR) and other planning and engineering review criteria as the best available measure of the environmental effects of Transfer Stations on the surrounding community. Standard models for air quality (United States Environmental Protection Agency [USEPA]-approved Industrial Source Complex Short Term [ISCST3], CAL3QHCR, MOBILE5b and Part 5), noise (Federal Highway Administration's [FHWA's] Traffic Noise Model [TNM] 2.1) and traffic (Highway Capacity Software [HCS] version 4.1c) were used to predict combined effects of the Transfer Stations.

Criteria were identified for each environmental parameter, as described in the "Summary Report on Four Study Areas with Transfer Stations in Geographical Proximity." If the criteria were not exceeded, the Study Area analysis concludes that the overlapping effects of the Transfer Stations were not considered to be adverse. If these criteria were exceeded, means of reducing environmental effects through operational measures or design modifications were identified and then evaluated. If the current conditions for traffic and its attendant effects still exceeded the applicable criteria, further analysis was undertaken, as more fully described in the Summary Report.

Findings and Recommendations

Air quality, odor, noise, traffic, neighborhood character and water quality analyses were conducted to evaluate the potential effects from the geographic proximity of the Transfer Stations within the Study Areas. The analyses modeled areas where the potential effects of Transfer Stations in proximity to each other overlapped (combined effects) and evaluated whether these effects were potentially adverse. It considered combined effects at sensitive receptors in these areas of overlap in manufacturing zones -- for example non-conforming residences, not just contiguous residential zones -- but did not consider new siting actions. The overall results of the Study Area analyses show that the geographical proximity of the existing Transfer Stations in these Study Areas do not cause adverse combined or cumulative effects using reasonable criteria adapted from the CEQR and planning and engineering criteria. There are no findings in the Study Area analyses that indicate there are combined adverse effects to the environment from existing Transfer Stations that would warrant a reduction in the number and capacity of Transfer Stations in the Study Area.

The Study makes certain recommendations for, among other things, better odor control systems at putrescible Transfer Stations to improve the operations and to limit the effects of Transfer Stations. As described in the Volume I, Summary Report, the regulatory regime for siting of new Transfer Stations in the City consists of zoning, operating requirements, siting restrictions, environmental review, the state's detailed Part 360 regulations, the City's Noise and Air Codes, and Vehicle and Traffic Laws. Together the application of these current requirements would tend to mitigate the potential for adverse impacts from a future siting action.

1. ***On-site Air Quality***: The maximum predicted combined contribution of existing Transfer Stations in the Study Area combined with background levels from the closest air quality monitor showed results all below National Ambient Air Quality Standards (NAAQS) for criteria pollutants (carbon monoxide [CO], sulfur dioxide [SO_2], nitrogen dioxide [NO_2] and particulate matter less than 10 microns in diameter [PM_{10}]). For particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), the maximum predicted annual neighborhood average from combined on-site and off-site sources ranges from 1% to 6% of contribution to the latest monitored concentration from the nearest monitoring station within each Study Area.

2. ***On-site Odor:*** Sampling of odors was undertaken in the summer when odor generation from waste decomposition would be at its highest. A review of the controlled and uncontrolled odor emissions from the same facilities revealed that the controlled Transfer Station emissions were no more than 38% lower than the uncontrolled facilities, and in some cases the controlled emissions were deemed higher than the uncontrolled emissions, which is most likely due to the use of scented masking agents instead of more effective neutralizing agents to control odors. The highest frequency of conservatively predicted odor levels exceeding the criteria, assuming no odor controls, was for a receptor in the Brooklyn CD #1 Study Area, where the model predicted an exceedance just under 0.82% of the time (72 non-consecutive hours per year). If more effective (90% efficient) odor controls were implemented at all commercial putrescible waste facilities, the odor levels would be reduced substantially (by 90%), and there would be no overlapping contributions from multiple Transfer Stations in the Study Areas.

3. ***On-site Noise:*** Transfer Stations in the Port Morris, Bronx CD #1 Study Area do not have overlapping noise effects because they are not located in close proximity to each other. However, there were areas of potential overlapping effects from multiple Transfer Stations in Brooklyn CD #1; Jamaica, Queens CD #12; and Hunts Point, Bronx CDs #2 and #9 Study Areas, but the analyses did not predict effects at sensitive receptors located within these Study Area overlap areas. Waste Hauling Vehicles queuing on and off site make the greatest contributions to noise levels. The removal of off-site queuing of Waste Hauling Vehicles reduces noise levels attributable to overlapping effects.

4. ***Traffic:*** Fifty-eight (58) intersections were analyzed in the Study Areas for the traffic analysis. Results indicate that many of the intersections operate at an overall level of service (LOS) C or better under current conditions (six in Port Morris, Bronx CD #1 Study Area; seven in Hunts Point, Bronx CDs #2 and #9 Study Area; 16 in Jamaica, Queens CD #12 Study Area and 23 in Brooklyn CD #1 Study Area). The current conditions at six of the intersections in the Study Areas operate at an overall LOS D, E or F.[4] The percentage of Waste Hauling Vehicles analyzed ranged from 0% to 7% of the total number of vehicles traveling through the intersections during the hours analyzed. Subtracting the Waste Hauling Vehicles from the analysis did not significantly improve the LOS at any intersection analyzed. And when replacement industry trips (that is, traffic that would be generated by other light industrial uses for the Transfer Station sites if the Transfer Stations were absent) were substituted for Waste Hauling Vehicles in the analysis, the LOS remained the same or deteriorated.

5. ***Off-site Air Analysis:*** For the mobile air quality analyses, current conditions were analyzed at two "worst case" links each in the Port Morris, Bronx CD #1 and the Hunts Point, Bronx CDs #2 and #9 Study Areas and at four links each in Brooklyn CD #1 and Jamaica, Queens CD #12. In all instances, results are below NAAQS for all the criteria pollutants. For $PM_{2.5}$, the 24-hour maximum contribution from off-site emission sources

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[4] Brooklyn CD #1 Study Area: (1) Meeker Avenue and Union Avenue, and (2) Flushing Avenue/Melrose Street and Varick Avenue/Irving Avenue; Port Morris, Bronx CD #1 Study Area: (1) Bruckner Boulevard and Alexander Street; Hunt's Point, Bronx CDs #2 and #9 Study Area: (1) Hunt's Point Avenue and Bruckner Boulevard, (2) Longwood Avenue and Bruckner Boulevard, and (3) Leggett Avenue and Bruckner Boulevard.

ranged from 0.03 to 1 μg/m^3 (or 0.08% to 2.4% of the latest monitored concentration). The annual neighborhood maximum contribution from off-site emission sources ranges from 0.01 to 0.17 μg/m^3 (or 0.08% to 0.9% of the latest monitored concentration).

7. ***Off-site Noise:*** Two levels of screening were conducted on 23 locations where sensitive receptors exist near convergence points along truck routes to and from the Study Areas -- eight in Port Morris, Bronx CD #1; four in Hunts Point, Bronx CDs #2 and #9; six in Brooklyn CD #1; and five in Jamaica, Queens, CD #12. The first level of screening used total traffic volumes and axle factors from the New York State Department of Transportation (NYSDOT) to conservatively estimate the existing traffic volumes, and whether the addition of Waste Hauling Vehicles would have the potential to double passenger car equivalent (PCE) noise levels, requiring a further evaluation of potential effects (first-level screening).[5] Based on this first-level screening, 17 locations (five in Port Morris, Bronx CD #1; four in Hunts Point, Bronx CDs #2 and #9; three in Brooklyn CD #1; and five in Jamaica, Queens, CD #12) were identified for further screening (second-level screening) using actual field traffic classification counts at these locations to determine the potential for doubling PCEs. Based on this second-level screening, five locations (two locations in Brooklyn CD #1 and three locations in Jamaica, Queens, CD #12) were identified for modeling using Federal Highway Administration's (FHWA's) Traffic Noise Model (TNM) version 2.1. Predicted results from TNM modeling at these five locations were compared to the Study noise threshold (an increase in 3dBA or greater attributable to the Waste Hauling Vehicles). The modeled mobile noise from the Waste Hauling Vehicles at the intersections analyzed did not exceed the threshold. Therefore, there are no predicted noise effects from these Waste Hauling Vehicles.

8. ***Water Quality:*** Twenty-nine of the 43 Transfer Stations within the Study Areas are not near or adjacent to surface water. The remaining 14 Transfer Stations that are adjacent to or near surface water do not have adverse individual or combined effects on water quality in the Study Areas.

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[5]See Volume I Summary Report for intersection locations.

9. ***Neighborhood Character:*** The neighborhood character analyses in all four Study Areas determined that overlapping effects of Transfer Stations, where such effects exist, do not contribute adversely to the typically industrial neighborhood character of the four Study Areas. Moreover, where the technical analyses compared existing conditions to the replacement scenario, in which reasonably anticipated development were assumed to occur in place of the Transfer Stations, it was found that the conditions studied would not necessarily be better than existing conditions. In certain cases, larger volumes of traffic predicted under the replacement scenario could potentially result in diminished neighborhood character quality, compared to existing conditions with the Transfer Stations. The assumption used in creating the replacement industry scenario is that all components of neighborhood character conditions (zoning, socioeconomics, etc.) remain fundamentally the same as existing conditions.

10. ***Public Health:*** Using the conservative assumption that commercial waste Transfer Stations do not control odors at all, receptors in two Study Areas were found likely to experience potentially unacceptable odors at times from overlapping effects. These effects were predicted to be infrequent, occurring less than 1% of the time for all receptors (i.e., less than 72 non-consecutive hours per year), and are not likely to generate sustained annoyance or symptoms. With regard to regulated pollutants, cumulative effects on air quality were predicted to be minimal (for $PM_{2.5}$, 1% to 6% of contribution to the latest monitored background values). The Transfer Stations, in aggregate, do not appear to be important determinants of air quality for any of the pollutants regulated by the USEPA on the basis of human health effects.

Engineering and Operations Survey of Selected Transfer Stations

Scope of Analysis/Approach

This report supplemented the work undertaken as part of the Study Area evaluations through on-site surveys of 24 of the 43 Transfer Stations located in the Study Areas, including putrescible, non-putrescible and fill material facilities. These surveys involved a review of existing information made available by DSNY from its permit records and environmental review documents, and site visits to observe facility operations and collect data on facility designs and operating performance. The data collection activities included odor (at existing transfer stations) and noise sampling (at nearby receptors) and analysis. These data were evaluated to determine if various design or operational measures could improve the environmental performance of existing Transfer Stations in terms of a reduction in pollutant and odor emissions and noise attenuation. Details are provided in Appendix J of Volume I.

Findings and Recommendations

The following recommendations, pertaining to the design and operation of Transfer Stations, are the result of this evaluation.

1. **Ventilation and Odor Control** – The ventilation systems of putrescible Transfer Stations should be upgraded with the addition of state-of-the-art odor control technology to "neutralize" odors in exhaust air, and ventilation capacity should be increased to prevent the escape of odors when facilities are operating with doors open, by maintaining sufficient negative air pressure. The combination of an odor neutralizing system treating exhaust air in conjunction with increased fan capacity, operated correctly, would have synergistic effects to substantially reduce potential odors.

   A number of the putrescible Transfer Stations inspected used rudimentary odor control systems that could be more effective. An example of a state-of-the-art odor control system option is a hard-piped system, suspended above the processing floor, which would

introduce an odor-neutralizing agent into exhaust air, as it is ventilated from the building. Implementing this recommendation could include a provision for an equivalent system acceptable to the DSNY Commissioner that is sufficient to meet Zoning Code and Air Code standards.

The fan capacity recommendation would surpass current Building Code standards. It would require increasing fan capacity from 6 air changes per hour (ach) to 8 to 12 ach and treating the exhaust air. Fans would automatically operate at 8 ach with doors closed and at 12 ach with doors open. The additional fan capacity addresses the practical reality that Transfer Station doors are generally open during operating hours when inbound and outbound traffic is heavy and consequently odors can be more readily released from the building.

2. **Odor Prevention** – DSNY's Permit and Inspection Unit (PIU) staff should continue focusing their enforcement efforts on operating conditions that contribute to odor formation during waste processing operations. Inspectors should take particular care to continue to identify and take enforcement action to correct the following conditions, when observed:

   - Floor-wear conditions that contribute to pooling of leachate on the floor. These conditions may be indicated by exposed rebar.
   - Excessive dust accumulation on facility walls that can become a source of odor formation.
   - Clogged trench drains in the floor drain system or grit and grease traps that are not routinely maintained.

   In addition, inspectors should continue to monitor and focus on compliance with a daily ½-hour "clean time" during which the floor is cleared of waste to allow housekeeping functions, such as floor and wall wash-down, cleaning of drains, and maintaining ventilation and odor control systems.

3. **Dust Control** – Both DSNY and NYSDEC regulations require measures to control dust from waste processing operations. Of the three types of Transfer Stations, non-putrescible and fill material facilities generally operate outdoors, while all waste processing activity at putrescible Transfer Stations must occur in an enclosed building. Dust control should continue to be a focus of PIU's enforcement action, particularly when dust from operations is observed crossing property lines at non-putrescible and fill material Transfer Stations or exiting from the exhaust vents of putrescible Transfer Stations. Persistent enforcement will induce facility operators to use relatively simple and effective dust control measures.

   Different means of controlling dust are applicable to each type of facility:

   - Non-putrescible and fill material facilities – Installation of a sprinkler-type system that sprays water on the working pile will substantially reduce the transport of dust from processing operations more effectively than hand-held hoses currently used at many facilities.
   - Putrescible – Installation of a water-misting system for dust suppression within the enclosed processing building is an effective method of minimizing dust in the exhaust air. The system commonly used in the solid waste industry involves pumping water through ¼" to ¾" steel pipe to high-pressure mist nozzles that atomize water, creating a fine mist that reduces dust generation. The atomization process does not cause water to pool on the processing floor. These systems, when operated properly, are effective at reducing as much as 90% of the dust generated at putrescible Transfer Stations.

4. **Stormwater Control** – This issue is specific to non-putrescible and fill material facilities that do not have concrete paved surfaces with appropriate drainage where material is processed. This absence of pavement with appropriately installed stormwater drainage creates two potential problems: (i) runoff into surface water or storm sewers; and (ii) tracking of mud and debris during wet weather onto neighboring streets.

   The first issue is being addressed by NYSDEC under the authority established by Article 27 of the Environmental Conservation Law (ECL) and more specifically by Article 17, Titles 7 and 8 of the ECL. Implementing regulations for Article 17, Titles 7 and 8 are

provided under 6 New York Codes, Rules and Regulations (NYCRR) Part 750. These regulations are the basis of the State Pollution Discharge Elimination System (SPDES) program that requires permits for management of stormwater that discharges to surface water or separate storm sewers. Obtaining coverage under the statewide general permit for stormwater associated with industrial activities (GP-98-03) or an individual stormwater permit requires the preparation of a Stormwater Pollution Prevention Plan that would typically entail installation of a paved surface with controlled drainage directed through grit and grease traps or other pretreatment systems prior to discharge to surface waters or storm sewers. Discharge of stormwater containing "leachate" to the sanitary or combined sewer system requires permits from the City Department of Environmental Protection (NYCDEP). NYSDEC is in the process of requiring Transfer Stations in the City to obtain SPDES permits.

The second issue (tracking of mud and debris during wet weather onto neighboring streets) can be effectively addressed by washing the tires of vehicles as they exit the Transfer Station. This can be accomplished through the installation of an automated tire washing system or using manually operated hoses.

5. **Noise Control** – Noise emissions are regulated under the City's Noise Code §24-243, the Zoning Resolution and Transfer Station Operating Rules. Noise effects may arise at the property boundary where equipment operates outdoors, as is the case with non-putrescible and fill material Transfer Stations (waste processing operations at putrescible Transfer Stations are in an enclosed building), or from Waste Hauling Vehicles queuing in the street in front of these facilities (which was found to be the principal source of noise at Transfer Stations.) However, the Noise Code and Zoning Code do not prohibit the levels of vehicular noise associated with queuing trucks at Transfer Stations. Also, space limitations at many existing facilities limit the options for mitigating this problem. DSNY's operating rules prohibit non-putrescible Transfer Stations from operating between 7:00 p.m. and 6:00 a.m., to limit noise from such facilities. NYSDEC, during its permit renewal process, is focusing on design measures and permit conditions to limit off-site queuing. These combined approaches can mitigate noise problems in areas where they are most likely to affect residential dwellings.

6. **Air Quality** – The primary sources of air pollution from Transfer Stations are the non-road engines, such as front end loaders, used in waste processing operations, not diesel Waste Hauling Vehicles. This issue is discussed more fully in the evaluation reports of the four Study Areas. It is important to note here that: (i) these engines will be subject to increasingly stringent emission standards promulgated by the USEPA that over time will significantly reduce emissions as older equipment is replaced; and (ii) federal law appears to preempt the City from establishing more stringent standards for these non-road engines. The New York Air Code (NYAC) §24-143, contains a prohibition on *"visible air contaminants from an internal combustion engine of (a) a motor vehicle while the vehicle is stationary for longer than 10 consecutive seconds; or (b) a motor vehicle after the vehicle has moved more than 90 yards from a place where the vehicle was stationary."* This regulation provides a basis for enforcement actions by DSNY's PIU inspectors where old or poorly maintained mobile equipment, such as front end loaders or bulldozers, is emitting visible smoke. Air Code §24-109 and §24-142 provide authority to regulate stationary equipment such as crushers. DSNY should institute a training program for its inspectors in the application of USEPA's (40 CFR 60, Appendix A) Method 9 procedures for opacity testing. (The threshold for human recognition of visible emissions is generally considered to be around 5% opacity.) Certified inspectors issuing citations for opacity violations would induce Transfer Station operators to better maintain or upgrade their equipment.

Effectiveness of Enforcement

Scope of Analysis/Approach

Both the City and New York State regulate the privately owned Transfer Stations. DSNY is the primary local agency responsible for permitting, regulating and inspecting Transfer Stations and NYCDEP's Environmental Control Board (ECB) adjudicates notices of violation that DSNY officers write. DSNY derives its powers to control waste Transfer Station operation from the

City Charter, Title 16, of the New York City Administrative Code (NYCAC) and Title 16 of the Rules of the City of New York (RCNY). The NYSDEC's regulatory authority derives from the Environmental Conservation Law (ECL) and Title 6 of NYCRR, Part 360. The Business Integrity Commission (BIC) does background investigations into character and fitness to operate a Transfer Station and also licenses the vehicles operated by private carters in the City.

As the primary inspector of the City's Transfer Stations, DSNY's PIU conducts most of the on-site inspections. The unit is comprised of twenty-two (22) officers -- 17 Environmental Police Officers and five Environmental Lieutenants. The PIU force conducts a full inspection of each putrescible and non-putrescible Transfer Station at least once per week, and conducts additional, frequent, limited drive-by inspections of such facilities.

During the course of this Study, current management policies governing the City's Transfer Stations were reviewed and evaluated based on infraction statistics gathered from the inspection records at DSNY and NYSDEC to determine the effectiveness of enforcement procedures on the City's Transfer Stations. In addition, other City and state agencies involved with various aspects of enforcement were contacted and the rules and regulations defining their authority reviewed. Details of these analyses can be found in Volume I, Appendix K, Effectiveness of Enforcement.

In addition, a review of historical violation records from 1991 to 2002 was completed as well as an in-depth study of inspection reports for Fiscal Year 2003. The pattern of violation issuance and the type of infraction that led to such summonses were evaluated to gain a better understanding of current enforcement measures and to address potential improvements to the system.

Various fine structures exist depending on the type, severity and frequency of a violation. Certain Transfer Station-type violations, such as operating a Transfer Station without a valid permit or being in violation of operational rules, are termed "major ECB violations" for the purpose of this Study and warrant a fine ranging from $2,500 for a first offense, $5,000 for a second offense and up to $10,000 for third and subsequent offenses. Violations that this Study terms "minor ECB violations" relate to sidewalk and street infractions and have lower liability amounts that warrant fines between $100 and $300, while the Study category of "minor action

violations," such as illegal dumping or the presence of noxious liquids, has a maximum fine of up to $450. (The "minor" classification used here is not meant to suggest that such violations are less important, merely that the monetary penalties are less than those for "major" Transfer Station violations.)

City enforcement of regulatory standards on Transfer Station operation is guided by the applicable performance standard for the facility under the Zoning Resolution, as supplemented by the Air and Noise Code and DSNY's regulations. The City has established three kinds of industrial districts, each with specific performance standards: Light Manufacturing (M1 - High Performance), Medium Manufacturing (M2 - Medium Performance) and Heavy Manufacturing (M3 - Low Performance). Transfer Stations are considered a Use Group 18 use. Use Group 18 uses are appropriate in M3 districts subject to low performance standards, and are allowed in M1 and M2 districts provided they meet the more stringent performance standards applicable to those zones with respect to odor, noise, vibration, dust and smoke. Additional noise and vibration restrictions apply to a manufacturing district located adjacent to a residential district. M1 districts often serve to buffer residential and commercial districts from heavier industrial M2 or M3 zones. M2 districts occupy the middle ground between light and heavy industrial areas. Performance standards in this district are less stringent than in M1 areas, as more noise, vibration and smoke are permitted. M3 districts are designated for heavy industries (such as foundries, cement plants, salvage yards, chemical manufacturing, asphalt plants) that generate more objectionable influences and hazards, including noise, dust, smoke and odors, as well as heavy traffic. New residences and community facilities may not locate in M3 districts. These districts are usually situated near the waterfront and are buffered -- for example by M1 districts -- from residential areas. With their low performance standards, M3 zones are particularly well-suited for the siting of Transfer Stations

A field observation was conducted to sample the level of compliance with truck route restrictions around Transfer Stations. Trucks must travel on designated routes, except where they deviate to reach their final destination. Truck route violations are important to monitor as they directly affect the quality of life on residential streets in the surrounding community. (The City Department of Transportation [NYCDOT] is currently conducting a citywide study of truck traffic.) The survey counted Waste Hauling Vehicles using non-truck routes at key intersections in the vicinity of Transfer Stations and compared their number to the number of other trucks and

automobile traffic. Intersections with a high potential to be used illegally by Waste Hauling Vehicles -- either key local non-truck route intersections or crossings of local arteries and truck routes -- were selected as observation sites.

Findings

1. Only approximately 0.3% to 6% of total traffic at a non-truck route intersection can be attributed to Waste Hauling Vehicles.

2. There has been a 100% increase in DSNY inspection frequency over the last four years following a doubling in inspection staff and an increase in the closure of negligent facilities. In general, the number of Transfer Stations has declined. In 1990, 153 Transfer Stations were in operation, compared to 96 in 1996 and only 69 in 2004.

3. According to DSNY historical summons data, over the past 12 years (1991 to 2002), roughly 15% of putrescible Transfer Stations, 12% of non-putrescible Transfer Stations and 8% of fill material Transfer Stations accrued more than 20 violations each in the 12-year span.

4. The majority of the City's Transfer Stations are sited in M3 zones (68%), thus reducing their potential effect on the residential community.

5. In 1998, DSNY promulgated new Transfer Station Siting Rules (implemented as a new subsection of the existing rules governing Transfer Stations found in 4 RCNY 16) that included restrictions on the locations in which new Transfer Stations could be sited and limitations on their hours of operation. They included the following general provisions:

   - No siting of new putrescible and non-putrescible Transfer Stations in M1 zones;
   - No siting within 400 feet of residential districts and sensitive receptors such as public parks and schools;
   - No siting of a new non-putrescible Transfer Station within 400 feet of an existing non-putrescible Transfer Station; and
   - No operating of non-putrescible Transfer Stations in an M1 zone between 7:00 p.m. and 6:00 a.m.

Additionally, the rules required Transfer Stations to submit engineering reports and transportation plans with all permit applications. These requirements mean that new facilities would be less likely to be in a location that impacts local residents. The rules apply to applications filed after October 1998, and so did not apply to certain pending applications. Additionally, DSNY promulgated temporary siting restrictions in 2003 that expire later this year and will promulgate new permanent Siting Rules this year.

6. On average, seven "major" DSNY violations were issued at Transfer Stations each month between July of 2002 and June of 2003, and roughly 30 major violations were issued to each type of Transfer Station. Despite the fact that fill material inspections occur much less frequently, fill material violations accounted for roughly 29% of the violations issued by DSNY to Transfer Station operators between July 2002 and June 2003. Putrescible Transfer Stations had the most violations, accounting for 45% of those issued; non-putrescible Transfer Stations accounted for only 26%.

7. According to DSNY violation statistics, on average, 50 "minor" Environmental Control Board (ECB) violations, 351 parking violations and 51 traffic violations were issued per month between July 2002 and June 2003. With an annual count of 5,505 summonses, DSNY issues approximately 460 violation summonses of varying severity each month.

8. According to DSNY statistics for Fiscal Year 2003, pile height/volume over the limit was the most common violation at non-putrescible Transfer Stations; and operating without a permit was the second most common violation. The most common violation reported at putrescible Transfer Stations was an unclean tipping floor.

9. Ten violations were issued by DSNY in Fiscal Year 2003 to persons unlawfully operating a fill material Transfer Station without a permit. This violation results in closing an illegal operation.

10. Spillage from trucks and/or receptacles is a relatively frequent violation. Illegal dumping by both the owner and operator are also relatively common violations issued by DSNY. Causing a street obstruction and the presence of noxious liquids were also reported frequently.

11. The majority of parking violations issued by DSNY are in response to trucks standing or parking without proper equipment, or having a detached trailer. Parking for over three hours in a commercial zone or parking in the wrong direction are also relatively common violations. The transportation of loose cargo without a cover is the most commonly violated traffic rule, with 300 summonses issued by DSNY within Fiscal Year 2003.

Conclusions and Recommendations

In summary, Transfer Station enforcement quality has shown major improvements over the last decade due to the increased frequency of inspections. However, further improvements can be made to improve the level of coordination within and between the City agencies responsible for enforcement, by creating a fully computerized system of inspection forms at the agency level. The improvements in productivity over manual collection and input of inspection data, as well as the overall benefit of a multi-agency coordinated enforcement structure, greatly justifies the investment of resources to create this system. An accessible digital database that will heighten inter-agency cooperation and improve information management is the critical path to improving enforcement practices.

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1.0 OBJECTIVE

As defined in Local Law 74 (LL74) and in the Final Scope of Work for the Commercial Waste Management Study (Study), dated July 31, 2003, the objective of the Study Area Evaluations is to identify:

> Potential areas of overlapping effects from multiple Transfer Stations in the Study Areas for: (1) air quality, odor, noise, neighborhood character, public health and water quality from Transfer Stations located within each Study Area; and (2) traffic, off-site air quality and off-site noise at key intersections along major corridors leading to and from Study Areas; and the potential public health effects from the analyses conducted.

The Study Areas were selected based upon a review of the location and geographical proximity of the 69 operating private Transfer Stations in each of the five boroughs. Attachment A lists these facilities by address, type, community district (CD) location, applicable zoning and permitted capacity. Study Areas were not identified in Manhattan or Staten Island -- there is only one fill material Transfer Station in Manhattan that services Con Edison, and there are six Transfer Stations in Staten Island that are not located in close geographical proximity to each other. The following four Study Areas with concentrations of Transfer Stations were identified for analysis: the Port Morris area, in CD #1, and the Hunts Point area, including portions of CDs #2 and #9 in the Bronx; Brooklyn CD #1; and the Jamaica area, in Queens, CD #12. Forty-three (43) of the 69 operating Transfer Stations are located in these Study Areas. Table 1-1 shows the name, location and type of Transfer Station in each Study Area.

As noted in Table 1-1, there are:

- Six (6) Transfer Stations in the Port Morris, Bronx CD # 1 Study Area: three putrescible waste and three fill material;
- Eleven (11) Transfer Stations in the Hunts Point, Bronx CDs #2 and #9 Study Area: four putrescible waste, six non-putrescible waste and one fill material;
- Twenty (20) Transfer Stations in the Brooklyn CD #1 Study Area: six putrescible waste, 11 non-putrescible waste and three fill material; and
- Six (6) Transfer Stations in the Jamaica, Queens CD #12 Study Area: two putrescible waste, three non-putrescible waste and one fill material.

Figures 1-1 through 1-4 show the location of the Transfer Stations, the major transportation routes to and from the facilities, and the CDs in which the four Study Areas are located.

Table 1-1
Permitted Commercial Waste Transfer Stations within Study Areas

Name	Address	Type of Transfer Station
Port Morris, Bronx CD #1		
Bronx County Recycling	475 Exterior Street	Fill
Felix Equities	290 East 132nd Street	Fill
Tilcon NY	980 East 149th Street	Fill
USA Waste Services of NY (Waste Management)	98 Lincoln Avenue	Putrescible
USA Waste Services of NY (Waste Management) (1)	132nd St & Saint Ann's Avenue	Putrescible (Intermodal)
Waste Services of NY	920 East 132nd Street	Putrescible
Total Number in Port Morris, Bronx CD #1 Study Area		**6**
Hunts Point, Bronx CDs #2 and #9		
A.J. Recycling	325 Faile Street	Non-Putrescible
Bronx City Recycling	1390 Viele Avenue	Fill
G. M. Transfer	216-222 Manida Avenue	Non-Putrescible
Kids Waterfront Corp.	1264 Viele Avenue	Non-Putrescible
IESI NY Corp	325 Casanova Street	Putrescible
John Danna and Sons	318 Bryant Avenue	Non-Putrescible
Metropolitan Transfer Station	287 Halleck Street	Putrescible
Paper Fibers Corp.	960 Bronx River Avenue	Putrescible
Waste Management of NY (1)	Oak Point & Barry Avenue	Putrescible (Intermodal)
Waste Management of NY	620 Truxton Street	Non-Putrescible
Waste Management of NY	315 Baretto Street	Non-Putrescible
Total Number in Hunts Point, Bronx CDs #2 and #9 Study Area		**11**

Table 1-1 (Continued)
Permitted Commercial Waste Transfer Stations within Study Areas

Name	Address	Type of Transfer Station
Brooklyn CD#1		
Point Recycling Ltd	686 Morgan Avenue	Non-Putrescible
Waste Management of NY (2)	75 Thomas Avenue	Non-Putrescible
Waste Management of NY	232 Gardner Avenue	Non-Putrescible
Waste Management of NY	215 Varick Avenue	Putrescible
Waste Management of NY	123 Varick Avenue	Non-Putrescible
Waste Management of NY (2)	485 Scott Avenue	Putrescible
Maspeth Recycling (3)	58-08 48th Street	Fill
IESI NY Corp	548 Varick Avenue	Non-Putrescible
Astoria Carting Company (3)	538-545 Stewart Avenue	Non-Putrescible
City Recycling Corp	151 Anthony Street	Non-Putrescible
Cooper Tank and Welding	222 Maspeth Avenue	Non-Putrescible
Pebble Lane Associates (3)	57-00 47th Street	Fill
Keyspan Energy	287 Maspeth Avenue	Fill
New Style Recycling Corp (2) (3)	49-10 Grand Avenue	Putrescible
New Style Recycling Corp (2) (3)	49-10 Grand Avenue	Non-Putrescible
BFI Waste Systems of NJ (4)	598-636 Scholes Street	Putrescible
BFI Waste Systems of NJ (4)	594 Scholes Street	Non-Putrescible
BFI Waste Systems of NJ (4)	575 Scholes Street	Non-Putrescible
BFI Waste Systems of NJ	115 Thames Street	Putrescible
Hi-Tech Resource Recovery	130 Varick Avenue	Putrescible
Total Number in Brooklyn CD#1 Study Area		**20**

Table 1-1 (Continued)
Permitted Commercial Waste Transfer Stations within Study Areas

Name	Address	Type of Transfer Station
Jamaica, Queens CD #12		
American Recycling Management [2]	172-33 Douglas Avenue	Putrescible
American Recycling Management [2]	172-33 Douglas Avenue	Non-Putrescible
Regal Recycling [2] [5]	172-06 Douglas Avenue	Putrescible
Regal Recycling [2] [5]	172-06 Douglas Avenue	Non-Putrescible
T. Novelli [2]	94-07 Merrick Avenue	Fill
T. Novelli [2]	94-20 Merrick Avenue	Non-Putrescible
Total Number in Jamaica, Queens CD #12 Study Area		**6**
Total Number of Transfer Stations Evaluated		**43**

Notes:

(1) These two facilities are permitted as intermodal terminals that ship containerized waste by rail. No waste processing is conducted at these sites.

(2) Denotes one facility with two permits.

(3) Four Transfer Stations on the Brooklyn CD #1 list are actually in Queens near the border of Brooklyn but were evaluated as part of the Brooklyn CD #1 Study Area.

(4) These three locations constitute one facility with three New York City (City) Department of Sanitation (DSNY) permits under state regulations.

(5) Regal Recycling is enclosing the non-putrescible waste processing operations; therefore, this facility was modeled as an enclosed non-putrescible waste Transfer Station.

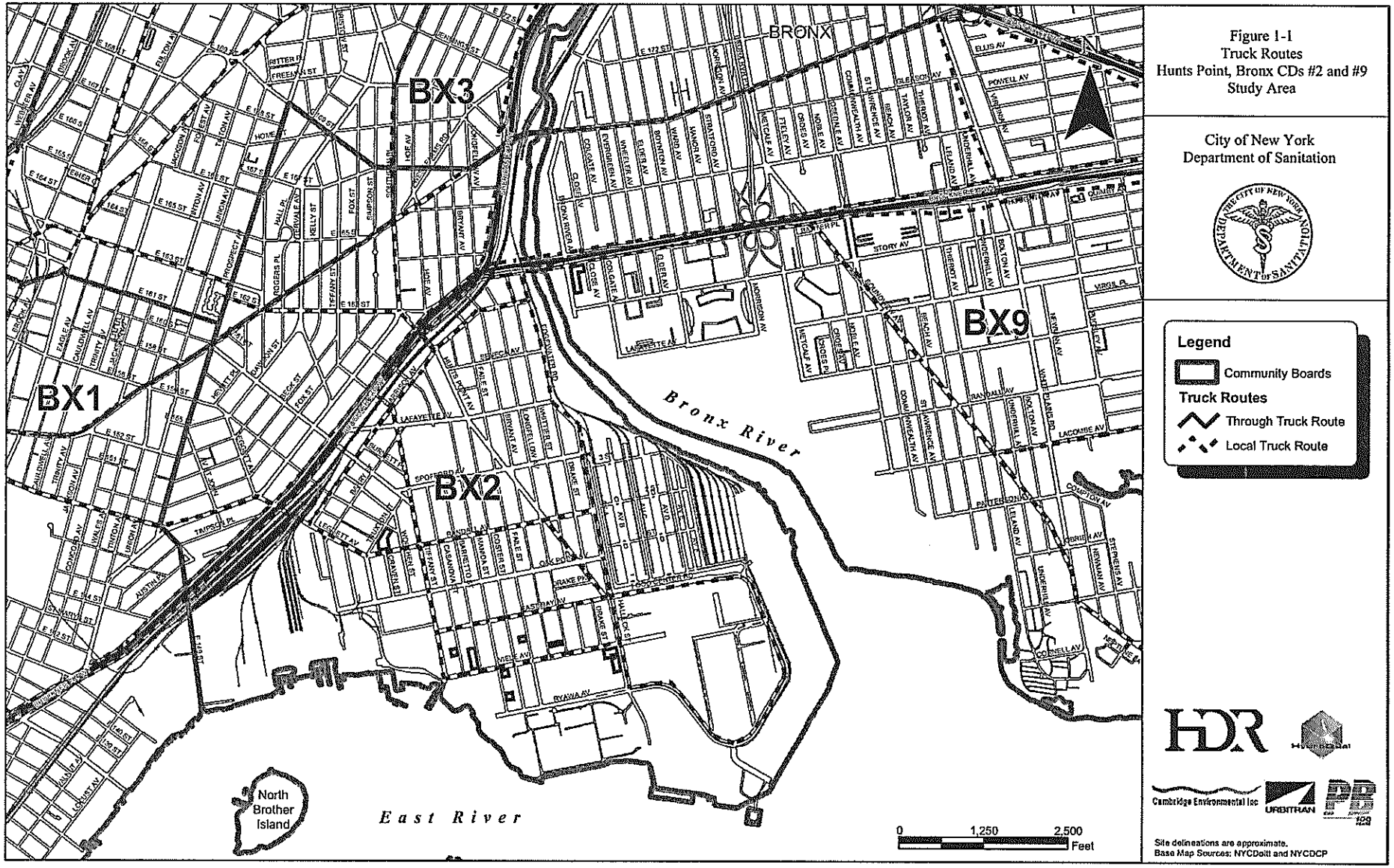

Figure 1-1
Truck Routes
Hunts Point, Bronx CDs #2 and #9
Study Area

City of New York
Department of Sanitation

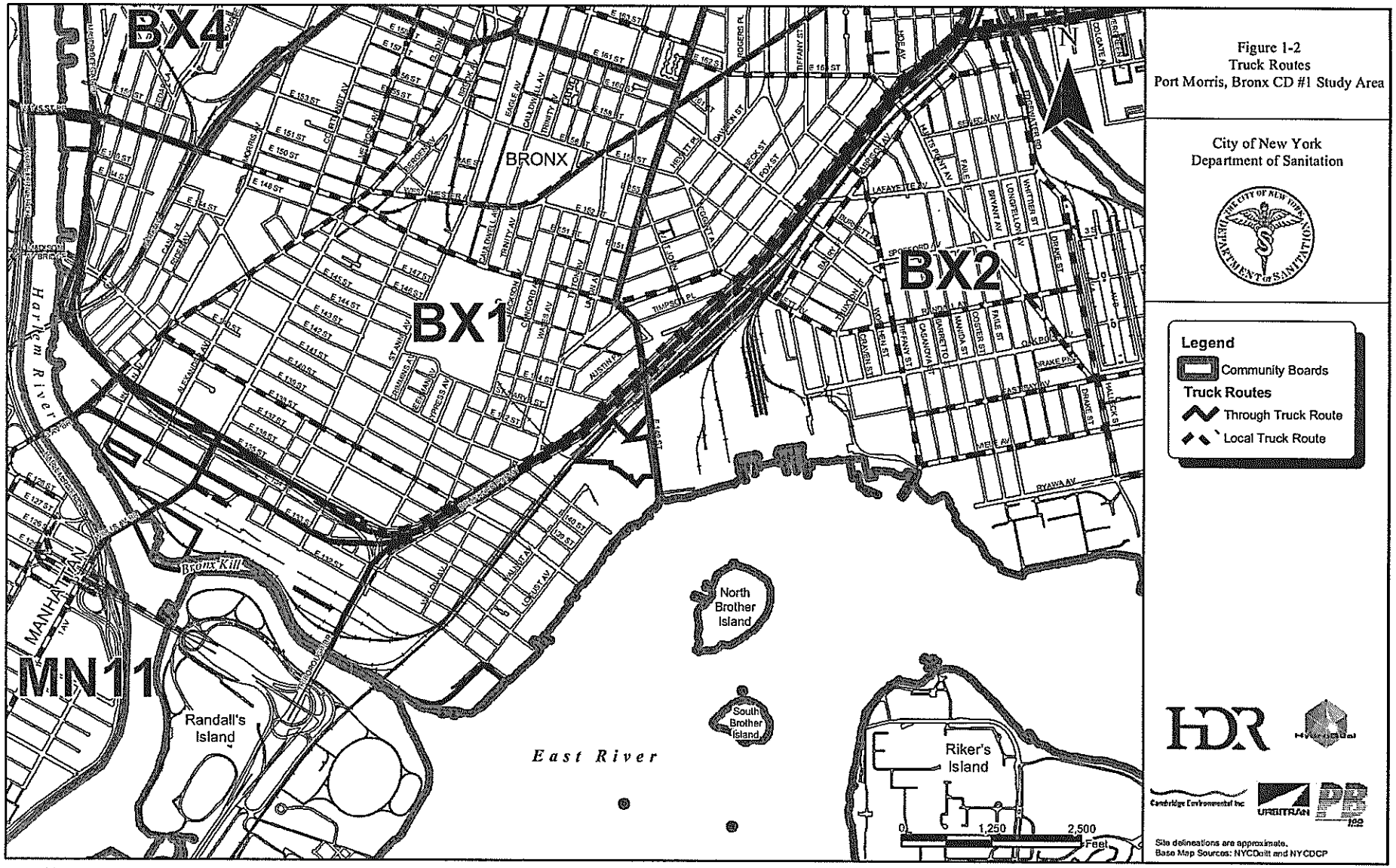

Figure 1-2
Truck Routes
Port Morris, Bronx CD #1 Study Area

City of New York
Department of Sanitation

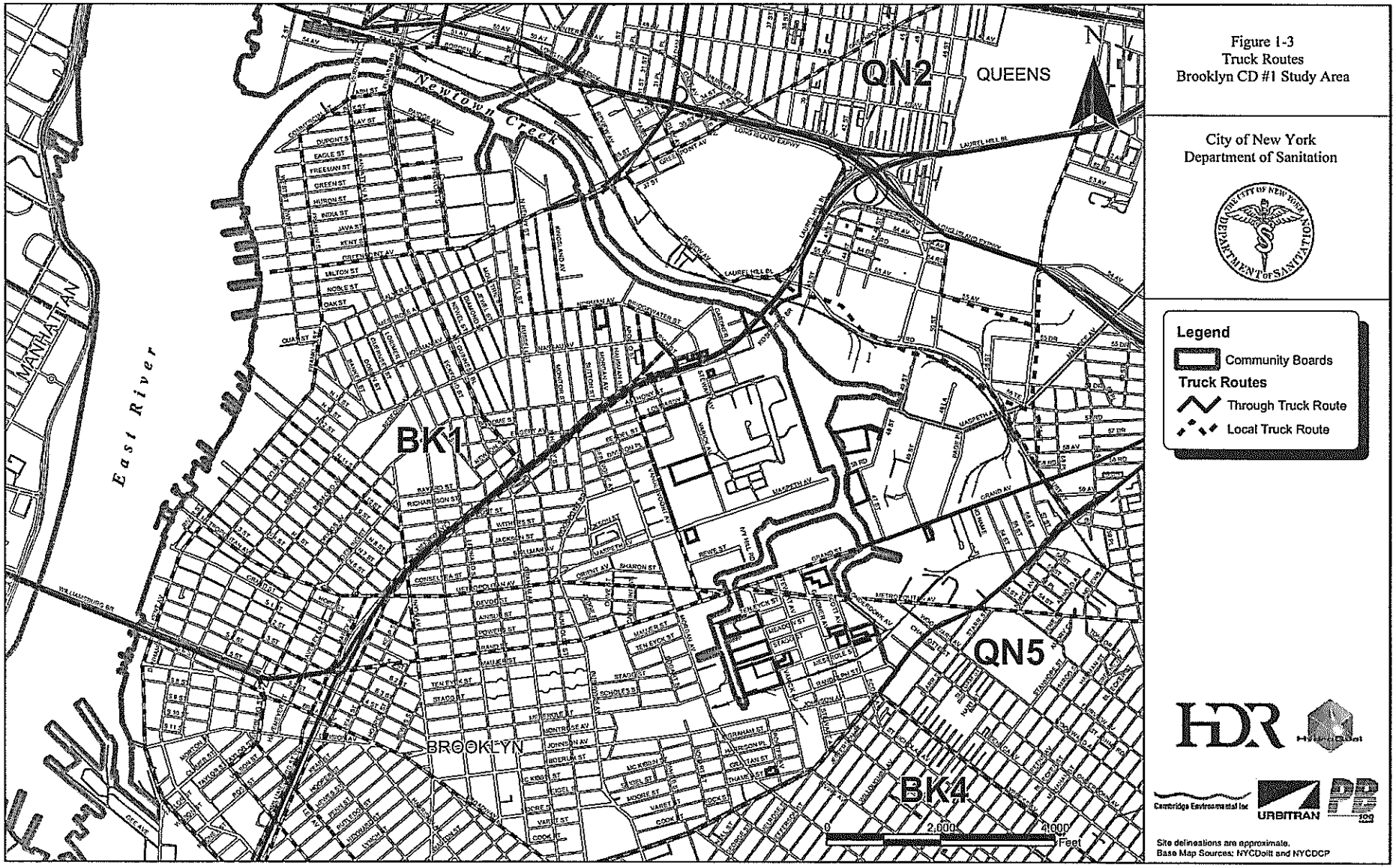

Figure 1-3
Truck Routes
Brooklyn CD #1 Study Area

City of New York
Department of Sanitation

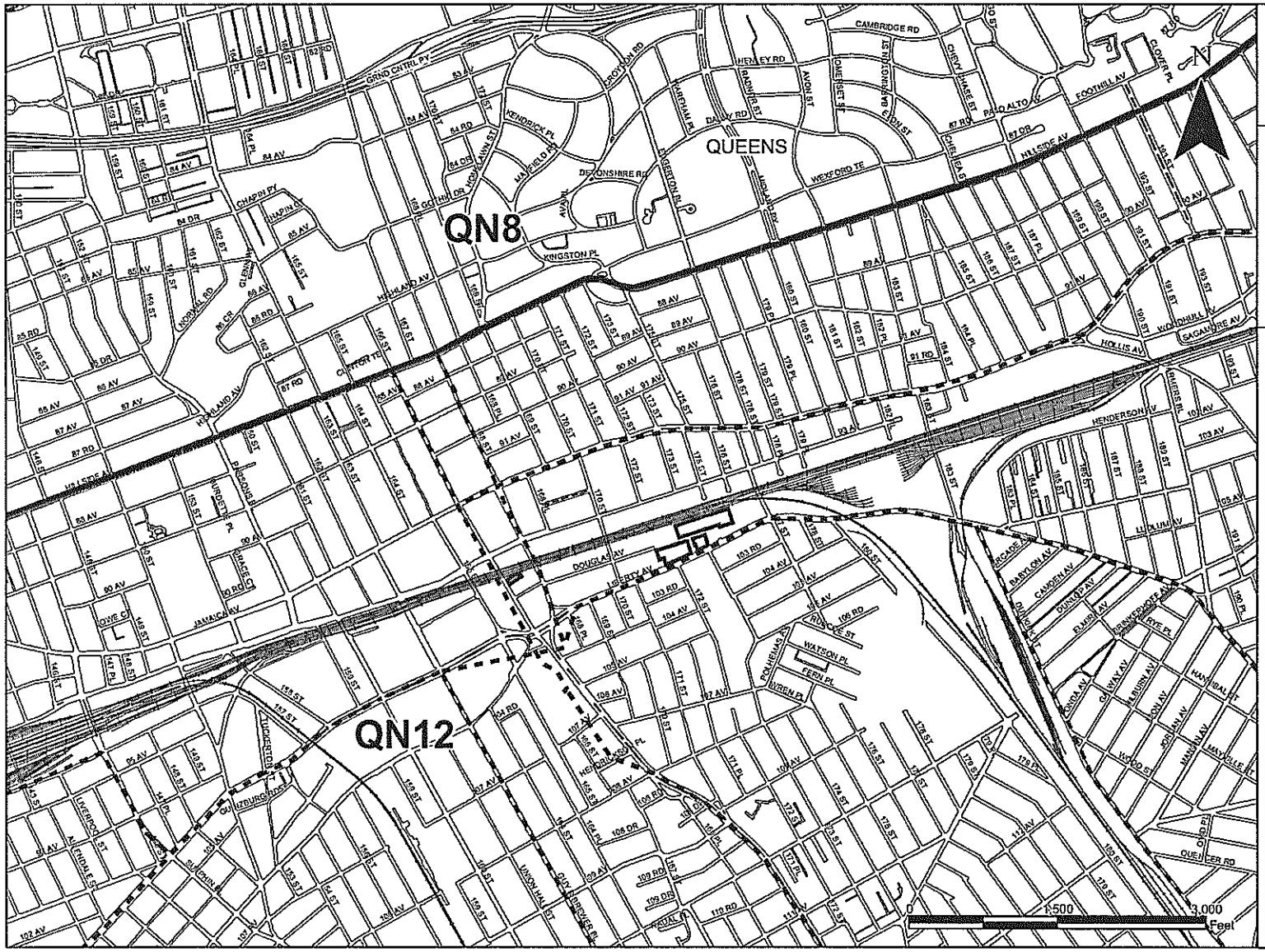

Figure 1-4
Truck Routes
Jamaica, Queens CD #12 Study Area

City of New York
Department of Sanitation

Legend

Community Boards

Truck Routes

Through Truck Route

Local Truck Route

Site delineations are approximate.
Base Map Sources: NYCDoIt and NYCDCP

2.0 HISTORICAL/LEGISLATIVE OVERVIEW OF TRANSFER STATION REGULATION

One of the objectives of LL74 is to assess the effectiveness of the permitting procedures and current criteria applied by the New York City (City) Department of Sanitation (DSNY) to the siting of Transfer Stations in minimizing potential adverse impacts on the communities in which such Transfer Stations are located, including any aggregate impact of the geographic proximity of Transfer Stations to each other. This section provides background on Transfer Station regulations, explains how applications undergo environmental review and discusses DSNY's current siting rules and permitting procedures.

2.1 Background on DSNY and New York State Department of Environmental Conservation (NYSDEC) Transfer Station Permitting

There have always been Transfer Stations in the City. Transfer Stations locate where suitable zoning, transportation access, proximity to wastesheds and economics are favorable. The regulation of private Transfer Stations has evolved over time and become increasingly stringent. In addition to ensuring that Transfer Stations are sited in industrial districts established by law, the City's criteria for siting Transfer Stations include certain restrictions promulgated in 1998 (discussed below), and the completion of an environmental review.

Prior to 1990, putrescible waste Transfer Stations were regulated locally by the City Department of Health, while non-putrescible waste Transfer Stations required permits from DSNY. Such facilities were (and are) required to meet certain performance standards required by the Zoning Resolution with respect to odor, noise, dust, smoke and enclosure, and comply with the City's Noise Code and Air Code. Both types of facilities also required permits from the NYSDEC, which promulgated additional detailed regulations (Title 6 of the New York Codes, Rules and Regulations [NYCRR], Part 360) under the State's Solid Waste Management Act in 1988.

2.1.1 City Regulation of Transfer Stations

DSNY was given additional authority to promulgate regulations to control and supervise non-putrescible waste Transfer Stations pursuant to Local Law 49 of 1989. In 1990, the City had 153 Transfer Stations (159 permits): six dual putrescible and non-putrescible waste, 39 putrescible waste, 70 non-putrescible waste and 38 fill material. Local Law 40 of 1990 transferred to DSNY the responsibility for regulating putrescible waste Transfer Stations and required DSNY to promulgate more detailed rules for the transfer station industry. DSNY adopted rules for putrescible waste Transfer Stations in 1990 and additional rules in 1991, requiring facilities previously permitted by the City Department of Health to apply for new DSNY permits. A substantial number of operating Transfer Stations were initially unable to obtain a new DSNY permit, due to one or more problems: inability to obtain a Certificate of Occupancy indicating a Use Group 18 use; inability to operate with the doors closed (many facilities lacked doors); or failure to operate within a fully enclosed structure. To force such facilities to come into compliance, DSNY issued notices of violation of $10,000 or more for such facilities, and entered into a series of compliance agreements giving the operators a limited amount of time to come into compliance or cease operating.

The NYSDEC revised its 6 NYCRR Part 360 Transfer Station regulations in 1993. DSNY adopted additional rules for non-putrescible waste Transfer Stations and fill material Transfer Stations in 1994. Among other things, these rules provided new limits on pile heights and new fence requirements for unenclosed non-putrescible waste and fill material Transfer Station operations in proximity to residential districts. Within 300 feet of a residential zone, an unenclosed construction and demolition (C&D) debris pile cannot exceed eight feet in height. If an unenclosed non-putrescible waste Transfer Station is more than 300 feet from a residential zone, the maximum pile height is 40 feet for separated concrete, rock, gravel, asphalt, brick, dirt or metal; 30 feet for separated, chipped wood; and eight feet for all other non-putrescible waste. Similarly, the maximum pile height at unenclosed fill material Transfer Stations is eight feet within 300 feet of a residential zone, and 40 feet if more than 300 feet from a residential zone. In addition, for both no-putrescible waste and fill material Transfer Stations, unenclosed operations

conducted within 300 feet of a residential zone require an opaque perimeter fence at least 15 feet high, while such facilities operating more than 300 feet from a residential zone require a minimum fence height of 10 feet high.

In 1996, the City Council enacted Local Law 42, which created a Trade Waste Commission (TWC) (now named the Business Integrity Commission [BIC]) to regulate the commercial carting industry in the City. This law also required Transfer Station applicants to undergo review by the TWC. During the period from 1990 to 1996, the combination of increased regulatory requirements, enforcement and consolidation in the industry led to a decline in the number of Transfer Stations in the City from 153 (including six dual facilities) to 96.

2.1.2 NYSDEC Permitting Criteria

A Transfer Station permit issued by NYSDEC must assure, to the maximum extent practicable, that the permitted activity will pose no significant adverse impact on public health, safety or welfare or environmental or natural resources, and that the activity will comply with the provisions of Part 360 and with other applicable laws and regulations. State regulations require an environmental review for NYSDEC putrescible and non-putrescible waste Transfer Station permits, but not for fill material Transfer Stations. NYSDEC is empowered to impose conditions on Transfer Station permits, including but not limited to inspection, financial assurance, technical data gathering and reporting, data analysis, quality control, quality assurance, sampling, monitoring (including the imposition of on-site environmental monitors), reporting and verification.

2.2 Environmental Review of Transfer Station Applications

DSNY requires an environmental review for all new Transfer Stations (including fill material Transfer Stations), and for Transfer Stations seeking an increase in permitted capacity. DSNY's environmental review is guided by the City Environmental Quality Review (CEQR) Technical Manual, which was revised in 2001, in addition to supplemental technical guidance employed by City agencies such as the City Department of Environmental Protection (NYCDEP) (e.g., for

fine particulate air emissions). DSNY's environmental review for new Transfer Stations and for Transfer Station increases in capacity includes, as appropriate, a consideration of the standard CEQR categories, namely: land use, zoning and public policy; socioeconomic conditions; community facilities and services; open space; shadows; historic resources; urban design/visual resources; neighborhood character; natural resources; hazardous materials; waterfront revitalization program; infrastructure; solid waste and sanitation services; energy; traffic and parking; transit and pedestrians; air quality; noise; construction impacts; and public health. Since 2001, the analysis of air impacts must include a consideration of fine particulate matter 2.5 microns and smaller in diameter ($PM_{2.5}$), using methodology approved by the NYCDEP.

In particular, the study area for neighborhood character is typically 400 feet from the facility boundary, pursuant to the 2001 CEQR Technical Manual. Preliminary thresholds used to determine if a detailed assessment is appropriate include any of the following conditions: a conflict with surrounding land uses or land use policy; a substantial change in urban design, building bulk or streetscape; impact upon visual features or views, historic resources or socioeconomic conditions (direct or indirect displacement of population or businesses or substantial change in character in businesses); a substantial worsening of traffic together with a change in the local type of vehicles (where the amount of traffic and type of vehicle contributes to neighborhood character); and significant adverse noise impacts together with a change in the noise acceptability category.

DSNY files and circulates its environmental review documents and determination of significance with community boards, appropriate elected officials and interested parties. In addition, beginning in March 2003, the NYSDEC adopted an Environmental Justice policy, which potentially affects applicants for NYSDEC Transfer Station permits and permit modifications. NYSDEC now reviews such applications to determine whether they are subject to this policy, and, if they are, the applicant may be required to take additional procedural steps to ensure compliance with the Environmental Justice policy in the application.

DSNY's review of Transfer Station applications includes a consideration of detailed documents, including an engineering report, site plan, odor control plan, drainage details, traffic quantity and routes, and other matters. An Environmental Assessment Statement (EAS) must be submitted that discusses each of the environmental impact categories, and whether the proposed action would reasonably be expected to result in a significant adverse environmental impact based on established thresholds and criteria in the 2001 CEQR Technical Manual. DSNY staff review the majority of the required impact categories, while the NYCDEP reviews air quality, noise and odor studies, and the City Department of Transportation (NYCDOT) reviews any required traffic studies. In addition to a complete environmental assessment form and any related studies, DSNY requires certain other information from applicants, as detailed in a DSNY memorandum to applicants (see Attachment B). In particular, applicants must provide to DSNY copies of their Part 360 NYSDEC application. DSNY issues permits to operate, while NYSDEC typically requires both a permit to construct and a permit to operate a facility. Therefore, DSNY generally issues its permit only after NYSDEC issues its permit.

2.2.1 Coordination With NYSDEC on Environmental Reviews

The joint environmental review responsibilities for Transfer Station permits involving both DSNY and the NYSDEC were set forth in a consent order in City of New York v. New York State Department of Environmental Conservation, Supreme Court, Albany County, Index No. 7218/91 (Consent Order). Pursuant to this Consent Order, since 1992 DSNY and NYSDEC have served as co-lead agencies in conducting the necessary environmental review for new putrescible and non-putrescible waste Transfer Stations, and for certain operating Transfer Stations that had never received a NYSDEC permit. For permit modifications, DSNY and NYSDEC determine on a case-by-case basis which agency is appropriate to serve as lead agency, or whether a co-lead agency designation is appropriate. For fill material Transfer Station permits, DSNY requires an environmental review, but NYSDEC does not. DSNY permit renewals are not subject to an environmental review, unless significant modifications are proposed.

In addition to compliance with environmental review and other NYSDEC and DSNY permitting procedures, Transfer Station operators are required to comply with the City's Zoning Resolution performance standards for the relevant zoning classification (M3, M2 or M1), as well as the more detailed Air Code (including odor) and Noise Code provisions. Commercial waste vehicle operators must abide by relevant Vehicle and Traffic laws, including restrictions on vehicle idling and parking and requirements to use designated truck routes; Waste Hauling Vehicles must meet certain operational requirements.

2.3 Closure of Fresh Kills Landfill and Interim Export

In 1996, the state enacted a law that required the City's Fresh Kills Landfill to close by December 31, 2001. The City then began an intergovernmental process to plan for alternative transfer, transport and disposal of the approximately 11,000 tons per day (tpd) of DSNY-managed Waste then disposed of at Fresh Kills. The City moved forward quickly to begin to phase out disposal at Fresh Kills through the implementation of Interim Export contracts with private Transfer Stations and out-of-City disposal facilities for the transfer and/or disposal of DSNY-managed Waste. Interim Export contracts began with Bronx waste in 1997, resulted in the closure of Fresh Kills in March 2001 and are proposed to be replaced with long-term service contracts pursuant to the new Solid Waste Management Plan (New SWMP) now being prepared for submission to the City Council.

2.4 Evolution of DSNY Siting Rules

The following reports on events leading to changes in DSNY Siting Rules over time.

2.4.1 Neighbors Against Garbage Case

In an lawsuit filed in May, 1996, Neighbors Against Garbage v. Doherty, Index No. 10923/96 (Supreme Ct. NY County, March 16, 1997), a coalition of community groups brought suit to require DSNY to promulgate additional rules governing the siting of Transfer Stations. The case involved an interpretation of the language of Local Law 40 of 1990 requiring DSNY to

promulgate rules concerning the siting of Transfer Stations in relation to other such facilities, residential premises and/or other premises as may be appropriate. The suit did not seek to establish what the appropriate siting rules should be. The trial court found, and the Appellate Division affirmed, 245 AD2d 81 (1st Dept. 1997), that the City's 1991 and 1994 rules addressed the permitting, design, operation and maintenance of Transfer Stations, but did not sufficiently address their proximity to residences, schools and parks and other Transfer Stations, as required by Local Law 40.

2.4.2 Zoning and DSNY 1998 Siting Rules

Until 1998, Transfer Stations could be located in M1, M2 and M3 zones (designated for light, medium and heavy industry, respectively), provided they met the respective performance standards for such zones, notably with respect to odor, noise, dust and enclosure. As anticipated by the Zoning Resolution, the areas of the City with the largest number of Transfer Stations are the districts with large areas of industrial zoning, notably including the South Bronx and Brooklyn East Williamsburg/Newtown Creek areas. Brooklyn's CD #1, which abuts Newtown Creek and includes the Brooklyn Study Area, has 38% of its area zoned for industry (M1, M2 and M3). In the South Bronx, CD #1, which includes the Port Morris Study Area, and CD#2, which includes the Hunts Point Study Area, have approximately 20% of their areas zoned for industry. Queens CD #2, also abutting Newtown Creek and containing several Transfer Stations, has 31% of its area zoned for industry. These are the largest percentages of industrial-zoned land in the City's 59 CDs. The City has designated certain industrial districts, long reserved for heavy industrial use, as Significant Maritime/Industrial Areas and Waterfront Manufacturing Zoning Districts. For example, both designations apply to the South Bronx industrial waterfront, and to the Newtown Creek and English Kills industrial area near the Brooklyn-Queens border, at the edges of Brooklyn CD #1 and Queens CD #2 and CD #5.

In October 1998, DSNY promulgated additional regulations governing the siting of new Transfer Stations and the expansion of existing Transfer Stations. The 1998 siting rules prohibit new non-putrescible waste and fill material Transfer Stations from locating in an M1 district or less than 400 feet from a residential district, public park, school or other non-putrescible waste

Transfer Station. The rules also prohibit existing non-putrescible waste Transfer Stations from expanding into an M1 district or within 400 feet of a residential district, public park, school or other non-putrescible waste Transfer Station. Further, the rules prohibit existing non-putrescible waste Transfer Stations that are lawfully operating within 400 feet of a residential district, public park, school or other non-putrescible waste Transfer Station from expanding closer to such residential district, park, school or other non-putrescible waste Transfer Station. A non-putrescible waste Transfer Station that receives and removes all solid waste by rail or barge would be prohibited from locating in an M1 district but would be exempt from the 400-foot-buffer requirement, provided all solid waste processing is enclosed. The rules measure the distance to the residential district, public park, school or other non-putrescible waste Transfer Station from the site boundary of the non-putrescible waste Transfer Station.

For putrescible waste Transfer Stations, the 1998 rules contain restrictions that are identical to those for non-putrescible waste Transfer Stations, except that they do not require a buffer distance between a putrescible waste and any other Transfer Station, and the distance between the Transfer Station and residential district, public park or school is measured from the structure enclosing waste handling operations, rather than from the Transfer Station site boundary. (These differences in rules are due to the fact that putrescible waste Transfer Stations are fully enclosed, unlike the non-putrescible waste Transfer Stations.) Under the 1998 rules, non-putrescible waste Transfer Stations located in an M1 zone may not operate between 7:00 p.m. and 6:00 a.m. Putrescible waste Transfer Stations may not receive solid waste on Sunday mornings between 4:00 a.m. and noon.

The 1998 rules also require all Transfer Station operators to submit an annual engineering report certifying that the facility complies with all applicable performance standards of the Zoning Resolution and the applicable provisions of the City Health Code. In addition, all applicants for Transfer Station permits must submit a truck transportation plan that specifies the route that trucks will take when transporting solid waste or other material out of the facility for final disposal, reuse or recycling. DSNY may require as a condition for issuing a permit that the Transfer Station operator establish a system to require such trucks exiting the facility to use specific transport routes. The rules require a Transfer Station operating under an interim

authority in an M1 district to obtain a full permit within five years. The rules provide for the possibility of a variance from the buffer distance and other requirements, upon a showing that the granting of a variance would not produce a significant adverse environmental impact. Notably, the 1998 rules exempted from the new siting requirements existing operations and applications for new facilities for which environmental assessments had been submitted to DSNY prior to October 1998. As a result of public comments received on the draft rules, the final 1998 rules were modified in several respects, including increasing the proposed buffer from 300 feet to 400 feet.

The 1998 rules were the subject of an environmental assessment. DSNY found that the rules would not cause a significant adverse impact on the environment and would not lead to Transfer Stations located within geographical proximity that would result in transportation, air quality or noise impacts. DSNY found that the 1998 rules would offer greater environmental protection to the surrounding community than did then-existing requirements. By prohibiting new Transfer Stations in M1 zones, the 1998 rules were estimated to reduce by half the geographic area in which Transfer Stations could potentially be sited, while continuing to allow any new Transfer Stations in M2 and M3 zones with substantial buffers to residences, schools and parks.

2.4.3 Challenge to 1998 Siting Rules

A coalition of community organizations and others filed suit challenging the 1998 siting rules as insufficiently restrictive, in Organization of Waterfront Neighborhoods (OWN) v. Carpinello, Supreme Court, New York County, Index 103661/99). In a ruling, the Court noted that it had certain concerns about the 1998 rules. Following a lengthy attempt to resolve the dispute through mediation, DSNY committed to promulgate revised siting rules, while the Court retained jurisdiction of the lawsuit. The 1998 siting rules remain in effect pending the promulgation of revised siting rules. Meanwhile, DSNY was directed to provide the plaintiffs with 40 days notice prior to any substantive DSNY Transfer Station permit approval.

2.4.4 The 2003 Interim Siting Rules

In 2003, DSNY adopted interim siting rules designed to remain in place pending completion of the Study. These interim siting rules prohibit new non-putrescible waste and fill material Transfer Stations or expansions, prohibit new putrescible waste Transfer Stations to be permitted, and allow expansions of putrescible waste Transfer Stations in Brooklyn CD #1 and Bronx CD #2 only upon a showing that the requested capacity would be offset by closing permitted capacity at another Transfer Station within the same CD. DSNY identified these two CDs as appropriate for an offset requirement under the interim siting restrictions as they currently have the highest number of Transfer Stations in the City. In addition, pursuant to the interim rules, DSNY could authorize the operation of an intermodal facility at which waste arrives and remains in sealed containers and is transloaded onto a rail car or vessel for further transport. DSNY expects to replace the Interim Siting Rules with permanent rules in 2004. DSNY's Interim Siting Rules have been challenged by a Transfer Station applicant in a pending lawsuit.

In early 2004, DSNY published additional proposed rules, currently pending before the City Council for comment, concerning sites used for the transloading of sealed intermodal containers of solid waste from one type of transportation mode to another, such as from truck to rail, or from truck to barge.

3.0 EVOLUTION OF STUDY AREA LAND USE

A review of land uses over the past 100 years in the Study Areas indicates that:

- The Port Morris, Bronx CD #1 Study Area has primarily developed as an industrial area;
- The Hunts Point, Bronx CDs #2 and #9 and Brooklyn CD #1 Study Areas have developed with industry and residential uses simultaneously; and
- The Jamaica, Queens CD #12 Study Area appears to have developed as a residential area that was eventually replaced with industrial uses, though some residential use continues today.

Port Morris, Bronx CD #1 Study Area

The southern and eastern sections of Port Morris that host commercial waste Transfer Stations are today largely non-residential. Four apartment buildings are marked on 1996 maps for these areas. The map record indicates that the southwestern area where these buildings are located experienced industrial and residential growth together. However, residential uses declined in the 1960s, as occurred through much of the South Bronx, particularly with the construction of the Cross Bronx Expressway. The other commercial waste portions of the Study Area either never experienced residential uses after 1896 or experienced a brief period at the turn of the century, which was rapidly replaced with power and light manufacturing uses.

Hunts Point, Bronx CDs #2 and #9 Study Area

A review of the Hunts Point, Bronx CDs #2 and #9 Study Area sections that currently host commercial waste Transfer Stations indicates that the majority of the area is non-residential; industrial and waste-related uses seem to have developed simultaneously with some pre-existing residential uses. The northeastern section does host two large apartment complexes that were constructed subsequent to Transfer Stations and other industrial uses in the area.

Brooklyn CD#1 Study Area

A review of the Transfer Stations in the Brooklyn CD #1 Study Area indicates that since the early 1900s this area has been primarily industrial with significant noxious uses. Where domiciles are historically evident, they appear to have co-existed alongside industrial uses, and it is likely that they were built to service those manufacturing industries.

Jamaica, Queens CD #12 Study Area

A 1951 map indicates that the neighborhood was largely residential, with some industrial elements present. By 1981 the area had developed substantial industrial uses. Maps from 1901 demonstrate that the neighborhood around Douglas Avenue and Benton Avenue was largely residential in character. The residences were typically four-story, fully-detached buildings occupying a small portion of each lot. However, abutting the rail tracks to the north of Douglas Avenue, a row of multi-story tenements existed to the rear of a Baptist church that is no longer standing. These apartments and the church sat on what is now a DSNY garage and Long Island Rail Road (LIRR) substation. The lot, block and street structure of the neighborhood to the north of the LIRR lines (the Jamaica, Queens CD #12 Study Area) has changed significantly over the past 100 years.

4.0 STUDY AREA ENVIRONMENTAL ANALYSES

4.1 Introduction

An evaluation methodology first determined current conditions inclusive of the existing Transfer Stations in each of the Study Areas. Second, the conditions without the Transfer Stations were evaluated to determine the net contribution of the Transfer Stations. Third, the conditions without the Transfer Stations, but with assumed other industrial uses occupying the same sites, were evaluated assuming the Transfer Stations were replaced by as-of-right general light industrial land uses in the Study Area. This land use replacement scenario assumed that the Transfer Station land uses would be occupied by other M-zone land uses typical of current conditions in the Study Area.

Analyses were conducted for: (1) air quality, odor, noise, neighborhood character, public health and water quality from Transfer Stations located within each Study Area; and (2) traffic, off-site air quality and off-site noise at key intersections along major corridors/locations leading to and from the Study Areas. Although this evaluation is not an environmental review, CEQR and other planning and engineering review criteria were used as the best available measure of the environmental effects of Transfer Stations on the surrounding community.

Available information was compiled for the Transfer Stations in the Study Areas and field data (Transfer Station operational data, aerial photographs, traffic counts, intersection geometries, etc.) were collected and analyzed through March 2004 to conduct the traffic, air quality, odor, noise, neighborhood character, public health and water quality analyses presented in this Study. These data were used to prepare analyses of current conditions and estimate the potential effects on current conditions if no Transfer Stations were located in these areas, as summarized below. A more detailed discussion of the methodologies followed for the Study Area Environmental Analyses is included in Volume I, Appendices A through I to this Study.

If the evaluation of current conditions, inclusive of the combined effects of multiple Transfer Stations in the Study Areas (areas of potential overlapping effects) met the following criteria, the potential effects of Transfer Stations on the surrounding community were not further evaluated:

On-Site Air quality, Odor and Noise

- The maximum predicted combined effects for criteria air pollutants (carbon monoxide [CO], sulfur dioxide [SO_2], nitrogen dioxide [NO_2] and particulate matter less than 10 microns in diameter [PM_{10}]) from the Transfer Stations plus background levels from the closest monitor in the City are below National Ambient Air Quality Standards (NAAQS);
- There were no maximum predicted combined odor effects at sensitive receptors within overlapping 5 odor unit (OU) contours around the Transfer Stations within the Study Area; and
- The maximum predicted combined noise effects (attributable to the Transfer Stations) at sensitive receptors within overlapping noise contours or resulted in an increase of less than 3dBA.

Traffic, Off-Site Air Quality and Off-Site Noise

- The predicted approach traffic level of service (LOS) at selected intersections was mid-level LOS D (which equates to 45 seconds of delay -- the marginally acceptable LOS required for mitigation purposes under CEQR) or better under current conditions;
- The maximum predicted combined effects for off-site criteria air pollutants (CO and PM_{10}) from the Transfer Stations plus background levels from the closest monitor in the City are below NAAQS; and
- The predicted noise level from Waste Hauling Vehicles at sensitive receptors near selected intersections (identified with the potential for commercial Waste Hauling Vehicles to double passenger car equivalents [PCEs]) results in an increase less than 3 dBA during the hour with the maximum potential noise effects.

If the evaluated current conditions exceeded these criteria, measures to reduce air quality, odor and noise effects were evaluated to determine whether these existing levels could be reduced through design or operational measures at the Transfer Stations. If current conditions for traffic,

off-site air quality and off-site noise levels still exceeded the applicable criteria after evaluating the effects of these reduction measures, a replacement trip generation (RTG) analysis was performed, assuming the Transfer Stations were replaced by as-of-right general light industrial land uses (e.g., printing plants, laboratories) in the Study Area. The effects of these replacement land uses were calculated using trip generation rates published by the Institute of Transportation Engineers (ITE). This land use replacement scenario assumed that the Transfer Station land uses would be occupied by other M-zone land uses typical of current conditions in the Study Area. Evaluating the effects of reduction measures and the RTG scenario involved the following:

On-Site Air Quality, Odor and Noise

- The reduction measures that were applied to predicted air quality effects from the Transfer Stations included different types and sizes of equipment and enclosing waste processing operations;
- Maximum predicted combined odor effects were evaluated assuming a 90% odor removal efficiency from installation of a hard-piped odor control system at the putrescible waste Transfer Stations within the Study Area; and
- To determine if overlapping noise effects were reduced or removed, noise contours were prepared for Transfer Stations with predicted overlapping effects at sensitive receptors within each Study Area assuming application of noise reduction measures such as: (1) a building enclosure around processing operations at non-putrescible waste Transfer Stations; (2) removal of off-site queuing; and (3) 15' high concrete perimeter walls around all types of Transfer Stations.

Traffic, Off-Site Air Quality and Off-Site Noise

The analyses evaluated the effects of an RTG scenario on reducing the predicted effects of off-site Transfer Station operations. DSNY uses several Transfer Stations in the Study Areas for interim export. The effects of DSNY collection vehicles, traveling through analyzed intersections, were recorded. For traffic, off-site air quality and off-site noise analyses, collection vehicles (both DSNY and private carter Waste Hauling Vehicles) were removed from the analysis since it was assumed that commercial Waste Hauling Vehicles would be delivering waste to the Transfer Stations in the Study Areas if the DSNY were not using that capacity at the Transfer Stations.

- For traffic analyses, the predicted approach LOS and delay (1) without Waste Hauling Vehicles; and (2) with the replacement trips (based on the RTG analysis), were compared to the initially evaluated LOS with Waste Hauling Vehicles to determine whether there were significant differences;
- For off-site air quality analyses, (1) the maximum predicted combined CO and PM_{10} effects; and (2) the maximum predicted incremental $PM_{2.5}$ contributions from the replacement trips, were compared to those with Waste Hauling Vehicles; and
- For off-site noise analyses, the RTG analysis was not conducted since noise effects were not predicted at noise sensitive receptors.

Water Quality Evaluation

A screening process was performed to determine if Transfer Stations were located near or adjacent to surface waters and would, therefore, have the potential to impact water quality. As a result, 29 of the 43 Transfer Stations were identified as not being near or adjacent to surface water and were dropped from further evaluation. The remaining 14 Transfer Stations listed in Table 4.1-1 were evaluated for their potential impact to surface water. (None of these 14 are located within the Jamaica, Queens CD #12 Study Area.)

Cumulative effects on water quality from the Transfer Stations in the Study Areas were predicted using a mathematical model of New York Harbor, the New York Harbor Seasonal Steady State Water Quality Model (208 Model) and the conservative assumption that the entire site for each Transfer Station was impervious (i.e., paved). For each Transfer Station evaluated within the Study Areas, the volume of stormwater runoff and the associated pollutant loading was calculated using precipitation data and available databases on stormwater pollution concentration, and by calculating the runoff flow and assigning an average stormwater concentration for the following water quality parameters of concern: fecal coliform, biochemical oxygen demand (BOD), copper, lead and zinc.

Table 4.1-1
Transfer Stations Evaluated for Water Quality Effects

Name	Address	Type of Transfer Station
Port Morris, Bronx CD #1 Study Area		
Bronx County Recycling	475 Exterior Street	Fill
Felix Equities	290 East 132nd Street	Fill
Tilcon NY	980 East 149th Street	Fill
USA Waste Services of NY/Waste Management	98 Lincoln Avenue	Putrescible
Waste Management of NY	132nd Street & Saint Ann's Avenue	Putrescible (Intermodal)
Waste Services of NY	920 East 132nd Street	Putrescible
Hunts Point, Bronx CDs #2 and #9		
Waste Management of NY	Oak Point & Barry Avenue	Putrescible
Brooklyn CD#1 Study Area		
Waste Management of NY	75 Thomas Avenue	Non-Putrescible
Waste Management of NY	232 Gardner Avenue	Non-Putrescible
Waste Management of NY	215 Varick Avenue	Putrescible
Waste Management of NY	123 Varick Avenue	Non-Putrescible
Waste Management of NY	485 Scott Avenue	Putrescible
Maspeth Recycling	58-08 48th Street	Fill
Pebble Lane Associates	57-00 47th Street	Fill
Total Number of Transfer Stations Evaluated		**14**

Potential overlapping effects due to the operation of multiple Transfer Stations within a given Study Area were estimated by combining the incremental difference in water quality calculated by the model with existing water quality data and comparing these with NYSDEC water quality standards to determine whether the pollutant loading exceeds standards.

Public Health Evaluation

The effects on public health in the areas where overlapping effects of air quality, noise and odors from Transfer Stations were predicted at the nearest sensitive receptor considered the following criteria:

- Criteria air pollutants and $PM_{2.5}$ at the areas of maximum effect.
- The predicted contributions of Waste Hauling Vehicle emissions to ambient CO, PM_{10} and $PM_{2.5}$ concentrations in air, and the incremental noise levels at the nearest sensitive receptors along routes were evaluated in light of: (1) local, state or federal standards (where available); and (2) scientific literature pertaining to the health effects associated with ambient CO and particulate matter (PM), obnoxious odors, noise and municipal solid waste (MSW).

Neighborhood Character Evaluations

Data on existing land use, population characteristics, urban design and visual quality, parks and other community facilities, and cultural resources, as well as predicted traffic, air quality, odor, noise, water quality and public health were compiled for each of the Study Areas. Potential changes to neighborhood character were qualitatively evaluated with: (1) reduction measures, as applicable, identified in the air quality, odor and noise analyses; and (2) replacement trips from light manufacturing uses, to determine whether the neighborhood character would likely change or improve, or remain the same as under current conditions. The assumption used in creating the replacement industry scenario is that all components of neighborhood character conditions (zoning, socioeconomics, etc.) remain fundamentally the same as existing conditions.

5.0 STUDY AREA ENVIRONMENTAL ANALYSES FINDINGS

The following summarizes the overall approach to and results of the Study Area Environmental Analyses. A more detailed summary of the approach and results, and copies of supporting documentation (e.g., methodologies, model input parameters, intersection diagrams, summary results tables, etc.) are included in Volume I, Appendices A through I to this Study.

5.1 Neighborhood Character

Land use, population characteristics, urban design and visual quality, parks and other community facilities, and cultural resources data were compiled for the CDs within the Study Areas. This information, in conjunction with a summary of potential traffic, air quality, odor, water quality and public health findings of the Environmental Analyses, was used to determine the existing neighborhood character of each Study Area. Potential changes to neighborhood character (whether it would likely change or improve, or remain the same as under current conditions and how these conditions compare to CEQR standards) were qualitatively evaluated in light of the RTG analysis used for the traffic and off-site air quality analyses and under the potential reduction measures identified for the air quality, odor and noise analyses. The overall neighborhood character of each of the Study Areas is described below.

Port Morris, Bronx CD #1 Study Area

The portions of Port Morris in the eastern extent of the area studied and Mott Haven in the western extent and north of Bruckner Boulevard include the waterfront and are predominantly industrial areas, with scattered residential, community facility and commercial uses located further inland. Bruckner Expressway forms a physical east-west barrier that divides the area south of East 134th Street from areas further to the north. Neighborhood character south of Bruckner Boulevard is diminished by industrial uses and the presence of vacant, rubble-strewn lots and deteriorated sidewalk and building conditions. High volumes of truck traffic serving industrial uses and through-traffic accessing Manhattan via the Major Deegan Expressway also detract from the area's character.

Hunts Point, Bronx CDs #2 and #9 Study Area

The character of the Hunts Point, Bronx CDs #2 and #9 Study Area and peninsula is defined by low-scale, low-density heavy commercial and industrial uses. The Hunts Point Food Market, a wholesale food distribution facility, is the largest property within the vicinity of the Transfer Stations and largely defines the character of the Study Area. It generates considerable amounts of truck traffic, especially to and from its large warehouse buildings oriented around Food Center Drive.

Brooklyn CD #1 Study Area

The character of the Brooklyn CD #1 Study Area is defined by predominantly industrial land use and visual quality. Newtown Creek, which runs through the area studied, has been historically home to heavy industry and remains a working waterfront characterized by large-scale municipal facilities and water-dependent industrial uses on large lots. It is among these manufacturing uses that the Transfer Stations are located. Consistent with the heavily industrial area, there are no sensitive visual resources or unique features, and many of the streets are ill-suited for pedestrian activity. Within the southwestern portion of the area studied, however, lies the residential community of Greenpoint. Though adjacent to manufacturing uses at its eastern edge, the character of this residential area is generally not intruded upon by its industrial surroundings.

Jamaica, Queens CD #12 Study Area

The character of the Jamaica, Queens CD #12 Study Area is mixed. The LIRR corridor bisects the area, creating northern and southern halves. Heavily industrial uses are present along the eastern portion of the corridor and along its southern side, where the Transfer Stations are located. Residential areas are also located in the southern portion, adjacent to and south of the industrial uses. The northern portion features the vibrant commercial area along Jamaica Avenue, just north of the rail corridor. North of the commercial uses are more residential areas.

The technical studies support the conclusion that the groups of Transfer Stations do not attribute negatively to the character of the neighborhoods overall or are contributors to adverse conditions that may exist. The public health assessment has concluded that air quality and odor conditions are not of a public health concern.

5.2 Air Quality, Odor, Noise and Water Quality Analyses

Air quality, odor, noise and water quality analyses were conducted to evaluate the potential effects from the close proximity of the Transfer Stations within the Study Areas to each other.

5.2.1 Prototypical Designs

Air quality, odor, noise and water quality analyses were prepared based on review of available information in engineering reports, drawings, permit applications and environmental review documents for the Transfer Stations in the Study Areas. The available data on the 43 Transfer Stations in the Study Areas was sufficient to evaluate the effects of facility design and operations in the analyses. Data was compiled to determine average building size, lot size and space available for queuing and processing equipment for the "prototypical" categories of Transfer Stations (refer to Volume I, Appendix B for facility design specifics).

Field surveys were conducted at each of the 43 Transfer Stations to identify the average and peak number of Waste Hauling Vehicles queuing on site and on roads at the entrance/exit to each facility for inclusion in the analysis. Field surveys were also conducted to identify Transfer Station parameters (e.g., building heights, numbers and types of equipment in operation, etc.) to refine the prototypical designs.

A general discussion of the environmental analytical approach using the prototypical designs follows. Tests of actual Transfer Station designs and operational parameters, where available, were conducted to determine the relative accuracy of the results. Study Area results with prototypical facilities were compared to the test scenarios using design and operational information from one of the Transfer Stations in each of the eight categories listed in Table 5.2.1-1. In general, air quality, noise and odor analyses presented in this Study are similar on an order-of-magnitude level to those that would result from using site-specific Transfer Station information, if that were available.

Table 5.2.1-1
Categories of Prototypical Transfer Stations

Category	Type of Transfer Station
Putrescible Waste	Small
	Medium with Baler
	Large with Baler
	Large with Locomotive
Non-Putrescible Waste	C&D Processing
	C&D Processing with Crushing Equipment
Fill Material	Small/Medium
	Large

5.2.2 Air Quality

Air quality analyses were conducted for all operating Transfer Stations located in each of the four Study Areas. Prototypical Transfer Station emission-related data for various sources (e.g., processing building, equipment, storage pile, Waste Hauling Vehicles, etc.) were developed from a combination of available information (e.g., owner or vendor information, field tests, published sources) and assumptions based on each Transfer Station's size and operations (including the simultaneous operation of all applicable emission sources). A field survey conducted in each Study Area determined that no other major commercial or industrial sources were located within 400 feet of these Study Areas. Air quality levels at receptor sites (i.e., site boundary locations and sensitive-receptor locations identified from land use maps and field observations) potentially affected by the combined emissions of the Transfer Stations were predicted using the United

States Environmental Protection Agency's (USEPA) Industrial Source Complex Short-Term (ISCST3) (version 97363) dispersion model, and the 1997 through 2001 LaGuardia Airport meteorological data set.

The maximum predicted combined contribution of existing Transfer Stations in the Study Area was added to background levels from the closest air quality monitor in the area to estimate current conditions for criteria air pollutants (CO, SO_2, NO_2 and PM_{10}). For $PM_{2.5}$, for which the area is currently being evaluated by USEPA with respect to existing concentrations and attainment/non-attainment status, the analysis provides only the contribution by Study Area facilities, in comparison to existing concentrations of $PM_{2.5}$.

As shown in Tables 5.2.2-1 through 5.2.2-4, all results are below NAAQS for all criteria pollutants.

As shown in Table 5.2.2-5, for $PM_{2.5}$, the maximum predicted annual neighborhood average contribution ranges from 1% to 6% of the latest monitored concentration from the nearest monitoring station within each Study Area.

The modeled 24-hour $PM_{2.5}$ contributions (on a 98th percentile basis) from the commercial waste facilities are shown in Table 5.2.2-6 for each Study Area. These contributions are a significant portion of the existing $PM_{2.5}$ concentrations measured by monitors located nearest each Study Area. However, the model results are quite conservative in that they represent all facilities operating simultaneously at their maximum allowed capacities. In addition, the modeling is based on emission rates that were calculated using the weighted average of the actual engines at non-putrescible and fill facilities. It is likely that the emission rates used are higher than the actual emissions, especially as newer equipment enters the fleet of non-road diesel engines. To the extent that facilities use newer equipment and operate less than 24 hours per day, actual contributions will be substantially lower.

In general, the air quality modeling results show that the locations of the receptors with the maximum concentration of pollutants are located between several Transfer Stations and are close to larger Transfer Stations in the Study Area with greater than 90% of the effects attributable to those Transfer Stations.

Figures 5.2.2-1 through 5.2.2-4 show the locations of the highest short-term and annual averaging concentrations for the criteria pollutants from multiple Transfer Stations in the Study Areas.

Table 5.2.2-1
Summary of Air Quality Analysis
Criteria Pollutants
Brooklyn CD #1 Study Area

Pollutant	Averaging Time Period	Background Pollutant Concentration [1] ($\mu g/m^3$)	Maximum Contributions from On-Site Emission Sources ($\mu g/m^3$)	Highest Estimated Pollutant Concentration [4] ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
Carbon Monoxide (CO)[1]	1-hr	3,321	1,857	5,178	40,000
	8-hr	2,634	877	3,511	10,000
Nitrogen Dioxide (NO_2)[2]	Annual	56	16	72	100
Particulate Matter (PM_{10})	24-hr[3]	57	68	125	150
	Annual	23	5	28	50
Sulfur Dioxide (SO_2)	3-hr	189	57	246	1,300
	24-hr	87	10	97	365
	Annual	21	1	22	80

Notes:
NAAQS = National Ambient Air Quality Standards.
(1) Background concentrations for NO_2, SO_2 and PM_{10} are from the Greenpoint monitoring station. The 8-hr CO background concentration was provided by NYCDEP.
(2) A conversion factor of 0.59 was used to convert estimated nitrogen oxide (NOx) contributions to NO_2 contributions. Source: Newtown Creek FEIS.
(3) The 1st highest high values are used to report 24-hr PM_{10} results for comparison with NAAQS.
(4) Highest on-site pollutant concentration is the total of the result plus background.

Table 5.2.2-2
Summary of Air Quality Analysis
Criteria Pollutants
Jamaica, Queens CD #12 Study Area

Pollutant	Averaging Time Period	Background Pollutant Concentration [1] ($\mu g/m^3$)	Maximum Contributions from On-Site Emission Sources ($\mu g/m^3$)	Highest Estimated Pollutant Concentration [4] ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
Carbon Monoxide (CO)[1]	1-hr	3,321	1,140	4,461	40,000
	8-hr	2,634	454	3,088	10,000
Nitrogen Dioxide (NO_2)[2]	Annual	51	12	63	100
Particulate Matter (PM_{10})	24-hr[3]	57	35	92	150
	Annual	23	3	26	50
Sulfur Dioxide (SO_2)	3-hr	186	41	227	1,300
	24-hr	107	5	112	365
	Annual	18	0.4	18	80

Notes:
NAAQS = National Ambient Air Quality Standards.
(1) Background concentrations for NO_2, SO_2 and PM_{10} are from the Queensboro Community College monitoring station. Background concentrations for PM_{10} are from the Greenpoint monitoring station. The 8-hr CO background concentration was provided by the NYCDEP.
(2) A conversion factor of 0.59 was used to convert estimated NOx contributions to NO_2 contributions. Source: Newtown Creek FEIS.
(3) The 1st highest high values are used to report 24-hr PM_{10} results for comparison with NAAQS.
(4) Highest on-site pollutant concentration is the total of the result plus background.

Table 5.2.2-3
Summary of Air Quality Analysis
Criteria Pollutants
Hunts Point, Bronx CDs #2 and #9 Study Area

Pollutant	Averaging Time Period	Background Pollutant Concentration [1] ($\mu g/m^3$)	Maximum Contributions from On-Site Emission Sources ($\mu g/m^3$)	Highest Estimated Pollutant Concentration [4] ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
Carbon Monoxide (CO)[1]	1-hr	3,779	1,279	5,058	40,000
	8-hr	2,634	675	3,309	10,000
Nitrogen Dioxide (NO_2)[2]	Annual	68	18	86	100
Particulate Matter (PM_{10})	24-hr[3]	75	66	141	150
	Annual	24	7	31	50
Sulfur Dioxide (SO_2)	3-hr	215	52	267	1,300
	24-hr	113	9	122	365
	Annual	26	1	27	80

Notes:
NAAQS = National Ambient Air Quality Standards.
(1) Background concentrations for NO_2, SO_2 and PM_{10} are from the IS 155 and Morrisania monitoring stations. The 8-hr CO background concentration was provided by the NYCDEP.
(2) A conversion factor of 0.59 was used to convert estimated NOx contributions to NO_2 contributions. Source: Newtown Creek FEIS.
(3) The 1st highest high values are used to report 24-hr PM_{10} results for comparison with NAAQS.
(4) Highest on-site pollutant concentration is the total of the result plus background.

Table 5.2.2-4
Summary of Air Quality Analysis
Criteria Pollutants
Port Morris, Bronx CD #1 Study Area

Pollutant	Averaging Time Period	Background Pollutant Concentration [1] ($\mu g/m^3$)	Maximum Contributions from On-Site Emission Sources ($\mu g/m^3$)	Highest Estimated Pollutant Concentration [4] ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
Carbon Monoxide (CO)[1]	1-hr	3,779	581	4,360	40,000
	8-hr	2,634	191	2,825	10,000
Nitrogen Dioxide (NO_2)[2]	Annual	68	9	77	100
Particulate Matter (PM_{10})	24-hr[3]	75	20	95	150
	Annual	24	2	26	50
Sulfur Dioxide (SO_2)	3-hr	215	17	232	1,300
	24-hr	113	3	116	365
	Annual	26	0.3	26	80

Notes:
NAAQS = National Ambient Air Quality Standards.
(1) Background concentrations for NO_2, SO_2 and PM_{10} are from the IS 155 and Morrisania monitoring stations. The 8-hr CO background concentration was provided by the NYCDEP.
(2) A conversion factor of 0.59 was used to convert estimated NOx contributions to NO_2 contributions. Source: Newtown Creek FEIS.
(3) The 1st highest high values are used to report 24-hr PM_{10} results for comparison with NAAQS.
(4) Highest on-site pollutant concentration is the total of the result plus background.

Table 5.2.2-5
Summary of Air Quality Analysis
$PM_{2.5}$ Annual Neighborhood Average

Study Area	Annual Neighborhood Concentration ($\mu g/m^3$)	Annual Average Monitored Concentration[(1)] ($\mu g/m^3$)	Percent of Transfer Station Contribution to Monitored Concentration ($\mu g/m^3$)
Brooklyn Study Area	0.88	16.3	5%
Jamaica Study Area	0.29	13.1	2%
Hunts Point Study Area	1.05	18.0	6%
Port Morris Study Area	0.22	18.0	1%

Note:
(1) Monitored concentrations are based on one-year annual average of Greenpoint Monitoring Station in Brooklyn (2000) for Brooklyn CD #1 Study Area; PS 219 Monitoring Station in Queens (2002) for Jamaica, Queens CD #12 Study Area; IS 52 Monitoring Station in the Bronx (2002) for Hunts Point, Bronx CDs #2 and #9 Study Area; and JHS 45 in Manhattan (2002) for Port Morris, Bronx CD #1 Study Area.

Table 5.2.2-6
Summary of Air Quality Analysis
$PM_{2.5}$ 24-Hour Average

Study Area	24-hour Concentration ($\mu g/m^3$)	98th Percentile 24-hour Monitored Concentration[(1)] ($\mu g/m^3$)	Percent of Transfer Station Contribution to Monitored Concentration ($\mu g/m^3$)
Greenpoint Study Area	11.2	41.7	27%
Jamaica Study Area	5.7	38.6	15%
Hunts Point Study Area	12.0	41.1	29%
Port Morris Study Area	4.8	41.1	12%

Note:
(1) Monitored concentrations are based on a 98th percentile of one year of data from the Greenpoint Monitoring Station in Brooklyn (2000) for Brooklyn CD #1 Study Area; PS 219 Monitoring Station in Queens (2002) for Jamaica, Queens CD #12 Study Area; IS 52 Monitoring Station in the Bronx (2002) for Hunts Point, Bronx CDs #2 and #9 Study Area; and JHS 45 in Manhattan (2002) for Port Morris, Bronx CD #1 Study Area.

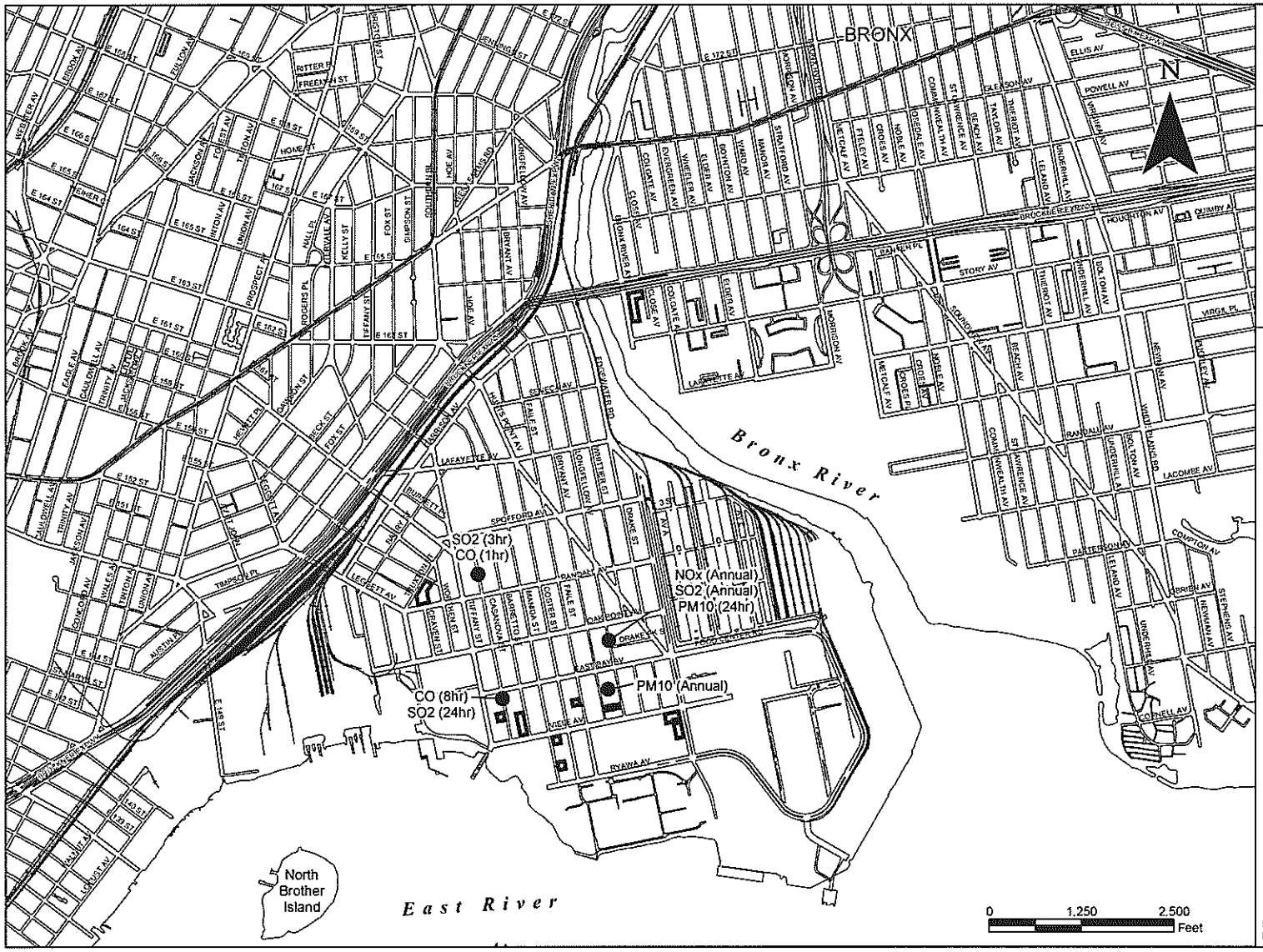

Figure 5.2.2-1
Air Quality Maximum
Hunts Point, Bronx CDs #2 and #9
Study Area

City of New York
Department of Sanitation

Legend

● Maximum Concentration Receptors

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Site delineations and receptor locations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

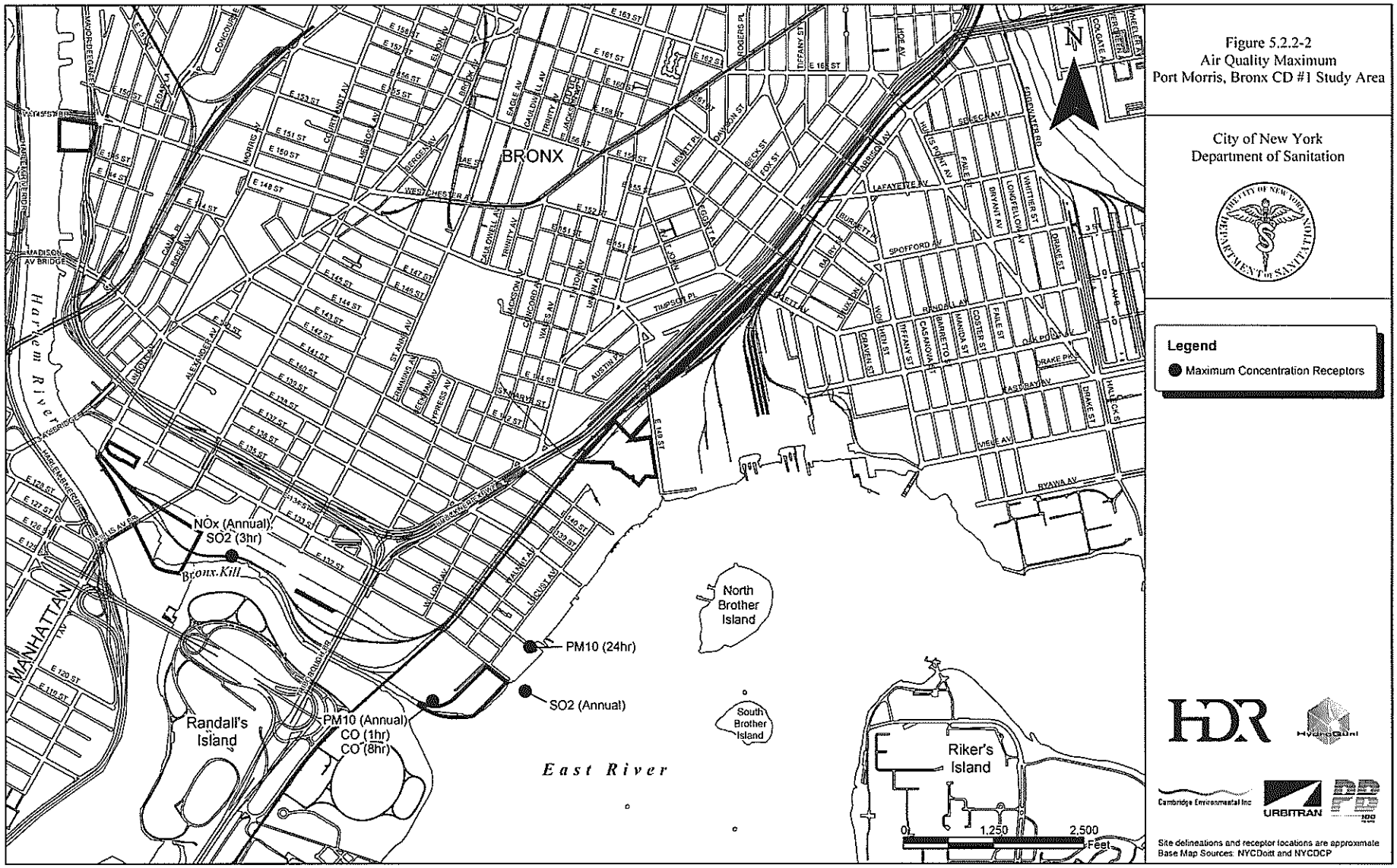

Figure 5.2.2-2
Air Quality Maximum
Port Morris, Bronx CD #1 Study Area

City of New York
Department of Sanitation

Legend

- Maximum Concentration Receptors

Site delineations and receptor locations are approximate
Base Map Sources: NYCDoitt and NYCDCP

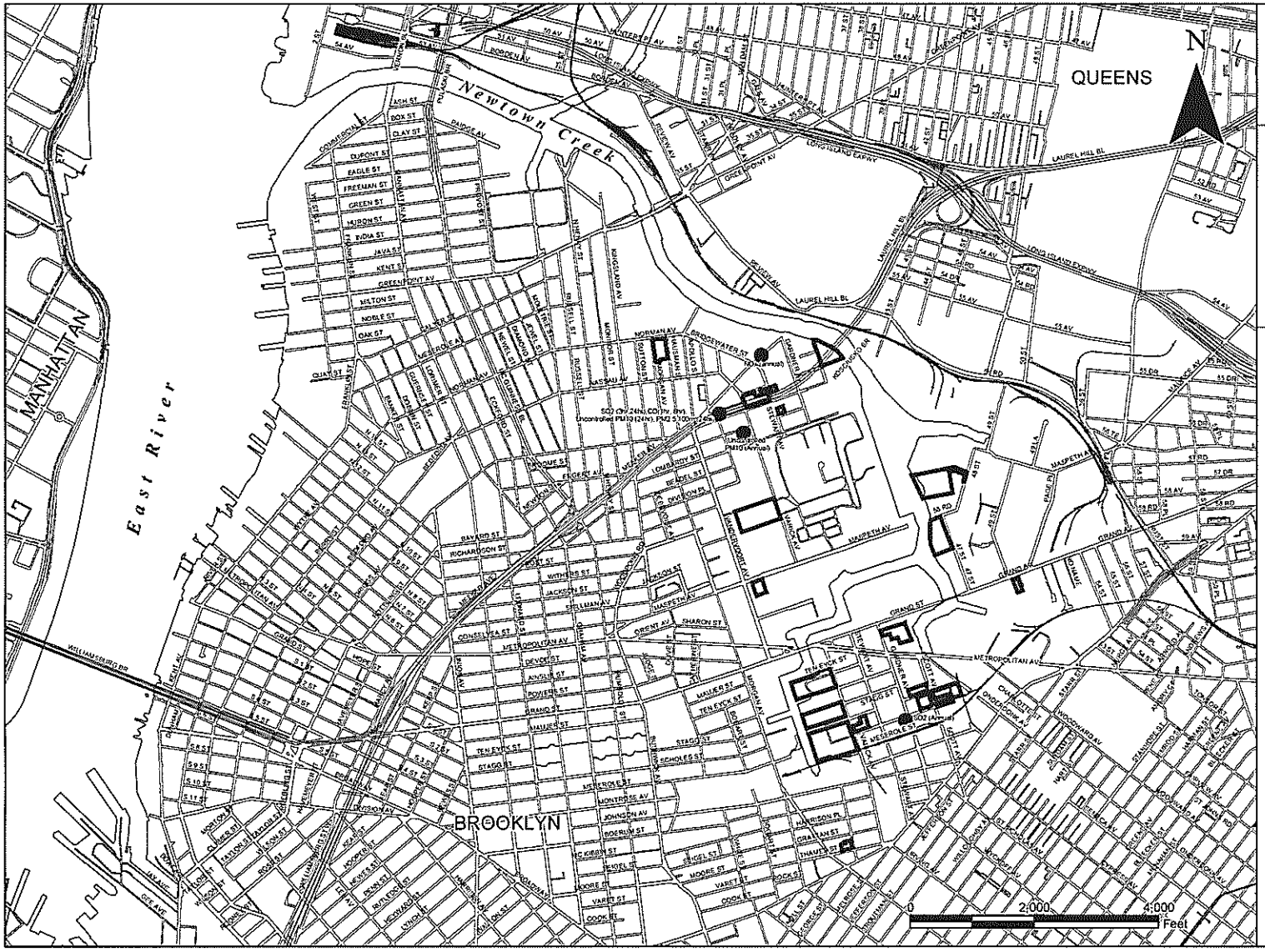

Figure 5.2.2-3
Air Quality Maximum
Brooklyn CD #1 Study Area

City of New York
Department of Sanitation

Legend

● Maximum Concentration Receptors

HDR HydroQual

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Site delineations are approximate.
Base Map Sources. NYCDoitt and NYCDCP

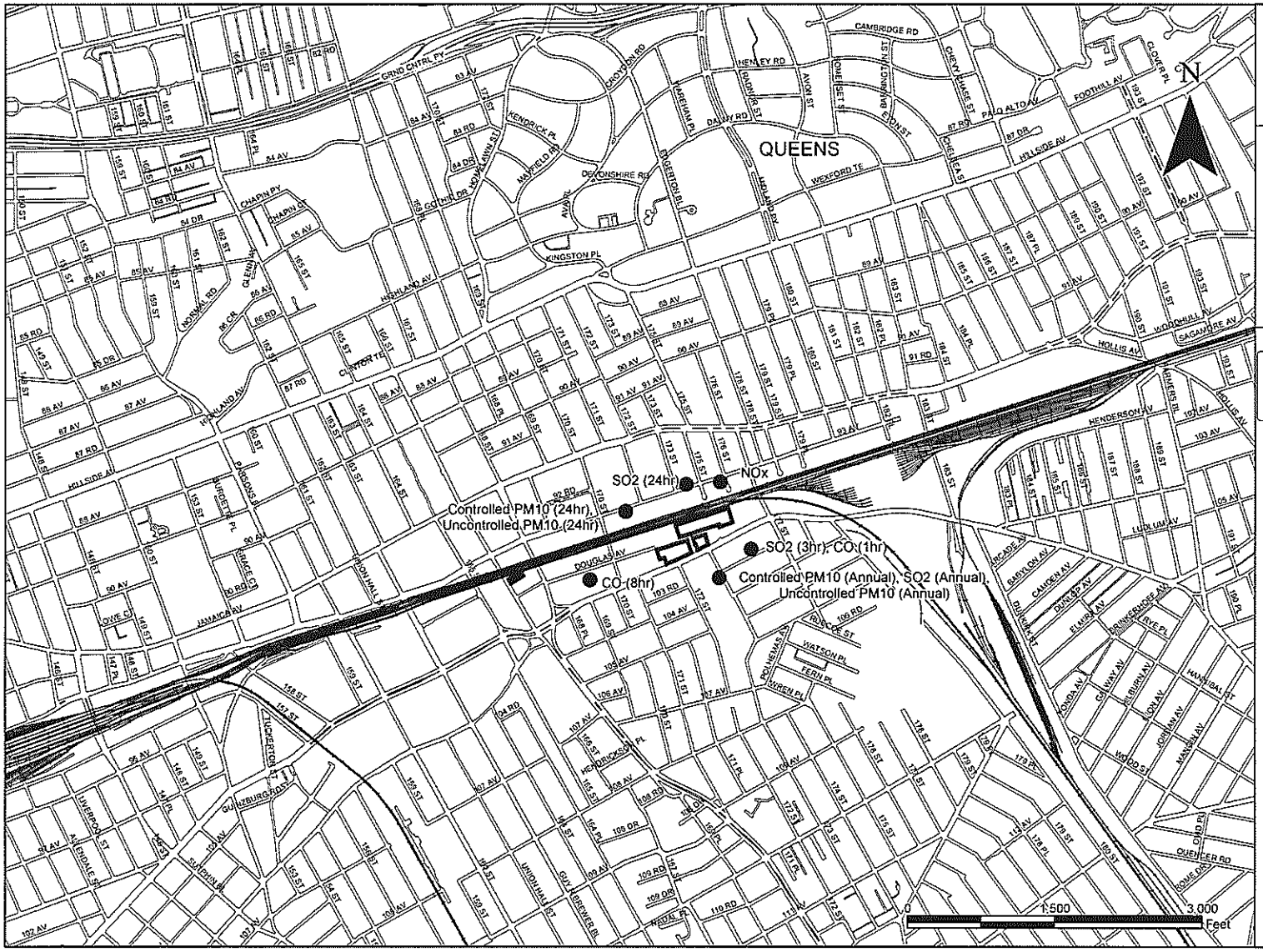

Figure 5.2.2-4
Air Quality Maximum
Jamaica, Queens CD #12 Study Area

City of New York
Department of Sanitation

Legend

● Maximum Concentration Receptors

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HydroQual

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Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

5.2.3 Odor Sampling

Sampling of odors from four Transfer Stations within the Study Areas was performed in July and August of 2003, when odor generation from waste decomposition would be expected to be at its peak. A total of 45 vent samples and 15 Quality Assurance/Quality Control (QA/QC) samples were collected. Of the 60 samples collected, 21 uncontrolled samples were used to calculate the eight facility-specific Transfer Station odor emission factors that were used to establish odor emission rates for the three prototypical Transfer Stations.

In accordance with guidance documents published by the USEPA and the Air and Waste Management Association (AWMA), whole air odor samples were collected from the exhaust vents on the roof of the processing buildings at the Transfer Stations using a vacuum chamber sampling system that consists of a rigid, airtight container with an inlet port connected to an internal Tedlar® bag and an outlet port connected to a portable pump (see Volume I, Appendix D for a more detailed description of the sampling methodology).

The analytical technique used on the odor samples is referred to as an odor panel evaluation in which a group of people, the "odor panel," quantifies the following:

- Detection and recognition thresholds ("odor concentration");
- Odor intensity; and
- Odor persistence (dose response).

The odor panel members were selected, and odor analysis conducted, by the laboratory in accordance with the following established protocols and standards set by the American Society of Testing Materials (ASTM):

- Selection and Training of Sensory Panel Members (Standard Practice 758);
- Determination of Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits (Standard Practice E679-91); and
- Referencing Suprathreshold Odor Intensity (Standard Practice E544-99).

A review of the controlled and uncontrolled odor emissions from the same facilities revealed that the controlled Transfer Station emissions were no more than 38% lower than the uncontrolled facilities, and in some cases the controlled emissions were deemed higher than the uncontrolled emissions. This is likely due to the use of scented masking agents as odor control measures in the Transfer Stations, rather than more effective neutralizing agents. Masking agents tend to have their own odors (e.g., cherry, pine, etc.) that can be considered a nuisance, while neutralizing agents consist of compounds that react with the odors from the waste and "neutralize" the effect.

Based on the results of the sampling study, emission factors were conservatively estimated for the Transfer Stations by: (1) using the detection threshold (DT) value provided by the laboratory (the DT value is that recorded when the odor is first detected); (2) using only the maximum emission rate for the three prototypical facility sizes; and (3) applying a 2.5 peak-to-mean factor to the maximum emission rate and associated effects. A summary of the emission factors and odor emission rates calculated for use in odor modeling are presented in Tables 5.2.3-1 and 5.2.3-2, respectively.

A more detailed summary of the approach and results, and copies of supporting documentation (i.e., sampling protocol, results, etc.) are included in Volume I, Appendices D and E to this Study.

Table 5.2.3-1
ISCST3 Model Input Emission Rates[(1)]

Emission Basis	Prototype Facility Size		
	Small	**Medium**	**Large**
Maximum Emission Rate (OU/sec)	0.0128	0.0253	0.1721
Average Emission Rate (OU/sec)	0.0057	0.0114	0.0774

Notes:
(1) Emission rates input as grams/second, in order to obtain output odor concentrations in multiples of detection threshold (DT).

Table 5.2.3-2
Estimated Maximum and Average Odor Emission Rates for Each Facility Prototype

Parameter	Prototype Facility Size and Type		
	Small	**Medium**	**Large**
Stockpiled Waste Capacity (tons)	119	236	1605
Maximum Emission Rate (OU/sec)[(1)]	5,105	10,124	68,855
Average Emission Rate (OU/sec)[(2)]	2,297	4,555	30,977

Notes:
[(1)] Maximum Emission Factor = 42.9 ([OU/sec]/ton stored).
[(2)] Average Emission Factor = 19.3 ([OU/sec]/ton stored).

5.2.4 Odor Modeling

Odor emission rates described in Section 5.2.3 were used to conduct the odor dispersion modeling. Because of the variation in odor control efficiency measured during sampling, the uncontrolled emission factors were used to model odors from the processing building from putrescible waste Transfer Stations within the Study Areas. Odor levels at sensitive-receptor locations identified from land use maps and field observations that may be affected by the combined emissions of adjacent Transfer Stations were estimated using USEPA's ISCST3 model and the most recent five years of historic meteorological data.

Odor contours were developed to identify areas where odors from several putrescible waste Transfer Stations in a Study Area overlapped, which were also near sensitive-receptor locations. This type of analysis is conservative in that it assumes prevailing winds occur in opposite directions simultaneously to result in overlapping effects. The odor contour maps express results of odors in OU, where one OU is defined as the amount or mass of odor needed to generate a concentration at the DT in a volume of one cubic meter of air. In other words, an average person in a laboratory setting could just barely detect that there was something different about a sample that contained a concentration of 1 OU, in comparison to clean, filtered background air. An odor concentration effect at 1 OU would not likely be detected in outdoor air within the City, which, based on background measurements taken during this Study, had on the order of 5 OU. Adding

a concentration of 1 OU to such air would probably not make a detectable difference to an observer. It is assumed that an added effect of 5 OU from a waste Transfer Station would be a more likely level of odor effect that would begin to be detected by an observer.

Table 5.2.4-1 provides a summary of modeled odor levels for identified sensitive receptors in each of the Study Areas. These results are presented in terms of the frequency of modeled values with respect to specified thresholds of 5 OU (five odor units, meaning five times the laboratory determined detection threshold) and 1 OU. A level of 5 OU is considered to be a level at which the public may start to notice odors, since the background odor levels, based on laboratory analysis of samples taken upwind of commercial putrescible waste facilities, were typically in the 5 to 6 OU range. Also, these results focus only on receptors where there may be overlapping effects from multiple facilities, which may tend to increase the frequency of hours with predicted odor levels above the 5 OU threshold.

These odor modeling results are based on a conservative assumption that there is no odor control at the facilities, unless otherwise noted. In reality, the existing odor controls at commercial waste facilities handling putrescible waste vary widely, with some facilities having little or no effective control, and others having relatively good odor control. These conservative results indicate that the frequency of predicted odor levels above 5 OU is relatively small at all sensitive receptors for all Study Areas. The highest frequency of conservatively predicted odor levels exceeding the criteria, assuming no odor controls, was for a receptor in the Brooklyn CD #1 Study Area, where the model predicted an exceedance just under 0.82% of the time (72 non-consecutive hours per year). If more effective (90% efficient) odor controls were implemented at all commercial putrescible waste facilities, the odor levels would be reduced substantially (by 90%), and there would be no overlapping contributions greater than 5 OU from multiple Transfer Stations in the Study Areas.

Figures 5.2.4-1 through 5.2.4-4 show the predicted odor contours and location of sensitive receptors within the overlapping areas for each of the Study Areas.

Table 5.2.4-1
Predicted Odor Effects

Receptor	Percent of Time Greater Than or Equal to 5 OU [1]	Percent of Time Less Than or equal to 1 OU [2]	Percent of Time Between 1 and 5 OU
Brooklyn CD #1 Study Area			
Receptor #2 (R2)	0.23%	85.4%	14.4%
Receptor #3 (R3)	0.82%	86.0%	13.2%
Port Morris, Bronx CD #1 Study Area			
Receptor #15 (R15)	0.07%	98.6%	1.3%
Receptor #16 (R16)	0.06%	98.6%	1.3%
Receptor #17 (R17)	0.10%	98.6%	1.3%

Notes:
(1) Summary of 1-hour episodes of 5 OU and greater at the receptor within overlapped contours.
(2) Summary of 1-hour episodes of less than 1 OU at the receptor within overlapped contours.
OU = Odor Unit.
No modeled odor levels above 5 OU were found within the Hunts Point, Bronx CDs #2 and #9 Study Area or Jamaica, Queens CD #12 Study Area.

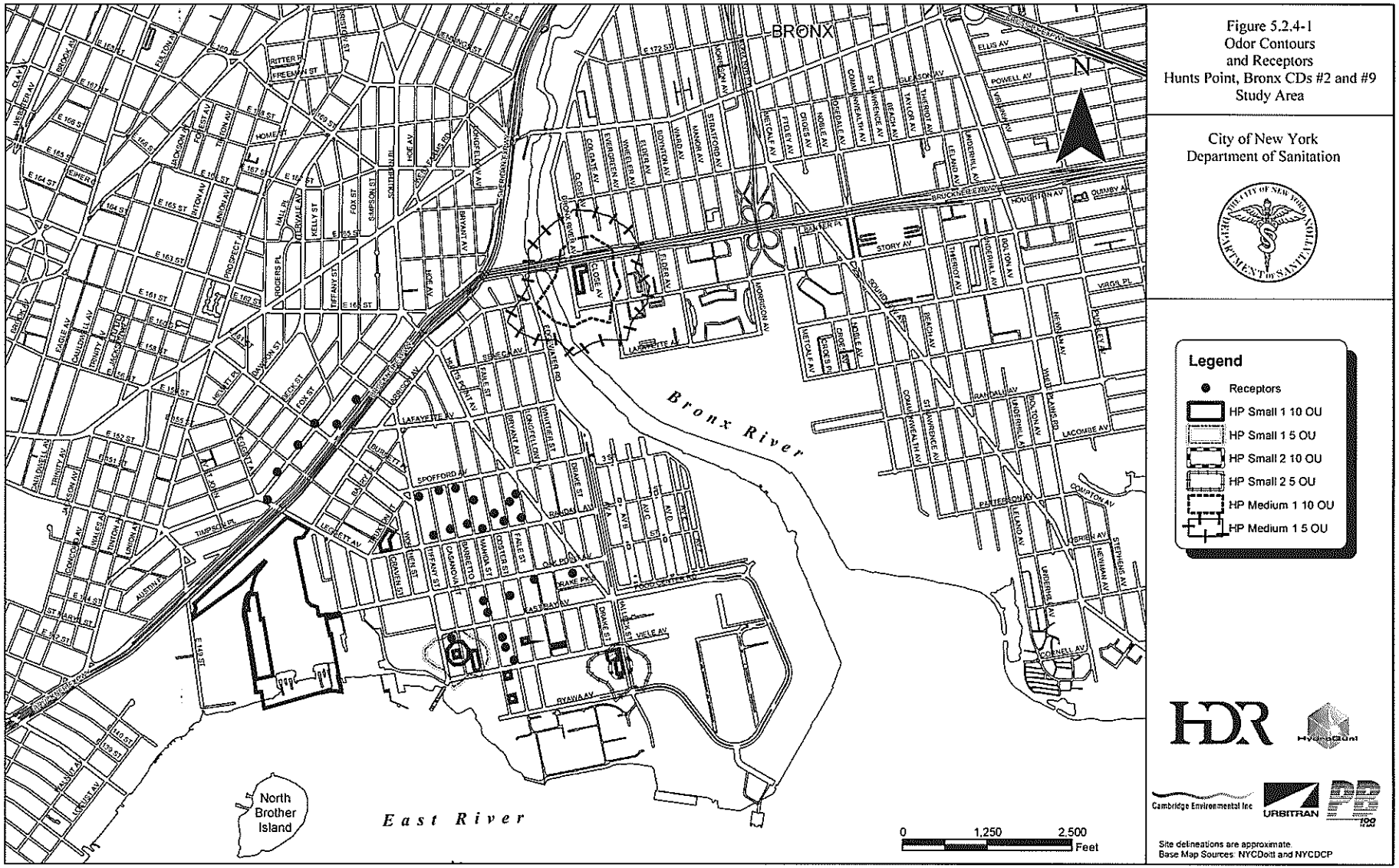

Figure 5.2.4-1
Odor Contours
and Receptors
Hunts Point, Bronx CDs #2 and #9
Study Area

City of New York
Department of Sanitation

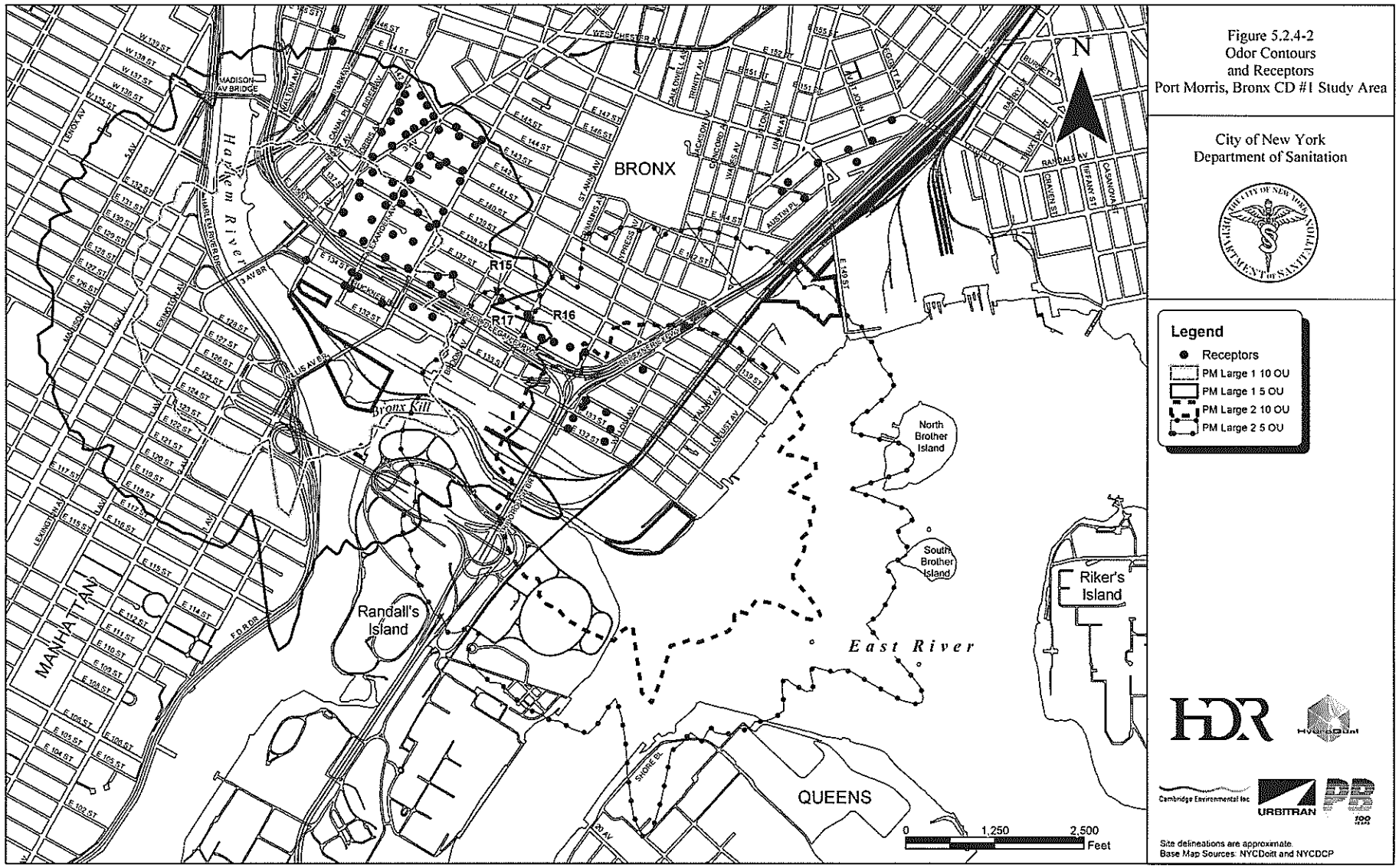
Figure 5.2.4-2
Odor Contours
and Receptors
Port Morris, Bronx CD #1 Study Area
City of New York
Department of Sanitation
Legend
Receptors
PM Large 1 10 OU
PM Large 1 5 OU
PM Large 2 10 OU
PM Large 2 5 OU
N
BRONX
MANHATTAN
QUEENS
Harlem River
Bronx Kill
East River
Randall's Island
North Brother Island
South Brother Island
Riker's Island
R15
R16
R17
0
1,250
2,500
Feet
Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

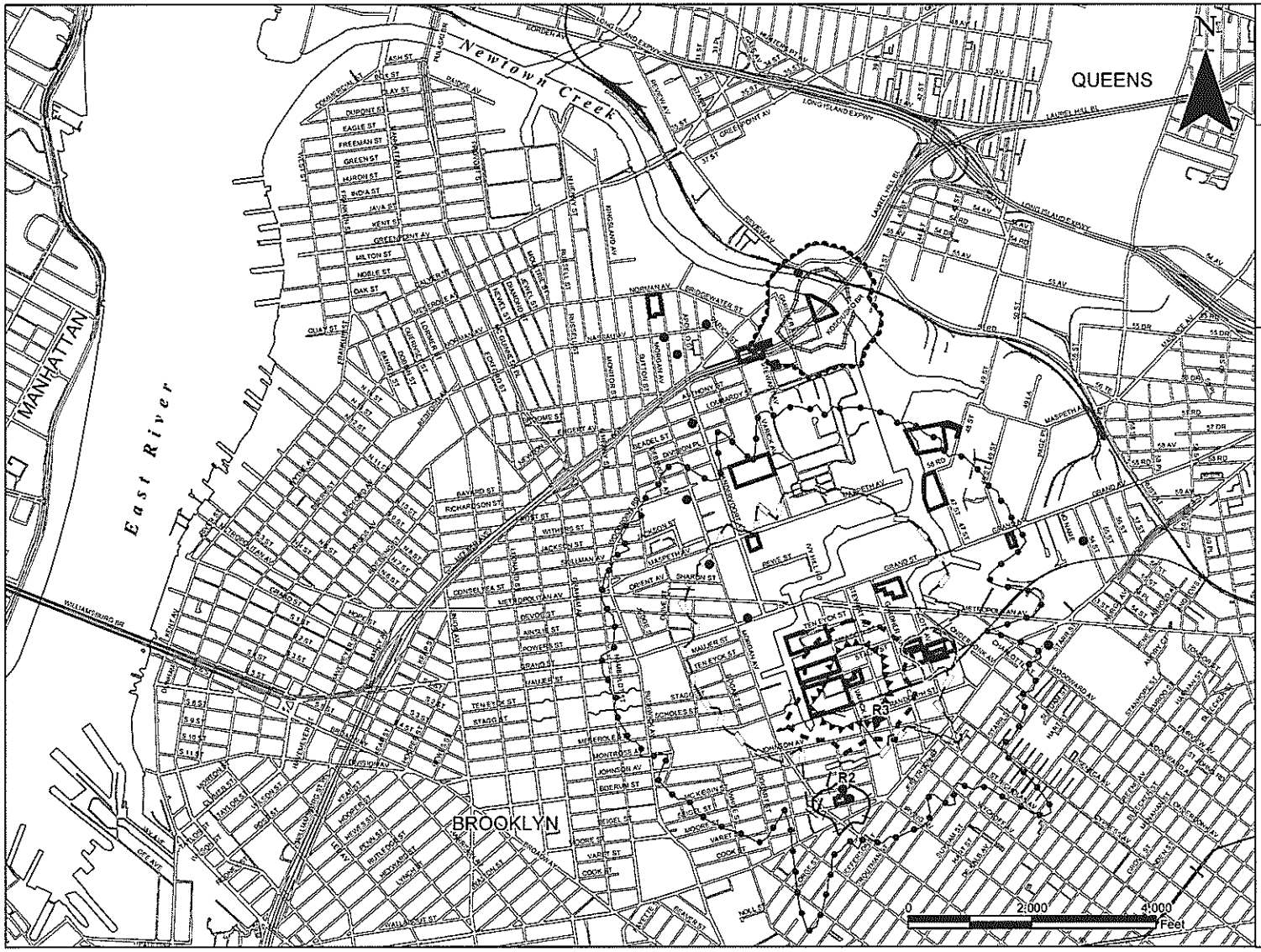

Figure 5.2.4-3
Odor Contours
and Receptors
Brooklyn CD #1 Study Area

City of New York
Department of Sanitation

Legend

- Receptors
- GP Medium 1 10 OU
- GP Medium 1 5 OU
- GP Small 1 5 OU
- GP Small 2 5 OU
- GP Large 1 10 OU
- GP Large 1 5 OU
- GP Medium 2 10 OU
- GP Medium 2 5 OU

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Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

Figure 5.2.4-4
Odor Contours
and Receptors
Jamaica, Queens CD #12 Study Area

City of New York
Department of Sanitation

Legend

- Receptors
- JM Medium 1 10 OU
- JM Medium 1 5 OU

Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

5.2.5 Noise

The potential noise effects of Transfer Stations within a Study Area depend on the types and number of noise sources in use. The noise spreadsheet model previously developed by the DSNY for the 2000 Solid Waste Management Plan Final Environmental Impact Statement (EIS) was used to predict the potential for combined effects from Transfer Stations within the Study Areas. Noise emission levels from equipment in the prototypical facilities were obtained from field measurements, or manufacturer's data, when field measurements were unavailable. A noise model was used to predict 55 dBA noise contours around each Transfer Station, taking into account existing shielding and conservatively assuming that all equipment at putrescible waste and non-putrescible waste Transfer Stations operated 24 hours per day, since they were permitted to do so.

The predicted 55 dBA noise contours from all of the Transfer Stations in each Study Area were combined to determine areas of overlapping noise levels where sensitive receptors exist, and field measurements were conducted to measure the existing noise levels at the sensitive receptors within the overlapping contour areas. The predicted noise levels from the Transfer Stations were removed from the existing measured noise levels to determine if the incremental effect of the combined Transfer Stations resulted in an increase of less than 3dBA (attributable to the Transfer Stations).

Transfer Stations in the Port Morris, Bronx CD #1 Study Area do not have overlapping noise effects because they are not located in proximity to each other. However, there were areas of potential overlapping effects from multiple Transfer Stations in the Brooklyn CD #1; Jamaica, Queens CD #12; and Hunts Point, Bronx CDs #2 and #9 Study Areas identified, but further analyses did not predict effects at sensitive receptors located within these Study Area overlap areas.

Waste Hauling Vehicles queuing on and off site are the highest contributor to noise levels. The removal of off-site queuing of Waste Hauling Vehicles reduces noise levels.

Figures 5.2.5-1 through 5.2.5-4 show the predicted noise contours and location of sensitive receptors within the overlapping areas for each of the Study Areas.

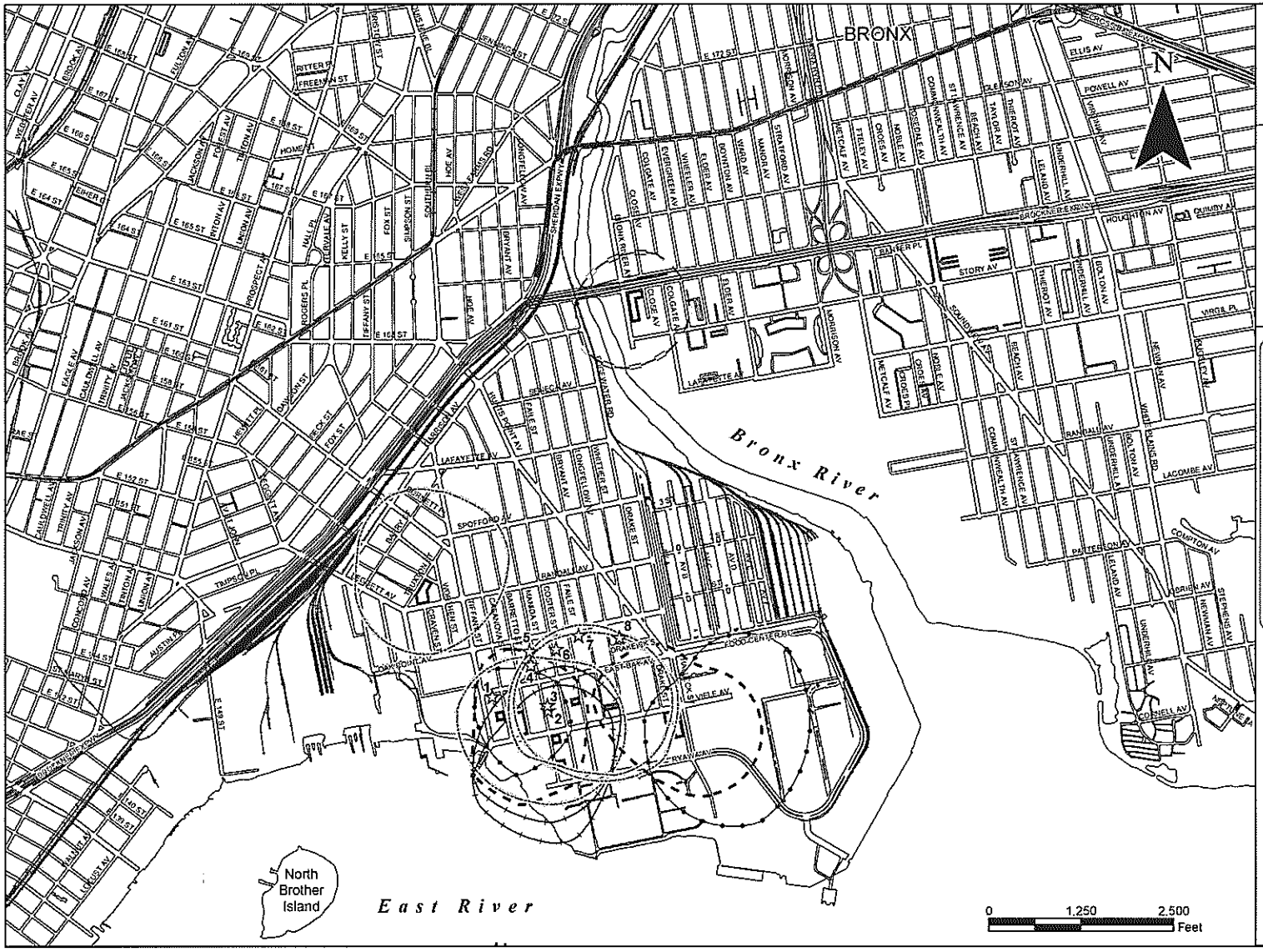

Figure 5.2.5-1
Noise Receptors
and Contours
Hunts Point, Bronx CDs #2 and #9
Study Area

City of New York
Department of Sanitation

Legend

- ☆ Sensitive Receptor Sites
- In Over Lapping Contour Areas
- Non-Putrescible - Construction & Demolition with Crusher, Grinder, Screener
- Non-Putrescible - Construction & Demolition
- Non-Putrescible - Fill Small / Medium
- Putrescible Medium with Baler
- Putrescible Small

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Site delineations are approximate.
Base Map Sources. NYCDoitt and NYCDCP

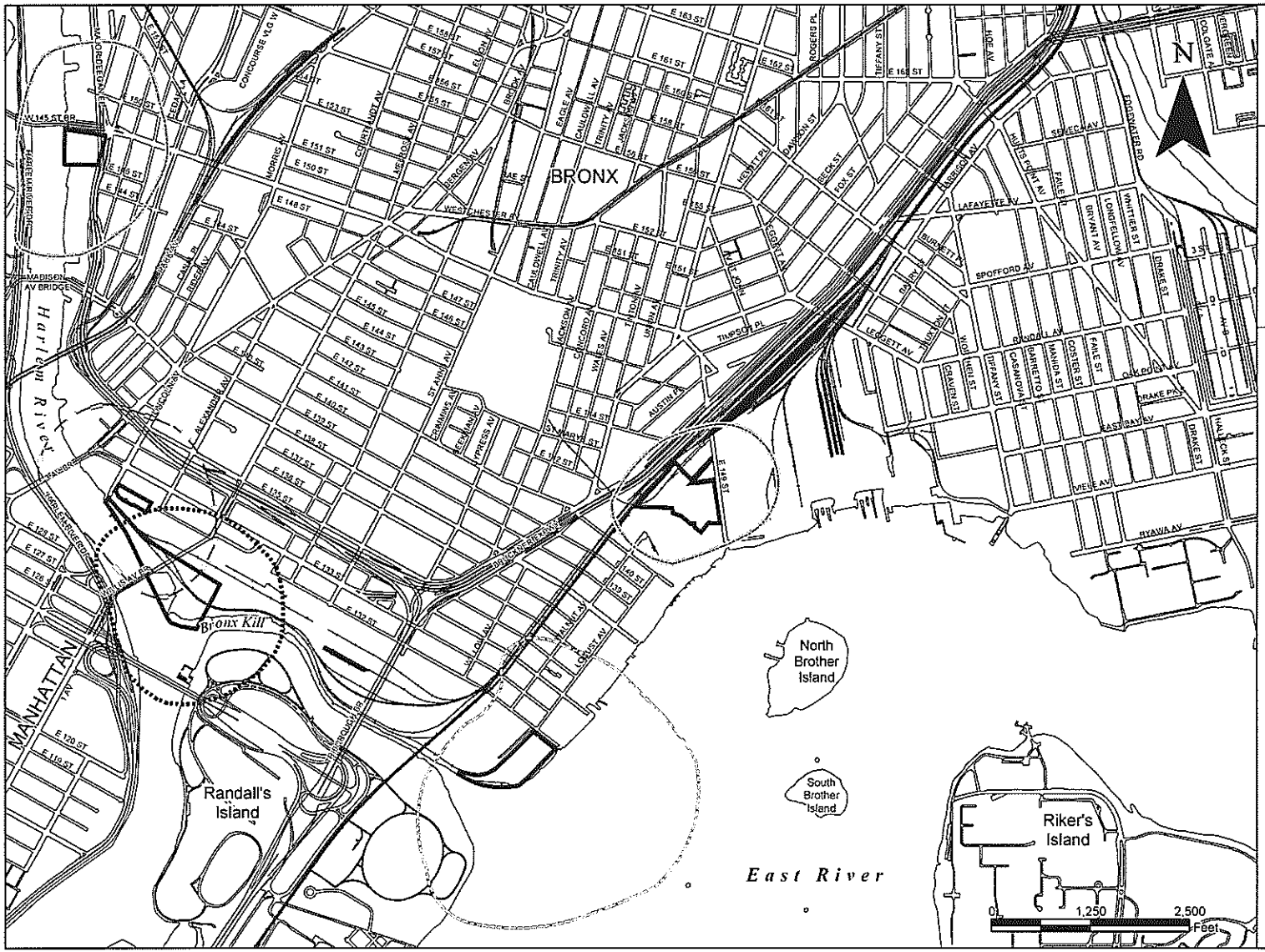

Figure 5.2.5-2
Noise Receptors
and Contours
Port Morris, Bronx CD #1 Study Area

City of New York
Department of Sanitation

Legend

- Non-Putrescible Large Fill
- Non-Putrescible Small & Medium Fill
- Putrescible Large with Baler
- Putrescible Large with Loco

Site delineations are approximate.
Base Map Sources. NYCDoitt and NYCDCP

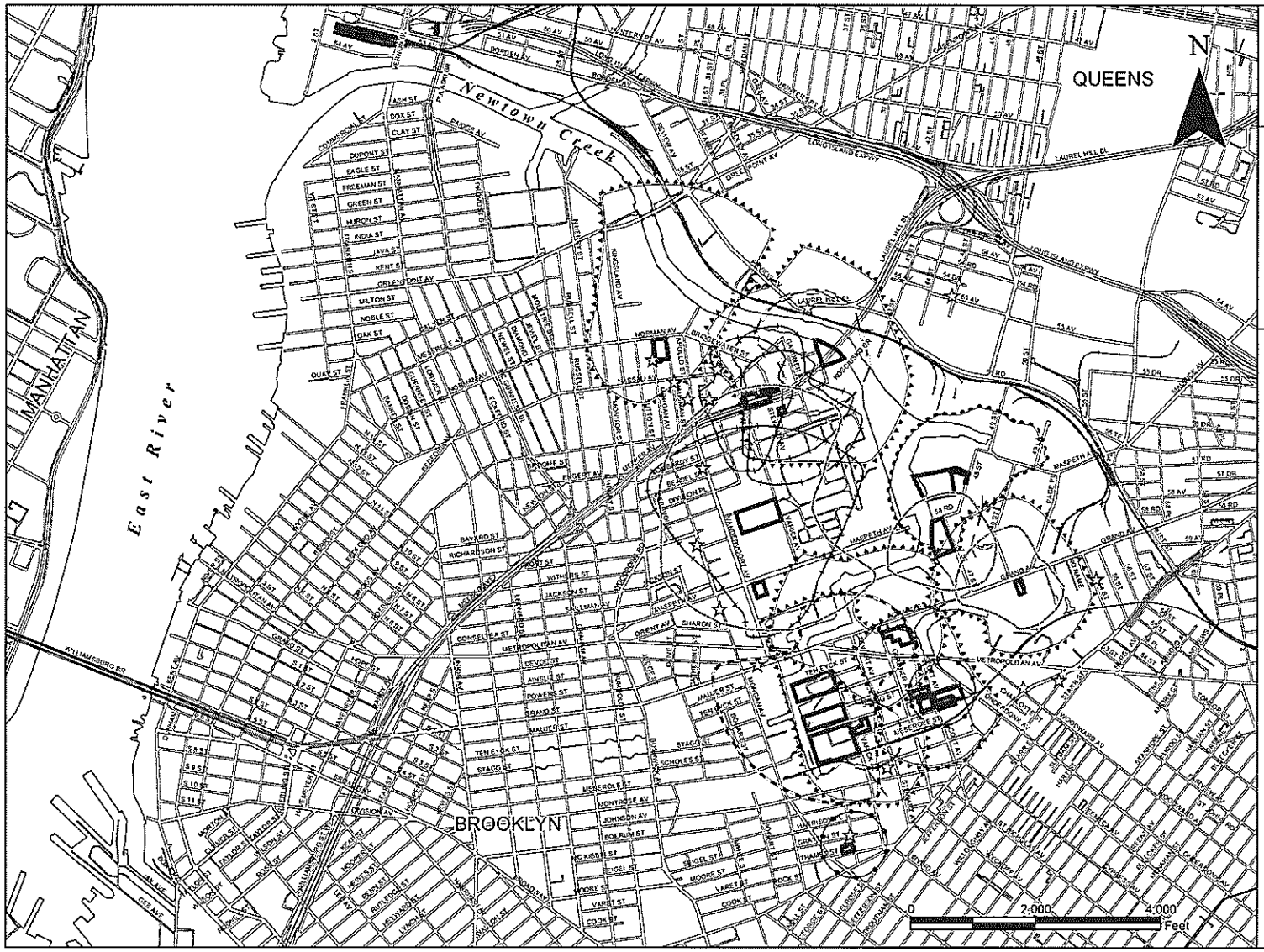

Figure 5.2.5-3
Noise Receptors
and Contours
Brooklyn CD #1 Study Area

City of New York
Department of Sanitation

Legend

- Sensitive Receptor Sites
- In Overlapping Contour Areas
- Non Putrescible - C&D
- Non Putrescible - C&D with Crusher/Screener
- Non Putrescible - Large Fill
- Non Putrescible - Small/Medium Fill
- Putrescible Large with Baler
- Putrescible Medium with Baler
- Putrescible Small

HDR HydroQual

Cambridge Environmental Inc URBITRAN

Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

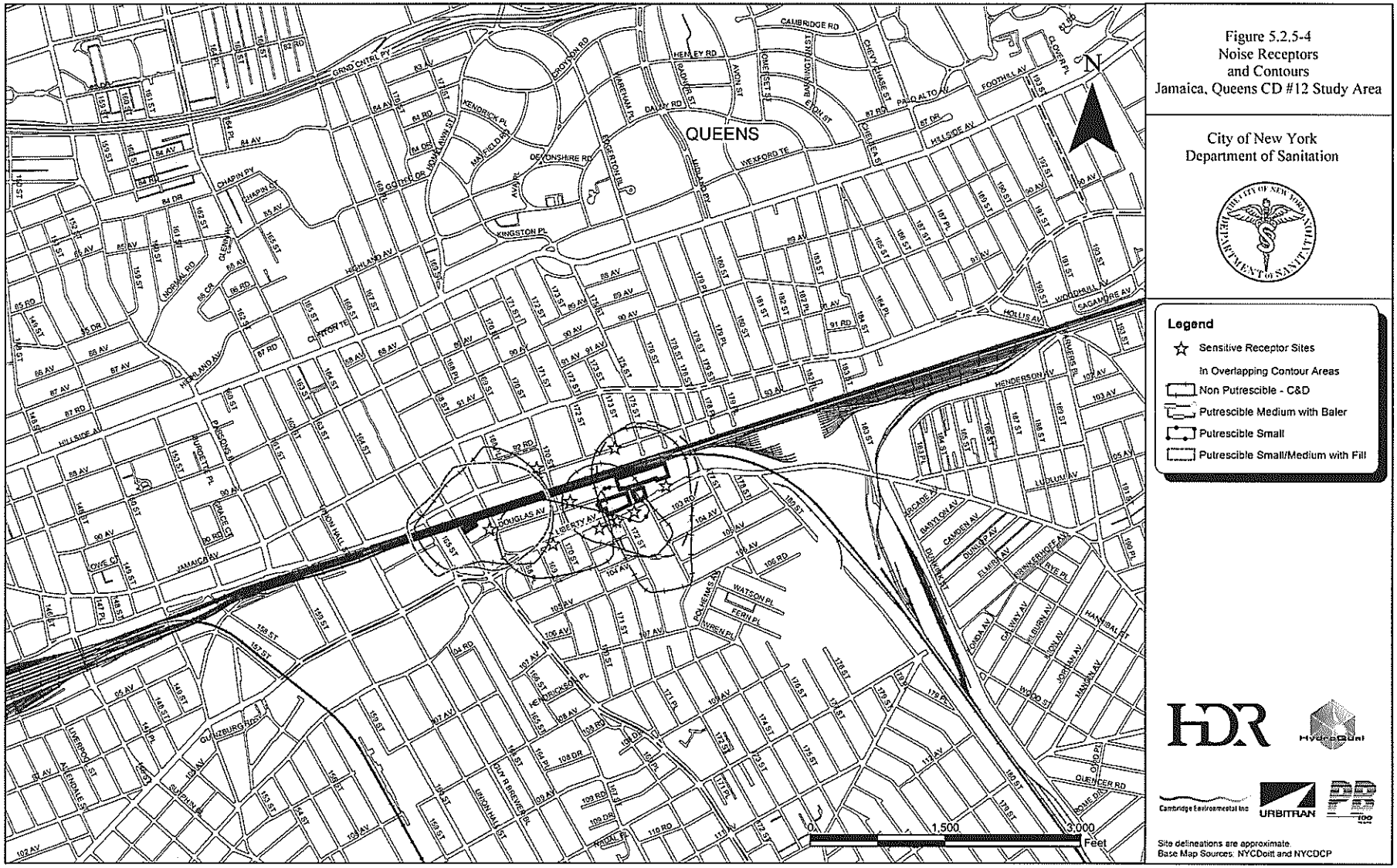

Figure 5.2.5-4
Noise Receptors
and Contours
Jamaica, Queens CD #12 Study Area

City of New York
Department of Sanitation

5.2.6 Water Quality Assessment

The cumulative effects on water quality from the Transfer Stations in the Study Areas were predicted using a mathematical model of New York Harbor, the 208 Model and the conservative assumption that the entire site for each Transfer Station was impervious (i.e., paved). As shown in Table 5.2.6-1, no individual or combined effects on water quality from Transfer Stations in the Study Areas were predicted.

Table 5.2.6-1
Predicted Water Quality Loadings

Facility	Study Area[3]	Impervious Area (acres)	Runoff Flow (cfs)[4]	Fecal Coliform (MF)[4]	BOD (lbs/day[4]	Copper (lbs/day) [4]	Lead (lbs/day)[4]	Zinc (lbs/day)[4]
Bronx County Recycling	Port Morris	3.79	0.23	41,713	12.3	0.042	0.033	0.19
Felix Equities	Port Morris	1.09	0.066	12,023	3.9	0.012	0.01	0.06
Tilcon NY	Port Morris	10.36	0.62	113,956	36.9	0.117	0.094	0.52
Waste Management of NY[1] (98 Lincoln Avenue, and 132nd Street and Saint Ann's Avenue)	Port Morris	15.61	0.94	171,629	55.5	0.177	0.141	0.78
Waste Services of NY	Port Morris	11.15	0.67	122,582	39.7	0.126	0.01	0.56
Waste Management of NY	Hunts Point	65.45	3.93	179,653	233	0.74	0.59	3.26
Waste Management of NY[2] (75 Thomas Avenue and 485 Scott Avenue)	Brooklyn	0.85	0.051	9,304	3.0	0.010	0.008	0.042
Waste Management of NY 232 Gardner Avenue	Brooklyn	1.78	0.11	19,513	6.3	0.020	0.016	0.088
Waste Management of NY 215 Varick Avenue	Brooklyn	4.88	0.29	53,638	17.4	0.055	0.044	0.243
Waste Management of NY 123 Varick Avenue	Brooklyn	12.24	0.73	134,580	43.5	0.14	0.111	0.61
Maspeth Recycling	Brooklyn	5.13	0.31	56,693	18.4	0.058	0.047	0.257
Pebble Lane Associates	Brooklyn	1.12	0.067	12,305	3.98	0.013	0.010	0.056

Note:

(1) For the purposes of this analysis, the Waste Management of NY facilities at 98 Lincoln Avenue, and 132nd Street and Saint Ann's Avenue, were analyzed together.

(2) For the purposes of this analysis, the Waste Management of NY facilities at 75 Thomas Avenue and 485 Scott Avenue were analyzed together

(3) Port Morris = Port Morris, Bronx CD #1 Study Area.
Hunts Point = Hunts Point, Bronx CDs #2 and #9 Study Area.
Brooklyn = Brooklyn CD #1 Study Area.

(4) cfs = cubic feet per second.
MF = membrane filter.
lbs/day = pounds per day.

5.3 Traffic, Off-Site Air Quality and Off-Site Noise Analyses

5.3.1 Traffic

The following number of intersections were analyzed using Highway Capacity Software (HCS) version 4.1c for AM, midday and PM peak hours in each of the four Study Areas:

- Six in the Port Morris, Bronx CD #1 Study Area;
- Ten (10) in the Hunts Point, Bronx CDs #2 and #9 Study Area (additional intersections were identified, but due to the overlap of routes with the Port Morris, Bronx CD #1 Study Area only 10 were required further analysis);
- Twenty-six (26) in the Brooklyn CD #1 Study Area; and
- Sixteen (16) in the Jamaica, Queens CD #12 Study Area.

A smaller number of intersections were analyzed in the Bronx Study Areas because access is limited from the north and west along major truck routes, while there is access from multiple directions to the Brooklyn CD #1 and Jamaica, Queens CD #12 Study Areas. Traffic analyses were conducted at each of these intersections for current conditions (identified through a data collection and analysis effort in 2003) that include the Waste Hauling Vehicles traveling through these intersections. Current conditions, current conditions without Waste Hauling Vehicles, and the RTG scenario were evaluated for those intersections with a mid LOS D or worse by approach. The locations of the intersections analyzed are presented in Figures 5.3.1-1 through 5.3.1-4.

The number of Waste Hauling Vehicles identified at the intersections analyzed ranged from 0 (at various intersections in the Jamaica, Queens CD #12 and Brooklyn CD #1 Study Areas) to 114 (at the intersection of Bruckner Boulevard and Leggett Avenue in the Hunts Point, Bronx CDs #2 and #9 Study Area). This is a relatively small number of vehicles compared to the background number of vehicles traveling through the intersections during the hours analyzed. Table 5.3.1-1 presents the percentage of Waste Hauling Vehicles and the percentage of RTG scenario vehicles as a percentage of total vehicles under each of these conditions.

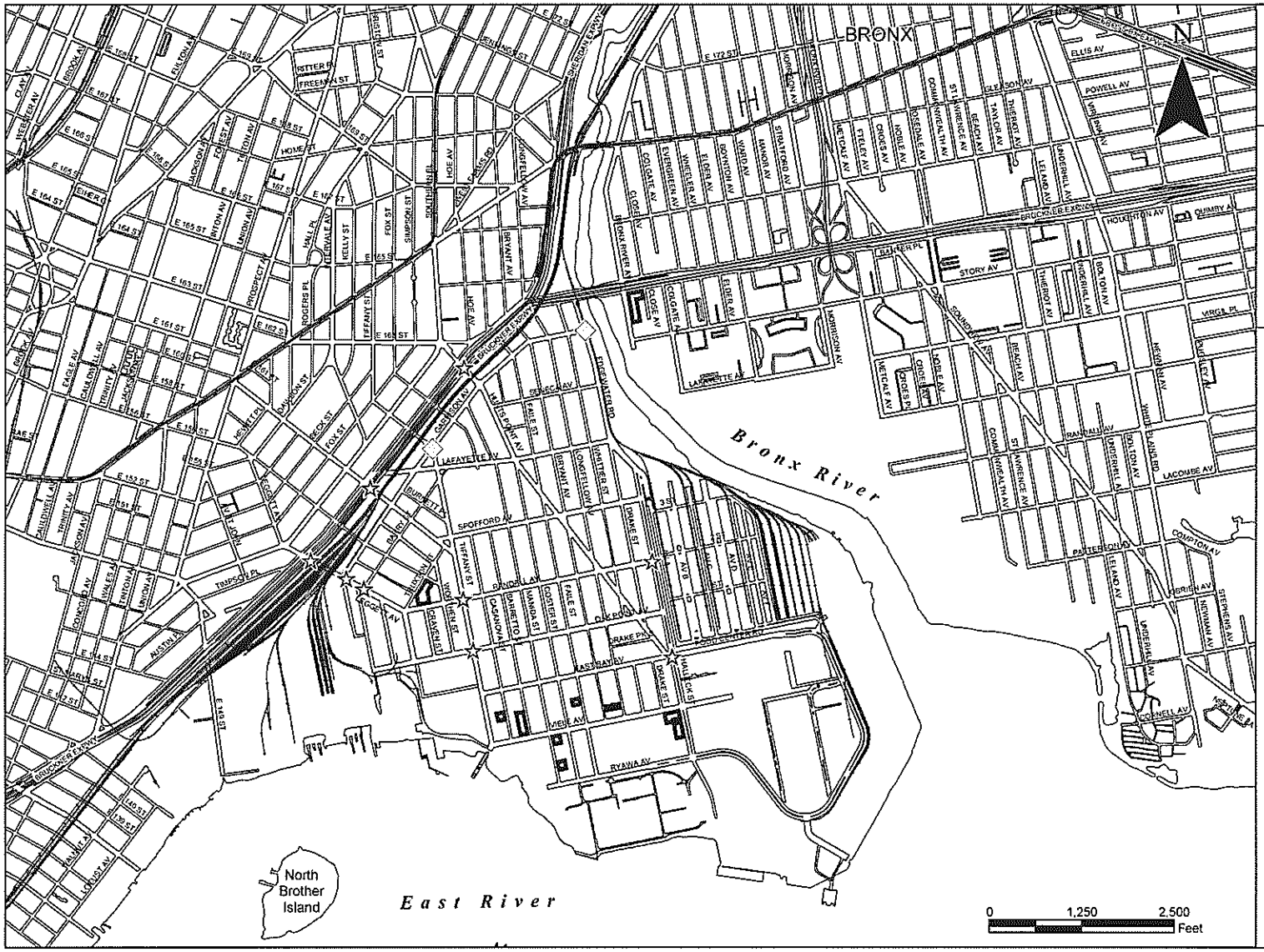

Figure 5.3.1-1
Traffic Intersections Studied
Hunts Point, Bronx CDs #2 and #9
Study Area

City of New York
Department of Sanitation

Legend

☆ Intersections Analyzed

◇ Additional Data Collected But Not Analyzed

Site delineations are approximate
Base Map Sources: NYCDoitt and NYCDCP

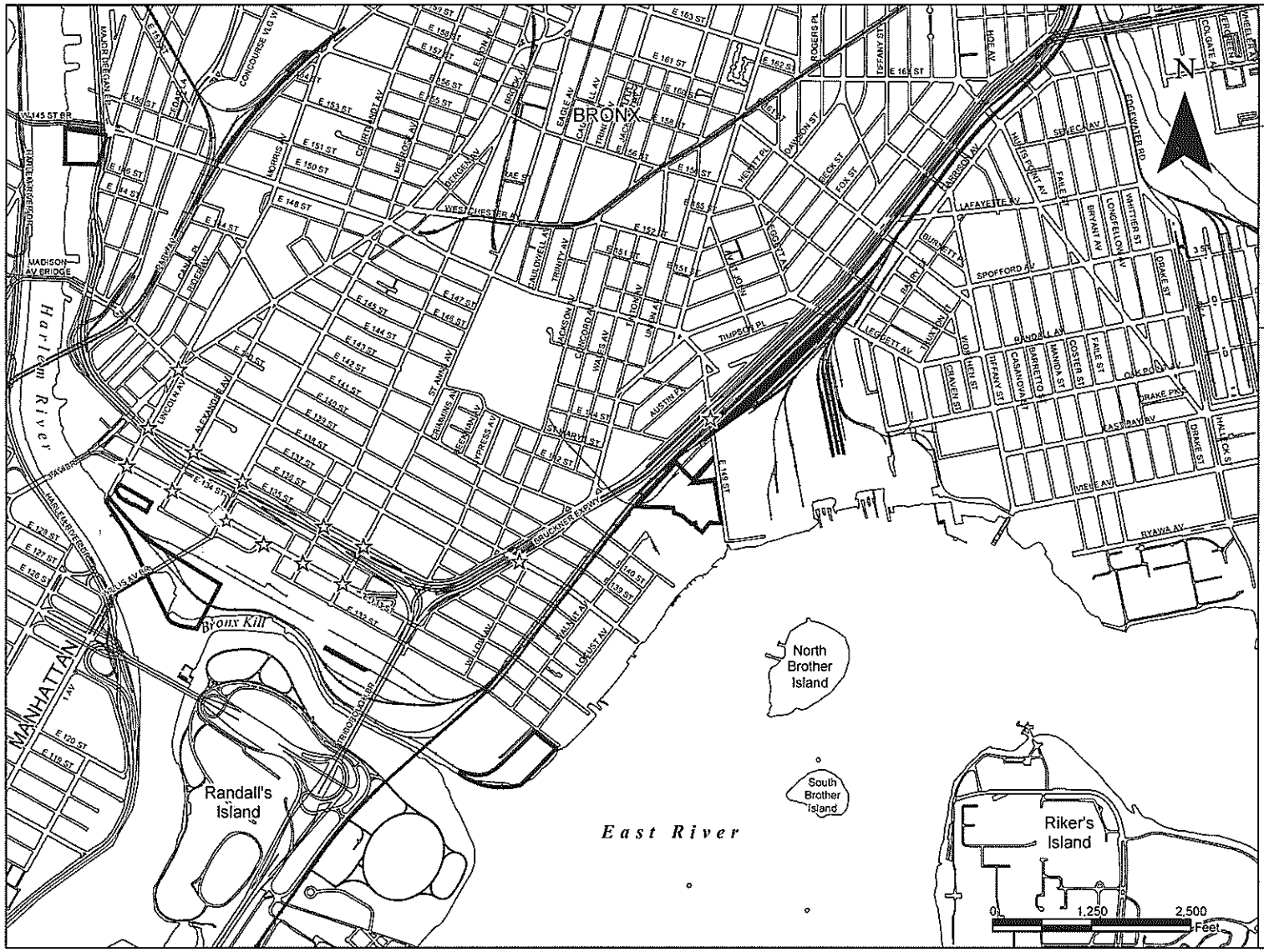

Figure 5.3.1-2
Traffic Intersections Studied
Port Morris, Bronx CD #1 Study Area

City of New York
Department of Sanitation

Legend

- ☆ Intersections Analyzed
- ◇ Data Collected But Not Analyzed

HDR

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PB

Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

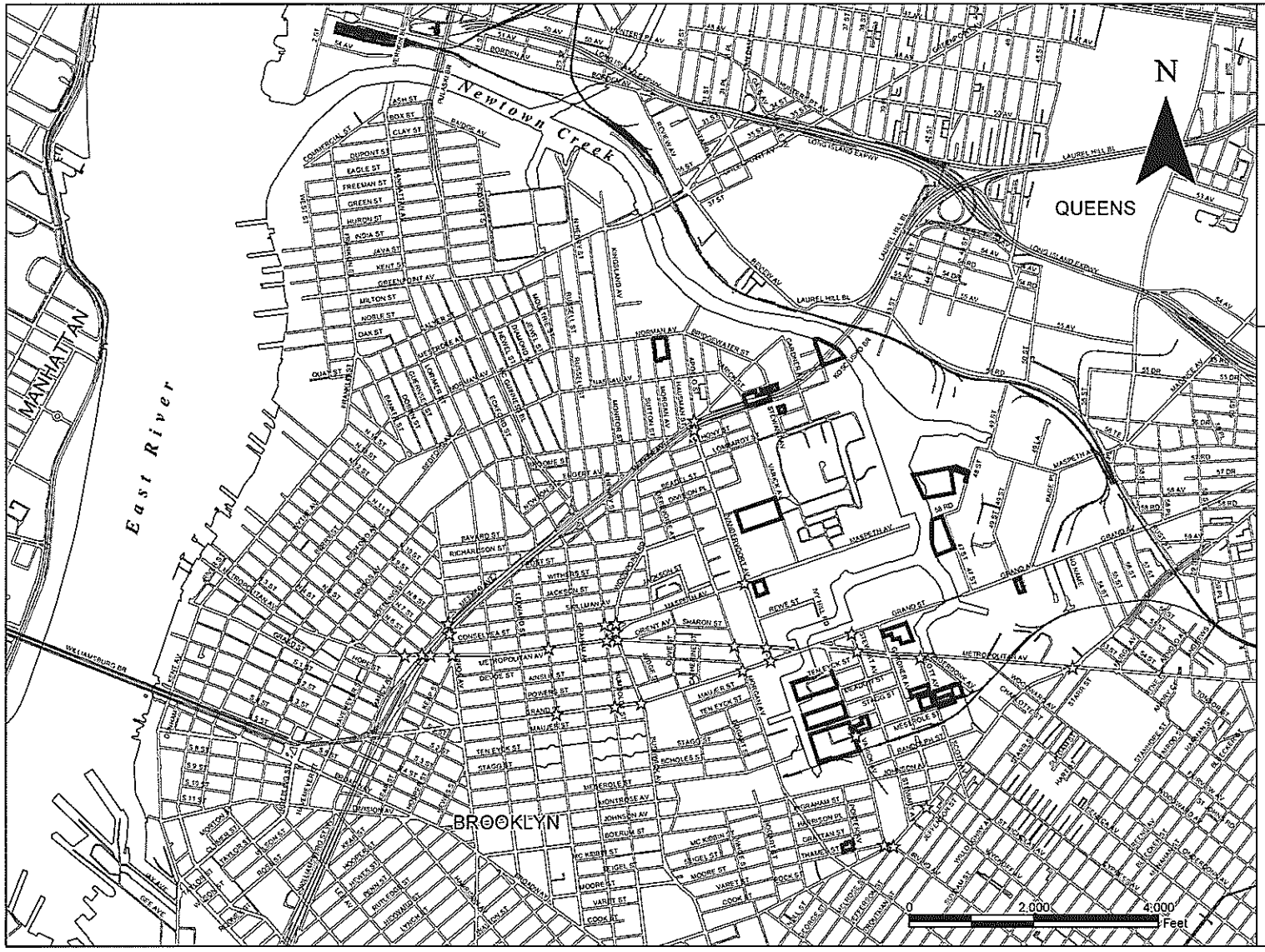

Figure 5.3.1-3
Traffic Intersections Studied
Brooklyn CD #1 Study Area

City of New York
Department of Sanitation

Legend

☆ Intersections Analyzed

Cambridge Environmental Inc

Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

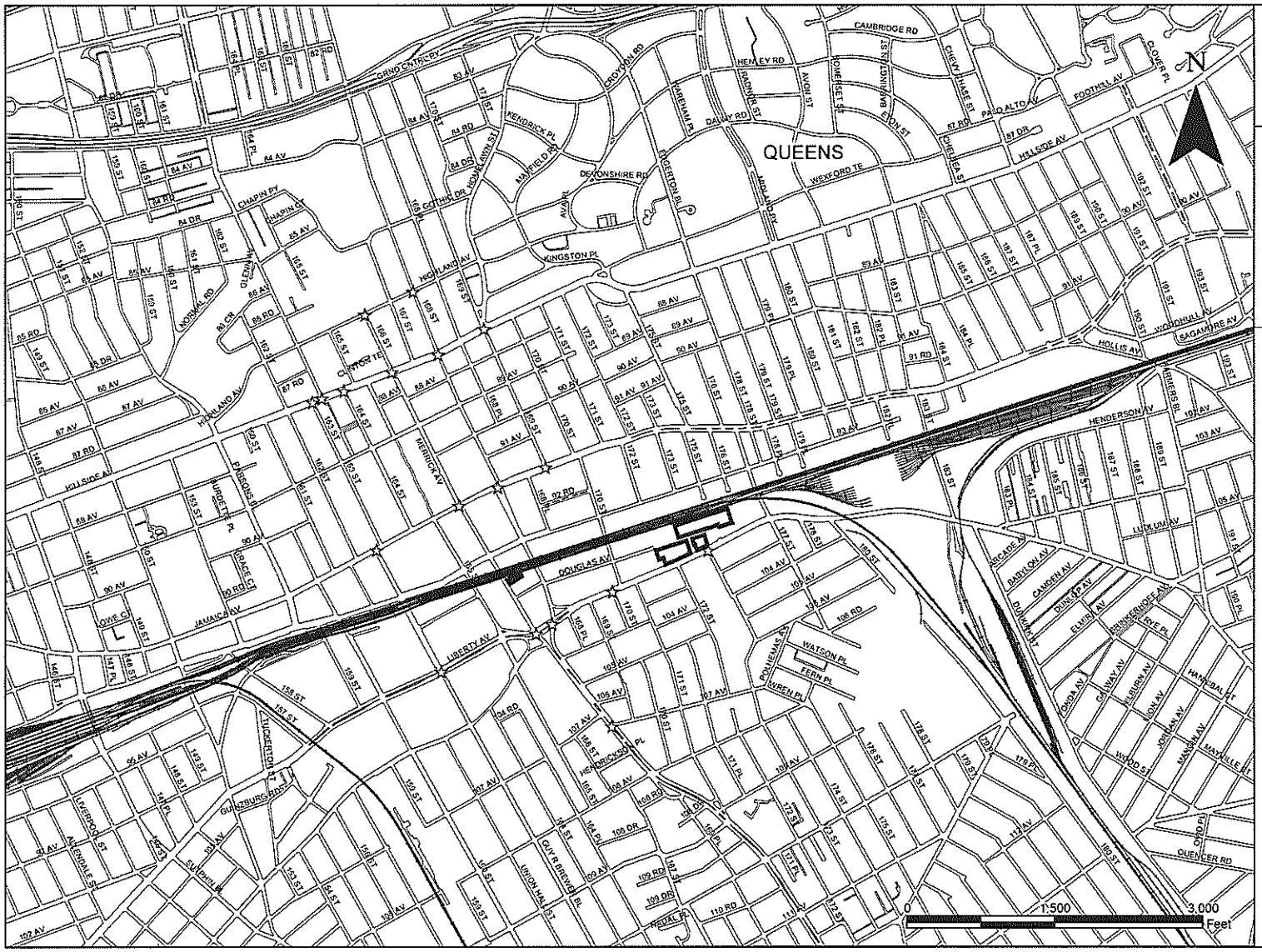

Figure 5.3.1-4
Traffic Intersections Studied
Jamaica, Queens CD #12 Study Area

City of New York
Department of Sanitation

Legend

☆ Intersections Analyzed

HDR

HydroQual

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Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

Table 5.3.1-1
Average Percent of
Total Waste Hauling Vehicles at Intersections Analyzed

Study Area	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Brooklyn CD #1			
Existing Conditions(1)	1.54%	1.88%	0.96%
Replacement Industry Conditions(2)	11.45%	11.48%	11.62%
Jamaica, Queens CD #12			
Existing Conditions(1)	0.30%	0.74%	0.15%
Replacement Industry Conditions(2)	7.83%	7.89%	8.25%
Port Morris, Bronx CD #1			
Existing Conditions(1)	2.07%	1.68%	1.22%
Replacement Industry Conditions(2)	14.02%	13.56%	19.67%
Hunts Point, Bronx CDs #2 and #9			
Existing Conditions(1)	4.99%	1.90%	1.21%
Replacement Industry Conditions(2)	9.72%	8.63%	11.90%

Notes:

(1) Represents the average percentage of total vehicles that are Waste Hauling Vehicles at intersections in the Study Area.

(2) Represents the average percentage of total vehicles that are replacement industry vehicles at intersections in the Study Area.

A summary of the LOS for current conditions and current conditions without Waste Hauling Vehicles and the RTG scenario (if mid-level LOS D or worse by approach) for each of the Study Areas is presented in Table 7-2 in Volume I, Appendix H to this Study.

Results indicate that many of the intersections operate at an overall LOS C or better under current conditions (six in Port Morris, Bronx CD #1 Study Area; seven in Hunts Point, Bronx CDs #2 and #9 Study Area; 16 in Jamaica, Queens CD #12 Study Area; and 23 in Brooklyn CD #1 Study Area). The current conditions at six of the intersections in the Study Areas operate at an overall LOS D, E or F. These are:

- Brooklyn CD #1 Study Area: (1) Meeker Avenue and Union Avenue, and (2) Flushing Avenue/Melrose Street and Varick Avenue/Irving Avenue;
- Port Morris, Bronx CD #1 Study Area: (1) Bruckner Boulevard and Alexander Street; and
- Hunt's Point, Bronx CDs #2 and #9 Study Area: (1) Hunt's Point Avenue and Bruckner Boulevard, (2) Longwood Avenue and Bruckner Boulevard, and (3) Leggett Avenue and Bruckner Boulevard.

Subtracting the Waste Hauling Vehicles from the analysis did not significantly improve the overall LOS at any intersections analyzed, primarily because the number of Waste Hauling Vehicles compared to the background traffic is low – ranging between 0% and 7% of the total traffic. For all cases, the LOS with replacement industry trips (that is, traffic that would be generated by other light industrial uses for the Transfer Station site if the Transfer Stations were absent) remained the same or deteriorated compared to the LOS with Waste Hauling Vehicles.

5.3.2 Off-Site Air Quality

Current conditions were analyzed at two links each in the Port Morris, Bronx CD #1 and the Hunts Point, Bronx CDs #2 and #9 Study Areas and at four links each in Brooklyn CD #1 and Jamaica, Queens CD #12. The "worst case" links for each Study Area were identified by evaluating convergence points along truck routes to and from the Study Areas, and observing the

number of Waste Hauling Vehicles at these locations. As was the case with the traffic analysis, a lower number of links were analyzed in the Bronx Study Areas because of limited access conditions. The location of the links analyzed are presented in Figures 5.3.2-1 through 5.3.2-4.

Current conditions for CO were estimated using USEPA's MOBILE5b mobile emission factors algorithm and USEPA's CAL3QHC dispersion model. PM_{10} and $PM_{2.5}$ emission factors were estimated using the USEPA Publication AP-42 (AP-42), Section 13.2-1 and the USEPA's PART 5 model. The PM_{10} and $PM_{2.5}$ conditions were estimated using USEPA's CAL3QHCR Tier I dispersion model. Tables 5.3.2-1 through 5.3.2-4 provide a summary of current conditions for each of the links analyzed in each Study Area. For $PM_{2.5,}$ on-site contribution from the operations equipment and Waste Hauling Vehicles, at the link analyzed, were estimated and combined with the contribution from the on-street off-site sources.

5.3.3 Off-Site Noise

The number of locations initially screened to determine whether the Waste Hauling Vehicles under current conditions have the potential to double PCEs during each of the 24 hours is indicated below:

- Eight in the Port Morris, Bronx CD #1 Study Area;
- Four in the Hunts Point, Bronx CDs #2 and #9 Study Area;
- Six in the Brooklyn CD #1 Study Area; and
- Five in the Jamaica, Queens CD #12 Study Area.

These "worst case" locations were identified by evaluating convergence points along truck routes to and from the Study Areas, observing number of Waste Hauling Vehicles at these locations, and identifying sensitive receptors along these routes.

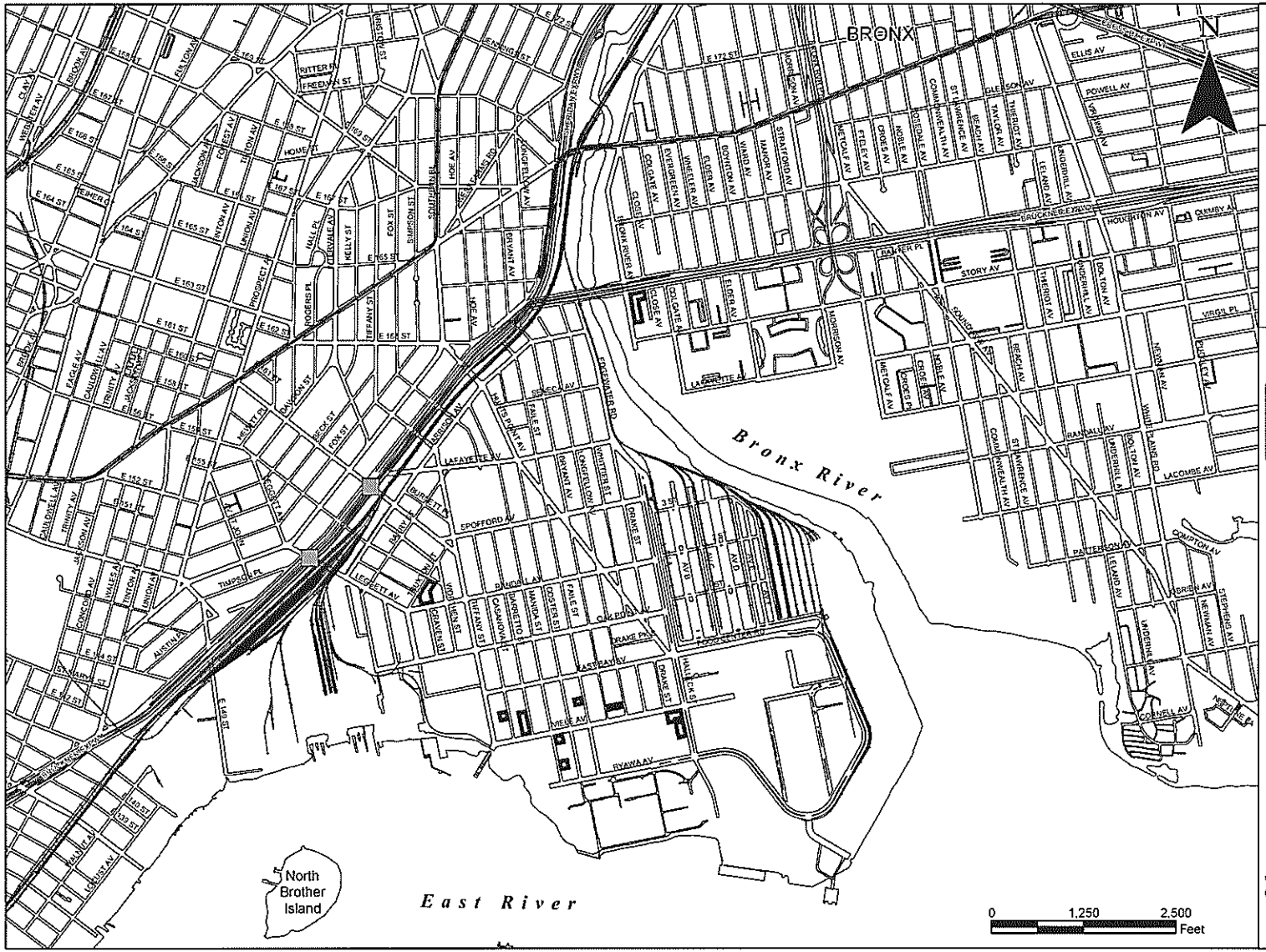

Figure 5.3.2-1
Off-Site Air Quality
Analysis Locations
Hunts Point, Bronx CDs #2 and #9
Study Area

City of New York
Department of Sanitation

Legend

Air Quality Analysis Locations

Cambridge Environmental Inc

URBITRAN

Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

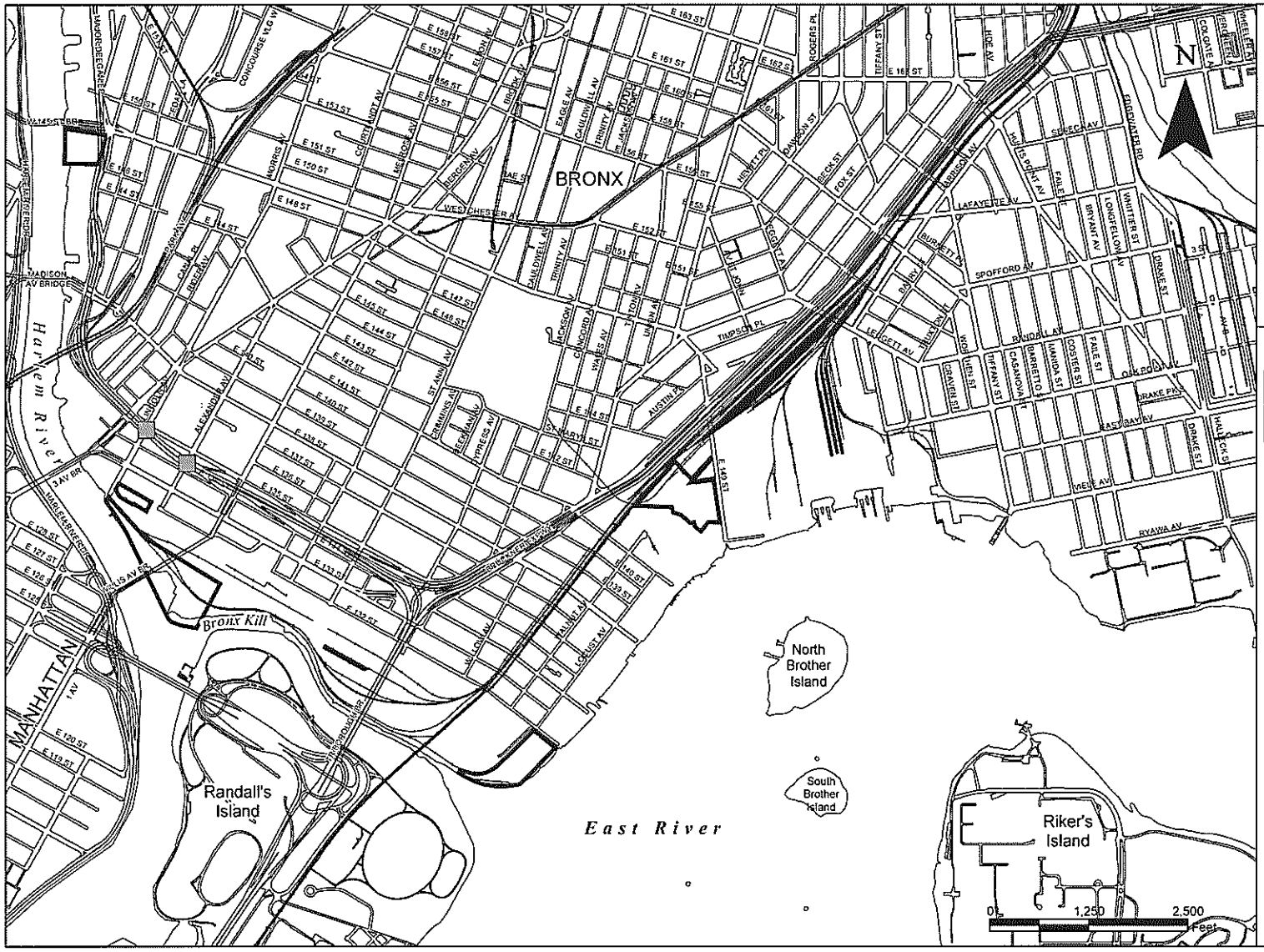

Figure 5.3.2-2
Off-Site Air Quality
Analysis Locations
Port Morris, Bronx CD #1 Study Area

City of New York
Department of Sanitation

Legend

Air Quality Analysis Locations

Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

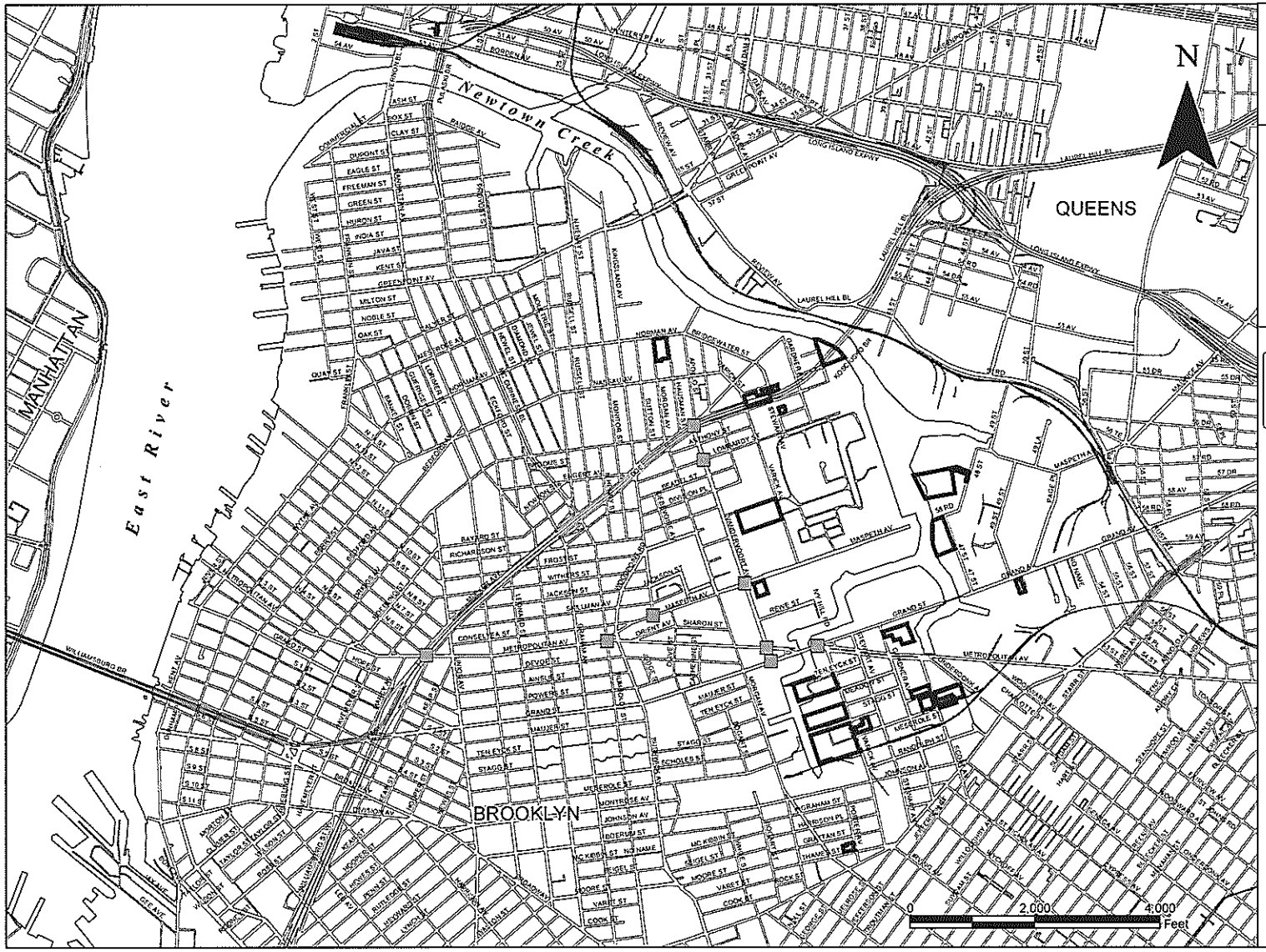

Figure 5.3.2-3
Off-Site Air Quality
Analysis Locations
Brooklyn CD #1 Study Area

City of New York
Department of Sanitation

Legend

Air Quality Analysis Locations

HDR HydroQual

Cambridge Environmental Inc URBITRAN PB

Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

Figure 5.3.2-4
Off-Site Air Quality
Analysis Locations
Jamaica, Queens CD #12 Study Area

City of New York
Department of Sanitation

Legend

Air Quality Analysis Locations

Site delineations are approximate.
Base Map Sources. NYCDoitt and NYCDCP

Table 5.3.2-1
Summary of Air Quality Analysis at
Selected Intersections within the Brooklyn CD #1 Study Area

Air Quality Receptor Site	CO	PM_{10}		$PM_{2.5}$					
	8-hr CO Facility (NAAQS: 9 ppm) Conc.(1) (ppm)	24-hr PM_{10} Facility (NAAQS: 150 μg/m³) Conc.(1) (μg/m³)	Annual PM_{10} (NAAQS: Facility 50 μg/m³) Conc.(1) (μg/m³)	24-hr Max. Contributions from On-Site Emission Sources Conc. (2) (μg/m³)	24-hr Max. Contributions from Off-Site Emission Sources Conc. (3) (μg/m³)	24-hr Total Combined Contributions from On- and Off-Site Emission Sources Conc. (5) (μg/m³)	Annual Neighborhood Max. Contributions from On-Site Emission Sources Conc. (2) (μg/m³)	Annual Neighborhood Contributions from Off-Site Emission Sources Conc. (4) (μg/m³)	Annual Total Combined Contributions from Neighborhood On- and Off-Site Emission Sources Conc. (5) (μg/m³)
Vandervoort/Meeker/ Lombardy									
Existing Conditions	5.10	119	50						
Existing Incremental				7.3	0.4	7.7	0.41	0.08	0.49
Metropolitan/Vandervoort/ Grand									
Existing Conditions	6.5	111	44						
Existing Incremental				3.8	0.5	4.2	0.30	0.06	0.36
Maspeth/Metro/Kings/ Humboldt									
Existing Conditions	5	112	46						
Existing Incremental				1	0.3	1.3	0.1	0.03	0.1
Metro/Meeker/Union/Rodney/ North 6th									
Existing Conditions	5.8	122	50						
Existing Incremental				0.81	0.16	1	0.05	0.05	0.1

Notes:

(1) CO and PM_{10} concentrations are the neighborhood concentrations estimated using the AM, Facility AM, and PM peak traffic information plus background concentration (8-hr CO = 2.8 ppm; 24-hr PM_{10} = 57 μg/m³; Annual PM_{10}=23 μg/m³).

(2) The maximum incremental concentrations of the on-site emissions at the intersection considered.

(3) The maximum incremental concentrations between existing conditions and without Waste Hauling Vehicles at any receptor 3 meters from the edge of the roadways.

(4) The maximum incremental concentrations between existing conditions and without Waste Hauling Vehicles at any receptor 15 meters from the edge of the roadways.

(5) Numbers may not add due to rounding.

ppm = Parts per million.

μg/m³ = Micrograms per cubic meter.

Table 5.3.2-2
Summary of Air Quality Analysis at
Selected Intersections within the Jamaica, Queens CD #12 Study Area

Air Quality Receptor Site	CO	PM_{10}		$PM_{2.5}$					
	8-hr CO Facility (NAAQS: 9 ppm) Conc.(1) (ppm)	24-hr PM_{10} Facility (NAAQS: 150 $\mu g/m^3$) Conc.(1) ($\mu g/m^3$)	Annual PM_{10} (NAAQS: Facility 50 $\mu g/m^3$) Conc.(1) ($\mu g/m^3$)	24-hr Neighborhood Contributions from On-Site Emission Sources Conc. (2) ($\mu g/m^3$)	24-hr Neighborhood Contributions from Off-Site Emission Sources Conc. (3) ($\mu g/m^3$)	24-hr Total Combined Contributions from On- and Off-Site Emission Sources Conc. (5) ($\mu g/m^3$)	Annual Neighborhood Max. Contributions from On-Site Emission Sources Conc. (2) ($\mu g/m^3$)	Annual Neighborhood Contributions from Off-Site Emission Sources Conc. (4) ($\mu g/m^3$)	Annual Total Combined Contributions from Neighborhood On- and Off-Site Emission Sources Conc. (5) ($\mu g/m^3$)
Hillside/Merrick 166th / 168th									
Existing Conditions	4.5	123	48						
Existing Incremental				0.95	0.06	1.01	0.03	0	0.03
Jamaica/Merrick / 168th									
Existing Conditions	5.6	109	45						
Existing Incremental				3.9	0.03	4	0.17	0.02	0.19
Liberty/Merrick 168th									
Existing Conditions	7.1	123	50						
Existing Incremental				6.7	0.32	7	0.7	0.01	0.72
Liberty Avenue 171st / 173rd									
Existing Conditions	4.1	107	44						
Existing Incremental				13.8	0.17	14.0	1.43	0.01	1.44

Notes:

(1) CO and PM_{10} concentrations are the neighborhood concentrations estimated using the AM, Facility AM, and PM peak traffic information plus background concentration (8-hr CO = 2.8 ppm; 24-hr PM_{10} = 57 $\mu g/m^3$; Annual PM_{10}=23 $\mu g/m^3$).

(2) The maximum incremental concentrations of the on-site emissions at the intersection considered.

(3) The maximum incremental concentrations between existing conditions and without Waste Hauling Vehicles at any receptor 3 meters from the edge of the roadways.

(4) The maximum incremental concentrations between existing conditions and without Waste Hauling Vehicles at any receptor 15 meters from the edge of the roadways.

(5) Numbers may not add due to rounding.

ppm = Parts per million.

$\mu g/m^3$ = Microgram per cubic meter.

Table 5.3.2-3
Summary of Air Quality Analysis at
Selected Intersections within the Hunts Point, Bronx CDs #2 and #9 Study Area

Air Quality Receptor Site	CO	PM_{10}		$PM_{2.5}$					
	8-hr CO Facility (NAAQS: 9 ppm) Conc.[1] (ppm)	24-hr PM_{10} Facility (NAAQS: 150 $\mu g/m^3$) Conc.[1] ($\mu g/m^3$)	Annual PM_{10} (NAAQS: Facility 50 $\mu g/m^3$) Conc.[1] ($\mu g/m^3$)	24-hr Neighborhood Contributions from On-Site Emission Sources Conc. [2] ($\mu g/m^3$)	24-hr Neighborhood Contributions from Off-Site Emission Sources Conc. [3] ($\mu g/m^3$)	24-hr Total Combined Contributions from On- and Off-Site Emission Sources Conc. [5] ($\mu g/m^3$)	Annual Neighborhood Max. Contributions from On-Site Emission Sources Conc. [2] ($\mu g/m^3$)	Annual Neighborhood Contributions from Off-Site Emission Sources Conc. [4] ($\mu g/m^3$)	Annual Total Combined Contributions from Neighborhood On- and Off-Site Emission Sources Conc. [5] ($\mu g/m^3$)
Bruckner/Leggett/Garrison									
Existing Conditions	6	123	42						
Existing Incremental				1	1	2	1	0.1	1
Bruckner & Longwood									
Existing Conditions	6	128	24						
Existing Incremental				2	0.3	2	1	0.1	1

Notes:

(1) CO and PM_{10} concentrations are the neighborhood concentrations estimated using the AM, Facility AM, and PM peak traffic information plus background concentration (8-hr CO = 2.8 ppm; 24-hr PM_{10} = 57 $\mu g/m^3$; Annual PM_{10}=23 $\mu g/m^3$).

(2) The maximum incremental concentrations of the on-site emissions at the intersection considered.

(3) The maximum incremental concentrations between existing conditions and without Waste Hauling Vehicles at any receptor 3 meters from the edge of the roadways.

(4) The maximum incremental concentrations between existing conditions and without Waste Hauling Vehicles at any receptor 15 meters from the edge of the roadways.

(5) Numbers may not add due to rounding.

ppm = Parts per million.

$\mu g/m^3$ = Microgram per cubic meter.

Table 5.3.2-4
Summary of Air Quality Analysis at
Selected Intersections within the Port Morris, Bronx CD #1 Study Area

Air Quality Receptor Site	CO	PM_{10}		$PM_{2.5}$					
	8-hr CO Facility (NAAQS: 9 ppm) Conc.(1) (ppm)	24-hr PM_{10} Facility (NAAQS: 150 µg/m3) Conc.(1) (µg/m3)	Annual PM_{10} (NAAQS: Facility 50 µg/m3) Conc.(1) (µg/m3)	24-hr Neighborhood Contributions from On-Site Emission Sources Conc. (2) (µg/m3)	24-hr Neighborhood Contributions from Off-Site Emission Sources Conc. (3) (µg/m3)	24-hr Total Combined Contributions from On- and Off-Site Emission Sources Conc. (5) (µg/m3)	Annual Neighborhood Max. Contributions from On-Site Emission Sources Conc. (2) (µg/m3)	Annual Neighborhood Contributions from Off-Site Emission Sources Conc. (4) (µg/m3)	Annual Total Combined Contributions from Neighborhood On- and Off-Site Emission Sources Conc. (5) (µg/m3)
Lincoln and Bruckner									
Existing Conditions	5	114	40						
Existing Incremental				6	0.9	7	0.2	0.17	0.4
Bruckner & Alexander									
Existing Conditions	5	115	40						
Existing Incremental				8	0.93	9	0.2	0.1	0.3

Notes:

(1) CO and PM_{10} concentrations are the Neighborhood concentrations estimated using the AM, Facility AM, and PM peak traffic information plus background concentration (8-hr CO = 2.8 ppm; 24-hr PM_{10} = 57 µg/m^3; Annual PM_{10}=23 µg/m^3).

(2) The maximum incremental concentrations of the on-site emissions at the intersection considered.

(3) The maximum incremental concentrations between existing conditions and without Waste Hauling Vehicles at any receptor 3 meters from the edge of the roadways.

(4) The maximum incremental concentrations between existing conditions and without Waste Hauling Vehicles at any receptor 15 meters from the edge of the roadways.

(5) Numbers may not add up due to rounding.

ppm = Parts per million.

µg/m^3 = Microgram per cubic meter.

The first level of screening used total traffic volumes and axle factors from the New York State Department of Transportation (NYSDOT) to conservatively estimate the existing traffic volumes, and whether the addition of Waste Hauling Vehicles would have the potential to double PCE noise levels, requiring a further evaluation of potential effects (first-level screening). Based on this first-level screening, 17 locations (five in Port Morris, Bronx CD #1; four in Hunts Point, Bronx CDs #2 and #9; three in Brooklyn CD #1; and five in Jamaica, Queens, CD #12) were identified for further screening (second-level screening) using actual field traffic classification counts at these locations to determine the potential for doubling PCEs. (To do this, Waste Hauling Vehicles were counted, removed from the analysis to determine "background" conditions, and then added back in). Based on this second-level screening, five locations (two locations in Brooklyn CD #1 and three locations in Jamaica, Queens, CD #12) were identified for modeling using Federal Highway Administration's (FHWA's) Traffic Noise Model (TNM) version 2.1. Background noise monitoring was conducted at the nearest sensitive receptor, and predicted results from TNM modeling at these five locations were compared to the Study noise threshold (an increase in 3dBA or greater attributable to the Waste Hauling Vehicles).

The locations of the analyzed intersections are presented in Figures 5.3.3-1 and 5.3.3-2.

TNM modeling simulated current conditions (with Waste Hauling Vehicles) to predict off-site noise effects. The TNM model is conservative, in that it only assumes background noise levels based on traffic volumes that are input into the model. It does not account for other ambient background noise levels that exist in the Study Areas, which were observed during background noise monitoring, such as an ambulance passing by or a noisy establishment near the receptor. Therefore, the modeled current conditions predicted at the sensitive receptor were compared to the measured results at that receptor and the model was calibrated to accurately reflect background noise levels under current conditions.

Once calibrated, the predicted results for current conditions were compared to CEQR thresholds. The incremental noise level of Waste Hauling Vehicles (when removed from the model) was compared to 3 dBA. A summary of predicted results in each of the Brooklyn CD #1 and Jamaica, Queens CD #12 Study Areas is presented in Tables 5.3.3-1 and 5.3.3-2.

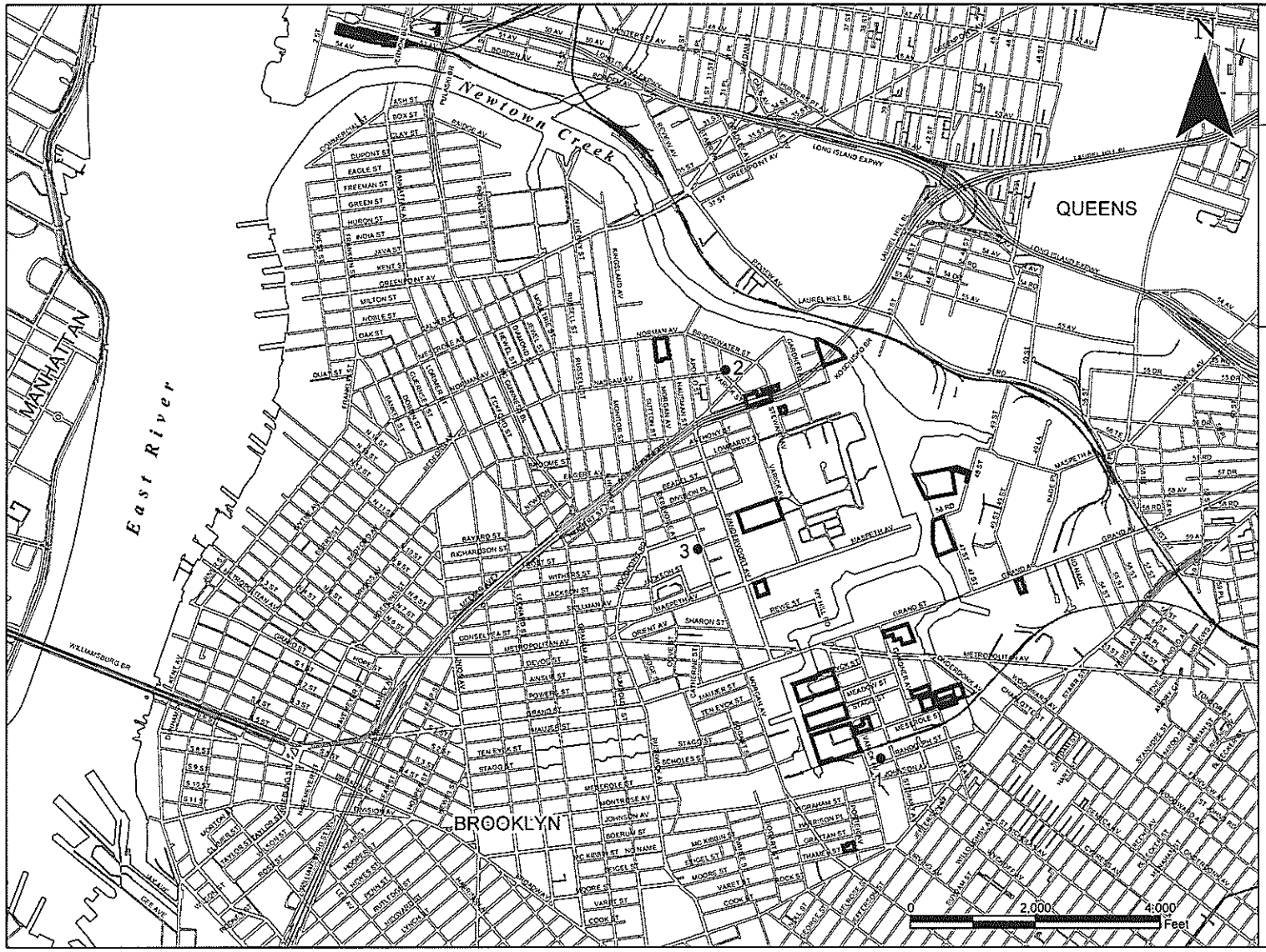

Figure 5.3.3-1
Noise
Intersections Analyzed
Brooklyn CD #1 Study Area

City of New York
Department of Sanitation

Legend

● Intersections Analyzed

HDR HydroQual

Cambridge Environmental Inc URBITRAN PB

Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

Figure 5.3.3-2
Noise
Intersections Analyzed
Jamaica, Queens CD #12 Study Area

City of New York
Department of Sanitation

Legend

● Intersections Analyzed

Site delineations are approximate.
Base Map Sources: NYCDoitt and NYCDCP

Table 5.3.3-1
Summary of TNM Modeling Analysis
Brooklyn CD #1 Study Area

Location	Hour of Monitoring	Existing Number of Waste Hauling Vehicles	Existing Monitored Noise Level (dBA)	TNM Model Results with Waste Hauling Vehicles (dBA)	Calculated Background Noise Level without Waste Hauling Vehicles (dBA)	TNM Model Results without Waste Hauling Vehicles (dBA)	TNM Model without Waste Hauling Vehicles with Calculated Background Noise Levels (dBA)	Noise Level Increase due to Waste Hauling Vehicles (1) (dBA)	Effect (Yes or No) (2)
Metropolitan Avenue between Olive and Catherine	3:00 a.m. to 4:00 a.m.	43	69.2	64.9	67.2	59.9	67.9	1.3	NO
Vandervoort Avenue between Beadel and Lombardy	3:00 a.m. to 4:00 a.m.	51	70.6	65.3	69.1	60.3	69.6	1.0	NO

Notes:

(1) Value is calculated by subtracting the TNM Model Results without Waste Hauling Vehicles from the calculated background noise from the Existing Monitored Noise Level.

(2) Effect is identified if the noise level increase due to Waste Hauling Vehicles is greater than or equal to 3 dBA.

dBA = A-weighted decibel.

Table 5.3.3-2
Summary of TNM Modeling Analysis
Jamaica, Queens CD #12 Study Area

Location	Hour of Monitoring	Existing Number of Waste Hauling Vehicles	Existing Monitored Noise Level (dBA)	TNM Model Results with Waste Hauling Vehicles (dBA)	Calculated Background Noise Level without Waste Hauling Vehicles (dBA)	TNM Model Results without Waste Hauling Vehicles (dBA)	TNM Model without Waste Hauling Vehicles with Calculated Background Noise Levels (dBA)	Noise Level Increase due to Waste Hauling Vehicles (1) (dBA)	Effect (Yes or No) (2)
Liberty Avenue between Guy Brewers and 160th Street	2:00 a.m. to 3:00 a.m.	15	66.4	59.8	65.3	56.2	65.8	0.6	No
Liberty Avenue between 169th Street and 170th Street	2:00 a.m. to 3:00 a.m.	35	69.3	60.3	68.7	55.4	68.9	0.4	No
Liberty Avenue between 171st Street and 172nd Street2	2:00 a.m. to 3:00 a.m.	20	70.7	60.4	70.3	55	70.4	0.3	No

Notes:
(1) Value is calculated by subtracting the TNM Model Results without Waste Hauling Vehicles from the calculated background noise from the Existing Monitored Noise Level.
(2) Effect is identified if the noise level increase due to Waste Hauling Vehicles is greater than or equal to 3 dBA.
dBA = A-weighted decibel.

As shown in Tables 5.3.3-1 and 5.3.3-2, the modeled off-site noise from the Waste Hauling Vehicles at the intersections analyzed did not exceed the threshold. Therefore, there are no predicted noise effects from these Waste Hauling Vehicles.

5.4 Public Health Evaluation

In this Study, effects on public health due to odors and contributions to air quality were assessed. Using the conservative assumption that commercial waste Transfer Stations do not control odors at all, receptors in two Study Areas were found likely to experience potentially unacceptable odors. However, these effects were predicted to be infrequent, occurring less than 1% of the time for all receptors, and are not likely to generate sustained annoyance or symptoms. Nonetheless, additional odor control would be welcome. With regard to regulated pollutants, effects on air quality were predicted to be minimal. The Transfer Stations in aggregate do not appear to be important determinants of air quality with respect to any of the pollutants regulated by the USEPA on the basis of human health effects.

ATTACHMENT A

New York City Transfer Stations

Putrescible Transfer Station Permits[1]

Company	Address	Zone	Permitted Throughput (tons per day)[3]	Community Board
A & L Cesspool Service Corp.	38-40 Review Avenue, LIC, NY 11101	M-3	N/A	QN2
American Recycling Mgt. LLC	172-33 Douglas Avenue, Jamaica, NY 11433	M-1	400	QN12
BFI Waste Systems of NJ, Inc.	115 Thames Street, Brooklyn, NY 11237	M-1	560	BK1
BFI Waste Systems of NJ, Inc.	598-636 Scholes Street, Brooklyn, NY 11237	M-3	220	BK1
Cross County Recycling	122-52 Montauk Street, Springfield Gardens, NY 11413	M-1	500	QN12
Hi-Tech Resource Recovery	130 Varick Avenue, Brooklyn, NY 11237	M-3	500	BK1
IESI NY Corporation	325 Casanova Street, Bronx, NY 10474	M-3	225	BX2
IESI NY Corporation	110-120 50th Street, Brooklyn, NY 11232	M-3	1,000	BK7
IESI NY Corporation	577 Court Street, Brooklyn, NY 11231	M-3	745	BK6
Metropolitan Transfer Station	287 Halleck Street, Bronx, NY 10474	M-1	825	BX2
New Style Recycling	49-10 Grand Avenue, Maspeth, NY 11378	M-3	50	QN5
Paper Fibres Corporation	960 Bronx River Avenue, Bronx, NY 10454	M-3	74	BX9
Regal Recycling Co., Inc.	172-06 Douglas Avenue, Jamaica, NY 11433	M-1	178	QN12
Tully Environmental, Inc.	127-20 34th Avenue, Queens, NY 11368	M-3	900	QN7
USA Waste Services of NYC, Inc.[2]	132nd Street @ Saint Ann's Avenue, Bronx, NY 10454	M-3	N/A	BX1
USA Waste Services of NYC, Waste Management Inc.	98 Lincoln Avenue, Bronx, NY 10455	M-2	3,000	BX1
Waste Management of NY, LLC	215 Varick Avenue, Brooklyn, NY 11231	M-3	4,250	BK1
Waste Management of NY, LLC	38-50 Review Avenue, LIC, NY 11101	M-3	958	QN2
Waste Management of NY, LLC	485 Scott Avenue, Brooklyn, NY 11222	M-3	1,400	BK1
Waste Management of NY, LLC[2]	Oakpoint Avenue/Barry Street, Bronx, NY 10474	M-3	N/A	BX2
Waste Services of New York, Inc.	941 Stanley Avenue, Brooklyn, NY 11208	M-1	375	BK5
Waste Services of New York, Inc.	920 East 132nd Street, Bronx, NY 10454	M-3	2,999	BX1

Notes:

(1) Some facilities have dual permits (for example, putrescible/non-putrescible) and appear on both lists of permits.

(2) Source: DSNY Quarterly Transfer Station Report Summary (third quarter 2003). Throughput is NYDEC permitted throughput.

(3) Intermodal facility, no processing.

N/A = Not Applicable

Non-Putrescible Transfer Station Permits[1]

Company	Address	Zone	Permitted Throughput (tons per day)[2]	Community Board
A.J. Recycling, Inc.	325 Faile Street, Bronx, NY 10474	M 3	1,200	BX2
American Recycling, Mgt. LLC	172-33 Douglas Avenue, Queens, NY 11433	M 1	750	QN12
Astoria Carting Co., Inc.	538-545 Stewart Avenue, Brooklyn, NY 11222	M 3	300	BK1
Atlas Roll-Off Corp.	889 Essex Street, Brooklyn, NY 11208	M 1	1,125	BK5
BFI Waste Systems of New Jersey	575 Scholes Street, Brooklyn, NY 11211	M 3	544	BK1
BFI Waste Systems of New Jersey	594 Scholes Street, Brooklyn, NY 11211	M 3	544	BK1
City Recycling Corporation	151 Anthony Street, Brooklyn, NY 11222	M 3	1,500	BK1
Cooper Tank & Welding, Inc.	222 Maspeth Avenue, Brooklyn, NY 11211	M 3	1,875	BK1
Crown Container Company	126-46 34th Avenue, Flushing, NY 11368	M 3	281	QN7
Decostole Carting Co.	1481 Troy Avenue, Brooklyn, NY 11203	M 1	300	BK17
Flag Container Services, Inc.	11 Ferry Street, Staten Island, NY 10302	M 3	2,250	SI1
G.M. Transfer Inc.	216-222 Manida Street, Bronx, NY 10474	M 3	0	BX2
IESI NY Corporation	548 Varick Avenue, Brooklyn, NY 11222	M 3	1,350	BK1
John Danna and Sons, Inc.	318 Bryant Avenue, Bronx, NY 10474	M 3	405	BX2
Kid's Waterfront Corp.	1264 Viele Avenue, Bronx, NY 10474	M 3	750	BX2
New Style Recycling Corp.	49-10 Grand Avenue, Maspeth, NY 11378	M 3	225	QN5
Point Recycling, Ltd.	686 Morgan Avenue, Brooklyn, NY 11222	M 3	300	BK1
Regal Recycling, Ltd.	172-06 Douglas Avenue, Jamaica, NY 11433	M 1	266	QN12
Stokes Waste Paper Co., Inc.	17-25 Van Street, Staten Island, NY 10310	M 1	844	SI1
Thomas Novelli Contract. Corp.	94-20 Merrick Blvd., Jamaica, NY 11433	M 1	375	QN12
Waste Management of NY, LLC	123 Varick Avenue, Brooklyn, NY 11237	M 3	5,250	BK1
Waste Management of NY, LLC	232 Gardner Avenue, Brooklyn, NY 11237	M 3	6,480	BK1
Waste Management of NY, LLC	315 Barretto Street, Bronx, NY	M 3	1,037	BX2
Waste Management of NY, LLC	620 Truxton Street, Bronx, NY 10474	M 3	1,050	BX2
Waste Management of NY, LLC	75 Thomas Street, Brooklyn, NY 11222	M 3	1850	BK1

Notes:

(1) Some facilities have dual permits (for example, putrescible/non-putrescible) and appear on both lists of permits.

(2) Source: DSNY Quarterly Transfer Station Report Summary (third quarter 2003). Throughput is NYDEC permitted throughput.

Fill Material Transfer Station Permits[1]

Company	Address	Zone	Permitted Allowable Storage Volume (cubic yard)[2]	Community Board
Allocco	540 Kingsland Avenue, Brooklyn, NY 11222	M-3	10,666	BK 1
Bronx City Recycling, Inc	1390 Viele Avenue, Bronx, NY 10474	M-3	1,400	BX 2
Bronx County Recycling, LLC	475 Exterior Street, Bronx, NY 10451	M-2	6,000	BX 1
Consolidated Edison Co. of New York	276-290 Avenue C, NY, NY 10003	M3	250	MN 6
Durante Brothers	31-40 123rd Street, Flushing, NY 11354	M3	14,696	QN 7
Felix Equities	290 East 132nd Street, Bronx, NY 10454	M3	300	BX1
Evergreen Recycling of Corona	The Corona Meadows Yard, Corona, NY 11368	M3	50,000	QN 7
Grace Associates, Inc.	151-45 Sixth Road, Whitestone, NY 11357	M1	25,000	QN 7
Interstate Materials Corporation	211 Johnson Street, Staten Island, NY 10309	M-3	75,000	SI 3
J.A. Bruno	280 Meredith Avenue, Staten Island, NY 10314	M-3	40,000	SI 2
Justus Recycling	3300 Provost Avenue, Bronx, NY 10475	M1	11,000	BX 10
Keyspan Energy	287 Maspeth Avenue, Brooklyn, NY 11201	M3	10,000	BK 1
Maspeth Recycling	58-08 48th Street, Maspeth, NY 11378	M3	30,000	QN 5
N.Y. Paving	37-18 Railroad Avenue, LIC, NY 11101	M1	500	QN 2
Pebble Lane Associates, Inc.	57-00 47th Street, Maspeth, NY 11378	M3	7,500	QN 5
Red Hook Crushers	186 Third Street, Brooklyn, NY 11215	M2	5,000	BK 6
Russo Recycling	248-12 Brookville Blvd., Rosedale, NY 11422	M1	20,000	QN 13
T. Novelli	94-07 Merrick Blvd., Jamaica, NY 11433	M-1	1,500	QN 12
Tilcon New York, Inc.	980 East 149th Street, Bronx, NY 10455	M3	80,000	BX 1
T.M. Maintenance	451 Spencer Street, Staten Island, NY 10314	M3	25,000	SI 2
Vanbro	1900 South Avenue, Staten Island, NY 10314	M3	400,000	SI 2
Waste Management of NY, LLC	73 Place & South Railroad Ave., Woodside, NY 11377	M1	15,000	QN 2

Notes:

(1) Some facilities have dual permits (for example, putrescible/non-putrescible) and appear on both lists of permits.

(2) Source: DSNY Quarterly Transfer Station Report Summary (third quarter 2003). Throughput is NYDEC permitted throughput.

ATTACHMENT B

Bureau of Legal Affairs Memo: Supplemental Information to be Included with and Deemed a Part of the Completed Environmental Assessment Statement

sanitation

BUREAU OF LEGAL AFFAIRS
125 Worth Street, 7th Floor
New York, New York 10013
Fax (212) 442-9090, 791-3824

Tel. (212) _____

DATE: Revised February 9, 1999
July 5, 1994, original draft

TO: Solid Waste Transfer Station Permit Applicants

FROM: The New York City Department of Sanitation, Bureau of Legal Affairs

RE: SUPPLEMENTAL INFORMATION TO BE INCLUDED WITH AND DEEMED A PART OF THE COMPLETED ENVIRONMENTAL ASSESSMENT STATEMENT

Unless otherwise agreed to in advance by the Department of Sanitation, the following information and documentation is required to accompany a complete Environmental Assessment Statement ("EAS"). This Supplemental information, together with a copy of the New York State Department of Environmental Conservation Part 360 application and any other information the Department requires you to submit during the environmental review process is deemed to be a part of the EAS. The Department reserves its right to request additional information or clarification on an as needed basis.

I. General

A. Provide a detailed description of the current and proposed solid waste processing operations at the facility, including, but not limited to:

1. a list of the types and quantity of equipment used on the premises;
2. the types and quantity of fuel used for each type of equipment; and
3. the manufacturer's literature for each type of equipment;

B. a statement of whether crushers or conveyor belts are or will be used;

C. a statement of whether the site is, or will be paved or unpaved;

D. a statement identifying those parts of the transfer station operation that will take place in an **enclosed** facility and those parts of the transfer station operation that will take place in an **unenclosed** facility;

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E. 1. a description of how and where each type of waste material is, or will be, stored;

2. the number of piles of debris;

3. heights of piles;

4. density of piles;

5. area of piles (in square footage); and

6. number of active/inactive piles depending on how long each type of waste remains on premises;

F. 1. the turnaround times of the material to be processed;

2. the quantity of material that is stored on the site;

3. the length of time the material will be stored;

4. the maximum length of time waste remains in the facility prior to transfer;

Applicants must <u>specifically address each of the points</u> listed above. Selectively addressing these points will not suffice and your application will be returned.

G. Provide a copy of the **<u>current</u>** extermination contract. The contract must be an executed contract. Simply providing a letter from an exterminator indicating that services will be rendered, or copies of past bills will not suffice. Applications that are submitted without a copy of an executed contract will be returned.

II. <u>Solid Waste Composition</u>

A. Provide a description of the types of solid waste materials currently, and proposed to be, handled at the facility and the maximum throughput amounts of each type of waste to be processed or handled at the facility.

1. calculated in volume measurements; and

2. calculated in absolute weight measurements;

III. <u>Maps</u>

A. Provide a map incorporating the following specifications in a **<u>legible</u>** format unless otherwise agreed to by the Department.

1. a four hundred foot (400 ft.) radius from the perimeter boundaries of the site using a scale of 1:50 or 1:60 and indicate north/south;

2. indicate the nearest residence(s) and odor sensitive receptors as such terms are defined in Section V. (D); and

3. indicate bulk and uses on all lots included within the radius;

B. Provide a map clearly showing the site and surrounding area within a half mile radius of the boundaries of the site. **You must clearly mark on the Zoning map a half mile radius from the boundaries of the entire site.**

IV. Site and Facility Background Information

A. Site/Facility Plan - Provide a map clearly showing the layout of the transfer station at a scale of 1/8 inch = 1 foot. The following items must be clearly indicated:

1. structures;

2. curb cuts;

3. location and dimensions of stacks;

4. location of fences, gates, entrances and exits;

5. location of solid waste processing areas;

6. location of sewer, drains and spigots;

7. employee parking areas;

8. internal traffic flow;

9. truck loading and unloading areas;

10. locations where vehicles will be stored on site and locations where trucks will queue while waiting to tip or load materials, and;

11. location of odor control equipment.
(This information is also required in Section V. (B.))

B. Fifty (50) Year Site History - You must provide a fifty year history land use review showing the uses of the site since 1947. Please briefly describe the property use for these years accordingly. Acceptable documentation includes Sanborn maps and New York City Department of Buildings Certificate of Occupancy tax maps, etc. In addition, if any above or underground storage tanks are located on the site, you must provide the following:

1. A copy of the New York City Fire Department inspection records;

2. A copy of all records on tank testing and leaks, including those maintained by the New York City Bureau of Fire Prevention, Buried Tank Unit and the New York State

Department of Environmental Conservation;

3. If available, a description of the tanks, including dimensions, volume, construction material, age and type of material contained in the tanks, and the fate of such tanks (i.e., plans for removal or filling and sealing).

C. If any aboveground storage tanks or underground storage tanks were removed from the site you must provide an affidavit and/or appropriate removal documentation stating that the tanks were removed.

The above information may be obtained by contacting:

1. **New York City Bureau of Fire Prevention**
   9 Metrotech Center
   Brooklyn, New York 11201

   Contact: Daniel Flynn, Manager, File Records
   (718) 999-2684

2. **DEC Hazardous Waste Division and Underground Tank Unit**
   47-40 21st Street
   Long Island City, New York

   Contact: Koon Tang (for information concerning tanks holding 1,100 gallons or more)
   (718) 482-4996

V. <u>Odor Protocol</u>

A. Provide a written Odor Control Plan detailing:

1. how the facility intends to control any odors;

B. Explain the type of odor controlling devices to be used at the facility;

1. provide factory literature and Material Safety Data Sheets (MSDS) for all chemicals used in the deodorizing process;

2. highlight on a map where each device is, or will, be located; (Please indicate this information on the Site Plan required in Section IV.)

C. List and describe all existing land uses immediately adjacent to, and directly or diagonally across the street from, the property lines of the project site.

1. estimate distances from the nearest project site boundary;*

D. Identify and describe in chart form and list on a map the odor sensitive receptors within 400 feet of property lines of the site:

1. estimate the distances of these odor sensitive receptors from the project site;

Odor sensitive receptors include: residential facilities, educational facilities, public water supply facilities, health care facilities, social services facilities, recreational facilities, parks, playgrounds and commercial facilities.*

E. Identify and describe in chart form and list on a map all existing facilities of any type within 400 feet of the property lines of the site with existing of potential odor impacts (e.g., putrescible or non-putrescible solid waste transfer stations, composting facilities, liquid storage, or surface impoundment facilities).

1. estimate the facilities' distance of these facilities from the project site;*

VI. <u>Traffic Analysis</u>

A. Provide a Truck <u>Routes Map</u> identifying the routes trucks accessing and departing the facility use, or will use, within a half-mile radius;

B. Provide two hourly charts indicating:

1. current and proposed arrivals and departures of vehicles by waste category and vehicle type over the course of a typical 24-hour period and for the facility operating at its maximum throughput capacity;

2. specify the peak hours of operation for the facility;

3. describe the methodology used to determine what constitutes a typical 24-hour period (e.g., a description of how you determined what a typical 24-hour period is). You may be asked in the future to povide written support to justify your traffic analysis in a "typical 24-hour period;"

4. include total hourly vehicle trip ends (i.e., truck trip ends for each waste type plus employee trip ends) and indicate peak hours; and

5. include trip ends to weigh stations. A "trip end" is a one-way. A round trip equals two "trip ends;"

If the facility has or will have its own weigh station, you must provide proof of its existence. If the facility receives, or will receive, trips from other transfer stations for the purpose of using the weigh station, the number of these trip ends on an hourly basis must be given.

C. Provide the number, type and capacity of trucks utilizing the facility;

1. include the weight of trucks and the number of wheels per truck;

(*The Land Use Map will be helpful and should be consulted to provide the information requested.)

D. Provide the number of current and proposed employees by shift and the hours of each shift;

1. identify the number of employee-related vehicle trips generated during each hour of operation and where they park;

E. Describe the proximity of truck routes to facilities that attract schoolchildren or the elderly;

F. Provide a map or a written description indicating on-street parking regulations adjacent to the facility;

G. If trucks need to queue on the streets adjacent to the facility before tipping and/or when waiting to load prior to departure:

1. provide information as to where, when, and for how long on the Site Plan or in a separate description; and

2. provide the amount of on-street parking, and queuing space available immediately adjacent to the facility;

H. Provide the hours of proposed operation for the facility;

I. Provide the number of width of curb-cuts and whether they are one-way or two-way;

J. Provide the direction of streets immediately adjacent to the facility;

K. Provide the number of parking spaces available for employees, trucks and visitors;

Emissions and Drainage

A. Provide a written plan describing how the facility intends to control Fugitive Dust Emissions. You must also provide the ventilation plans for any enclosed structures on the site;

B. Drainage Plan

1. Provide the quantity and quality of wastewater effluent generated by the facility per day;

2. Provide a copy of the potable plumbing riser diagram, detailing all backflow prevention devices;

3. Provide a copy of the wastewater plumbing riser diagram, detailing all backflow prevention devices;

4. Describe the storm water and hosing procedures drainage plan to be used at the facility which incorporates the necessary provision for preventing its wastewater run-off and solid wastes from entering city sewers untreated. The drainage plan must include:

a. the location and scale of on-site drain(s), pretreatment system and containment

system; and

b. the location of the connection points, if any, to the New York City sewer system.

5. Specifically, indicate whether pretreatment will be provided in accordance with Federal categorical pretreatment standards;

The plumbing diagrams and drainage information required above must be provided at the time the application is submitted. Promising to provide the diagrams or information at a later date will not suffice and your application will be returned.

VIII. Waterfront Revitalization Program

A. Identify whether or not the site is within the City's Local Waterfront Revitalization Program (LWRP) boundaries. If it is, you must include the following information:

1. a map showing the location of the site with respect to the boundaries of the LWRP;

2. identify whether or not the site is within the States's coastal Hazard Area boundaries or within FEME zones; and

3. complete every item and return the attached Waterfront Consistency Assessment Form.

If the facility is located within the City's Local Waterfront Revitalization Program boundaries, failure to return a completed Waterfront Consistency Assessment Form with the information required above will result in your application being returned.

COMMERCIAL WASTE MANAGEMENT STUDY

VOLUME II

COMMERCIAL WASTE GENERATION AND PROJECTIONS

March 2004

Prepared for:

New York City Department of Sanitation
for submission to the New York City Council

Prepared by:

Henningson, Durham & Richardson
Architecture and Engineering, P.C.

and its
Subconsultants

This report was prepared by

Henningson, Durham & Richardson
Architecture and Engineering, P.C.

and its
Subconsultants

ECODATA INC.

FRANKLIN Associates
A Division of ERG

PREFACE

Local Law 74 of 2000 (LL74) mandated a comprehensive study of commercial waste management (Commercial Waste Management Study or Study) in New York City (City) by a Consultant funded by the City Department of Sanitation (DSNY). This Study undertaken to comply with LL74 will assist the City in managing the commercial waste stream in the most efficient and environmentally sound manner, and assist in the development of the City's Solid Waste Management Plan (New SWMP) for the New SWMP Planning Period.

As stated in the Commercial Waste Management Study Final Scope of Work: *"In June 2002, DSNY published a Preliminary Report in accordance with the requirements of LL74 that contained information on commercial waste quantities by type and borough of origin that had been collected and analyzed by DSNY and its consultants from sources such as available reporting systems and interviews with waste management companies involved in aspects of the commercial waste management business. As noted in the Preliminary Report, there is no single comprehensive system for recording data on commercial waste generation in the City. Furthermore, the data in the Preliminary Report were for the calendar year 2000, and the events of September 11, 2001 and the subsequent decline in business activity in the City since 2000 have all affected commercial waste generation. The Study will apply methods to adjust the year 2000 data to year 2002 to account for these economic effects. Additionally, the Study will evaluate and apply alternative methods to those used in the Preliminary Report to supplement existing estimates of commercial waste generation. The recycled material in the commercial waste stream that is not accounted for in the Preliminary Report data will also be quantified. The Study will project changes in commercial waste generation over the New Plan period based on an employment forecast for the same period."*

In addition to this Volume II, the Study consists of five other volumes:

- Volume I: Private Transfer Station Evaluations;
- Volume III: Converted Marine Transfer Stations – Commercial Waste Processing and Analysis of Potential Impacts;
- Volume IV: Evaluation of Waste Disposal Capacity Potentially Available to New York City;
- Volume V: Manhattan Transfer Station Siting Study, and
- Volume VI: Waste Vehicle Technology Assessment.

This volume, Volume II: Commercial Waste Generation and Projections, reports the results of five different evaluations. The reports and appendices that provide the analyses and data in support of this Executive Summary are:

Summary Report on Commercial Waste Generation and Projections

Appendices:

A: Facilities Estimate of Putrescible Waste Generation Year 2002

B: Employment-Based Estimate of Putrescible Waste Generation Year 2002

C: Commercial Putrescible Waste Disposed and Recycled: BIC-DSNY Carter Survey

D: Commercial Putrescible Waste 20-Year Forecast

E: Non-Putrescible Commercial Waste Quantification and Projections

This volume examines the quantities of waste generated within the City that is collected and managed by private carters, i.e., the commercial waste stream. DSNY regulates[1] putrescible, non-putrescible and fill material Transfer Stations that are permitted to receive and process these categories of waste materials. The New York State Department of Environmental Conservation (NYSDEC) also regulates[2] the design, construction and operation of Transfer Stations.

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[1] DSNY's regulatory authorities derive from Titles 16, 17 and 25 of the New York City Administrative Code (NYCAC), Title 16 of the Rules of the City of New York (RCNY) and the City Environmental Quality Review (CEQR) Procedures.

[2] NYSDEC's regulatory authority derives from Title 6 of New York Codes, Rules and Regulations (NYCRR) Part 360 and Title 6 NYCRR Part 617 under the state's Environmental Conservation Law (ECL).

Commercial Waste, as discussed in this report, is comprised of three types of waste, as defined in DSNY rules:

1. Commercial putrescible waste[3] is solid waste generated by the City's businesses, containing organic matter having the tendency to decompose with the formation of malodorous by-products. It is principally office and retail waste with small quantities of putrescible material, but also includes restaurant and other waste. Significant amounts of office waste are recycled directly at the source by carters that primarily collect recyclable office paper from commercial buildings and deliver it to recyclers, exporters or paper manufacturers. Consistent with DSNY's rules defining three basic types of waste generated, the term putrescible waste, as used in this report, includes the portions of commercial putrescible waste that are both disposed and recycled (such as office paper).

2. Non-putrescible waste is waste that does not contain organic matter having the tendency to decompose with the formation of malodorous by-products, including but not limited to dirt, earth, plaster, concrete, rock, rubble, slag, ashes, waste timber, lumber, Plexiglas, fiberglass, ceramic tiles, asphalt, sheetrock, tar paper, tree stumps, wood, window frames, metal, steel, glass, plastic pipes and tubes, rubber hoses and tubes, electric wires and cables, paper and cardboard.

3. Fill material is a subset of non-putrescible waste and, as defined in DSNY rules, is clean material consisting of earth, ashes, dirt, concrete, rock, gravel, asphalt millings, stone or sand.

[3] As defined in DSNY rules (Subchapter A of 4 RCNY 16).

EXECUTIVE SUMMARY

Scope of Analysis/Approach

The Study employed three different methodologies to develop independent estimates of commercial putrescible waste quantities for the years 2002 and 2003, as described in Appendix A (Facilities Estimate of Putrescible Waste Generation Year 2002), Appendix B (Employment-Based Estimate of Putrescible Waste Generation Year 2002), and Appendix C (Commercial Putrescible Waste Disposed and Recycled: BIC-DSNY Carter Survey). The independent estimates were compared for reasonableness to the data obtained through DSNY's Quarterly Transfer Station Report system (Quarterly Reports). Quarterly Reports are required to be completed by DSNY-regulated Transfer Station operators/owners. The Quarterly Reports do not account for all of the commercial waste generated in the City. Waste not reflected in the Quarterly Reports includes waste that is disposed out-of-City or recycled commercial waste that does not pass through the City's network of private Transfer Stations. The waste quantity estimates developed from the other estimation methodologies corroborated the Quarterly Report data for quantities processed at City Transfer Stations.

All these data sources were used to establish a new, year 2003 baseline estimate inclusive of the total commercial putrescible waste generated, i.e., disposed in and out of the City, and recycled. The new baseline year 2003 estimate accounts for the job loss effects of 9/11 and the subsequent economic recession, and therefore provides a sound starting point for projecting waste generation for the New SWMP Planning Period.

These data sources were also compared to the year 2000 waste quantity estimates in the Preliminary Report (which did not include recycled material) and used as a basis for adjusting Preliminary Report estimates of putrescible waste disposed to eliminate inconsistencies in waste-type definitions and carter classifications, and to establish a revised year 2000 estimate of

8,381 tons per day (tpd)[4] disposed. Comparing the year 2000 estimate of putrescible waste disposed with the 2003 total net disposed (based on three quarters of DSNY Quarterly Reports and direct export totals estimated from the BIC-DSNY carter survey), shows a decline of 1,131 tpd, or 13.5%, in putrescible waste disposed over that period of time.

The ***Facilities Estimate*** (Appendix A) relies upon DSNY's Quarterly Reports for data on waste quantities delivered to Transfer Stations in the City in 2002. Through an extensive survey effort, new data were collected on waste carted out-of-City for disposal and also on recycled waste from commercial sources in the City that was processed in or out of the City or directly exported to foreign sources. Approximately 31% of the City's putrescible waste was recycled in 2002.

The ***Employment-Based Estimate*** (Appendix B) used post-9/11 estimates of City employment that reflected the effects of the economic recession on employment, and relied on waste generation factors for commercial business sectors developed through a literature search. These data were used to estimate citywide waste generation for the year 2002 as a function of employment in the City.

The ***BIC-DSNY Carter Survey*** (Appendix C) assembled information from a survey of the City's licensed carting industry conducted in the fall of 2003. The surveys, collected from all carters collecting in the City and followed up in person or via phone interviews, developed data that resulted in an estimate of commercial putrescible waste disposed and recycled in 2003 that included the quantities processed at in-City and out-of-City locations and quantities collected for recycling. Approximately, 27% of the City's commercial putrescible waste was recycled in 2003, a decline of 4% from the prior year. This decline is consistent with nationally reported data on paper markets.

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[4] Tons per day are calculated on the basis of a six-day collection week, equivalent to a 312-day year.

The 2003 baseline waste estimate was allocated among the five boroughs using collection route data obtained from the BIC-DSNY carter survey. Based on this borough allocation, and using projected employment over this period, the quantity of commercial waste generated (both disposed and recycled) was forecast for the New SWMP Planning Period, for each borough. The relative proportions of waste generated by each borough change as a function of changes in projected employment over time. The forecast assumes that the percentage of materials recycled by each borough would remain constant at 2003 levels[5] for the New SWMP Planning Period. These projections are discussed in Appendix D: ***Commercial Putrescible Waste 20-Year Forecast***.

Quantities of non-putrescible waste, which include construction and demolition debris (C&D) and fill material, were estimated based upon waste generation rates derived from a literature search for three types of residential and commercial construction projects: new construction, demolition and renovation. A regression analysis of data obtained from F.W. Dodge on actual and projected construction activity in the City in each of these respective areas over the period of 2000 to 2007 was used to develop projections of the generation of C&D waste over the New SWMP Planning Period. Non-building-related C&D, which would include clean fill, was estimated by obtaining waste generation factors expressed as tons per $1,000 of activity. These factors were applied to the value of this construction in the City obtained from F.W. Dodge. Details of these estimates are discussed in Appendix E: ***Non-Putrescible Commercial Waste Quantification and Projections***.

The estimates of commercial putrescible and non-putrescible waste are relevant in determining the Transfer Station capacity required to serve the City's businesses over the next 20 years.

[5] Percentages developed from 2003 BIC-DSNY City carter collection truck and fax-back surveys data plus recycling at City Transfer Stations plus estimated recycling through the deposit container redemption system.

Findings

- In 2003, approximately 3,085,000 tons, or 9,889 tpd, of putrescible waste and approximately 8,641,000 tons, or 27,695 tpd, of non-putrescible waste and clean fill material were generated by the commercial sector in the City. Quantities of waste generated include that which is disposed and recycled.

- In 2003, approximately 6,209 tpd of commercial putrescible waste[6] were processed for disposal at in-City Transfer Stations and 1,039 tpd were processed at out-of-City facilities. (Although some material is recycled at putrescible Transfer Stations, the vast majority is material destined for disposal.) An estimated 2,641 tpd were recycled directly. The quantities processed out-of-City represent a 21% increase over 2002.

- Of the total commercial putrescible waste generated, 42% is generated in Manhattan,[7] 19% in Brooklyn, 13% in the Bronx, 20% in Queens and 5% in Staten Island.[8]

- Overall, approximately 27% of the commercial putrescible waste was recycled in 2003.

- Quantities of commercial putrescible waste generated are anticipated to increase to 3,414,000 tons, or 10,942 tpd in 2024, which represents an annual average rate of increase of 0.5%.

- Quantities of non-putrescible commercial waste and clean fill are more difficult to predict in the future due to the variability in generation from year to year, but are anticipated to range from approximately 8.0 to 10.9 million tons, (25,640 to 34,810 tpd) by the end of the New SWMP Planning Period.

- The City's commercial putrescible waste (disposed and recycled) is collected by approximately 124 licensed carters.

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[6] These quantities do not include DSNY-managed Waste processed at in-City Transfer Stations.
[7] 61% of the City's jobs are located in Manhattan.
[8] Numbers may not add due to rounding.

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List of Acronyms/Definitions

Acronyms	
BIC	Business Integrity Commission
C&D	construction and demolition
CD	community district
CDEP	Connecticut Department of Environmental Protection
CEQR	City Environmental Quality Review
DSNY	New York City Department of Sanitation
ECL	State Environmental Conservation Law
lbs/cy	pounds per cubic yard
LL74	Local Law 74, effective December 19, 2000, enacted by the City Council, requiring a comprehensive assessment of commercial solid waste management in New York City
MGP	metal, glass and plastic
MOP	mixed office paper
MRF	materials recycling facility
MSW	municipal solid waste
NJDEP	New Jersey Department of Environmental Protection
NYCAC	New York City Administrative Code
NYCDCP	New York City Department of City Planning
NYCRR	New York Codes, Rules and Regulations
NYMTC	New York Metropolitan Transportation Council
NYSDEC	New York State Department of Environmental Conservation

Acronyms	
NYSDOL	New York State Department of Labor
OCC	old corrugated cardboard
ONP	old newsprint
PIU	DSNY's Permit and Inspection Unit
RCNY	Rules of the City of New York
SIC	Standard Industrial Classification
tpd	tons per day
tpy	tons per year
USEPA	United States Environmental Protection Agency
WTE	waste-to-energy

Definitions	
City	New York City
Consultant	The DSNY's Consultant Team, including Henningson, Durham & Richardson Architecture and Engineering, P.C.; Parsons Brinckerhoff Quade and Douglas, Inc.; Ecodata, Inc.; Franklin Associates, Ltd.; Urbitran Associates, Inc.; HydroQual, Inc.; and Cambridge Environmental, Inc., who prepared the Commercial Waste Management Study
DSNY-managed Waste	Solid waste that DSNY collects from all residential households in the City and the institutional waste of City, state and federal agencies that DSNY collects and/or for which DSNY arranges disposal
Final Study Scope or Final Scope of Work	Commercial Waste Management Study Final Scope of Work issued on July 31, 2003
New SWMP	The new comprehensive Solid Waste Management Plan to be developed in 2004 for both DSNY-managed Waste and commercial waste for the planning period 2004 through 2024
New SWMP Planning Period	The 20-year period from 2004 to 2024 addressed by the City's New Solid Waste Management Plan
Preliminary Report	The New York City comprehensive Commercial Waste Management Study Preliminary Report dated June 2002
Quarterly Reports	DSNY's Quarterly Transfer Station Report system
Study	Commercial Waste Management Study
Transfer Station(s)	Privately owned and operated transfer station in New York City that accepts, transfers and transports some portion of municipal solid waste or construction and demolition debris or fill material generated in the private sector for out-of-City disposal

1.0 WASTE QUANTIFICATION SUMMARY REPORT

1.1 Introduction and Background

This report provides estimates of the quantity of commercial waste generated in New York City (City) and projects estimates of the future quantities that will be generated during the New SWMP Planning Period. It summarizes information that is presented in greater detail in Volume II, Appendices A through E, of the Commercial Waste Management Study (Study).

Commercial waste is a category of municipal solid waste (MSW) and is comprised of three types of waste, as defined in City Department of Sanitation (DSNY) rules: putrescible, non-putrescible and fill material. Commercial waste is generated by businesses in the City, including construction projects, and is collected by private carters, who either: (1) deliver their waste to private in-City Transfer Stations, from which the waste is recycled or hauled to out-of-City disposal sites; or (2) directly haul the waste to out-of-City transfer stations or disposal sites.

These waste quantity estimates are important in evaluating the current adequacy and the future demands on the City's existing network of private Transfer Stations.

1.1.1 Commercial Waste Types

DSNY rules classify commercial waste into two major categories and one sub-category. These are:

1. Putrescible waste – Solid waste generated daily by the City's business establishments that is principally office and retail waste with small quantities of putrescible[1] material, and also includes restaurant and other waste. Significant amounts of office waste are recycled directly at the source by carters that primarily collect recyclable office paper from commercial buildings and deliver it to recyclers, exporters or paper manufacturers. Consistent with DSNY rules, putrescible waste referred to in this report is inclusive of the fractions that are disposed and recycled (such as office paper). Some additional recycling occurs at the City's putrescible Transfer Stations, where old corrugated containers, commonly referred to as cardboard (OCC), and concentrated loads of office paper are diverted to recyclers.

[1] Putrescible solid waste is solid waste containing organic matter having the tendency to decompose with the formation of malodorous by-products.

2. Non-putrescible[2] waste – Inert waste that does not contain organic matter having the tendency to decompose with the formation of malodorous by-products, including but not limited to dirt, earth, plaster, concrete, rock, rubble, slag, ashes, waste timber, lumber, Plexiglas, fiberglass, ceramic tiles, asphalt, sheetrock, tar paper, tree stumps, wood, window frames, metal, steel, glass, plastic pipes and tubes, rubber hoses and tubes, electric wires and cables, paper and cardboard. It is typically generated from commercial and residential demolition, new construction and renovation projects. This waste can vary significantly with the volume of construction activity in the City. It is comprised of a range of inert materials, some of which is recycled. The non-recycled fraction of the waste is densified and transferred to the City's non-putrescible Transfer Stations for disposal. This report also refers to this waste as construction and demolition (C&D) debris to distinguish it from fill material, which is also a category of non-putrescible waste.

3. Fill material – A subset of non-putrescible waste, and as defined in DSNY rules, is clean material consisting of earth, ashes, dirt, concrete, rock, gravel, asphalt millings, stone or sand, provided that such material shall not contain organic matter having the tendency to decompose with the formation of malodorous by-products. Typically these materials are stockpiled for reuse at the City's fill material Transfer Stations. Almost all fill material is reused.

Significant quantities of materials in each of the above categories are recycled. This report also provides information on waste recycled within the putrescible waste category. The sum of waste disposed and waste recycled equals the waste generated in each category.

1.1.2 Types of Commercial Waste Transfer Stations

DSNY permits three different categories of Transfer Stations that receive and process the above-noted waste materials. The DSNY rules applicable to each are found in Chapter 4 Title 16, Rules of the City of New York (RCNY). The New York State Department of Environmental Conservation (NYSDEC) also regulates the design, construction and operation of Transfer Stations under Title 6 of the New York Codes, Rules and Regulations (NYCRR), Part 360. NYSDEC regulations classify Transfer Stations into three categories: putrescible, non-putrescible and clean fill facilities.

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[2] As defined in DSNY rules (Subchapter A of 4 RCNY 16).

1.1.2.1 Putrescible Waste Transfer Stations

Putrescible waste Transfer Stations receive waste delivered in waste collection vehicles (e.g., packer trucks or roll-off containers). They typically process the waste by sorting out bulky items, and then generally crushing, baling or compacting the waste. The processed waste is placed into transfer trailers for over-the-road long haul, or into intermodal containers for export by rail to out-of-City disposal locations.

All but one of the putrescible Transfer Stations in the City transfer the waste received to disposal facilities in trailer trucks that can carry approximately 22 to 25 tons per transfer trailer. Typically, one transfer trailer or one intermodal container consolidates the waste delivered by approximately two typical collection vehicles. All putrescible Transfer Stations operate with scales, and all waste processing operations must occur in an enclosed building.

1.1.2.2 Non-Putrescible Waste Transfer Stations

C&D debris is typically delivered to non-putrescible Transfer Stations in roll-off containers that are picked up from demolition, new construction or renovation sites. These Transfer Stations typically engage in sorting, crushing and processing of the C&D debris material. Some facilities sort the materials to recover recyclables such as metal, wood or aggregate; they recover some materials for recycling and reduce the volume of waste disposed.

As of early 2003, there were 28 non-putrescible Transfer Stations in the City, and approximately 60% of the tonnage was weighed. The waste processing operations typically occur outdoors. Some facilities have paved surfaces for processing; others operate with unpaved sites. Processed waste is loaded into transfer trailers for over-the-road long haul to out-of-City disposal locations. Some non-putrescible Transfer Stations operate with scales, but others record materials handled based on inbound and outbound truck volumes (cubic yards).

1.1.2.3 Fill Material Transfer Stations

Fill material Transfer Stations typically receive loads of excavated dirt, rock, concrete, etc., from construction sites, including roadwork and other public works projects. They typically have equipment on site that is used to sort the aggregate into various sizes. The majority of the material received is stored on site and recycled or reused. Very little size reduction takes place, as most of the processed materials are stockpiled on site and reused in other projects. None of the fill material Transfer Stations have scales.

1.1.3 Commercial Waste Collection

The carting (commercial waste collection) industry that collects putrescible and non-putrescible waste in the City is regulated by the City's Business Integrity Commission (BIC). BIC maintains a registry of carters that are licensed to collect putrescible and non-putrescible waste, qualifies business entities to provide carting services, and regulates the rate charged for collection.

BIC has cooperated with DSNY in implementing a first-time survey to collect information directly from the carter industry. The survey obtained data on the quantities and origins of commercial waste collected within the City. This report uses these estimates as one source of data for developing a year 2003 baseline estimate of putrescible waste generation, inclusive of disposed and recycled fractions, for use in forecasting future quantities.

1.1.4 Commercial Waste Data Collection and Reporting

Unlike the reporting system for DSNY-managed Waste, there is no central database that records all of the waste generated, recycled and disposed by point of origin, destination and type of material received. DSNY, as a regulator of the City's Transfer Stations, has, since 1995, maintained and refined a reporting system, the Quarterly Transfer Station Report system (Quarterly Reports), which collects data on the quantities of waste delivered to in-City Transfer Stations. This reporting system, while providing very useful and reliable information, does not account for waste disposed out of the City or waste recycled at the source of generation, e.g., recycled office paper.

Although all of the City's putrescible Transfer Stations record inbound and outbound material by weight, in early 2003 only 60% of the tonnage was weighed at non-putrescible facilities, and none of the incoming fill material was weighed. Consequently, in early 2003, approximately 80% of the reported tonnage in the Quarterly Reports for C&D and fill material Transfer Stations reflects a conversion of cubic yard volume data to tons, based on assumed factors for converting cubic yards to tons.

In accordance with Local Law 74 of 2000 (LL74), DSNY published the Comprehensive Commercial Waste Management Study Preliminary Report (Preliminary Report) in June 2002. This report presented preliminary data for the year 2000 on the volumes, types, origins and destinations of commercial putrescible and non-putrescible waste managed by private carters and Transfer Stations in the New York metropolitan area, as well as on DSNY-managed Waste. The data for this report were developed during the period when the Fresh Kills Landfill was still receiving waste, and prior to the events of September 11, 2001.

The impact of September 11 and the business recession in the City during the period of 2001 to 2003 influence developing estimates of commercial waste generation. The City comptroller has estimated that the City suffered a loss of over 200,000 jobs during this period, and commercial putrescible waste generation correlates with levels of employment. Post-2001 estimates of waste generated and future projections have to address the impact of these events on waste generation between the period of 2002 and 2003.

The estimates of commercial putrescible and non-putrescible waste are relevant to the types and amounts of Transfer Station capacity that will be required to serve the City's businesses over the New SWMP Planning Period. This report updates the estimates contained in the Preliminary Report based on new information developed for the years 2002 and 2003, and provides a new 2003 baseline estimate of commercial putrescible waste generation as the basis for forecasting commercial putrescible waste generation over the New SWMP Planning Period.

1.2 Objectives

The objectives of this report are to:

1. Report on current estimates for the years 2002 to 2003 of the quantities of each type of commercial putrescible waste generated, recycled and disposed.
2. Compare these more recent estimates with those provided in the Preliminary Report, make adjustments as indicated, and establish a year 2003 baseline for commercial putrescible waste generated.
3. Forecast, from the year 2003 baseline estimate, the quantities of commercial putrescible waste to be generated, recycled and disposed over the New SWMP Planning Period.
4. Use current estimates of commercial non-putrescible waste and forecasting methodologies to project the quantity of commercial non-putrescible waste to be generated over the New SWMP Planning Period.

2.0 METHODOLOGIES FOR ESTIMATING WASTE QUANTITIES

The different methodologies used to estimate current quantities and to develop projections for each specific type of commercial waste are summarized in this section.

2.1 Putrescible Waste Disposed and Recycled

Estimating the quantities of the commercial putrescible waste generated involved the following:

- Three different methods were utilized to develop independent estimates of waste quantities for the years 2002 and 2003, and are described in detail in Volume II, Appendices A, Facilities Estimate; B, Employment-Based Estimate; and C, BIC-DSNY Carter Survey.
- These different estimates were compared for reasonableness to the year 2000 estimate in the Preliminary Report, used to adjust the Preliminary Report data to more accurately reflect the quantity of commercial putrescible and non-putrescible waste disposed in the year 2000 (the Preliminary Report did not estimate total waste recycled), and used to establish a baseline estimate for 2003.
- A forecast methodology was developed and applied to the baseline to project waste over the New SWMP Planning Period.

2.1.1 Facilities-Based Estimating Methodology

The DSNY Quarterly Report system was implemented in 1995 and has been maintained and refined since that time. It provides accurate data from scale weights for putrescible waste tipped at in-City Transfer Stations and records the quantity of materials recycled at these facilities. This system is a primary source of data for estimating putrescible waste tipped at Transfer Stations in the City.[3]

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[3] Under the Interim Export Program, DSNY delivers DSNY-managed Waste to eight in-City putrescible Transfer Stations. DSNY deliveries were therefore subtracted from the total quantities to estimate the quantity from commercial sources.

Data on putrescible waste generated by commercial sources in the City and carted to either Transfer Stations or out-of-City disposal sites was collected through a survey for the year 2002 and described in detail in Volume II, Appendix A to this Study. Lists of facilities located within a 50-minute traveling radius of the City -- located in Connecticut, New Jersey and Westchester and Nassau Counties in New York -- were developed by contacting state agencies. Telephone surveys of operators of these facilities were used to collect information on the quantity of putrescible waste originating in the City and tipped at those locations.

To estimate total waste generation, data on materials recycled from commercial sources in the City was also developed. Sources of information included the major carters in the City who pick up recyclables; state agencies (for lists of recyclables processors in the region); the Yellow Pages (for listings of recycling centers); end-user markets (such as fiber mills); and brokers involved in the paper export business. The information obtained from these sources was cross-checked and organized into a database to estimate the quantity of recyclables.

The combined total of putrescible waste disposed and waste recycled materials was 3,295,677 tons (10,563 tons per day [tpd]) in 2002, as reported in Table 3.3.4-1 of Volume II, Appendix A.

2.1.2 Employment-Based Estimate

A second, independent estimating methodology for commercial putrescible waste generation in the City used available employment data. This methodology is described in detail in Volume II, Appendix B of the Study. This approach used a literature search to develop waste generation factors, expressed as tons of waste generated per employee per year, for specific types of businesses with significant employment in the City. Table 2.1.2-1 lists the factors developed through this research and used in this report. These business sector-specific factors are multiplied by sector-specific employment to estimate total commercial putrescible waste generation in the City.

Table 2.1.2-1
Employment Categories, Commercial Waste Generation Factors and Tons Generated, and Category Percent of Total Commercial Waste Generation

Employment Category	Generation Factor Tons/Employee/Year	New York City 2002 Tons Generated	% of Commercial Waste Generation
Construction	0.44	51,400	1.6%
Finance & Insurance	0.44	146,770	4.5%
Real Estate Rental & Leasing	0.44	51,570	1.6%
Manufacturing	1.40	199,410	6.2%
Wholesale Trade	1.20	172,160	5.3%
Retail Trade	2.50	724,410	22.4%
Transportation & Warehousing	0.74	79,520	2.5%
Utilities	0.56	8,640	0.3%
Information	0.65	109,650	3.4%
Professional, Technical & Scientific	0.65	188,190	5.8%
Management of Companies	0.65	37,110	1.1%
Administrative Support Services	0.65	128,240	4.0%
Health Care & Social Assistance	0.63	419,530	12.9%
Arts, Entertainment & Recreation	3.40	46,090	1.4%
Accommodation & Food Services	3.40	710,340	21.9%
Other Services(1)	0.65	92,190	2.9%
Unclassified & Other	0.65	13,080	0.4%
State & Federal Government(2)	0.44	61,950	1.9%
Total New York City(3)		3,240,250	100%

Notes:
(1) Except public administration.
(2) Except local government agencies.
(3) Numbers may not add due to rounding.

In July 2003, the New York Metropolitan Transportation Council (NYMTC) published an interim update of employment in the City accounting for the direct impacts of September 11, 2001. NYMTC is the only source of regional employment projections to 2024 and its data is used by many planning agencies in the New York region. However, the NYMTC data did not account for job loss at the census tract level, did not provide employment by industry sector and did not reflect job losses in the period 2000-2003 due to the economic recession. DSNY's Consultants made adjustments to the NYMTC data to develop a more accurate 2002 employment baseline for use in conjunction with waste generation factors. The additional adjustments included converting census tract employment data to employment estimates for the City's community districts (CD). Table 2.1.2-2 presents the employment data by business category.

The data in Tables 2.1.2-1 and 2.1.2-2 were used in the employment-based methodology to develop a year 2002 baseline estimate of 3,240,250 tons (10,385 tpd) of commercial putrescible waste generated, as reported in Table 1.4-2 of Volume II, Appendix B.

2.1.3 BIC-DSNY Carter Survey

In October and November of 2003 DSNY and BIC collaborated to conduct a survey of licensed carters in the City in order to collect data on City putrescible waste collection operations during the first six months of 2003. The waste quantity data was then doubled to approximate waste generated on an annual basis. The survey also developed information on the origin of commercial putrescible waste by borough, and on the destinations where collection vehicles tipped their loads. This borough-of-origin data was used as a basis for allocating the 2003 baseline waste generation estimate to the borough level. The survey methodology and results are reported in detail in Volume II, Appendix C of this Study.

Table 2.1.2-2
Annual Employment in New York City by Borough and by Employment Category, 2002
(Number of Employees)

Employment Category	Bronx	Brooklyn	Manhattan	Queens	Staten Island	Total Employees
Construction	10,508	23,043	32,976	44,442	7,021	117,990
Finance & Insurance	3,291	15,014	302,617	13,459	2,536	336,917
Real Estate Rental & Leasing	10,838	14,444	75,962	15,573	1,573	118,390
Manufacturing	9,948	36,267	53,423	41,115	1,357	142,110
Wholesale Trade	10,313	22,774	87,617	24,882	1,463	147,049
Retail Trade	24,643	57,234	136,564	53,016	15,974	287,431
Transportation & Warehousing	4,817	14,369	26,894	56,716	4,550	107,346
Utilities	1,723	4,475	6,197	2,471	653	15,519
Information	4,395	8,014	143,400	10,391	2,616	168,816
Professional, Technical & Scientific	3,272	12,069	259,690	10,994	3,701	289,726
Management of Companies	962	1,207	52,267	1,798	905	57,139
Administrative Support Services	8,568	18,702	141,321	25,045	3,798	197,434
Health Care & Social Assistance	73,025	135,965	204,429	92,813	26,370	532,602
Arts, Entertainment & Recreation	2,823	3,211	47,671	4,233	1,118	59,056
Accommodation & Food Services	10,629	18,465	144,621	29,842	6,117	209,674
Other Services(1)	8,120	21,241	87,204	21,779	3,586	141,930
Unclassified & Other	1,384	5,018	8,325	4,587	823	20,137
State & Federal Government(2)	14,257	20,565	81,952	20,283	5,163	142,220
Total	**203,516**	**432,077**	**1,893,130**	**473,439**	**89,324**	**3,091,486**

Notes:
(1) Except public administration.
(2) Except local government agencies.

A two-step approach was used to implement the survey:

1. All haulers received a survey form by fax, with a cover letter, describing the purpose of the survey and imposing a three-day deadline for faxing back the requested data. The data requested from each carter included: (i) the amount of waste disposed and recycled by month; and (ii) the transfer stations or disposal sites where waste disposed was tipped, indicating the name, address, and the quantities disposed at each site.

2. The information on the survey form was then corroborated and supplemented through a follow-up, in-person or telephone interview with the carting firm. The information gathered during these interviews included the number of truck shifts operated by the carter in each borough, the number of truckloads of refuse or recyclables picked up per shift, the types and sizes of vehicles used to pick up the refuse and recyclables, and a listing of customers by borough. In-person field visits for on-site data collection were restricted to large firms, defined as those carters with more than 10 trucks; the remaining firms were contacted by telephone. Interview data were collected from 124 carting firms.

2.2 Non-Putrescible and Fill Waste

The private non-putrescible Transfer Stations in the City are required to provide quarterly reports to the DSNY on the quantities of materials received, processed, recycled and disposed. In 2003, four (4) of these Transfer Stations did not use scales to weigh inbound loads; their reports list cubic yards received, which are converted to tons using density factors for various materials. Mixed C&D debris is converted to tons at a density of 1,500 pounds per cubic yard.[4] Source-separated recyclables are converted at a density of 500 pounds per cubic yard. Most loads of single material fill (road building material, gravel, dirt, rocks, asphalt and concrete) are converted at densities of approximately 2,200 pounds per cubic yard. In 2000, approximately 49% of the materials received by non-putrescible Transfer Stations was weighed. By early 2003, approximately 60% of C&D handled by non-putrescible Transfer Stations was weighed.

There were 20 fill material Transfer Stations licensed by the DSNY in early 2003. None of these stations weighs incoming or outgoing debris. All incoming and outgoing materials are converted to tons either by the Transfer Station itself or by the DSNY, using the density factors for various materials referred to above.

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[4] This is the density factor for mixed C&D debris, including fill, provided by NYSDEC.

It appears, however, that the density conversions utilized when scale-weights are not available tend to overestimate the quantities of non–putrescible waste and underestimate fill debris. However, when aggregated, they appear to be reasonably accurate. Thus, baseline quantities of C&D debris for the year 2003 are determined from DSNY densities, as 8,640,840 tons, or 27,695 tpd.

In order to project quantities through the New SWMP Planning Period, it is necessary to relate C&D generation to the quantity of construction activity in the City.

2.2.1 Residential and Commercial Building-Related C&D Estimate

A literature search was performed to determine average C&D generation per square foot of: (1) residential construction; (2) residential demolition; and (3) residential renovation. Data from F.W. Dodge regarding the square footage of residential and commercial building construction, demolition and renovation are projected forward and multiplied by a tonnage generation factor (pounds of C&D per square foot) to obtain an estimate of building-related C&D debris. This type of C&D debris is projected forward.

2.2.2 Non-Building-Related C&D Estimate

Non-building debris includes waste materials generated during the process of constructing, demolishing and renovating bridges, streets and other projects that don't involve buildings, per se. Non-building-related C&D debris is estimated by subtracting building-related C&D debris from the estimated total for the City in 2003 (8,640,840). This total is related to the value of non-building construction, provided for the City by F.W. Dodge, and projected forward.

2.2.3 Fill Material and Non-Putrescible C&D Debris Estimate

The building-related and non-building-related quantities are summed, and presented as the C&D projection for the City. In order to allocate this total into the same material categories used by DSNY (non putrescibles and clean fill), a range of 60 to 70% of this total is classified as clean fill, and a range of 30 to 40% is classified as non-putrescible debris.

3.0 PUTRESCIBLE WASTE DISPOSED AND RECYCLED - BASELINE ESTIMATES

3.1 Year 2002 Estimates

Table 3.1-1 presents the estimates of the commercial putrescible waste generation for the year 2002 from the facilities estimate and the employment-based estimate. The methodology for the facilities estimate involved a survey of out-of-City disposal and transfer facilities and recyclables processors. In this table, the quantities of waste and recyclable materials these facilities received directly from the City carters were added to the DSNY (in-City) Quarterly Reports. The methodology for the employment-based estimate used factors that were developed for the generation of commercial wastes in tons per employee per year. These factors were multiplied by the number of employees in the City within any given sector (e.g., food service, finance, health care) to obtain generation of commercial waste.

3.2 Year 2003 Estimates and Year 2003 Baseline

Table 3.2-1 shows the results of the BIC-DSNY carter survey of commercial putrescible carting companies, and data from the DSNY Quarterly Reports.

The only source of 2003 data for waste tipped out of the City is the fax-back responses from the carter survey that reported tonnages delivered to specific transfer stations or disposal facilities located out of the City. In 2003, this direct export of waste amounted to 1,039 tpd – a significant increase from the 188 tpd directly exported in 2000.

Table 3.2-1 also displays the results of follow-up carter interviews with all the licensed carters operating in the City. The carter interviews yielded a different estimate of waste disposed and waste recycled than the fax-back responses. The carter interview estimates were derived from information developed on each carter's fleet operations, including truckloads of waste tipped per week, and the average weights of each truckload.

Table 3.1-1
2002 Estimated Commercial Putrescible Waste – Disposed and Recycled

Material/Destination	Data Sources [1]					
	Facility		Employment		Average [2]	
	TPY	TPD	TPY	TPD	TPY	TPD
Waste Disposed						
First tipped in City	2,006,316	6,431	N/A	N/A	N/A	N/A
Direct hauled out of City	266,642	855	N/A	N/A	N/A	N/A
Subtotal	2,272,958	7,285	2,253,380	7,222	2,263,169	7,254
Waste Recycled						
First tipped in City	890,565	2,854	N/A	N/A	N/A	N/A
Direct hauled out of City	132,154	424	N/A	N/A	N/A	N/A
Subtotal	1,022,719	3,278	986,870	3,163	1,004,795	3,221
Total Generation (Disposed & Recycled)	3,295,677	10,563	3,240,250	10,385	3,267,964	10,474
Recycling Percentage (Waste Recycled/Total Generation)	31%		30%		31%	

Notes:

(1) Data Sources:

a) Facility data combines data from DSNY Quarterly Transfer Station Reports for putrescible waste disposed in-City, and in-person and phone interviews with out-of-City waste transfer stations, other disposal facilities and recyclables processors, brokers and exporters.

b) Employment-based estimate was developed based on City employment for year 2002 and waste and recyclables generation factors for specific types of employment, based on waste generation studies conducted in large cities. The underlying employment estimate for 2002 reflects a net loss of 241,500 jobs in the City between 2000 and 2002 from the combined effect of 9/11 and the recession, according to the City comptroller's office.

(2) Straight average of facilities and employment estimates.

TPY = Tons per Year.

TPD = Tons per Day.

Table 3.2-1
2003 Estimates of Putrescible Solid Waste – Disposed and Recycled

Material/Destination	Data Sources[1]						2003 Estimate	
	Carter Survey Fax-Back[2]		Carter Survey Interviews on Fleet Operations		DSNY Quarterly Reports			
	TPY	TPD	TPY	TPD	TPY	TPD	TPY	TPD
Waste Disposed								
First tipped in City	1,779,447	5,703	N/A	N/A	1,937,208	6,209	N/A	N/A
Direct hauled out of City	324,148	1,039	N/A	N/A	324,147	1,039[2]	N/A	N/A
Subtotal	2,103,595	6,742	2,244,318	7,193	2,261,355	7,248	2,261,355	7,248
Waste Recycled								
First tipped in City	428,655	1,374	N/A	N/A	N/A	N/A	N/A	N/A
Direct hauled out of City	277,370	889	N/A	N/A	N/A	N/A	N/A	N/A
Subtotal[3]	706,025	2,263	810,133	2,597	N/A	N/A	758,079	2,430
Additional recycling at Transfer Stations[4]	35,037	112	35,037	112			35,037	112
Deposit containers[5]	31,000	99	31,000	99			31,000	99
Total Recycling	772,062	2,475	876,170	2,808			824,116	2,641
Total Generation (Disposed & Recycled	2,875,657	9,217	3,120,488	10,001	N/A	N/A	3,085,000	9,889
Recycling Percentage (Waste Recycled/Total Generation)	27%		28%		NA		27%	

Notes:

(1) Data Sources:
- a) Fax-back data are forms returned by carters in response to BIC-DSNY survey. Returns represented 100% compliance.
- b) Carter survey interviews on fleet operations data were derived from follow-up in-person or phone interviews with carters responding to fax-back to clarify data anomalies and to develop information on fleet operations as an alternative basis for estimating waste quantities from fleet operations, i.e., truck shifts.
- c) Data summarized from the average of the first three Quarterly Reports filed by in-City putrescible Transfer Stations with DSNY. The 1,039 tpd disposed of out-of-City is carried over from carter survey fax-back to include out-of-City disposal in estimate.

(2) The fax-back response is the only source of data for determining 2003 out-of-City disposal. Note that quantity is consistent with upward trend from 2002 facilities estimate.

(3) Waste recycled (first tipped in-City and direct hauled out-of-City) represents an average of carter survey fax-back and interview data.

(4) Additional recycling separated at Transfer Stations from mixed loads.

(5) Deposit container estimate developed from data obtained from the facilities survey, published market consumption data and NYSDEC deposit statistics.

TPY = Tons per Year.

TPD = Tons per Day.

The data from these two sources (the fax-back data on tons tipped and the carter interviews) show similar results; the fax-back estimates for waste disposed are 6,742 tpd, while the carter interviews derived an estimate of 7,193 tpd – a difference of less than 7%. The estimated quantity of waste recycled is 2,263 tpd from the fax-back responses and 2,597 tpd from the carter interview data – a difference of 15%.

Additional recycling from the commercial sector includes recycling of materials at Transfer Stations from mixed waste loads. This amounted to 35,037 tons in 2003. An additional 31,000 tons of bottles and containers are recycled through the deposit program. In the aggregate, commercial recycling was 824,116 tons in 2003, or 2,641 tpd. The commercial recycling rate was approximately 27%, or 824,116 tons recycled out of approximately 3,085,000 tons generated in 2003. Overall, the quantity of commercial putrescible solid waste disposed in 2003 is estimated to be 2,261,355 tons (7,248 tpd), while 824,116 tons (2,641 tpd) are estimated to be recycled in 2003, for a total generation of 9,889 tpd.

3.3 Reconciliation of Preliminary Report Data

Table 3.3-1 presents data from the Preliminary Report and compares the results to the 2003 BIC-DSNY survey of commercial collection firms.

As shown in the table, the Preliminary Report data are adjusted to be consistent with the definitions of commercial putrescible waste utilized in the BIC-DSNY carter survey. The Preliminary Report included all materials collected by licensed putrescible carters, whereas the carter survey excluded non-putrescible materials collected by licensed putrescible collection firms. Putrescible materials delivered by self-haulers were removed from the Preliminary Report data, as these materials were not included in the BIC-DSNY carter survey. Materials collected from customers located outside the boundaries of the City were also subtracted from the Preliminary Report data; these materials were not included even if they were collected by firms licensed to collect putrescible waste within the City.

Table 3.3-1
Comparison of 2000 Preliminary Report to
2003 Transfer Station Quarterly Reports/BIC-DSNY Survey[1]

	2000 Preliminary Report			2000 Preliminary Report Adjusted	2003 DSNY Transfer Station Quarterly Reports – Out of City from BIC-DSNY Carter Survey
	Reported Disposed (TPD)	Adjustment Amount (TPD)	Reason[2]	Net Amount Disposed (TPD)	Net Amount Disposed (TPD)
In-City Transfer Stations	8,257	-209	Out-of-City Origins	8,048	6,209
Direct Export	514	-326	304 tpd of NP[3] 22 tpd of P[4]	188	1,039
Direct In-City Disposal[5]	644	-638	175 tpd of NP[3] 463 tpd of P[4]	6	
Excess[5]	576	-437	306 tpd of NP[3] 131 tpd of P[4]	139	
Total	**9,991**	**-1,609**		**8,381**	**7,248**

Notes:

(1) Input waste defined according to permit of either carter or Transfer Station (e.g., all waste to putrescible Transfer Station was defined as putrescible). Output waste defined according to type of waste recorded by survey. Table cannot be 100% reconciled with report because it attempts to merge both input and output information.

(2) Backup Table in Attachment 1 details the adjustments made by carter.

(3) Non-putrescible (NP) tonnage carried by putrescible (P) carters and/or destined for putrescible Transfer Stations was included in putrescible total, as part of tonnage being handled by the putrescible infrastructure. This category totals approximately 785 tpd.

(4) Some putrescible tonnage is taken out either because the BIC-DSNY survey did not include the category (e.g., self-haulers), or because classification of survey responses was judged to be incorrect (e.g., Filco Carting loads were classified as disposed rather than recycled tonnage.).

(5) Some of the Transfer Station excess was shifted to in-City direct disposal.

The net result of these adjustments is removal of 1,609 tpd from the results reported in the Preliminary Report, which had reported 9,991 daily tons of commercial putrescible waste disposed. The revised Preliminary Report total is 8,381 tpd. Of this quantity of waste, 188 tpd were exported directly to disposal facilities or transfer stations located outside of the City in the year 2000.

It is this adjusted figure of 8,381 tpd of commercial putrescible solid waste that can be accurately compared to the 2003 total net amount disposed of 7,248 (see Table 3.3-1). This table shows that between years 2000 and 2003, the commercial putrescible waste stream in the City decreased by approximately 13.5%. This decrease is attributable to decreases in employment which occurred over this interval as the economy entered into a recession, and to the after-effects of 9/11.

Taking into account the 2002 data, the trend in commercial putrescible waste disposed is 8,381 tpd in 2000, declining to 7,254 tpd in 2002 and decreasing slightly to 7,248 tpd in 2003. Because there is some inherent error in the different estimating methodologies used, these estimates should be interpreted as approximations. However, the consistency of the estimates, considering the external factors that would cause commercial waste generation to decline over this time, provides a degree of confidence that these estimates are reasonable.

3.4 Waste Origins and Destinations

The BIC-DSNY carter survey provided information on the origin and destination of commercial putrescible waste generated at the borough level. These data are presented in Table 3.4-1. Manhattan, which has the highest proportion of employment of the five boroughs, produces 41% of the waste disposed and accounts for 45% of the waste recycled. Brooklyn and Queens account for about equal quantities of waste disposed – 19% for Brooklyn and 20% for Queens; each of these boroughs accounts for 21% of waste recycled. Bronx discards 14% of the waste disposed and accounts for 9% of waste recycled. Staten Island discards 6% of the waste disposed and accounts for 3% of waste recycled.

Table 3.4-1
Origins and Destinations of Putrescible Waste, 2003

	Commercial Putrescible Waste					
	Waste Disposed		Waste Recycled		Total Generation	
	Tons/Day	% of Total	Tons/Day	% of Total	Tons/Day	% of Total
ORIGINS						
Manhattan	2,970	41%	1,178	45%	4,147	42%
Brooklyn	1,349	19%	553	21%	1,902	19%
Bronx	1,019	14%	240	9%	1,259	13%
Queens	1,419	20%	555	21%	1,974	20%
Staten Island	436	6%	71	3%	507	5%
New York City	7,193	100%	2,597	100%	9,790	100%
DESTINATIONS						
Manhattan	0	0%	0	0%	0	0%
Brooklyn	2,341	35%	678	30%	3,019	34%
Bronx	2,467	37%	219	10%	2,686	30%
Queens	896	13%	246	11%	1,142	13%
Staten Island	0	0%	231	10%	231	3%
New York City	5,703	85%	1,374	61%	7,077	79%
Out-of-City:						
Long Island	95	1%	66	3%	162	2%
Westchester	26	0%	2	0%	27	0%
New Jersey	878	13%	821	36%	1,699	19%
Other	40	1%	0	0%	40	1%
Total Out-of-City	1,039	15%	889	39%	1,928	21%
Grand Total	6,742	100%	2,263	100%	9,005	100%
Percent difference [(1)]	6.69%		14.75%		8.71%	

Notes:

[(1)] The difference is due to the differences in data sources: the data source for the Origins is BIC-DSNY carter survey interviews on fleet operations, and the data source for the Destinations is the BIC-DSNY carter survey Fax-Back response.

Origins = BIC-DSNY carter survey interviews – fleet operations

Destinations = BIC-DSNY carter survey – fax-back

Eighty-five percent (85%) of the City's waste disposed is initially transferred within the City; 15% is directly exported to nearby facilities in neighboring states or counties. Recycled waste is more likely to be exported directly -- 39% of this waste is directly exported out of the City.

These origin and destination estimates are used in conjunction with the employment-based estimate, as a basis for allocating the total waste generated to the City's boroughs and then forecasting waste generation over the New SWMP Planning Period.

3.5 Direct Export

Table 3.5-1 presents more detailed information on the destinations of the tons of waste disposed that were directly exported in 2002 and 2003.

Destinations are grouped by area: Western New Jersey, Newark, Staten Island Area, North Metro Area, Southern New Jersey, New York State, and Other Locations. The 2002 facilities estimate shows 855 tpd were directly exported, while the 2003 fax-back survey indicates 1,039 tpd. The increase in directly exported waste is consistent with anecdotal comments made during interviews with carters, who frequently mentioned that increases in tip fees at Transfer Stations in the City had made it economically beneficial to tip outside the City. In terms of where the directly exported waste is tipped, the most frequently used facilities are located in western New Jersey, where about two-thirds of the directly exported waste was tipped in 2002 and about one-half was tipped in 2003. The next most common locations for direct export of waste are those facilities located in or near Newark, New Jersey.

3.6 Distribution by Borough of Customers, Waste Disposed and Recycled

Table 3.6-1 summarizes the distribution of customers, waste disposed and waste recycled by borough.

Table 3.5-1
Direct Export - 2002 and 2003 Comparison

Carter Survey Fax-Back Out-of-City Disposal Sites		Tons per Year		Tons per Day	
		Facilities Estimate	Carter Survey Faxback	Facilities Estimate	Carter Survey Faxback
Name From Fax-Back Form	State	Tons 2002	Jan-Dec 2003	Tons 2002	Jan-Dec 2003
WESTERN NEW JERSEY GROUP					
Covanta, Warren County	NJ				
Warren County Landfill, Union, NJ	NJ				
PCFA, Oxford, NJ	NJ				
Waste Management Hunterdon County, NJ	NJ				
BFI, Fairview, NJ	NJ				
Bridgewater Resources, Somerset	NJ				
Union County Disposal, Union County, NJ	NJ				
Subtotal		**187,852**	**144,013**	**602**	**462**
NEWARK FACILITIES					
Recycling & Salvage, Newark, NJ	NJ				
American Refuel, Newark, NJ	NJ				
Hi Tech, Newark, NJ	NJ				
DJM South Kearny, NJ	NJ				
NJMC, Arlington, NJ	NJ				
Subtotal		**10,287**	**51,935**	**33**	**166**
STATEN ISLAND AREA					
Automated Modular Systems, Linden, NJ	NJ				
Waste Management Julia St, Elizabeth	NJ				
SWTR, Elizabeth, NJ	NJ				
Subtotal		**58,700**	**51,389**	**188**	**165**
NORTH METRO AREA					
Onyx, Totowa, NJ	NJ				
Garafola Transfer Station, Garfield, NJ	NJ				
Waste Management of NJ, Fairlawn NJ	NJ				
Allegro Sanitation, Secaucus, NJ	NJ				
Subtotal		**0**	**4,794**	**0**	**15**
SOUTHERN NEW JERSEY					
Midco, New Brunswick, NJ	NJ				
Camden County	NJ				
Woodhur Ltd, Wrightstown, NJ	NJ				
Subtotal		**7,403**	**21,868**	**24**	**70**
NEW YORK STATE					
American Refuel, Westbury, NY	NY				
Capital Compost, Menands, NY	NY				
Town of North Hempstead	NY				
Waste Management, Yonkers, NY	NY				
BFI Suburban, Westchester, NY	NY				
Sanitary District #1, Lawrence, NY	NY				
A1 Compaction, Yonkers, NY	NY				
Winter Brothers, West Babylon, NY	NY				
RIC, Mamaroneck, NY	NY				
Wheelabrator Westchester, Peekskill, NY	NY				
Subtotal		**1,200**	**39,782**	**4**	**128**
OTHER LOCATIONS					
Better Management Corp. of Ohio	OH				
American Ref Fuel, Chester, PA	PA				
Subtotal		**1,200**	**10,366**	**4**	**33**
Facilities Not in Fax-Back Form					
Pen Pac Fulton	NJ				
Onyx Robros	NJ				
		266,642	**324,147**	**855**	**1,039**

Table 3.6-1
Number of Carter Customers by Borough

	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total
Number of Customers	44,116	34,043	12,649	23,093	4,270	118,171
Percent of Total Customers	37.33%	28.81%	10.70%	19.54%	3.61%	100%
Percent of Total Waste Disposed	41.3%	18.8%	14.2%	19.7%	6.1%	100%
Percent of Total Recycled	45.4%	21.3%	9.3%	21.4%	2.7%	100%

3.7 Commercial Waste Generation Forecast

Commercial waste generation projections were developed for the New SWMP Planning Period. The projections were based upon three underlying assumptions:

- Waste generation, on a per employee basis, remains at 2003 levels for each borough;
- Waste generation, on a per employee basis, remains constant across the CDs within each borough, and
- The percentage of waste recycled, by borough, remains at 2003 levels.

In order to project commercial waste generation, the 2003 BIC-DSNY generation estimate was applied to the City employment forecast data, since City job growth or loss will directly affect future waste generation.

Revised NYMTC employment projections, which took into account the effects of September 11, were utilized as the basis of the projections. These projections were revised to reflect the downturn in the economy due to the economic recession in the City, and data were translated from the census tract level to the CD level.

Borough-wide waste generation factors were developed based upon the numbers generated in the BIC-DSNY survey and the number of employees in each borough in 2003. Borough-wide waste generation rates utilized were assumed to be the same throughout all CDs within each borough. The borough-wide rates are as follows:

- Bronx: 1.95 tons/employee-year;
- Brooklyn: 1.38 tons/employee-year;
- Manhattan: 0.677 tons/employee-year;
- Queens: 1.31 tons/employee-year; and
- Staten Island: 1.78 tons/employee-year.

The percentages of materials recycled were developed from the fax-back surveys, were developed at the borough level and were assumed to remain constant through 2024. The quantity of waste generated, recycled and disposed through the year 2024 is shown in Table 3.7-1.

Table 3.7-1
New York City Estimated Commercial Putrescible Waste Generation, Recycling and Disposal, 2003 through 2024

New York City	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
Generation	3,086,000	3,145,000	3,214,000	3,275,000	3,358,000	3,414,000
Recycling	824,000	840,000	858,000	874,000	895,000	909,000
Disposal	2,262,000	2,305,000	2,356,000	2,401,000	2,463,000	2,505,000

Table 3.7-2 shows the generation of commercial putrescible waste by borough, through the year 2024.

Table 3.7-2
Generation of Commercial Putrescible Waste by Borough, 2003 through 2024[(1)(2)]

	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
Bronx	398,000	400,000	413,000	424,000	443,000	458,000
Brooklyn	599,000	602,000	611,000	619,000	633,000	640,000
Manhattan	1,306,000	1,355,000	1,380,000	1,406,000	1,429,000	1,446,000
Queens	623,000	627,000	642,000	653,000	673,000	687,000
Staten Island	160,000	161,000	168,000	173,000	180,000	183,000
Total (tons/yr)	3,086,000	3,145,000	3,214,000	3,275,000	3,358,000	3,414,000

Notes:
(1) 2003 derived by multiplying generation quantities (Volume II, Appendix D, Table 1.5-1) by borough of origin (Volume II, Appendix D, Table 1.5-2). 2005 through 2024 derived from employment generation factors.
(2) Numbers may not add due to rounding.

Table 3.7-3 shows the quantity of commercial putrescible waste recycled, and Table 3.7-4 shows the quantity disposed by borough through the year 2024.

Table 3.7-3
Recycling of Commercial Putrescible Waste by Borough, 2003 through 2024[(1)(2)]

	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
Bronx	77,000	77,000	80,000	82,000	86,000	89,000
Brooklyn	175,000	176,000	179,000	181,000	185,000	187,000
Manhattan	373,000	387,000	394,000	402,000	408,000	413,000
Queens	176,000	177,000	181,000	184,000	190,000	194,000
Staten Island	23,000	23,000	24,000	25,000	26,000	26,000
Total (tons/yr)	824,000	840,000	858,000	874,000	895,000	909,000

Notes:
(1) Derived by multiplying generation quantities (Volume II, Appendix D, Table 1.5-3) by borough estimated recycling rate (Volume II, Appendix D, Table 1.5-4).
(2) Numbers may not add due to rounding.

Table 3.7-4
Disposal of Commercial Putrescible Waste by Borough, 2003 through 2024[(1)(2)]

	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
Bronx	321,000	323,000	333,000	342,000	357,000	369,000
Brooklyn	424,000	426,000	432,000	438,000	448,000	453,000
Manhattan	933,000	968,000	986,000	1,004,000	1,021,000	1,033,000
Queens	447,000	450,000	461,000	469,000	483,000	493,000
Staten Island	137,000	138,000	144,000	148,000	154,000	157,000
Total (tons/yr)	2,262,000	2,305,000	2,356,000	2,401,000	2,463,000	2,505,000

Notes:
(1) Derived by subtracting recycling quantities (Volume II, Appendix D, Table 1.5-5) from generation quantities (Volume II, Appendix D, Table 1.5-3).
(2) Numbers may not add due to rounding.

4.0 COMMERCIAL NON-PUTRESCIBLE WASTE

Volume II, Appendix E of this Study describes the means of projecting the generation of commercial non-putrescible waste. It should be noted that waste generated during residential construction, demolition and renovation is not considered DSNY-managed Waste, and hence is part of the commercial waste stream collected by the private carters.

4.1 Total Tons of C&D Debris

Table 4.1-1 presents the DSNY-reported quantities of clean fill and non-putrescible C&D waste, which together equal the total quantity of C&D debris in the City, for the years 2000, 2001, 2002 and 2003. C&D ranged from 6.35 million tons in 2000 to 7.91 million tons in 2002. For 2003, total tons are estimated at 8.64 million by utilizing data from the first three quarters of 2003, and assuming that the 4th quarter would average 100% of the 3rd quarter for fill, and 90% of the 3rd quarter for C&D. Average daily tonnage is in the 20,000 to 27,000 range, and has increased steadily over these four years. It is not known if the trend will continue to rise, or if tonnages will, over time, revert to quantities more typical of the year 2000. The average of the three years for which complete data is available is just under 7 million tons. As shown by the table, on average, clean fill represented approximately 60% of the total amount of C&D for the years 2000 through 2002, and non-putrescible C&D represented the remaining 40%. However, as shown by the 2003 data, clean fill appears to be accounting for an ever larger percentage of C&D debris, totaling almost 70%. Therefore, in allocating the total quantity of C&D waste into non-putrescible and clean fill components, a range was derived, with clean fill constituting between 60% and 70% of the total material, and C&D constituting between 30% and 40% of the total.

Table 4.1-1

Total Quantity of C&D in New York City

Item	Year			Average	2003[2]
	2000	2001	2002		
Tons per day input[1]					
Non-Putrescible C&D	9,475	9,735	8,610	9,274	8,626
Clean Fill C&D	10,891	11,706	16,729	13,109	19,069
Total C&D	20,366	21,441	25,340	22,382	27,695
Tons per year input					
Non-Putrescible C&D	2,956,200	3,037,398	2,686,398	2,893,332	2,691,390
Clean Fill C&D	3,398,070	3,652,194	5,219,526	4,089,930	5,949,450
Total C&D	6,354,270	6,689,592	7,905,924	6,983,262	8,640,840
Clean fill as percent of Total C&D	53.5%	54.6%	66.0%	58.6%	68.9%

Notes:

(1) Based upon 312 days per year of operation.

(2) 2003 consists of first three quarters, plus fourth quarter estimated at 90% of third quarter for non-putrescible and 100% of third quarter tonnages for fill material.

4.2 Residential Construction, Demolition and Renovation Debris

An average waste generation rate of 4.10 pounds per square foot was utilized for determining the quantity of residential construction waste generated from single-family residences, as typically found in Staten Island. For multi-family construction, a residential construction waste generation factor of 3.99 pounds per square foot was utilized, and a weighted average of 4.02 pounds per square foot was applied to residential construction waste generation throughout the City. New residential building construction debris estimates are shown in Table 4.2-1. It is important to note that the construction industry exhibits cyclic behavior, related to economic cycles within a region. Therefore, this table illustrates the general trend in the increase in residential construction waste generated within this sector, but may not be a good indicator of new residential construction waste generated in a given year in the future.

For single-family buildings, an average waste generation rate of 85.10 pounds per square foot demolished was utilized; 50.50 pounds per square foot was used for multi-family housing. New construction within the City generally requires the demolition of existing buildings, so the waste generated mirrors the trend in the generation of construction debris. Projections of residential demolition debris are shown on Table 4.2-1.

An average residential debris generation factor of 27.3 pounds per square foot of residential renovation was utilized and applied to the square footage of residential renovations, which was derived from information on the value of residential renovation obtained from F.W. Dodge. These projections are also shown in Table 4.2-1.

4.3 Commercial Construction, Demolition and Renovation Debris

Generation rates of 3.8, 130.3 and 11.3 pounds per square foot were utilized to estimate C&D from commercial construction, demolition and renovation, respectively. Square footages for each of these categories were projected into the future based upon data provided by F.W. Dodge, as well as a number of assumptions, as described in detail in Volume II, Appendix E of this Study. The total tonnage of commercial construction, demolition and renovation debris generated in the City is shown in Table 4.3-1.

4.4 Non-Building-Related C&D

Non-building debris includes waste materials generated in the process of constructing, demolishing and renovating public works projects such as gas and communications facilities, streets and highways, water supply systems and other non-building activities. Data on the constant dollar value of this construction in the City was obtained from F.W. Dodge, and projected forward through 2024. Aggregate non-building debris is estimated by subtracting the total of building-related C&D debris from the baseline total estimated above from DSNY non-putrescible and fill transfer station reports. The range of tonnage per thousand dollars of value of non-building construction in the years 2000 to 2002 and the year 2003 was used to generate an anticipated range of tonnage projections through 2024. These projections are shown in Table 4.4-1.

Table 4.2-1
Projected Residential Construction, Demolition and Renovation Debris for New York City, 1997-2024

Year	Residential Construction Debris in Tons	Residential Demolition Debris in Tons	Residential Building Renovation Debris in Tons	Total Residential Sector C&D Debris
1997	21,003	NA	NA	NA
1998	26,492	NA	NA	NA
1999	29,686	431,526	96,765	557,977
2000	31,952	467,262	64,865	564,079
2001	33,710	487,773	53,685	575,168
2002	35,146	471,105	42,397	548,648
2003	36,360	485,872	7,180	529,412
2004	37,412	518,212	14,524	570,148
2005	38,339	529,421	6,088	573,848
2006	39,169	515,098	11,029	565,296
2007	37,230	503,626	17,267	558,123
2008	37,915	512,223	18,673	568,811
2009	38,546	520,167	20,652	579,365
2010	39,130	527,549	23,178	589,857
2011	39,673	534,444	26,181	600,298
2012	40,181	540,913	29,621	610,715
2013	40,659	547,006	33,483	621,148
2014	41,109	552,765	37,729	631,603
2015	41,535	558,223	42,329	642,087
2016	41,939	563,410	47,297	652,646
2017	42,323	568,354	52,607	663,284
2018	42,689	573,074	58,231	673,994
2019	43,040	577,592	64,182	684,814
2020	43,375	581,922	70,434	695,731
2021	43,696	586,081	77,000	706,777
2022	44,005	590,082	83,866	717,953
2023	44,302	593,936	91,032	729,270
2024	44,589	597,653	98,485	740,727

Table 4.3-1
Projected Commercial Construction, Demolition and Renovation Debris in New York City, 1999-2024

Year	Commercial Construction (Tons)	Commercial Demolition (Tons)	Commercial Renovation (Tons)	Commercial Total (Tons)
1999	23,563	622,924	606,884	1,253,371
2000	24,149	709,347	606,425	1,339,921
2001	40,234	813,838	609,525	1,463,597
2002	28,670	654,580	607,879	1,291,129
2003	25,005	625,097	609,495	1,259,597
2004	26,409	650,021	611,273	1,287,703
2005	27,560	668,533	613,196	1,309,289
2006	28,255	674,335	615,244	1,317,834
2007	27,455	672,804	617,112	1,317,371
2008	28,118	689,057	619,025	1,336,200
2009	28,797	705,702	620,985	1,355,484
2010	29,493	722,750	622,992	1,375,235
2011	30,205	740,209	625,047	1,395,461
2012	30,935	758,089	627,152	1,416,176
2013	31,682	776,403	629,308	1,437,393
2014	32,447	795,158	631,516	1,459,121
2015	33,231	814,366	633,778	1,481,375
2016	34,034	834,039	636,094	1,504,167
2017	34,856	854,186	638,466	1,527,508
2018	35,698	874,820	640,895	1,551,413
2019	36,560	895,953	643,383	1,575,896
2020	37,444	917,596	645,931	1,600,971
2021	38,348	939,762	648,541	1,626,651
2022	39,285	962,464	651,213	1,652,962
2023	40,223	985,714	653,950	1,679,887
2024	41,195	1,009,525	656,754	1,707,474

Table 4.4-1
Projected Non-Building-Related Construction, Demolition and Renovation Debris in New York City, 2000-2024

Year	Value of Non-Building-Related Construction (000s of 1996 $)	Non-Building-Related C&D Debris[1] (1.96 * Value) (Tons)	Non-Building-Related C&D Debris (2.97 * Value) (Tons)
2000	$2,535,203	4,450,000	NA
2001	$2,079,637	4,651,000	NA
2002	$3,236,764	6,066,000	NA
2003	$2,306,670	NA	6,852,000
2004	$2,143,400	4,201,000	6,366,000
2005	$2,177,569	4,268,000	6,467,000
2006	$2,281,721	4,472,000	6,777,000
2007	$2,340,870	4,588,000	6,952,000
2008	$2,455,527	4,813,000	7,293,000
2009	$2,486,428	4,873,000	7,385,000
2010	$2,515,918	4,931,000	7,472,000
2011	$2,544,135	4,987,000	7,556,000
2012	$2,571,197	5,040,000	7,636,000
2013	$2,597,205	5,091,000	7,714,000
2014	$2,622,248	5,140,000	7,788,000
2015	$2,646,404	5,187,000	7,860,000
2016	$2,669,739	5,233,000	7,929,000
2017	$2,692,316	5,277,000	7,996,000
2018	$2,714,186	5,320,000	8,061,000
2019	$2,735,399	5,361,000	8,124,000
2020	$2,755,997	5,402,000	8,185,000
2021	$2,776,019	5,441,000	8,245,000
2022	$2,795,500	5,479,000	8,303,000
2023	$2,814,473	5,516,000	8,359,000
2024	$2,832,965	5,553,000	8,414,000

Notes:

[1] Utilized actual tons of non-building-related debris per $1,000 of expenditure for the years 2000 to 2002, from Volume II, Appendix E, Table 6.1.1-1.

The average value for the years 2000 to 2002 of the tons of non-building-related debris per $1,000 expended was approximately 1.96 tons. For the year 2003, the rate dramatically increases to 2.97 tons per $1,000 expended. The quantity of non-building-related C&D tons rises from 4,450,000 in 2000 to an estimated 6,852,000 tons in 2003. Both the lower and upper ranges, using the 1.96 and 2.97 factors, are utilized to project quantities of non-building-related C&D through the New SWMP Planning Period. By 2024, the quantity is expected to range from approximately 5.6 to 8.4 million tons.

Table 4.4-1 presents the dollar value of non-building-related construction, demolition and renovation in the City from 2000 to 2024. This table also contains the estimated range of tons of non-building-related C&D debris, which will be generated as a result of the predicted level of economic activity.

4.5 Total Estimated C&D Commercial Waste

Tables 4.5-1 and 4.5-2 disaggregate the total estimate for C&D debris into the fill material and non-putrescible categories used by the City in regulating its Transfer Stations, on a tons per year basis. In these tables, fill is shown as ranging from 60% to 70% of the total C&D, with the remainder allocated to the non-putrescible category. These tables utilize the 2003 baseline quantity of C&D material, and utilize the previously described methodology to project these quantities for the New SWMP Planning Period.

Non-putrescible material can be expected to range from 2.4 to 3.2 million tons utilizing the average data from 2000 to 2002, while fill material would range from 4.8 million to 5.6 million tons. By utilizing the higher factor of 2003, non-putrescible materials would range from 3.3 to 4.3 million tons, while fill material would range from 6.5 to 7.6 million tons in the year 2024. These percentages are likely to vary seasonally and annually, due to the highly variable nature of non-putrescible materials.

Table 4.5-1
Range of Quantities of Non-Putrescible and Fill Material, 2004-2024
(based upon average data for 2000-2002, in tons per year)

Year	Average (2000-2002) Estimate (Using 1.96)			
	Non-Putrescible		Fill	
	30%	40%	60%	70%
2004	1,728,000	2,304,000	3,455,000	4,031,000
2005	1,845,000	2,460,000	3,691,000	4,306,000
2006	1,907,000	2,542,000	3,813,000	4,449,000
2007	1,939,000	2,585,000	3,878,000	4,525,000
2008	2,015,000	2,687,000	4,031,000	4,702,000
2009	2,042,000	2,723,000	4,085,000	4,766,000
2010	2,069,000	2,759,000	4,138,000	4,827,000
2011	2,095,000	2,793,000	4,189,000	4,888,000
2012	2,120,000	2,827,000	4,240,000	4,947,000
2013	2,145,000	2,860,000	4,289,000	5,004,000
2014	2,169,000	2,892,000	4,338,000	5,061,000
2015	2,193,000	2,924,000	4,386,000	5,117,000
2016	2,217,000	2,956,000	4,434,000	5,173,000
2017	2,240,000	2,987,000	4,481,000	5,227,000
2018	2,264,000	3,018,000	4,527,000	5,282,000
2019	2,287,000	3,049,000	4,573,000	5,335,000
2020	2,310,000	3,079,000	4,619,000	5,389,000
2021	2,332,000	3,110,000	4,665,000	5,442,000
2022	2,355,000	3,140,000	4,710,000	5,495,000
2023	2,378,000	3,170,000	4,755,000	5,548,000
2024	2,400,000	3,200,000	4,800,000	5,601,000

Table 4.5-2
Range of Quantities of Non-Putrescible and Fill Material, 2004-2024
(based upon 2003 data, in tons per year)

Year	Upper Estimate (Using 2.97)			
	Non-Putrescible		Fill	
	30%	40%	60%	70%
2004	2,377,000	3,169,000	4,754,000	5,547,000
2005	2,505,000	3,340,000	5,010,000	5,845,000
2006	2,598,000	3,464,000	5,196,000	6,062,000
2007	2,648,000	3,531,000	5,297,000	6,180,000
2008	2,759,000	3,679,000	5,519,000	6,439,000
2009	2,796,000	3,728,000	5,592,000	6,524,000
2010	2,831,000	3,775,000	5,662,000	6,606,000
2011	2,866,000	3,821,000	5,731,000	6,686,000
2012	2,899,000	3,865,000	5,798,000	6,764,000
2013	2,932,000	3,909,000	5,863,000	6,841,000
2014	2,964,000	3,952,000	5,927,000	6,915,000
2015	2,995,000	3,993,000	5,990,000	6,988,000
2016	3,026,000	4,034,000	6,052,000	7,060,000
2017	3,056,000	4,075,000	6,112,000	7,131,000
2018	3,086,000	4,115,000	6,172,000	7,201,000
2019	3,115,000	4,154,000	6,231,000	7,269,000
2020	3,145,000	4,193,000	6,289,000	7,337,000
2021	3,173,000	4,231,000	6,347,000	7,405,000
2022	3,202,000	4,269,000	6,404,000	7,471,000
2023	3,230,000	4,307,000	6,461,000	7,538,000
2024	3,259,000	4,345,000	6,517,000	7,603,000

Attachment 1

Reconciliation Backup Details

Reconciliation Back-up Details: Direct In-City Disposal 2000 [1]							
Facility Name	County	State	Annual Tonnage	Tons per Day	Carter License	Material	Reason for Omitting
Non-Putrescible Omitted							
CHAMBERS PAPER FIBRES CORP	BROOKLYN	NY	12,000	38	Carter: Putr.	N-Purtescible	paper
CHAMBERS PAPER FIBRES CORP	BROOKLYN	NY	12,000	38	Carter: Putr.	N-Purtescible	paper
CHAMBERS PAPER FIBRES CORP	BROOKLYN	NY	3,600	12	Carter: Putr.	N-Purtescible	paper
CHAMBERS PAPER FIBRES CORP	BROOKLYN	NY	100	0	Carter: Putr.	N-Purtescible	paper
SPRINT RECYCLING INC	NEW YORK	NY	1,482	5	Carter: Putr.	Mixed Paper	paper
SPRINT RECYCLING INC	NEW YORK	NY	4,943	16	Carter: Putr.	Mixed Paper	paper
SPRINT RECYCLING INC	NEW YORK	NY	2,466	8	Carter: Putr.	C & D	paper
BAVARO CARTING CORP	BROOKLYN	NY	501	2	Carter: Putr.	Corrugated Cardboard	recyclables
D&D CARTING CO	BROOKLYN	NY	208	1	Carter: Putr.	Corrugated Cardboard	recyclables
D&D CARTING CO	BROOKLYN	NY	599	2	Carter: Putr.	Mixed Paper	recyclables
D&D CARTING CO	BROOKLYN	NY	728	2	Carter: Putr.	Corrugated Cardboard	recyclables
DECOSTELLO CARTING	BROOKLYN	NY	520	2	Carter: Putr.	Mixed Paper	recyclables
DECOSTELLO CARTING	BROOKLYN	NY	520	2	Carter: Putr.	Mixed Paper	recyclables
FRANK LOMANGINO & SONS	NASSAU	NY	1,703	5	Carter: Putr.	Corrugated Cardboard	recyclables
J RUTICLIANO WASTE REMOVAL	NASSAU	NY	2,250	7	Carter: Putr.	Mixed Paper	recyclables
J RUTICLIANO WASTE REMOVAL	NASSAU	NY	1,550	5	Carter: Putr.	Corrugated Cardboard	recyclables
ATLAS SANITATION CO INC	QUEENS	NY	500	2	Carter: Putr.	Mixed Paper	recyclables
ATLAS SANITATION CO INC	QUEENS	NY	1,500	5	Carter: Putr.	Mixed Paper	recyclables
UNITED SANITATION INC	QUEENS	NY	11	0	Carter: Putr.	Corrugated Cardboard	recyclables
STAR RUBBISH REMOVAL	STATEN ISLAND	NY	1,560	5	Carter: Putr.	Corrugated Cardboard	recyclables
DYNAMIC RUBBISH REMOVAL	SUFFOLK	NY	1,463	5	Carter: Putr.	Mixed Recyclables	recyclables
TIA OF NEW YORK	SUFFOLK	NY	900	3	Carter: Putr.	Corrugated Cardboard	recyclables
TIA OF NEW YORK	SUFFOLK	NY	400	1	Carter: Putr.	Corrugated Cardboard	recyclables
CHINATOWN CARTING CORP	WESTCHESTER	NY	3,060	10	Carter: Putr.	Corrugated Cardboard	recyclables
Non-Putrescible Omitted:			54,564	175			
Putrescible Omitted							
RAGS CONTRACTING CORP	NASSAU	NY	65	0	Carter: Putr.	Putrescible MSW	C&D
ALLSTATE POWER VAC INC	UNION	NJ	7,210	23	Carter: Putr.	LIQUID/PUTRESCIBLE	Env. Remediation
ALLSTATE POWER VAC INC	UNION	NJ	518	2	Carter: Putr.	LIQUID/PUTRESCIBLE	Env. Remediation
ANTONIO ROTONDI LANDSCAPING	BROOKLYN	NY	11	0	Self Haulers: Putr.	Putrescible MSW	Greenwaste
ANTONIO ROTONDI LANDSCAPING	BROOKLYN	NY	34	0	Self Haulers: Putr.	Putrescible MSW	Greenwaste
GIUSEPPE COMMISSO GARDENER LANDSCAP	BROOKLYN	NY	336	1	Self Haulers: Putr.	Putrescible MSW	Greenwaste
THE GREENWOOD CEMETERY CORP.	BROOKLYN	NY	963	3	Self Haulers: Putr.	Putrescible MSW	Greenwaste
B & P SERVICES OF STATEN ISLAND INC	MONMOUTH	NJ	20	0	Self Haulers: Putr.	Putrescible MSW	Greenwaste
B & P SERVICES OF STATEN ISLAND INC	MONMOUTH	NJ	5	0	Self Haulers: Putr.	Grass, Landscape Material	Greenwaste
PRIME LANDSCAPE SERVICES	STATEN ISLAND	NY	400	1	Self Haulers: Putr.	Putrescible MSW	Greenwaste
PRIME LANDSCAPE SERVICES	STATEN ISLAND	NY	19	0	Self Haulers: Putr.	Putrescible MSW	Greenwaste
LA ROSA DOMINGO	QUEENS	NY	5	0	Carter: Putr.	LIQUID/PUTRESCIBLE	liquid
MC LAUGLIN & TERRI HARRIS	QUEENS	NY	234	1	Self Haulers: Putr.	Putrescible MSW	liquid
FILCO CARTING CORP.(ALSO CF WASTE PAPER CO.)	BROOKLYN	NY	48,027	154	Carter: Putr.	Putrescible MSW	paper
FILCO CARTING CORP.(ALSO CF WASTE PAPER CO.)	BROOKLYN	NY	86,449	277	Carter: Putr.	Putrescible MSW	paper
OUTSTANDING RENEWAL ENTERPRISES	NEW YORK	NY	130	0	Transfer Station: Putr.	Putrescible MSW	self haul
Putrescible Omitted:			144,426	463			
Putrescible Retained							
ARGENTO RUBBISH REMOVAL INC	BRONX	NY	512	2	Carter: Putr.	Putrescible MSW	
LA ROSA DOMINGO	QUEENS	NY	26	0	Carter: Putr.	Putrescible MSW	
UNITED SANITATION INC	QUEENS	NY	27	0	Carter: Putr.	Putrescible MSW	
SCOCOZZO CARTING CORP	STATEN ISLAND	NY	600	2	Carter: Putr.	Mixed Recyclables	
DYNAMIC RUBBISH REMOVAL	SUFFOLK	NY	736	2	Carter: Putr.	Putrescible MSW	
Putrescible Retained:			1,901	6			
TOTAL Direct In-City Disposal			200,891	644			

(1) Data extracted from 2000 Survey Forms

Reconciliation Back-up Details: Direct Export [1]							
Facility Name	County	State	Annual Tonnage	Tons per Day	Carter License	Material	Reason for Omitting
Non-Putrescible Omitted							
JEM SANITATION CORP	BERGEN	NJ	960	3	Carter: Putr.	C & D	C&D
ACTION CARTING ENV SERVICES	ESSEX	NJ	158	1	Carter: Putr.	C & D	C&D
ACTION CARTING ENV SERVICES	ESSEX	NJ	1,280	4	Carter: Putr.	C & D	C&D
OMNI WASTE SERVICES INC	PASSAIC	NJ	2,408	8	Carter: Putr.	C & D	C&D
MAC HEALTH CARE SERVICES	UNION	NJ	213	1	Carter: Putr.	C & D	C&D
ALLSTATE POWER VAC INC	UNION	NJ	1,227	4	Carter: Putr.	Soil	env. Remediation
P.J.C. SANITATION SERVICE INC.	BROOKLYN	NY	720	2	Carter: Putr.	C & D	C&D
SPRINT RECYCLING INC	NEW YORK	NY	44,231	142	Carter: Putr.	Mixed Paper	recyclables
JEM SANITATION CORP	BERGEN	NJ	7,000	22	Carter: Putr.	Corrugated Cardboard	recyclables
JEM SANITATION CORP	BERGEN	NJ	18,000	58	Carter: Putr.	Mixed Recyclables	recyclables
JEM SANITATION CORP	BERGEN	NJ	2,000	6	Carter: Putr.	Mixed Recyclables	recyclables
JEM SANITATION CORP	BERGEN	NJ	2,000	6	Carter: Putr.	Corrugated Cardboard	recyclables
GOTHAM RECYCLING RESOURCES	ESSEX	NJ	7,242	23	Carter: Putr.	Mixed Paper	recyclables
M&M SANITATION CORP (POSSIBLY KNOWN	HUDSON	NJ	3,484	11	Carter: Putr.	Corrugated Cardboard	recyclables
RUSSELL REID WASTE HAULING AND DISP	MIDDLESEX	NJ	5	0	Carter: Putr.	Mixed Paper	recyclables
J RUTICLIANO WASTE REMOVAL	NASSAU	NY	900	3	Carter: Putr.	Corrugated Cardboard	recyclables
J RUTICLIANO WASTE REMOVAL	NASSAU	NY	2,700	9	Carter: Putr.	Mixed Paper	recyclables
MIDLAND CARTING CORP	NASSAU	NY	513	2	Carter: Putr.	Corrugated Cardboard	recyclables
Non-Putrescible Omitted			95,040	305			
Putrescible Omitted							
THE SALVATION ARMY	NEW YORK	NY	1,092	4	Self Haulers: Putr.	Putrescible MSW	self haul
ALLSTATE POWER VAC INC	UNION	NJ	16	0	Carter: Putr.	Putrescible MSW	env. Remediation
ALLSTATE POWER VAC INC	UNION	NJ	125	0	Carter: Putr.	LIQUID/PUTRESCIBLE	env. Remediation
ALLSTATE POWER VAC INC	UNION	NJ	1,174	4	Carter: Putr.	LIQUID/PUTRESCIBLE	env. Remediation
ALLSTATE POWER VAC INC	UNION	NJ	959	3	Carter: Putr.	LIQUID/PUTRESCIBLE	env. Remediation
ALLSTATE POWER VAC INC	UNION	NJ	669	2	Carter: Putr.	LIQUID/PUTRESCIBLE	env. Remediation
ALLSTATE POWER VAC INC	UNION	NJ	815	3	Carter: Putr.	LIQUID/PUTRESCIBLE	env. Remediation
ALLSTATE POWER VAC INC	UNION	NJ	1,416	5	Carter: Putr.	LIQUID/PUTRESCIBLE	env. Remediation
ALLSTATE POWER VAC INC	UNION	NJ	62	0	Carter: Putr.	LIQUID/PUTRESCIBLE	env. Remediation
RUSSELL REID WASTE HAULING AND DISP	MIDDLESEX	NJ	269	1	Carter: Putr.	LIQUID/PUTRESCIBLE	liquid
Putrescible Omitted:			6,597	21			
Putrescible Retained							
FALLETTA CARTING CORP	BROOKLYN	NY	1,052	3	Carter: Putr.	Putrescible MSW	
IDEAL SANITATION SERVICE	BERGEN	NJ	3,796	12	Carter: Putr.	Putrescible MSW	
JEM SANITATION CORP	BERGEN	NJ	13,730	44	Carter: Putr.	Putrescible MSW	
JOHN PASQUALE, INC.	BERGEN	NJ	1,352	4	Carter: Putr.	Putrescible MSW	
ACTION CARTING ENV SERVICES	ESSEX	NJ	3,709	12	Carter: Putr.	Putrescible MSW	
SPRINT RECYCLING INC	NEW YORK	NY	368	1	Carter: Putr.	Putrescible MSW	
CLASSIC RECYCLING NEW YORK, INC.	PASSAIC	NJ	6,871	22	Carter: Putr.	Putrescible MSW	
CLASSIC SANITATION CO., LTD.	PASSAIC	NJ	448	1	Carter: Putr.	Putrescible MSW	
OMNI WASTE SERVICES INC	PASSAIC	NJ	350	1	Carter: Putr.	Putrescible MSW	
CAPITOL CARTING CORP	QUEENS	NY	866	3	Carter: Putr.	Putrescible MSW	
MAC HEALTH CARE SERVICES	UNION	NJ	1,872	6	Carter: Putr.	Putrescible MSW	
FALLETTA CARTING CORP	BROOKLYN	NY	3,524	11	Carter: Putr.	Putrescible MSW	
RAGS CONTRACTING CORP	NASSAU	NY	501	2	Carter: Putr.	Putrescible MSW	
KEY CONTAINER SERVICE	QUEENS	NY	8,428	27	Carter: Putr.	Putrescible MSW	
CHAMBERS PAPER FIBRES CORP	BROOKLYN	NY	1,080	3	Carter: Putr.	Putrescible MSW	
CITY WASTE SERVICES OF NY	BRONX	NY	3,000	10	Carter: Putr.	Putrescible MSW	
GOTHAM RECYCLING RESOURCES	ESSEX	NJ	6,958	22	Carter: Putr.	Putrescible MSW	
BASIN HAULAGE INC	QUEENS	NY	10	0	Carter: Putr.	Putrescible MSW	
ROYAL WASTE SERVICES	QUEENS	NY	695	2	Carter: Putr.	Putrescible MSW	
Putrescible Retained:			58,611	188			
TOTAL DIRECT EXPORT			160,248	514			

(1) Data extracted from 2000 Survey Forms

Reconciliation Back-up Details: Excess [1]

Facility Name	County	State	Annual Tonnage	Tons per Day	Carter License	Material	Reason for Omitting
Non-Putrescible Omitted							
JEM SANITATION CORP	BERGEN	NJ	210	1	Carter: Putr.	C & D	C&D
LEO P IPPOLITO INC.	BERGEN	NJ	34	0	Carter: Putr.	C & D	C&D
LEO P IPPOLITO INC.	BERGEN	NJ	1,659	5	Carter: Putr.	C & D	C&D
J.F. DUFFY RUBBISH REMOVAL	BRONX	NY	596	2	Carter: Putr.	Wood, Wood Chips, Mulch	C&D
MID BRONX HAULAGE	BRONX	NY	10,469	34	Carter: Putr.	N-Purtescible	C&D
SANITATION SALVAGE CORP	BRONX	NY	520	2	Carter: Putr.	N-Purtescible	C&D
CANAL CARTING INC	BROOKLYN	NY	6,000	19	Carter: Putr.	N-Purtescible	C&D
CONSUMERS RUBBISH REMOVAL INC.	BROOKLYN	NY	83	0	Carter: Putr.	C & D	C&D
H ANDREANA CARTING	BROOKLYN	NY	1,760	6	Carter: Putr.	N-Purtescible	C&D
MULTI CARTING INC	BROOKLYN	NY	234	1	Carter: Putr.	N-Purtescible	C&D
MULTI CARTING INC	BROOKLYN	NY	234	1	Carter: Putr.	N-Purtescible	C&D
P.J.C. SANITATION SERVICE INC.	BROOKLYN	NY	2,100	7	Carter: Putr.	C & D	C&D
WATCHTOWER BIBLE & TRACT SOCIETY OF	BROOKLYN	NY	925	3	Self Haulers: Putr.	N-Purtescible	C&D
M&M SANITATION CORP (POSSIBLY KNOWN	HUDSON	NJ	3,873	12	Carter: Putr.	C & D	C&D
B & P SERVICES OF STATEN ISLAND INC	MONMOUTH	NJ	12	0	Self Haulers: Putr.	Fill	C&D
AJI INDUSTRIES	NASSAU	NY	34,335	110	Carter: Putr.	N-Purtescible	C&D
GREGOR CARTING CORP	NASSAU	NY	592	2	Carter: Putr.	N-Purtescible	C&D
GREGOR CARTING CORP	NASSAU	NY	811	3	Carter: Putr.	Wood, Wood Chips, Mulch	C&D
GREGOR CARTING CORP	NASSAU	NY	175	1	Carter: Putr.	Wood, Wood Chips, Mulch	C&D
GREGOR CARTING CORP	NASSAU	NY	1,059	3	Carter: Putr.	Wood, Wood Chips, Mulch	C&D
OMNI WASTE SERVICES INC	PASSAIC	NJ	394	1	Carter: Putr.	C & D	C&D
OMNI WASTE SERVICES INC	PASSAIC	NJ	847	3	Carter: Putr.	C & D	C&D
ATLAS SANITATION CO INC	QUEENS	NY	10,829	35	Carter: Putr.	C & D	C&D
BASIN HAULAGE INC	QUEENS	NY	3,967	13	Carter: Putr.	N-Purtescible	C&D
BESTWAY CARTING	QUEENS	NY	1,711	5	Carter: Putr.	N-Purtescible	C&D
BESTWAY CARTING	QUEENS	NY	6,902	22	Carter: Putr.	N-Purtescible	C&D
FOREST HILLS CONTAINER SERVICE	QUEENS	NY	691	2	Carter: Putr.	N-Purtescible	C&D
UNITED SANITATION INC	QUEENS	NY	185	1	Carter: Putr.	C & D	C&D
PARK RUBBISH REMOVAL	SUFFOLK	NY	110	0	Carter: Putr.	C & D	C&D
PARK RUBBISH REMOVAL	SUFFOLK	NY	945	3	Carter: Putr.	C & D	C&D
TIA OF NEW YORK	SUFFOLK	NY	200	1	Carter: Putr.	Concrete	C&D
A & D CARTING CORP.	WESTCHESTER	NY	480	2	Carter: Putr.	C & D	C&D
J RUTICLIANO WASTE REMOVAL	NASSAU	NY	625	2	Carter: Putr.	Mixed Paper	recyclable
UNITED SANITATION INC	QUEENS	NY	246	1	Carter: Putr.	Corrugated Cardboard	recyclable
DYNAMIC RUBBISH REMOVAL	SUFFOLK	NY	58	0	Carter: Putr.	Mixed Recyclables	recyclable
DYNAMIC RUBBISH REMOVAL	SUFFOLK	NY	523	2	Carter: Putr.	Mixed Recyclables	recyclable
TIA OF NEW YORK	SUFFOLK	NY	1,012	3	Carter: Putr.	Corrugated Cardboard	recyclable
Non-Putrescible Omitted:			95,405	306			
Putrescible Omitted							
GREGOR CARTING CORP	NASSAU	NY	3,479	11	Carter: Putr.	Putrescible MSW	C&D
CHELSEA GARDEN CENTER, INC.	NEW YORK	NY	30	0	Self Haulers: Putr.	Grass, Landscape Material	Greenwaste
FILCO CARTING CORP.(ALSO CF WASTE PAPER CO.)	BROOKLYN	NY	37,211	119	Carter: Putr.	Putrescible MSW	misclassified
NECESSARY OBJECTS LTD	NEW YORK	NY	130	0	Self Haulers: Putr.	Putrescible MSW	self haul
TRUSTEES OF ST. PATRICK'S CATHEDRAL	NEW YORK	NY	20	0	Self Haulers: Putr.	Putrescible MSW	self haul
Putrescible Omitted			40,869	131			
Putresible Retained							
HERITAGE CARTING CORP	BRONX	NY	259	1	Carter: Putr.	Putrescible MSW	
BAVARO CARTING CORP	BROOKLYN	NY	198	1	Carter: Putr.	Putrescible MSW	
CONSUMERS RUBBISH REMOVAL INC.	BROOKLYN	NY	564	2	Carter: Putr.	Putrescible MSW	
CONSUMERS RUBBISH REMOVAL INC.	BROOKLYN	NY	124	0	Carter: Putr.	Putrescible MSW	
AJI INDUSTRIES	NASSAU	NY	7,728	25	Carter: Putr.	Putrescible MSW	
CROWN WASTE CORP.	NASSAU	NY	1,370	4	Carter: Putr.	Putrescible MSW	
FRANK LOMANGINO & SONS	NASSAU	NY	4,745	15	Carter: Putr.	Putrescible MSW	
JOE MOREA & SONS PRIVATE SANITATION	NASSAU	NY	5,400	17	Carter: Putr.	Putrescible MSW	
JOE MOREA & SONS PRIVATE SANITATION	NASSAU	NY	600	2	Carter: Putr.	Putrescible MSW	
CINELLI CARTING	QUEENS	NY	3,933	13	Carter: Putr.	Putrescible MSW	
HILLSIDE CARTING CO INC	QUEENS	NY	1,277	4	Carter: Putr.	Putrescible MSW	
UNITED SANITATION INC	QUEENS	NY	3,996	13	Carter: Putr.	Putrescible MSW	
UNITED SANITATION INC	QUEENS	NY	291	1	Carter: Putr.	Putrescible MSW	
STAR RUBBISH REMOVAL	STATEN ISLAND	NY	5,200	17	Carter: Putr.	Putrescible MSW	
DYNAMIC RUBBISH REMOVAL	SUFFOLK	NY	568	2	Carter: Putr.	Putrescible MSW	
DYNAMIC RUBBISH REMOVAL	SUFFOLK	NY	1,878	6	Carter: Putr.	Putrescible MSW	
DYNAMIC RUBBISH REMOVAL	SUFFOLK	NY	99	0	Carter: Putr.	Putrescible MSW	
PARK RUBBISH REMOVAL	SUFFOLK	NY	1,265	4	Carter: Putr.	Putrescible MSW	
PARK RUBBISH REMOVAL	SUFFOLK	NY	2,162	7	Carter: Putr.	Putrescible MSW	
TIA OF NEW YORK	SUFFOLK	NY	1,800	6	Carter: Putr.	Putrescible MSW	
Putresible Retained			43,457	139			
TOTAL EXCESS			179,732	576			

(1) Data extracted from 2000 Survey Forms

APPENDIX A

FACILITIES ESTIMATE OF PUTRESCIBLE WASTE GENERATION YEAR 2002

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1.0 INTRODUCTION

Three different methodologies were used to quantify the putrescible[1] portion of commercial waste generated in New York City (City), inclusive of the total amounts disposed and recycled. One method, reported here and called the **Facilities Estimate,** determined the number of tons processed or received for disposal at Transfer Stations located within the City or directly hauled in collection vehicles to transfer stations, landfills, waste-to-energy (WTE) facilities or materials recycling facilities (MRFs) outside the City.

This estimate will be compared to the other methodologies: (1) the **Employment Estimate**, obtained by multiplying employee waste generation rates by the number of individuals employed within the City; and (2) the Business Integrity Commission-City Department of Sanitation (**BIC-DSNY) Estimate**, which surveyed City private carters in order to estimate the quantities of putrescible waste and recyclables collected from commercial establishments in the City. The data reported in the Facilities Estimate is for calendar year 2002.

These efforts build upon and refine the Comprehensive Commercial Waste Management Study, Preliminary Report (Preliminary Report). The Preliminary Report, released by the City Department of Sanitation (DSNY) in 2002, provides data on commercial waste generated by businesses in the City in 2000. It relied on DSNY's Quarterly Transfer Station Report system (Quarterly Reports) and interviews with carters operating in the City as primary data sources. It did not attempt to determine the total quantity of recyclables generated by City business establishments, nor did it obtain extensive information about disposal of wastes via direct haul in collection vehicles to out-of-City disposal facilities.

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[1] The term "putrescible solid waste" shall mean solid waste containing organic matter having the tendency to decompose with the formation of malodorous by-products. (Administrative Code of New York City, Title 16, Chapter 1, Section 130).

The Facilities Estimate also relies upon DSNY's Quarterly Reports for data on waste tipped at in-City Transfer Stations in 2002. The Quarterly Reports are complemented with additional data on direct out-of-City disposal of the City's commercial waste and recyclables and on recyclable processing within City boundaries. The Facilities Estimate was developed by contacting major in-City recycling facilities and waste transfer, disposal and processing facilities located outside of the City to determine if they were receiving commercial waste from the City.

2.0 METHODOLOGY

2.1 Travel Times to Out-of-City Facilities

The initial step in developing the Facilities Estimate was to identify a list of potential out-of-City sites that may be handling or processing commercial waste that is hauled directly from the City. Similarly, a list of facilities handling recyclables both within and outside the City had to be created.

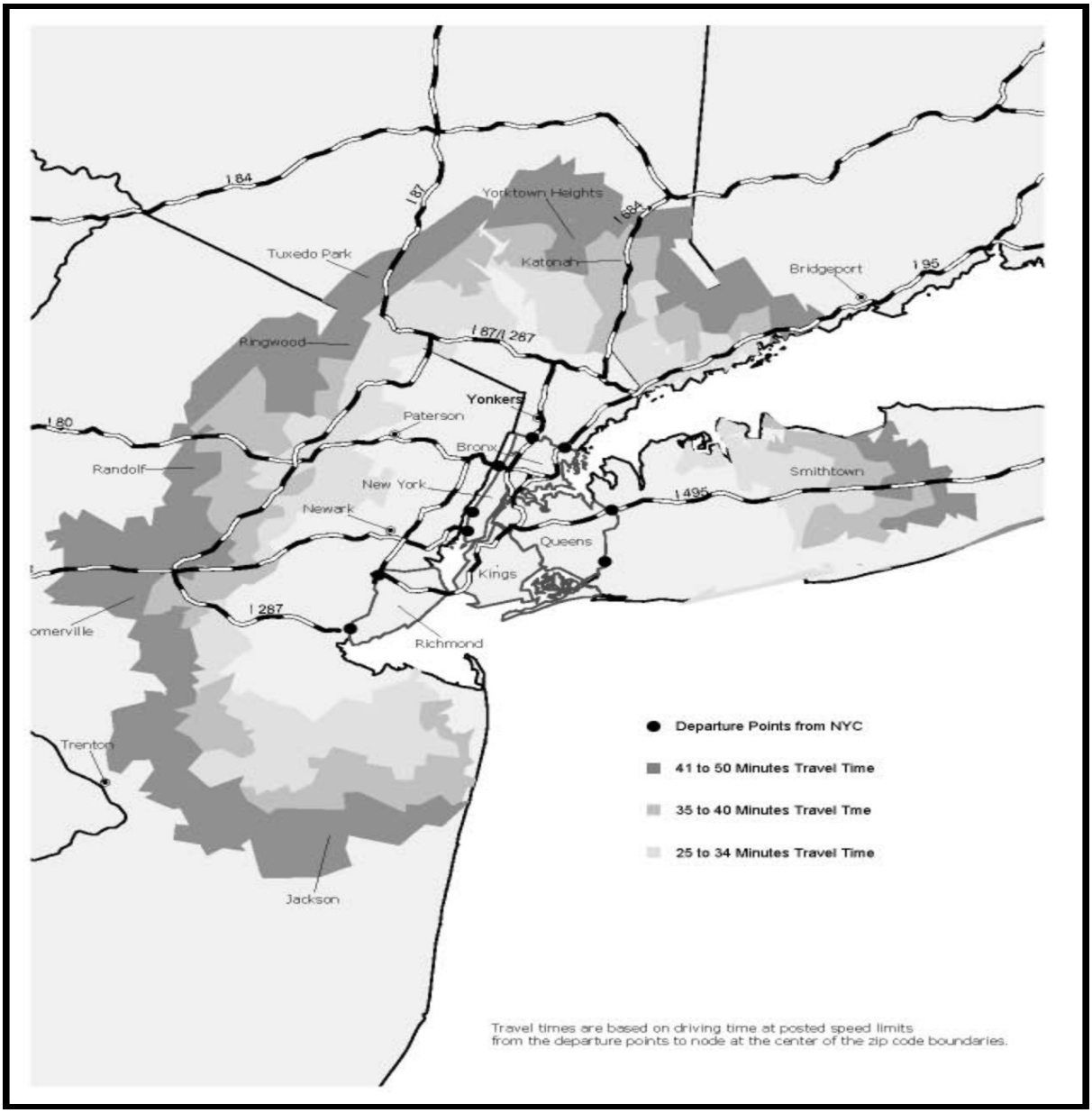
The economics of carting waste and recyclables picked up by collection vehicles directly to out-of-City facilities limits deliveries to facilities located nearby, in surrounding counties and states. Thus, the first step was to create a map with vehicle travel times and mileages radiating out from the City. Localities within a 50-minute travel time were included and those facilities located within this travel time boundary were contacted. In addition, if state documents or interviews with haulers indicated that City commercial waste was hauled directly beyond the 50-minute travel threshold, those destinations were contacted.

Figure 2.1-1 is a map depicting communities that are within several travel-time isopleths out to the 50-minute travel time limit. In New York State, facilities in Nassau, Suffolk and Westchester Counties are within this limit and were contacted. In New Jersey, sites in Bergen, Essex, Hudson, Middlesex, Passaic and Union Counties were queried, and in Connecticut, those in Fairfield County were contacted.

2.2 New York State Solid Waste and Recycling Facilities –Outside New York City

Lists of licensed transfer stations and WTE facilities outside the City were obtained from state agencies, including the New York State Legislative Commission on Solid Waste Management and the New York State Department of Environmental Conservation (NYSDEC). In addition, a partial list of construction and demolition (C&D) recyclers and recycling facilities was developed for NYSDEC Regions 1 and 3 from the same data source.

Figure 2.1-1
Travel Times from New York City Borders Map



Attempts were made to obtain information from state permitting agencies about the origins of waste coming into various facilities. However, these were unsuccessful because the state of New York was unwilling to release this information by facility, and an attempt to obtain the data by filing a Freedom of Information Act request failed. The state declared that it was unable to produce a report with the requested specificity.

2.3 New York City Recycling Processing Facilities

Several data sources were used to develop a list of facilities located within the City. The surveys collected for the Preliminary Report were reviewed to obtain data on which carters had indicated they collected recyclables.

The Preliminary Report also included some data on recovery of recyclables at Transfer Stations regulated by DSNY. Major commercial waste haulers, such as Waste Management, Sprint Recycling, and Action Carting were contacted to determine where they took the recyclables that they collected. And, the Yellow Pages listings for each borough were searched under the category of "Recycling Centers" to identify a list of facilities that were processing commercial recyclables in 2002.

2.4 Connecticut Solid Waste and Recycling Facilities

The Connecticut Department of Environmental Protection (CDEP) provided a list of Connecticut facilities that might be receiving waste directly hauled from the City. Follow-up discussions with the CDEP and with private haulers handling the City's commercial waste determined that it was highly unlikely that in 2002 carters were hauling waste directly to most Connecticut facilities, due to the travel time involved. Thus, only the Connecticut facilities in Fairfield County were contacted.

2.5 New Jersey Solid Waste and Recycling Facilities

The New Jersey Department of Environmental Protection (NJDEP) compiles a list of solid waste facilities by type of waste received and city and county location, and also tracks the origin of incoming waste. The annual reports submitted to the NJDEP by licensed waste processing facilities were reviewed to identify facilities that received waste from New York State in 2002, and each of these facilities was called to determine if the City was the source of this waste.

In addition, data on the amount of DSNY-managed Waste sent to New Jersey facilities was obtained from DSNY and cross-checked against the NJDEP data. Total waste received from the City minus the DSNY-managed residential waste was computed as the quantity of commercial waste originating in the City.

The State of New Jersey also compiles lists of MRFs, by county. However, these facilities are not required to record the state of origin of materials received. Thus, data on recycling facilities were obtained through telephone interviews.

In addition, the Yellow Pages of selected cities, including Jersey City, Newark, Clifton and Paterson were searched for recycling facilities; potential sites were added to the list. The carter data collected as part of the Preliminary Report were also reviewed to obtain the names of possible out-of-City facilities that received commercial recyclables for processing.

2.6 Survey Administration

The first step in administering the survey was to define the list of facilities to be contacted. The list included all the facilities receiving putrescible wastes in New Jersey, New York State, and Fairfield County, Connecticut.

In addition, all recycling facilities likely to be utilized by companies collecting recyclables in the City were compiled into the recycling list. These facilities were classified into categories of processors or end users. As paper in particular is often transported long distances for sale and processing, one member of the DSNY Consultant team surveyed the fiber mills in the region.

After identification and categorization, each facility was surveyed by telephone. The facilities were assured that the data would be reported only in the aggregate, and that the levels of activity of individual facilities would not be revealed. The survey instrument is Attachment 1 to this Appendix, and the list of facilities that were contacted is included in Attachment 2.

The total number of solid waste facilities by state, county and type that were contacted is shown in Table 2.6-1. A similar distribution for recycling facilities is shown in Table 2.6-2. Thirty-one (31) facilities handling municipal solid waste (MSW) were contacted, of which 24 are located in New Jersey, two are located in New York State outside of the City, and five are in Pennsylvania. One-hundred-and-twenty (120) recycling facilities were contacted, of which 54 are located in New Jersey, 10 are located in New York State outside of the City, 45 are located within the City, and 11 are located in other states.

The focus of the survey was to determine the tonnage of putrescible waste originating in the City for each facility. Recyclables are categorized into fiber (including old corrugated cardboard [OCC], old newsprint [ONP], mixed office paper [MOP], and other paper); plastics; metal; wood; glass and other. All data were converted into annual tons.

Table 2.6-1
Solid Waste Facilities Contacted by County and Type

State	County	Number	Type of Facility		
			Transfer Stations	WTE Facilities	Landfill
New Jersey	Bergen	7	7	0	0
	Camden	1	0	1	0
	Essex	4	3	1	0
	Hudson	1	1	0	0
	Passaic	4	4	0	0
	Somerset	1	1	0	0
	Union	5	4	1	0
	Warren	1	0	1	0
	Subtotal	**24**	**20**	**4**	**0**
New York	Nassau	1	0	1	0
	Suffolk	1	0	1	0
	Subtotal	**2**	**0**	**2**	**0**
Pennsylvania	Bucks	2	0	0	2
	Delaware	1	0	1	0
	Montgomery	1	0	0	1
	York	1	0	0	1
	Subtotal	**5**	**0**	**1**	**4**
Grand Total		**31**	**20**	**7**	**4**

Table 2.6-2
Recycling Facilities Contacted by County and Type

State	County	Number
New Jersey	Atlantic	1
	Bergen	12
	Essex	18
	Hudson	15
	Middlesex	1
	Monmouth	1
	Passaic	5
	Union	1
	Subtotal	**54**
New York (out-of-City)	Albany	3
	Nassau	1
	Oswego	1
	Saratoga	1
	Schenectady	1
	Suffolk	1
	Washington	1
	Westchester	1
	Subtotal	**10**
New York City	Bronx	8
	Brooklyn (Kings)	19
	Manhattan (New York)	7
	Queens	10
	Staten Island (Richmond)	1
	Subtotal	**45**
Other States	Massachusetts	4
	Missouri	1
	Pennsylvania	5
	South Carolina	1
	Subtotal	**11**
Grand Total		**120**

3.0 ANALYSIS

3.1 Commercial Solid Waste Hauled to Facilities Outside New York City

In 2002, a total of 266,642 tons of the commercial waste generated in the City were hauled directly out of the City for disposal. Table 3.1-1 shows the destinations of commercial waste carted from the City in waste collection vehicles by tons, and, where known, borough of origin.

Table 3.1-1
Commercial Waste Carted Directly Out of City

State	Total Facilities Contacted	Number of Facilities Taking New York City Commercial Waste	Tons of Commercial Waste	Borough of Origin
New Jersey	24	10	264,242	Manhattan/Staten Island
New York (non-City)	2	1	1,200	Brooklyn/Queens
Pennsylvania	5	1	1,200	NA
Total	**31**	**12**	**266,642**	

Notes:
NA = Not Available

3.2 Commercial Solid Waste Tipped at Facilities within the City and Carted to Out-of-City Facilities

The major portion of commercial putrescible waste generated within the City is tipped at in-City Transfer Stations and then transferred by truck or rail to disposal facilities throughout the region. DSNY receives Quarterly Reports from operators of in-City Transfer Stations of the waste processed at these facilities. Table 3.2-1 shows the amount of commercial putrescible waste handled by these Transfer Stations in 2000, 2001 and 2002.

Table 3.2-1
Commercial Putrescible Waste Disposed
(tons)

Time Period	2000	2001	2002
First Quarter[1]	570,102	564,876	493,818
Second Quarter[1]	678,366	558,402	528,762
Third Quarter[1]	701,610	573,690	492,570
Fourth Quarter[1]	600,522	553,800	491,166
Out-of-City Facilities[2]	205,296	235,969	266,642
Annual Totals	**2,755,896**	**2,486,737**	**2,272,958**

Notes:
[1] Quarterly data are from the DSNY Bureau of Planning & Budget Quarterly Recap column entitled "Total NYC Commercial Waste Stream" for Putrescible Transfer Stations.
[2] Out-of-City facilities data for 2000 is from the Preliminary Report, Table 2. For 2002, it is from the Facilities Estimate described herein (see Table 3.3.4-1). The out-of-City data for 2001 is estimated as the average of the 2000 and 2002 figures.

The data in Table 3.2-1 show annual tons delivered to Transfer Stations within the City plus estimated waste carted in collection vehicles directly to out-of-City disposal facilities. No recyclables are included in these totals.

The source for the in-City tons transferred is DSNY's Quarterly Reporting system, which reports data in tons per day (tpd). The tpd data have been converted to annual tons by assuming that Transfer Stations operate 6 days per week, 52 weeks per year, or 78 days per quarter.

The year 2000 estimate of annual tons carted to out-of-City facilities is taken from the Preliminary Report. Year 2002 is the Facilities Estimate in which 31 out-of-City facilities were surveyed, as discussed above. The 2001 quantity is estimated as the average of the quantities for 2000 and 2002.

Table 3.2-1 shows that the disposed commercial putrescible waste has decreased by over 480,000 tons between 2000 and 2002. The magnitude of the decrease in the commercial waste stream – a 17.5% drop – is not fully explainable. Between 2000 and 2002, there undoubtedly has

been some reduction in commercial waste generation, attributable to the loss of jobs in that interval -- in part as a result of 9/11 and in part from the ongoing recession. Nevertheless, as there is not complete data on commercial recycling for either the year 2000 or the year 2001, it is impossible to reject the possibility that some of the decrease in commercial waste is attributable to an increase in recycling. What is certain is that the commercial waste disposed tonnage has decreased dramatically in this three-year period.

3.3 Commercial Recyclable Processing

3.3.1 Structure of Paper Recycling Industry

Because of the size of office sector employment in the City, paper comprises the major commodity recycled by commercial establishments in the City. In addition, most of the paper that is recovered is obtained from commercial sources. The principal grades are OCC and MOP, with some industrial scrap from printers and other businesses that convert paper into products.

The flow of paper takes one of two paths. One path involves private carters picking up paper at office buildings or other generators, then delivering these recyclables to a processing center or a recycling center where the material is sorted and baled. A second path involves paper dealers who have customers (generators) that contract separately for this service. The paper dealers' trucks (owned or hired) deliver the material to a packing plant where the paper is processed and baled. OCC is a predominant part of the business. Both the City and north New Jersey dealers receive paper in this way. In a survey of Manhattan and Brooklyn property managers, most large buildings were found to contract with the same firm for garbage collection and collection of recyclables; they typically receive a single monthly bill for both services.

There are independent brokers and dealer/brokers that buy paper for shipment to paper mills and/or exporters. There are also relationships between carters and dealers, dealers and paper mills, and independent dealers and recycling centers.

3.3.2 Commercial Recycling in the City

City regulations[2] require commercial establishments to recycle. Office buildings and institutions often separate fiber from their wet waste. Usually, a single hauler picks up both waste streams. In some cases additional materials, such as metals and containers, are separated by the hauler. In order to determine both the amount and location of commercial recyclable processing, facilities were contacted in the City, New York State, New Jersey and several other states. Table 3.3.2-1 provides estimates of the tonnages of commercial recyclables processed by the various facilities, broken down by type of material.

Table 3.3.2-1
Estimates of Commercial Recyclables

State	Number of Facilities		Tonnages Processed 2002 Annual Numbers						
	Called	Accepts Recyclables	OCC	MOP	ONP	Other Paper	Total Paper	Other(1)	Total
New Jersey	54	8	21,975	67,990	0	26,736	116,700	15,453	132,154
New York City	45	18	393,838	347,178	25,509	108,080	874,605	15,960	890,565
New York State	10	0	0	0	0	0	0	0	0
Other States	11	0	0	0	0	0	0	0	0
Total	**120**	**26**	**415,813**	**415,168**	**25,509**	**134,816**	**991,306**	**31,413**	**1,022,719**

Note:
(1) Other = 28,000 tons of glass deposit containers, 2,453 tons of mixed containers, and 960 tons of shrink-wrap.

Table 3.3.2-1 shows that most recycling by commercial establishments in the City is paper. This is expected, as large office buildings may recycle 70% of their waste stream. Typically, the papers are mixed, with only putrescible disposed separately. The mixed papers are collected at

[2] Local Law 87, 1992; Administrative Code Title 16, 16-306(a),(b).

night and taken to Transfer Stations or MRFs in the metropolitan area. Of the 26 facilities contacted who process recyclables from the City, about half indicated that they shipped the paper abroad, usually to Asia, for sorting into as many as 18 grades of paper.

3.3.3 Trends in Commercial Recycling

Because of the lack of complete commercial recycling data for the year 2000, it is not possible to determine definitively whether recycling has increased from 2000 to 2002 as disposed commercial waste has declined, or whether the opposite has occurred. However, it is possible, based on some strong anecdotal and statistical evidence (see Table 3.3.3-1), to argue that recovery of paper from the City and aggregate commercial recycling declined significantly in 2002 from 2000.

The survey of paper dealers and brokers revealed a consistent theme – that after 9/11, recovery of paper for recycling dropped dramatically. This decline continued into 2002. Table 3.3.3-1 is a summary of exports by major paper grade category for the years 1997 through 2002. Exports of recovered paper and paperboard (cardboard, not corrugated – like cereal boxes) from the Port of New York and New Jersey, a major export port, are one of the key indicators of paper recovered through recycling in the City. An analysis, included in Table 3.3.3-1, was made of these exports of paper and paperboard.

The data in Table 3.3.3-1 indicate the following:

1. Exports of paper from the Port of New York and New Jersey declined from a peak of 3 million tons in 2000 to about 2 million tons in 2001 and 2002. This decline strongly suggests (but does not prove) that there was a large decline in recyclables recovery in the City, especially Manhattan.
2. Total paper exports from the United States were comparable in 2001 to the increased tonnages reported in 2000; in 2002 they reported a considerable gain over 2001. This occurred while exports from New York/New Jersey dropped. The New York/New Jersey exports dropped from 28.9% of total exports in 2000 to 17.6% of total exports in 2002.

Table 3.3.3-1
Exports[1] of Recovered Paper Stock, 1997 through 2002

Year	OCC	Mixed[3]	News, Other Groundwood	High-Grade De-inking	Pulp Substitutes	Total[2] Port of New York	Total USA	New York % of Total
1997	770	455	735	100	138	2,198	7,505	29.3
1998	812	637	1,051	113	142	2,756	8,100	34.0
1999	757	697	1,019	172	51	2,696	8,286	32.5
2000	893	761	1,032	313	57	3,055	10,560	28.9
2001	811	525	335	262	31	1,964	10,533	18.6
2002	909	627	332	90	47	2,004	11,404	17.6

Notes:
(1) In thousands of tons.
(2) From the Port of New York and New Jersey.
(3) Includes mail.
Subtotals may not add to total due to rounding.
Source: American Forest & Paper Association, based on Export Statistics of the U.S. Department of Commerce.

3. The recyclables showing the greatest decline were newspapers and other groundwood papers, and de-inking grades. At the same time, the quantities of OCC remained steady, while mixed paper declined by about 230,000 tons in 2001 and 135,000 tons in 2002 compared to 2000.
4. The overall conclusion is that a high percentage of the decline in recovered paper exports is related to the decline in recycling City commercial waste.

3.3.4 Commercial Recycling Rates in New York City

The information on recycling and waste disposed provides a basis for computing the commercial sector recycling rate – from materials generated and normally included in the definition of MSW.

In 2002, facilities other than DSNY-licensed Transfer Stations processed 1,022,719 tons of recyclables. In 2002 the total waste disposed was 2,272,958 tons. Thus, the commercial sector generated 3,295,677 tons of waste disposed and recycled; the recycling rate was 31%. Table 3.3.4-1 displays these summary statistics.

Table 3.3.4-1
Summary of New York City Commercial Putrescible Waste Disposed and Recycled, 2000-2002

Item	2000	2001	2002
Waste Disposed (tons)			
First Tipped in City	2,550,600	2,250,768	2,006,316
Direct Hauled out of City	205,296	235,969	266,642
Total	2,755,896	2,486,737	2,272,958
Waste Recycled (tons)			
First Tipped in City	NA	NA	890,565
Direct Hauled out of City	NA	NA	132,154
Total	NA	NA	1,022,719
Grand Total (tons)	NA	NA	**3,295,677**
Recycling Rate	**NA**	**NA**	**31%**

ATTACHMENT 1
FACILITIES SURVEY

FACILITY QUESTIONAIRE FOR FACILITIES RECEIVING NYC COMMERCIAL/C&D WASTE

New York City Department of Sanitation Commercial Waste Study

Interviewer _____

1. Name of Facility: _____

Date of Interview _____

2. Type of Facility _____

1=Transfer Station
2=Materials Recovery Facility
3=Landfill
4=C&D Disposal Facility
5=Materials Broker
6=Material End User
7=Other, Please explain _____

3. Facility Address: Street _____

City, State, Zip _____

4. Contact Person

Name _____
Title _____
Phone _____
Fax _____
Email _____

Owner _____

5. Total Tonnage Throughput: -- direct hauled from New York City. Not including material from DOS. (in 2002)

TYPE OF MATERIAL	Tons			Weighed 1=yes 2=no	If weighed, what is the density factor Lbs/cubic yd.
	Total in 2002	From NYC	Borough of NYC		
Putrescible MSW					
Yard Debris					
Recyclables(Total, if not broken down)					
Metal					
Tin Cans					
Other Ferrous Metal Scrap					
Aluminum Cans					
Aluminum Foil					
Other Non-Ferrous Scrap					
Other Metals					
Plastic					
Glass					
Fiber					
ONP					
OCC					
OMG					
Mixed Office Paper					
Mixed Paper					
Other					
C&D					
Wood					
Fill					
Bricks/Concrete					
% Residential Construction					
% Commercial Construction					
% Residential Demolition					
% Commercial Demolition					
% Residential Renovation					
% Commercial Renovation					
Other Material (Specify)					
TOTAL TONS					

ATTACHMENT 2
LIST OF FACILITIES SURVEYED

List of Facilities Surveyed

Name	Address	City	State	Zip
American Tissue Mills of Massachusetts, Inc.		Baldwinville	MA	
FiberMark, Inc.		Fitchburg	MA	
Newark Atlantic Paperboard Corp.			MA	
Perkit Folding Box Corp.			MA	
Smurfit Stone Recycling Co.		St. Louis	MO	
Marcal Paper Mills			NJ	
Atlantic Coast Paper Company (7)		Clifton	NJ	
County Wide Recycling		Hillsdale	NJ	
G&T Trading International Corp.		Clifton	NJ	
Global Fibres Inc.		Fort Lee	NJ	
Lobosco Recycling		Clifton	NJ	
M. Politinsky & Sons Inc.		Clifton	NJ	
Recycled Paperboard of Clifton		Clifton	NJ	
S Morena & Sons Inc.		Lodi	NJ	
Zozzaro Brothers	175 Circle Avenue	Clifton	NJ	07011
Garafolo Recycling and Transfer	19-33 Atlantic Street	Garfield	NJ	07026
All American			NJ	
Jem Sanitation	P.O. Box 708	Lyndhurst	NJ	07071
Advanced Enterprises Recycling	540 Doremus Street	Newark	NJ	07105
Allied Paper		Newark	NJ	
Garden State Paper Co., Inc.			NJ	
Giordano Paper Recycling	145 Manchester Place	Newark	NJ	07104
J Lobosco & Sons	964 McBride Avenue	Little Falls	NJ	
James DeMarco & Sons Inc		Newark	NJ	
KTI Recycling/Recycle America	150 Charles Street	Newark	NJ	07105
Newark Boxboard			NJ	
Patsy Ragonese & Sons Inc.		Newark	NJ	
Prins Recycling Corp.		Newark	NJ	
Recycled Fibers (Newark Group Inc)		Newark	NJ	
Recycled Fibers-- Eastern Region	60 Lockwood Street	Newark	NJ	07105

Name	Address	City	State	Zip
Recycling & Salvage Co.	170 Frelinghuysen Avenue	Newark	NJ	07114
Recycling Systems, Inc.		Newark	NJ	
Shamrock Fibres, Inc.		Upper Montclair	NJ	
T. Fiore Recycling Co.	411 Wilson Avenue	Newark	NJ	07105
Tristate Recycling Center, Inc.		Fairfield	NJ	
CRG Recycle America	104 East Peddie Street	Newark	NJ	07114
Arrow Recycling		Jersey City	NJ	07302
Atlas Paper Stock Co.		Jersey City	NJ	
Falesto Bros.		Jersey City	NJ	
Galaxy Recycling	326 New York Avenue	Jersey City	NJ	07307-1402
Interboro Disposal & Recycling		Hoboken	NJ	
Recycling Specialists, Inc (5)	375 Rte 1&99	Jersey City	NJ	07302
Recycling Ventures, Inc.	35 US Highway #1	Jersey City	NJ	07302
Reliable Paper Recycling	200 Pacific Avenue	Jersey City	NJ	07304
Rock-Tenn Co.			NJ	
Tri-State Recycling Services	111 Woodward Street	Jersey City	NJ	07304
United Recycling	55 16th Street	Hoboken	NJ	07030
Krueger Recycling			NJ	
Galaxy Recycling	325 New York Avenue	Jersey City	NJ	07307-1401
Cardella Trucking		N. Bergen Tshp	NJ	
M&M (2)	2 Fish House	Hudson	NJ	
Recycling Industries, Inc.		South Plainfield	NJ	
KC International Ltd.		Lakewood	NJ	08701-5600
Annex Paper Stock Inc. (Damato)		Paterson	NJ	
John Rocco Scrap Material Inc.		Elizabeth	NJ	
Paper Board Specialties Inc.		Paterson	NJ	
United Scrap Iron & Metal	157 East 7th Street	Paterson	NJ	07524
Zager Brothers	69 Getty Avenue	Paterson	NJ	07503
A.J. Recycling		Linden	NJ	
American Tissue Mills of Greenwich, Inc.			NY	
Fort Orange Paper Co.			NY	
American Tissue Mills of New York, Inc.			NY	

Name	Address	City	State	Zip
Hunts Point Recycling Co.	315 Casanova Street	Bronx	NY	10474 6707
Kids Waterfront Corp.	1264 Viele Avenue	Bronx	NY	
Louis Monteleone Fibres, Inc.		Bronx	NY	
Paper Services, Inc. (Benedetto)		Bronx	NY	
Pascap Co., Inc.		Bronx	NY	10475
Paper Fibers Corp.	960 Bronx River Avenue	Bronx	NY	
Triboro Fibers	770 Barry Street	Bronx	NY	10474
IESI	246-266 Canal Place	Bronx	NY	Jersey City NJ
Advance Paper Recycling	139 Plymouth Street	Brooklyn	NY	11201-8335
Alpine Paper Recycling	2 N. 5th Street	Brooklyn	NY	
American Recycle	236 12th Street	Brooklyn	NY	
Filberto Recycling, Inc.		Brooklyn	NY	
Joe's Waste Paper Corp.		Brooklyn	NY	
Point Recycling	120 Hausman Street	Brooklyn	NY	11222
Smith Recycling		Brooklyn	NY	
Tocci Bros., Inc.	P.O. Box 20500	Brooklyn	NY	11202-0500
Trans-American Paper Fibers Corp.		Brooklyn	NY	
Ursula Products, Inc.		Brooklyn	NY	11203
Waste Management		Brooklyn	NY	
Williamsburg Paper Stock Co.		Brooklyn	NY	
Parkside Recycle	236 N. 12th Street	Brooklyn	NY	11211-1101
Hi Tech Resource Recovery	130 Varick Street	Brooklyn	NY	
Rapid Recycling Paper Co	860 Humbolt Avenue	Brooklyn	NY	
A&R Lobosco		Brooklyn	NY	
Chambers Paper	139 Plymouth Street	Brooklyn	NY	11201
Metropolitan Paper	Spring Creek Shepherd Avenue	Brooklyn	NY	
Recycle America (3)	2 N Fiske Street	Brooklyn	NY	
Omni Recycling Westbury	7 Portland Avenue	Westbury	NY	11590
Durango-Georgia Paper Co.		New York	NY	
Equipment & Parts Export Inc.	745 5th Avenue, Ste. 1114	New York	NY	10151
Korexpo Corporation		New York	NY	10279
M.G. Chemical Co., Inc.		New York	NY	10274

Name	Address	City	State	Zip
Robbins Fleisig FWDG., Inc.		New York	NY	10007
Veterans Paper Stock & Mill Supply Co. Inc.		New York	NY	
Sprint Recycling	605 W. 48th Street	New York	NY	
Internation Paper Co.		Oswego	NY	
Apple Fibers	18056 Liberty Avenue	Jamaica	NY	11433-1435
Asia Business Recycling	13511 Roosevelt Avenue	Flushing	NY	11354-5305
Cross County Recycling Corporation	122-52 Montauk Street	St. Albans	NY	11413
R. Palmiere Co.		South Ozone Park	NY	
Boro Wide Recycling	3 Railroad Place	Maspeth	NY	11378
Giove	108-20 180th Street	Jamaica	NY	
EWG Glass Recycling	145-11 Liberty Avenue	Jamaica	NY	11435
Babylon Paper	South Road	Jamaica	NY	
Royal Recycling (4)			NY	
A&R Lobosco	3133 Farrington Street	Flushing	NY	11354
Visy Paper		Staten Island	NY	
International Paper Co.		Corinth	NY	
Sonoco Products Co.		Amsterdam	NY	
Omni Recycling of Babylon	114 Alder Street	West Babylon	NY	11704
Irving Tissue, Inc.		Fort Edward	NY	
Karta Container		Peekskill	NY	
Interstate Intercorr		Reading	PA	
Rock-Tenn Co.		Downingtown	PA	
Smurfit-Stone Container Corp.		York	PA	
Tarkett Inc.			PA	
Woodstream Corp.			PA	
Harmon Associates/Georgia Pacific			SC	

APPENDIX B

EMPLOYMENT-BASED ESTIMATE OF PUTRESCIBLE WASTE GENERATION YEAR 2002

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1.0 EMPLOYMENT-BASED MODEL

1.1 Introduction

There are a number of different means of estimating solid waste quantities within the commercial sector, depending on the specific reference utilized. Some studies reviewed for this analysis estimated annual waste generation based upon pounds per dollar sales or production, pounds per square feet of facility space, or pounds per employee. While the utilization of each method has its own advantages and disadvantages, in this Commercial Waste Management Study (Study), due to the existence of complete and readily available data sets from government sources, employment was used to determine waste generation and to project future quantities. Additionally, employment projections were available allowing for forecasting waste generation over a 20-year planning period.

The methodology used to estimate putrescible waste generation by New York City's (City) commercial sector based on employment is straightforward. Factors were developed for the generation of commercial wastes in tons per employee per year, by federal Standard Industrial Classification (SIC) and by material type (for example, old corrugated cardboard [OCC]). These factors were multiplied by the number of employees in the City within any given sector (e.g., food service, finance, health care) to obtain generation of commercial waste. A number of separate calculations and data sources were required to complete the model, as described below.

1.2 Development of Waste Generation Factors

A survey of literature on the subject identified a wide variety of data and reports related to urban commercial waste generation factors, usually in pounds per employee per day or tons per employee per year. Sources included the City Department of Sanitation (DSNY) Consultant's in-house documents (e.g., sampling studies), magazine articles and on-line data such as that on the California Integrated Waste Management Board web site. Sources of relevant sampling studies were contacted by phone to obtain copies of the study reports. The most desirable sources had both the results of sampling studies in tons correlated with data on employment in

the sampled business or industry. In some instances it was possible to obtain employment data from a source, e.g., the federal document *County Business Patterns* (available on-line from the U.S. Census Bureau), to match published sampling data on commercial generators.

The data obtained were entered into a spreadsheet by business category, e.g., "Hotels." Sources and units (e.g., pounds or tons per employee per year) were entered into the spreadsheets. If the data source identified the relevant SIC, that was also entered.

The next step was to create a matrix spreadsheet that listed sampling data by business type vertically and material types horizontally. Data for each type of business, e.g., "Offices," were grouped together. Since the sampling studies varied in the amount of detail for different types of materials, materials were also grouped as appropriate. For example, a variety of papers were grouped together into an "Office Papers" category.

Some sampling studies reported results by materials disposed, not generated, i.e., recycled materials were not accounted for. These disposal data, by material, were converted to generation-factor data by DSNY's Consultant, using a previous report on recycling of paper in commercial sites. A Franklin Associates report characterizing national municipal solid waste generation and recycling for the United States Environmental Protection Agency (USEPA) was also used to derive reasonable recycling rates.

Disposal data were added to recycling data to obtain generation data. Construction and demolition (C&D) debris generation data were removed from the database because the City's C&D debris generation is estimated using a different methodology that is reported separately.

Because waste generated by commercial landscaping is substantially lower in the City compared to data collected on other cities, this factor was adjusted in the database by assuming that the City's commercial landscape waste represents a minimal 1% of waste composition. This was added to each employment category. The final data for generation per employee were then created by averaging commercial generation, by material, for each category, such as "Offices" and "Retail."

1.3 Development of Employment Data

Employment data were developed using data from New York Metropolitan Transportation Council (NYMTC). The data were compiled by borough and by community district (CD).

NYMTC prepared employment for the City through the year 2025 early in 2001, basing their projections on the most current employment data available at that time. These projections were revised by NYMTC over the course of 2002 and 2003 to account for the effects of the September 11, 2001 disaster. An interim update of the projections was published by NYMTC in a supplement to "Demographic and Socioeconomic Forecasting Post September 11 Impacts, Technical Memoranda 3.1 and 3.2," which reported the direct effects of September 11 -- both direct job loss in the City and geographic redistribution of employment within the City. These interim projections have been utilized as the fundamental employment projection data on which the DSNY waste estimation model relies.

Additional modifications to the interim projections, however, have been undertaken to reflect current (2002) conditions at the CD level. First, the projections, which were available at the census tract level, have been translated into CDs according to City Department of City Planning (NYCDCP) guidance. Second, the job loss resulting from the effects of economic recession in the City, which was not reflected in the NYMTC interim projections, has also been incorporated into the projections on which DSNY efforts rely. City employment statistics, at the borough level, for 2002 are shown in Table 1.3-1. Attachment 1 to this Appendix provides a detailed discussion of the derivation of the employment estimates used in this report.

1.4 Development of Final Model and Results

The generation per employee data were combined into categories to match the City's labor categories. City commercial waste generation by material categories was estimated by multiplying generation factors by employment. The "Education" and "Local Government" categories of employment were excluded because this waste is primarily collected by DSNY.

Table 1.3-1
Annual Employment in New York City by Borough and by Employment Category, 2002
(Number of Employees)

Employment Category	Bronx	Brooklyn	Manhattan	Queens	Staten Island	Total Employees
Construction	10,508	23,043	32,976	44,442	7,021	117,990
Finance & Insurance	3,291	15,014	302,617	13,459	2,536	336,917
Real Estate Rental & Leasing	10,838	14,444	75,962	15,573	1,573	118,390
Manufacturing	9,948	36,267	53,423	41,115	1,357	142,110
Wholesale Trade	10,313	22,774	87,617	24,882	1,463	147,049
Retail Trade	24,643	57,234	136,564	53,016	15,974	287,431
Transportation & Warehousing	4,817	14,369	26,894	56,716	4,550	107,346
Utilities	1,723	4,475	6,197	2,471	653	15,519
Information	4,395	8,014	143,400	10,391	2,616	168,816
Professional, Technical & Scientific	3,272	12,069	259,690	10,994	3,701	289,726
Management of Companies	962	1,207	52,267	1,798	905	57,139
Administrative Support Services	8,568	18,702	141,321	25,045	3,798	197,434
Health Care & Social Assistance	73,025	135,965	204,429	92,813	26,370	532,602
Arts, Entertainment & Recreation	2,823	3,211	47,671	4,233	1,118	59,056
Accommodation & Food Services	10,629	18,465	144,621	29,842	6,117	209,674
Other Services(1)	8,120	21,241	87,204	21,779	3,586	141,930
Unclassified & Other	1,384	5,018	8,325	4,587	823	20,137
State & Federal Government(2)	14,257	20,565	81,952	20,283	5,163	142,220
Total	203,516	432,077	1,893,130	473,439	89,324	3,091,486

Notes:
(1) Except public administration.
(2) Except local government agencies.

The employment categories, generation factors, tons generated in the City, and each category's percentage of total commercial waste generation are shown in Table 1.4-1.

Results generated by the model for the City are shown in Table 1.4-2 by employment category and tons of commercial waste by material. The origin of waste by borough was estimated from data collected by the Business Integrity Commission (BIC) and DSNY in November of 2003.

Although the model used in this analysis predicted 2002 citywide generation of commercial waste at a level similar to the 2003 BIC-DSNY survey, it would appear that the model is not as good an indicator at the borough or CD level. The 2002 estimated citywide commercial waste generation by the employment-based model is approximately 6% percent higher than the BIC-DSNY 2003 survey.

Table 1.4-1
Employment Categories, Commercial Waste Generation Factors and Tons Generated, and Category Percent of Total Commercial Waste Generation

Employment Category	Generation Factor Tons/Employee/Year	New York City 2002 Tons Generated	% of Commercial Waste Generation
Construction	0.44	51,400	1.6%
Finance & Insurance	0.44	146,770	4.5%
Real Estate Rental & Leasing	0.44	51,570	1.6%
Manufacturing	1.40	199,410	6.2%
Wholesale Trade	1.20	172,160	5.3%
Retail Trade	2.50	724,410	22.4%
Transportation & Warehousing	0.74	79,520	2.5%
Utilities	0.56	8,640	0.3%
Information	0.65	109,650	3.4%
Professional, Technical & Scientific	0.65	188,190	5.8%
Management of Companies	0.65	37,110	1.1%
Administrative Support Services	0.65	128,240	4.0%
Health Care & Social Assistance	0.63	419,530	12.9%
Arts, Entertainment & Recreation	3.40	46,090	1.4%
Accommodation & Food Services	3.40	710,340	21.9%
Other Services(1)	0.65	92,190	2.9%
Unclassified & Other	0.65	13,080	0.4%
State & Federal Government(2)	0.44	61,950	1.9%
Total New York City(3)		**3,240,250**	**100%**

Notes:
(1) Except public administration.
(2) Except local government agencies.
(3) Numbers may not add due to rounding.

Table 1.4-2
Commercial Waste Generation in New York City by Employment Category and by Material, 2002
(In Tons)

Employment Category	Paper	Plastics	Glass	Metals	Yard Wastes	Food Wastes	Other	Total Tons
Construction	39,580	2,570	1,540	1,540	520	4,110	1,540	51,400
Finance & Insurance	113,010	7,340	4,400	4,410	1,470	11,740	4,400	146,770
Real Estate Rental & Leasing	39,710	2,580	1,540	1,540	520	4,130	1,550	51,570
Manufacturing	93,720	27,920	2,000	9,970	1,990	43,870	19,940	199,410
Wholesale Trade	80,920	13,770	3,440	6,890	1,720	51,650	13,770	172,160
Retail Trade	456,380	50,710	21,730	28,980	7,240	130,390	28,980	724,410
Transportation & Warehousing	47,710	11,130	1,590	7,950	800	5,570	4,770	79,520
Utilities	5,790	1,040	430	600	90	520	170	8,640
Information	71,270	9,870	3,290	5,480	1,100	8,770	9,870	109,650
Professional, Technical & Scientific	122,320	16,940	5,650	9,410	1,880	15,050	16,940	188,190
Management of Companies	24,120	3,340	1,110	1,860	370	2,970	3,340	37,110
Administrative Support Services	83,360	11,540	3,850	6,410	1,280	10,260	11,540	128,240
Health Care & Social Assistance	255,910	33,560	8,390	20,980	4,200	46,150	50,340	419,530
Arts, Entertainment & Recreation	16,130	3,230	3,690	2,300	460	15,210	5,070	46,090
Accommodation & Food Services	248,620	49,720	56,830	35,520	7,100	234,410	78,140	710,340
Other Services(1)	59,920	8,300	2,760	4,610	920	7,380	8,300	92,190
Unclassified & Other	8,500	1,180	390	650	130	1,050	1,180	13,080
State & Federal Government(2)	47,700	3,100	1,860	1,860	620	4,950	1,860	61,950
Total Material(3)	**1,814,670**	**257,840**	**124,490**	**150,960**	**32,410**	**598,180**	**261,700**	**3,240,250**

Notes:

(1) Except public administration.

(2) Except local government agencies.

(3) Numbers may not add due to rounding.

On a borough level the employment model would predict more waste originating from Manhattan than the 2003 survey would suggest. An inherent problem with employment-based models is the assumption that all employees within an industry classification generate the same amount of waste (on a per employee basis). In reality, per-employee waste generation rates for a specific category of business are a function of the size of the business; generally, per-employee generation decreases as the number of employees increase. For example, on a per-employee basis, a five-employee office is likely to generate more waste per employee than an office with 50 employees.

New York State Department of Labor (NYSDOL) statistics show that, on average, Manhattan has more employees per firm than any of the other boroughs. Manhattan's finance and insurance industry averages 43 employees per firm, while the other boroughs average 13 or fewer employees per firm. Management companies average 72 employees per firm in Manhattan and 32 or fewer in the other boroughs. Therefore, the model predicts a higher quantity of waste originating from Manhattan than the BIC-DSNY survey.

Another drawback to using the employment model at the borough level is the disparity of job functions within each industry classification. For example, the health care and social assistance employment category includes employees that work in a medical office as well as employees that work in a hospital. Waste generation, on a per-employee basis, is higher for hospital employees. Due to lack of detail in the government employment statistics, the same waste generation factor was used for all employees within this category. The result is that the quantity of waste generated from a borough with a high number of hospital employees will be understated and the opposite would be true for a borough with a high concentration of medical offices.

The total tons generated in the City, distributed to the borough level, are shown in Table 1.4-3. The origin of commercial waste by borough percentages shown in this table are from the BIC-DSNY survey. Additionally, this table shows the number of employees (from Table 1.3-1) and an average commercial waste generation per employee factor for each borough.

Both drawbacks to using the employment-based model at the borough level are magnified when applied to the CD level. Therefore, to estimate waste generation, it was decided to apply the average factors developed for each borough (Table 1.4-3) to employment statistics on the CD level. Generation data for each borough by CD are shown in Tables 1.4-4 through 1.4-8.

Table 1.4-3
Commercial Waste Generation in New York City by Borough, 2002

Borough	Origin of Commercial Waste by Borough[1] Percentage	2002 Commercial Waste Generation[2] Tons/Year	2002 Employees by Borough[3] Number of Employees	Average Commercial Waste per Employee Tons/Employee/Year
Bronx	12.9%	417,990	203,516	2.05
Brooklyn	19.4%	628,610	432,077	1.45
Manhattan	42.3%	1,370,630	1,893,130	0.72
Queens	20.2%	654,530	473,439	1.38
Staten Island	5.2%	168,490	89,324	1.89
Total New York City	**100%**	**3,240,250**	**3,091,486**	**1.05**

Notes:
(1) 2003 BIC-DSNY 2003 carter survey.
(2) Borough totals derived from applying Origin of Commercial Waste by Borough Percentage to total City generation of 3,240,250.
(3) Table 1.3-1.

Table 1.4-4
Bronx
Commercial Waste Generation by Community District, 2002

Community District	2002 Number of Employees	2002 Commercial Waste Generation [(1)(2)] Tons/Year
1	21,110	43,360
2	15,544	31,930
3	9,293	19,090
4	19,076	39,180
5	9,883	20,300
6	13,037	26,780
7	24,896	51,130
8	15,121	31,060
9	16,359	33,600
10	16,284	33,440
11	23,741	48,760
12	19,172	39,380
Total Borough	**203,516**	**417,990**

Notes:
(1) Number of employees in each community district times borough average commercial waste generation factor.
(2) Numbers may not add due to rounding.

Table 1.4-5
Brooklyn
Commercial Waste Generation by Community District, 2002

Community District	2002 Number of Employees	2002 Commercial Waste Generation[(1)(2)] Tons/Year
1	40,768	59,310
2	75,904	110,430
3	18,168	26,430
4	12,556	18,270
5	22,575	32,840
6	26,850	39,060
7	25,750	37,460
8	10,643	15,480
9	11,867	17,260
10	22,153	32,230
11	21,195	30,840
12	33,738	49,080
13	13,044	18,980
14	22,932	33,360
15	24,708	35,950
16	8,356	12,160
17	17,716	25,770
18	23,154	33,690
Total Borough	**432,077**	**628,610**

Notes:
(1) Number of employees in each community district times borough average commercial waste generation factor.
(2) Numbers may not add due to rounding.

Table 1.4-6
Manhattan
Commercial Waste Generation by Community District, 2002

Community District	2002 Number of Employees	2002 Commercial Waste Generation[(1)(2)] Tons/Year
1	289,696	209,740
2	127,248	92,130
3	40,278	29,160
4	131,132	94,940
5	778,960	563,980
6	226,576	164,040
7	66,906	48,440
8	131,935	95,520
9	32,420	23,470
10	12,373	8,960
11	30,529	22,100
12	22,391	16,210
Central Park	2,686	1,940
Total Borough	**1,893,130**	**1,370,630**

Notes:
(1) Number of employees in each community district times borough average commercial waste generation factor.
(2) Numbers may not add due to rounding.

Table 1.4-7
Queens
Commercial Waste Generation by Community District, 2002

Community District	2002 Number of Employees	2002 Commercial Waste Generation[(1)(2)] Tons/Year
1	50,132	69,310
2	51,176	70,750
3	40,470	55,950
4	25,587	35,370
5	41,364	57,190
6	65,560	90,640
7	52,697	72,850
8	26,074	36,050
9	15,368	21,250
10	10,510	14,530
11	20,370	28,160
12	47,786	66,060
13	17,456	24,130
14	8,889	12,290
Total Borough	**473,439**	**654,530**

Notes:
(1) Number of employees in each community district times borough average commercial waste generation factor.
(2) Numbers may not add due to rounding.

Table 1.4-8
Staten Island
Commercial Waste Generation by Community District, 2002

Community District	2002 Number of Employees	2002 Commercial Waste Generation[(1)(2)] Tons/Year
1	48,122	90,770
2	27,682	52,220
3	13,521	25,500
Total Borough	**89,324**	**168,490**

Notes:

(1) Number of employees in each community district times borough average commercial waste generation factor.

(2) Numbers may not add due to rounding.

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ATTACHMENT 1

Methodology—"NYMTCBASEPROJ2024, JOBLOSS&REDISTR, CD&SECTOR, FINALFORMAT 9-29-03" (released 10-01-03)

Methodology—"NYMTCBASEPROJ2024, JOBLOSS&REDISTR, CD&SECTOR, FINALFORMAT 9-29-03" (released 10-01-03)

This memo describes the data collected for and the means of preparing the file "NYMTCBASEPROJ2024, JOBLOSS&REDISTR, CD&SECTOR, FINALFORMAT 9-29-03" (released 10-02-03 by e-mail distribution), which is a projection of industry-sector employment for each community district in New York City through the year 2025. Explanation of base employment projections and the need for and the means of adjusting these projections to make them suitable for DSNY waste quantification purposes follows.

As a fundamental component of the Commercial Waste Management Study (Study) undertaken by the New York City (City) Department of Sanitation (DSNY) per Local Law 74 (LL74), and as described in the "Commercial Waste Management Study Final Scope of Work" (July 31, 2003), DSNY must develop quantified commercial waste stream projections through the year 2024. To this end, an employment-based waste estimation model is being developed as part of the Study. Projections of employment, therefore, are necessary to estimate waste, and moreover, employment projections at the local level by industry sector are essential to calibrating the waste estimation model.

Early in 2001, the New York Metropolitan Transportation Council (NYMTC) prepared employment and population projections for the City through the year 2025, basing their projections on the most current employment and population data available at that time. The resultant NYMTC projections were prepared at county and census tract levels, extending to the year 2025. The categories of employment included total employment and total basic and total non-basic industries, as well as several "land use" categories (e.g., retail employment, office employment, etc.), which were pertinent to NYMTC tasks. While the population projections were in a suitable format for DSNY purposes, there was no industry sector breakdown of employment suitable for direct use in employment-based waste estimation. Moreover, these projections were being revised by NYMTC over the course of 2002 and 2003 to account for the effects of September 11.

The 2000 NYMTC projections of both population and employment were superceded in July 2003, when an interim update of the projections was published by NYMTC in a supplement to "Demographic and Socioeconomic Forecasting Post September 11 Impacts, Technical Memoranda 3.1 and 3.2," which reported the direct effects of September 11 -- both direct job loss in the City and geographic redistribution of employment within the City. These interim projections remained in the same format as the earlier projections (i.e., by counties and census tracts and using similar employment categories), but they accounted for the job loss and in-City geographic redistribution of employment directly attributable to September 11. Altogether new projections from base years more recent than 2000 are under preparation by NYMTC; however, at the time of this report, results were not available. Therefore, the interim projections have been utilized as the fundamental employment projection data on which the DSNY waste estimation model relies.

Additional modifications to these interim projections, however, have been undertaken by DSNY in order to reflect baseline (2002) conditions at the community district (CD) level and to distribute employment according to industry sectors. First, the projections, which were available at the census tract level, have been translated into CDs according to City Department of City Planning (NYCDCP) guidance. Second, the job loss resulting from the effects of economic recession in the City, which was not reflected in the NYMTC interim projections, has also been incorporated into the projections on which DSNY efforts rely. The methodologies employed by DSNY in making these adjustments to the NYMTC interim employment projections are outlined in greater detail below.

Description of NYMTC Interim Projections

The NYMTC interim projections of both population and total employment were modified by DSNY's Consultant for use in waste estimation modeling. These projections were prepared by NYMTC in five-year intervals from 2000 to 2025 (including a revised 2002 estimate), and a straight-line projection was assumed by the Consultant to derive projections for the year 2024 from the 2020 and 2025 projections. Both population and total employment projections at the census tract level were agglomerated into corresponding City CDs by the Consultant, using census tract-to-CD correspondence lists prepared by the NYCDCP.

The population projections were then suitable for use without requiring any further modification. However, the employment numbers required adjustment to address some limitations faced by the Consultant in utilizing the employment figures as they were prepared by NYMTC, which included the following:

- While citywide figures illustrating recession-related job loss were published, including the Comptroller's Report (PR03-70-071, July 17, 2003), this job loss was not recorded at the census tract level, which is necessary to revise the CD employment figures to be used in the waste estimation model.
- There were no industry-sector employment figures available from NYMTC (either as part of the interim projections or as part of other NYMTC data products) for geographic areas smaller than boroughs. Moreover, these borough-level sector breakdowns, while referring to several primary data sources, were published in 2001, using data from 2000; considering the employment changes assumed to have resulted since 2000, this sector distribution information was not desirable.

Methodology for Adjusting Interim Projections

The NYMTC projections, which have been developed by its various associated agencies, account for such factors as regional trends in the metro area. Moreover, they have been made readily available to DSNY and are in public use. The interim projections, which also account for in-City redistribution of jobs since September 11, are the only such projections to 2025 available at the census tract level, as is necessary to aggregate CD-level data and to generate employment projections for the Study target year, 2024. Therefore, in an effort to maximize the use of existing data, the Consultant adjusted these projections only as necessary and possible to better reflect existing employment conditions, according to currently available employment data.

The interim projections, once translated by the Consultant into CD-level geographies, were further adjusted: 1) to reflect 2000-2003 employment loss attributable to economic recession; and 2) to maintain as accurately as possible the distribution of employment by industry sector.

According to the City Comptroller's Report (July 2003), there was a decrease of 218,700 jobs (excluding 22,800 jobs lost in 2003 according to the report) in the City between December 2000 and December 2002, including the citywide number of jobs lost as a direct result of September 11.

Job Loss Since 2000

In order to create a revised baseline, both the NYMTC 2002 baseline number and New York State Department of Labor (NYSDOL) data (ES202) for 2002 have been utilized. The NYSDOL data, which provide the most current estimates of industry-sector employment distribution, though at the borough level, include a record only of insured employees, which in part results in the fact that the NYSDOL data report 398,951 fewer employees in the City as of 2002 than NYMTC reports as the revised baseline in their interim projections. This difference is much greater than expected based on the comptroller's July 2003 report, which reported a loss of 218,700 jobs between December 2000 and December 2002. Of additional concern in using NYSDOL data without the integration of NYMTC 2002 estimates is that the NYSDOL 2002 total employment for Manhattan was about 127,000 jobs more than the corresponding NYMTC figure.

Therefore, it was determined that the best use of both NYMTC data and NYSDOL data was to re-estimate 2002, beginning by reducing the NYMTC total 2000 employment by 218,700 jobs according to the comptroller's report, thus arriving at an adjusted 2002 total employment figure of 3.66 million. By adjusting 2000 data, rather than 2002, the direct losses resulting from September 11 are accounted for and a revised 2002 base is created by modifying NYMTC 2002 estimates on which the NYMTC projections are based.

Then the difference between this 2002 adjusted total City employment figure of 3.66 million and the NYSDOL fourth quarter 2002 total City employment (3.50 million) was determined to account for jobs not included within the NYSDOL estimates. This difference was added onto the 2002 NYSDOL estimates, to make borough-level NYSDOL estimates equal to NYMTC borough-level estimates.

Industry Sector Employment Distribution

Borough-level total employment was arranged to represent the same industry-sector percentage of total borough employment originally represented by the NYSDOL data. Then, the industry-sector employment at the borough level was distributed among the CDs such that total employment within each CD maintained the same CD-to-borough proportion as represented by the original NYMTC projections. Thus the NYMTC distribution of total employment at a geographic level smaller than the borough is maintained, while the approximations of industry sector employment distribution within the CDs are made according the patterns known for the borough. This resulting employment data are herein referred to as the "final adjusted" employment data.

The result is that within each CD a particular sector will represent the same percentage of total CD employment as in the other CDs in the same borough and the borough itself, overall. The actual numbers of jobs associated with a particular industry will vary among CDs, however, just as the total employment in each CD does.

Projections from 2002 to 2024

This new 2002 figure was then used as the new baseline to which the NYMTC growth rates were applied (different compound growth rates for each five-year interval, as derived from the interim projections, with an annualized compound growth rate utilized for 2002-2005). For each job classification, the final adjusted 2002 employment data for each CD is projected with these compound growth rates to future years. Although this method does not incorporate projected job loss and recovery beyond 2002, it does adjust the baseline to reflect known current conditions

(2002), providing for a smaller base from which to apply growth rates derived from the most current, applicable employment projections. Thus, the percentage distribution remains unchanged for all years in the future; however, the fundamental assumptions NYMTC and involved agencies made regarding total employment in preparing the model have been maintained.

APPENDIX C

COMMERCIAL PUTRESCIBLE WASTE - DISPOSED AND RECYCLED: BIC-DSNY CARTER SURVEY

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1.0 INTRODUCTION

The Business Integrity Commission (BIC) and the New York City (City) Department Of Sanitation (DSNY) collaborated on conducting a survey of private carters in the City during the period from October to November 2003. BIC is the City agency that regulates the private carter industry within the City. It maintains a registry of carters that are licensed to collect putrescible and non-putrescible (construction & demolition debris or C&D) waste, qualifies business entities to provide carting services and regulates the rates charged for collection. DSNY is responsible for preparing a 20-year Solid Waste Management Plan (New Plan) for the City, inclusive of the needs and requirements of the City's commercial waste management industry.

The purpose of the survey was to:

- Provide an independent source of data on the quantities of commercial putrescible waste collected by private carters that were generated within the City;
- Determine the amounts of commercial putrescible waste generated that were disposed and recycled by private carters;
- Obtain, to the extent practical, borough-level data, including the amount of putrescible waste, inclusive of recyclables, collected by carters in each borough; and
- Identify the specific transfer disposal or processing facilities used by haulers, truck shifts by borough, types of vehicles used and miles driven.

The data were collected for the six-month period extending from January through June of 2003. The data were annualized by multiplying the half-year statistics by two. Examination of tonnages disposed at DSNY-licensed putrescible Transfer Stations for the first and second halves of 2000, 2001 and 2002 indicated that a simple doubling of the first half's tonnage is the best method to obtain an annual estimate.

1.1 Survey Methodology

The survey, referred to as the "BIC survey," was carried out under the auspices of BIC by DSNY personnel and DSNY's Consultant. BIC provided a list of licensed putrescible haulers that was screened to eliminate firms known to be out of business or no longer conducting business within the City. BIC also provided data from its registry database, such as the number of licensed trucks operated by each carter, and each carter's customers by street address and zip code. The

total number of licensed putrescible waste haulers in the BIC registry was 165. Of this total, 41 were determined not to collect putrescible waste within the City; data from the remaining 124 firms were obtained and analyzed.

A two-step approach was used to implement the survey:

1. All haulers received a survey form by fax, with a cover letter, describing the purpose of the survey and imposing a three-day deadline for faxing back the requested data. (A copy of this form and cover letter is included in Attachment 1.) The data requested from each carter included: (i) the amount of putrescible waste collected by month, inclusive of waste disposed and recycled; and (ii) the transfer stations or disposal sites where putrescible waste was tipped, indicating the name, address, and the quantities disposed at each site. The same data was requested for recyclables collected by the hauler.

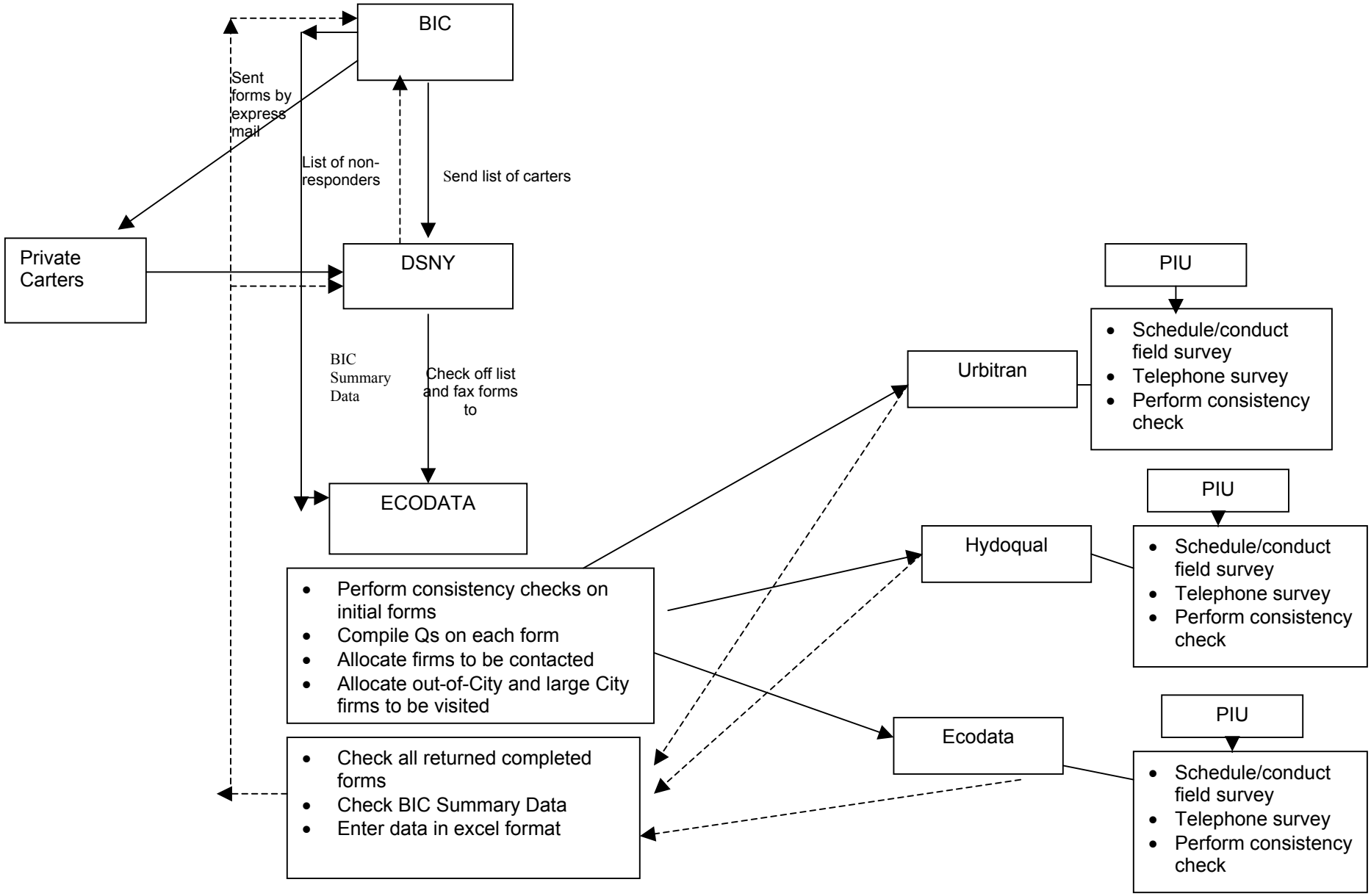
2. The information on the survey form was then corroborated and supplemented by a follow-up in-person or telephone interview with the collection company. Information gathered during these interviews included the number of truck shifts operated by the carter in each borough, the number of truckloads of refuse or recyclables picked up per shift, the types and sizes of vehicles used to pick up the refuse and recyclables, a listing of customers by borough, and the location where vehicles are parked. In-person field visits for on-site data collection were restricted to large firms, defined as those haulers with more than ten trucks. The remaining firms were contacted by telephone. Data were collected from 124 firms. (A copy of the interview questionnaire is included in Attachment 2.)

The initial survey data form was sent out during the week of October 13, 2003. Completed forms were returned by fax and initially processed by DSNY personnel. They were then checked for errors and consistency with information in the BIC registry by the DSNY Consultants.

The carter interviews occurred during the last week of October and the first two weeks of November 2003. DSNY's Consultants conducted the interviews with an inspector from DSNY's Permit and Inspection Unit (PIU) in attendance.

The data flow is summarized in the schematic in Figure 1.1-1. Interviewers filled out the interview form, checked the data for internal consistency and forwarded the form to the survey coordinator, who re-checked the calculations and entered the data into a spreadsheet for analysis.

FIGURE 1.1-1
FLOW DIAGRAM OF CARTER TELEPHONE AND FIELD SURVEY



2.0 SURVEY RESULTS

The results of the survey are summarized in Tables 2.1-1 through 2.5-1.

2.1 Collection Route Data

Table 2.1-1 breaks down the number of weekly truck shifts (defined as one truck collecting materials for one work-shift, multiplied by the number of times the truck collects per week), for putrescible waste generated, inclusive of waste disposed and recycled by borough and by type of vehicle. A total of 5,064 truck-shifts per week is required for collection of waste disposed, and 1,561 weekly truck shifts for waste recycled. For waste disposed, 41% of the truck shifts collect waste in Manhattan, 21% in Brooklyn, 20% in Queens, 14% in Bronx and 5% in Staten Island. Rear-loaders, with either a 25- or 30-cubic-yard capacity, comprise approximately three-fourths of the truck shifts for waste disposed.

With respect to recyclable waste, Manhattan again has the largest proportion of weekly truck-shifts (46%), followed by Brooklyn (25%), Queens (14%), Bronx (11%) and Staten Island (4%). Rear-loaders with 30- to 32-cubic-yard capacities and roll-offs are the vehicles most often used to collect recyclables.

2.2 Waste Generation

Data on total waste generation (disposed and recycled) is shown in Table 2.2-1. The data for the six-month period covered in the survey was annualized for these estimates, by multiplying by two. The estimated total quantity of commercial putrescible waste disposed of in 2003 is 2,244,318 tons and the estimated total amount of recyclables for the same period is 810,133 tons. The combined total of commercial waste and recyclables generated in 2003 is 3,054,451 tons. In terms of waste generation by borough, Manhattan contributes the largest proportion of the putrescible waste disposed - 41% or 926,587 tons. Brooklyn, Queens and Bronx produce fairly similar proportions of putrescible waste disposed -- Queens disposes 20% or 442,826 tons, Brooklyn disposes 19% or 420,874 tons, and Bronx disposes 14% or 317,914 tons. Staten Island disposes 6% or 136,117 tons.

Table 2.1-1
Weekly Truck Shifts for Commercial Putrescible Waste, 2003
(Number of Shifts per Week)[1]

	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total[2]
Waste Disposed						
Rear-load-25	747	391	206	263	50	1,657
Rear-load-30	930	447	212	438	102	2,129
Roll-Off	372	219	240	299	89	1,219
Other	16	1	38	4	0	59
Total[2]	2,065	1,058	696	1,004	241	5,064
Percent of Total Truck Shifts – Waste Disposed	41%	21%	14%	20%	5%	100%
Waste Recycled						
20-yard Compactor	15	3	0	0	0	18
25-yard Compactor	93	58	62	16	5	234
30- to 32-yard Compactor	450	211	58	140	28	887
Roll-Off	126	59	32.5	29	27	274
Other	36	51	25	36	0	148
Total[2]	720	382	178	221	60	1,561
Percent of Total Truck Shifts – Waste Recycled	46%	25%	11%	14%	4%	100%
Total Truck Shifts (Disposed & Recycled) [2]	2,785	1,440	874	1,225	301	6,625
Percent of Total Truck Shifts	42%	22%	13%	19%	5%	100%

Note:
[1] Truck shifts are rounded to the nearest whole number.
[2] Numbers may not add due to rounding.

Table 2.2-1
Annual Quantity of Commercial Putrescible Waste Collected in 2003 by Truck Type[1] (Tons)[2]

	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total Tons[3]
Waste Disposed						
Rear-load-25	311,189	152,347	73,748	101,611	25,756	664,651
Rear-load-30	418,375	158,560	107,895	206,326	45,933	937,089
Roll-Off	196,087	109,889	124,467	134,551	64,428	629,422
Other	936	78	11,804	338	0	13,156
Total[3]	926,587	420,874	317,914	442,826	136,117	2,244,318
Percent of Total Waste Disposed	41%	19%	14%	20%	6%	100%
Waste Recycled						
20-yard Compactor	3,224	936	0	0	0	4,160
25-yard Compactor	27,439	17,037	18,619	5,694	868	69,657
30- to 32-yard Compactor	224,864	79,862	20,113	126,175	10,524	461,538
Roll-Off	92,222	36,868	17,628	13,702	10,920	171,340
Other	18,707	37,978	19,006	27,747	0	103,438
Total[3]	366,456	172,681	75,366	173,318	22,312	810,133
Percent of Total Waste Recycled	45%	21%	9%	21%	3%	100%
Total Putrescible Waste Generated (Disposed & Recycled)[3]	1,293,043	593,555	393,280	616,144	158,429	3,054,451
Percentage Recycled of Total	28%	29%	19%	28%	14%	27%
Percentage Disposed of Total	72%	71%	81%	72%	86%	73%
Percentage of Total (Disposed & Recycled)	42%	19%	13%	20%	5%	100%

Notes:
(1) Annual estimate obtained by doubling the tonnages reported for the first six months.
(2) Tons are rounded to the nearest whole number.
(3) Numbers may not add due to rounding.

The predominance of office sector employment in Manhattan is reflected by its relatively higher contribution -- 45%, or 366,456 tons -- to putrescible recycled waste, the dominant portion of which is office paper. Brooklyn and Queens each account for 21% of the recycled tons, approximately the same as their proportions of waste. Although the share of Bronx waste disposed is approximately 14%, it recovers only 9% of the recyclable tonnages. Similarly, Staten Island's share of waste disposed is approximately 6% but its share of waste recycled is only 3%. These differences can be partially explained by the difference in the smaller proportion of office sector employment and the smaller size of Bronx and Staten Island business establishments, compared to other boroughs.

In total, the overall commercial recycling rate (tons recycled/total tons generated) is 27%. Brooklyn, Manhattan and Queens all have recycling rates in the 28% - 29% range. Bronx and Staten Island have recycling rates of 19% and 14%, respectively.

Of the total quantity of 3,054,451 tons of waste generated by the commercial sector, Manhattan generates 42%, Queens 20%, Brooklyn 19%, Bronx 13% and Staten Island 5%.

While Manhattan generates 42% of the waste (as shown in Table 2.2-1), it has 37% of the 118,117 customers, as shown in Table 2.2-2. Brooklyn has 29% of the customers, generating 19% of the waste, while Queens has 20% of the customers, generating 20% of the waste. Bronx has approximately 11% of the customers generating approximately 13% of the waste, and Staten Island has approximately 4% of the customers generating approximately 5% of the waste.

Table 2.2-2
Number of Customers by Borough

	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total
# of Customers	44,116	34,043	12,649	23,093	4,270	118,171
% of Total Customers	37%	29%	11%	20%	4%	100%

2.3 Commercial Waste Transport

Commercial refuse collection vehicles collectively drive millions of miles on City streets in any given year. Tables 2.3-1, 2.3-2 and 2.2-3 break down mileage by time of day, type of truck and type of waste for vehicles in each borough. Table 2.3-1 shows the mileage driven during the day. For purposes of this Study, a night shift is defined as one in which trucks collect waste generally between 6:00 p.m. and 6:00 a.m. A day shift is considered to be one in which waste is collected generally between 6:00 a.m. and 6:00 p.m. Table 2.3-2 shows mileage driven at night and Table 2.3-3 shows the total number of miles driven.

During the day, about 1.1 million miles were driven by putrescible waste collection trucks. Of this amount, the largest proportion of miles, or almost 90%, was logged by roll-offs. This is due to the fact that roll-off vehicles often drive significant distances between customers, as each box is individually hauled to the tip location, then returned to the customer, and as boxes may be scattered in many different locations. Thirty-six percent (36%) of the number of total miles driven during the day for putrescible waste collection are driven in Manhattan, with 20% in Queens, 19% in Bronx, 16% in Brooklyn and only 9% in Staten Island.

With respect to recyclables collection, 363,621 miles were driven by recycling vehicles servicing commercial customers during the day in 2003. By borough, most of these miles (approximately 41%) were driven in Manhattan, followed by Brooklyn (26%), Bronx (15%), Queens (14%) and Staten Island (4%).

While 1.4 million miles in total were driven during the day by refuse collection and recyclables collection vehicles picking up commercial waste in 2003, about six times that amount, or 8.2 million miles, were driven at night. Carters can operate more efficiently at night, when there is minimal interference from traffic and most businesses have ceased operations. As shown in Table 2.3-2, 4.8 million miles were driven by putrescible waste collection vehicles at night and 3.4 million miles were driven by vehicles collecting recyclables. The highest percentage of nighttime miles are driven in Manhattan (43%) and the lowest in Staten Island (6%).

Table 2.3-1
Commercial Putrescible Waste
Annual Miles Driven by Collection Trucks During the Day, 2003[(1)(2)(3)]
(Miles/Year)

	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total
Waste Disposed						
Rear-load-25	49,749	27,472	11,684	22,505	4,686	116,096
Rear-load-30	29,684	10,287	5,995	13,421	4,468	63,855
Roll-Off	306,942	130,301	183,520	180,797	87,071	888,631
Other	3,138	94	4,488	345	0	8,065
Total	389,513	168,154	205,687	217,068	96,225	1,076,647
Percent of Total Day Miles	36%	16%	19%	20%	9%	100%
Waste Recycled						
20-yard Compactor	5,009	1,092	0	0	0	6,101
25-yard Compactor	23,583	15,962	17,374	6,691	2,640	66,250
30- to 32-yard Compactor	32,596	14,935	6,036	13,293	2,945	69,805
Roll-Off	71,592	37,219	19,477	11,339	9,338	148,965
Other	15,562	25,875	11,110	19,953	0	72,500
Total	148,342	95,083	53,997	51,276	14,923	363,621
Percent of Total Day Miles	41%	26%	15%	14%	4%	100%
Total Day Miles (Disposed & Recycled)	537,855	263,237	259,684	268,344	111,148	1,440,268
Percentage of Total Day Miles	37%	18%	18%	19%	8%	100%

Notes:
(1) Miles are rounded to the nearest whole number.
(2) Day shifts are those in which trucks collect waste generally between 6:00 a.m. and 6:00 p.m.
(3) Numbers may not add due to rounding.

Table 2.3-2
Commercial Putrescible Waste
Annual Miles Driven in Each Borough During the Night, 2003[(1)(2)(3)]
(Miles/Year)

	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total
Waste Disposed						
Rear-load-25	704,030	388,769	165,352	318,485	66,320	1,642,956
Rear-load-30	959,642	332,610	193,828	433,935	144,460	2,064,475
Roll-Off	353,432	150,036	211,316	208,182	100,259	1,023,225
Other	22,862	686	32,692	2,515	0	58,755
Total	2,039,966	872,101	603,188	963,117	311,039	4,789,411
Percent of Total Night Miles	43%	18%	13%	20%	7%	100%
Waste Recycled						
20-yard Compactor	25,047	5,460	0	0	0	30,507
25-yard Compactor	145,500	98,482	107,192	41,284	16,288	408,746
30- to 32-yard Compactor	868,018	397,700	160,728	353,996	78,435	1,858,877
Roll-Off	347,008	180,400	94,403	54,961	45,262	722,034
Other	83,498	138,835	59,610	107,057	0	389,000
Total	1,469,071	820,877	421,933	557,298	139,985	3,409,164
Percent of Total Night Miles	43%	24%	12%	16%	4%	100%
Total Night Miles (Disposed & Recycled)	3,509,037	1,692,978	1,025,121	1,520,415	451,024	8,198,575
Percentage of Total Night Miles	43%	21%	13%	19%	6%	100%

Notes:
(1) Miles are rounded to the nearest whole number.
(2) Night shifts are those in which trucks collect waste generally between 6:00 p.m. and 6:00 a.m.
(3) Numbers may not add due to rounding.

Table 2.3-3
Commercial Putrescible Waste
Annual Miles Driven Day and Night in Each Borough, 2003[(1)(3)]
(Miles/Year)

	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total	Percent of Miles at Night[(2)]
Waste Disposed							
Rear-load-25	753,779	416,241	177,036	340,990	71,006	1,759,052	93.40%
Rear-load-30	989,326	342,897	199,823	447,356	148,928	2,128,330	97.00%
Roll-Off	660,374	280,337	394,836	388,979	187,330	1,911,856	53.52%
Other	26,000	780	37,180	2,860	0	66,820	87.93%
Total	2,429,479	1,040,255	808,875	1,180,185	407,264	5,866,058	83.06%
Percent of Total Miles	41%	18%	14%	20%	7%	100%	
Waste Recycled							
20-yard Compactor	30,056	6,552	0	0	0	36,608	83.33%
25-yard Compactor	169,083	114,444	124,566	47,975	18,928	474,996	86.05%
30- to 32-yard Compactor	900,614	412,635	166,764	367,289	81,380	1,928,682	96.38%
Roll-Off	418,600	217,620	113,880	66,300	54,600	871,000	82.90%
Other	99,060	164,710	70,720	127,010	0	461,500	84.29%
Total	1,617,413	915,961	475,930	608,574	154,908	3,772,786	90.36%
Percent of Total Miles	43%	24%	13%	16%	4%	100%	
Total Miles (Disposed & Recycled)	4,046,892	1,956,216	1,284,805	1,788,759	562,172	9,638,844	
Percentage of Total Miles	42%	20%	13%	19%	6%	100%	

Notes:
(1) Miles are rounded to the nearest whole number.
(2) Night shifts are those in which trucks collect waste generally between 6:00 p.m. and 6:00 a.m.
(3) Numbers may not add due to rounding.

With respect to nighttime mileages attributed to the collection of recyclables, the largest proportion, or 43% of the 3.4 million miles driven, occurs in Manhattan. Trucks picking up recyclables at night in Brooklyn contribute 24% of miles, 16% in Queens and 12% in Bronx. Due to its small size, Staten Island comprises only 4% of the nighttime miles driven for recyclable pick-up by haulers.

Table 2.3-3 consolidates the day and nighttime miles driven data, showing in aggregate that commercial sector waste collection and recycling operations involve approximately 10 million miles annually. The table provides break-downs by borough and by waste disposal and recycling routes. As shown in the final column of the table, most driving across all truck classifications and for both putrescible and recyclable pick-up, is done at night -- more than 85% of all mileage is driven at night. The one exception is roll-off containers for refuse pick-up. In this case, about 54% of the miles driven are at night. This is due to the fact that customers call for box pick-up when the box is full, which may be at any time. Routes are scheduled for both day and night pick-up, depending on the customer.

2.4 Recovered Recyclables By Type

Table 2.4-1 shows weekly truck-shifts by borough by recyclable material type. As indicated in the last column of the table, nearly all the weekly truck shifts, or about 92%, are devoted to mixed office paper (MOP) and old corrugated cardboard (OCC) recycling. Approximately 4% of the truck shifts are dedicated to sorted office paper and 2% to old newsprint (ONP). Other materials collected in smaller quantities are textiles and wooden pallets, each of which accounts for 1% of the truck shifts. Collectively, organics, bakery waste, bottles and cans, plastic bags and metals make up 1% of the truck shifts (and are reported in one category as "Other"). Nearly one-half the weekly recycling truck shifts (46%) are in Manhattan. The next highest proportion is Brooklyn with 24%. Queens and Bronx contribute 14% and 11%, respectively, and Staten Island has the lowest percentage at 4%.

Table 2.4-1
Commercial Putrescible Waste
Weekly Truck Shifts for Recycled Waste by Borough, 2003[(1)(3)]
(Shifts/Week)

Material	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total	Percent of Total Truck Shifts
Mixed Office Paper	438	173	60	86	4	761	48%
Old Corrugated Cardboard	234	181	112	109	49	685	44%
Sorted Office Paper	25	9	4	12	7	57	4%
Newspaper	16	6	3	6	0	31	2%
Textiles	5	5	0	5	0	15	1%
Wooden Pallets	8	3	0	0	0	11	1%
Other [(2)]	4	8	0	4	0	16	1%
Total	730	385	179	222	60	1,576	100%
Percent of Total Truck Shifts	46%	24%	11%	14%	4%	100%	

Notes:
(1) Truck shifts are rounded to the nearest whole number.
(2) "Other" includes organics, bakery waste, bottles and cans, plastic bags and metals.
(3) Numbers may not add due to rounding.

The total quantity of recyclables collected by licensed carters from the commercial sector in the City in 2003 was 810,133 tons. As shown in Table 2.4-2, 98% of this amount was various types of paper. The major categories of paper collected were MOP -- 441,341 tons -- and OCC -- 316,600 tons. Less than 5,000 tons of material reported as "Other," including metal, glass and plastic (MGP), were collected from commercial waste generators.

In Manhattan, MOP makes up 73% of the tonnage collected and OCC comprises 22% of this stream. In Brooklyn, MOP drops to 57%. In Bronx, this percentage is 37%; in Queens, 27%; and in Staten Island, 5%. OCC constitutes about one-third of the recyclables picked up in Brooklyn. However, in Bronx, Queens and Staten Island, it is the largest portion of the recyclable stream, ranging from 60% in Bronx, to 66% in Queens, to 91% on Staten Island. For sorted office paper and ONP, percentages mimic the citywide numbers. The exception is sorted office paper on Staten Island, which constitutes approximately 7% of the recyclable amounts collected; citywide; this percentage is only 2%.

The differences in composition are related to the nature of commercial activity in each of the boroughs. Manhattan, with its high-density office buildings, naturally generates a high proportion of MOP. Commercial entities in the outer boroughs tend to be food stores, small delis and light manufacturing, which tend to generate a higher percentage of OCC as compared to MOP.

Table 2.4-2
Commercial Putrescible Waste
Tons of Recycled Waste, 2003[(1)(2)(3)]
(Tons/Year)

Material	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total	Percent of Total Tons
Mixed Office Paper	266,709	98,774	28,746	46,176	936	441,341	55%
Old Corrugated Cardboard	78,761	58,929	44,597	114,543	19,770	316,600	39%
Sorted Office Paper	8,528	4,004	1,040	4,628	1,456	19,656	2%
Newspaper	4,498	3,432	650	3,432	0	12,012	2%
Textiles	3,640	3,640	0	3,640	0	10,920	1%
Wooden Pallets	4,719	39	0	0	0	4,758	1%
Organics	0	655	0	655	0	1,310	<1%
Bakery Waste	0	2,808	0	0	0	2,808	<1%
Bottles and Cans	312	0	0	0	0	312	<1%
Plastic Bags	156	156	0	0	0	312	<1%
Metal	104	0	0	0	0	104	<1%
Total	367,427	172,437	75,033	173,074	22,162	810,133	100%
Percent of Total Tons	45%	21%	9%	21%	3%	100%	

Notes:
(1) Tons are rounded to the nearest whole number.
(2) Attachments 3 and 4 contain an expanded version of this table, including recycling from two other sources: returns of deposit containers and materials separated for recycling from mixed loads delivered to Transfer Stations in the City.
(3) Numbers may not add due to rounding.

2.5 Destination of Commercial Putrescible Waste

Table 2.5.1 presents annual commercial putrescible waste generation, disposed and recycled, according to borough of origin, and destination according to geographic location where the collection vehicles are first tipped. The generation data is derived from the interviews with the collection companies, based on detailed information about truck routes in each of the five boroughs. These data have been discussed previously (see Table 2.2-1). In the aggregate, 3,054,451 tons of waste disposed and recycled are generated in the five boroughs.

The destinations of the disposed and recycled wastes are derived from the tipping records faxed to DSNY in response to the BIC Directive dated October 9, 2003. The total tonnages are disaggregated even further in Table 2.5.2 according to the specific Transfer Station within the City to which the putrescibles were delivered. Table 2.5.3 presents further detailed information on waste disposed, which was first tipped at transfer stations or disposal facilities located outside the City limits. These data are presented in tons per day and annual tons.

Tables 2.5-2 and 2.5-3 summarize data collected from the carter survey on the in-City and out-of-City destinations of commercial putrescible waste disposed by the City's carters. (The in-City Transfer Station totals do not include DSNY-managed Waste disposed under Interim Export Contracts.) Note that these data vary somewhat from the totals given for DSNY's Quarterly Transfer Station Reports (Quarterly Reports) in Volume II, Appendix A, Facilities Estimate of Putrescible Waste Generation Year 2002. However, the differences are not very large, and the distributions shown by the BIC-DSNY survey compare in magnitude to those appearing in the DSNY's Quarterly Reports. This is supportive of the accuracy of the data obtained in this survey of collection companies. The Volume II Summary Report provides a comparison of these data.

Table 2.5-1
Origins and Destinations of New York City's Commercial Putrescible Waste, 2003[1]

	Waste Disposed		Waste Recycled		Disposed & Recycled	
	Tons	**% of Total**	**Tons**	**% of Total**	**Tons**	**% of Total**
ORIGINS						
Manhattan	926,587	41%	367,427	45%	1,294,014	42%
Brooklyn	420,874	19%	172,437	21%	593,311	19%
Bronx	317,914	14%	75,033	9%	392,947	13%
Queens	442,826	20%	173,074	21%	615,900	20%
Staten Island	136,117	6%	22,162	3%	158,279	5%
New York City	*2,244,318*	*100%*	*810,133*	*100%*	*3,054,451*	*100%*
DESTINATIONS						
Manhattan	0	0%	0	0%	0	0%
Brooklyn	730,340	35%	211,457	30%	941,797	34%
Bronx	769,700	37%	68,326	10%	838,026	30%
Queens	279,407	13%	76,752	11%	356,159	13%
Staten Island	0	0%	72,120	10%	72,120	3%
New York City	*1,779,447*	*85%*	*428,655*	*61%*	*2,208,102*	*79%*
Out-of-City:						
Long Island	29,768	1%	20,632	3%	50,400	2%
Westchester	7,977	0%	580	0%	8,557	0%
New Jersey	273,999	13%	256,090	36%	530,089	19%
Other	12,404	1%	69	0%	12,473	0%
Total Out-of-City	*324,148*	*15%*	*277,371*	*39%*	*601,519*	*21%*
Grand Total	**2,103,595**	**100%**	**706,026**	**100%**	**2,809,621**	**100%**
Percent difference	6.69%		14.75%		8.71%	

Notes:
[1] Numbers may not add due to rounding.
Source: Origins = BIC-DSNY survey interviews.
Destinations = Fax-Back BIC-DSNY survey.

Table 2.5-2
BIC-DSNY Carter Survey Responses
In-City Destinations of Waste Disposed

In-City Commercial Transfer Stations				2003 CARTER SURVEY RESULTS Waste Disposed (Tons per Day)
Putrescible Stations	**Address**	**Borough**	**BIC Code**	
IESI (Atlantic) (Solid Waste Mgt. Corp.)	110 50th St.	BKLYN	***D11***	**94**
Browing Ferris (Thames St.) (Waste Management)	115 Thames St.	BKLYN	***D8***	**427**
Browning Ferris (J.L.J. Recycling)	598 Scholes St.	BKLYN	***D9***	**178**
Hi-Tech	130 Varick Ave.	BKLYN	***D10***	**367**
Waste Serv. N.Y. (Allied) (Rutigliano)	941 Stanley Ave.	BKLYN	***D15***	**44**
IESI (Waste Mgt. of NYC) (N. Vaccaro)	577 Court St.	BKLYN	***D12***	**248**
Waste Mgt. of NYC (N.Y. Acq.) (B.Q.E. Service)	485 Scott Ave.	BKLYN	***D14***	**22**
Waste Mgt. of NYC (N.Y. Acq.) (Star)	215 Varick	BKLYN	***D13***	**961**
			Brooklyn Subtotal:	**2,341**
			Percent of Total:	**41%**
IESI (Casanova St. Proc.)	325 Casanova St.	BRONX	***D1***	**200**
Metropolitan Transfer Station	287 Halleck St.	BRONX	***D2***	**743**
Paper Fibers Corp.	960 Bronx River Ave.	BRONX	***D3***	**1**
U.S.A. Waste of New York City (Harlem River Yard)	132nd St.	BRONX	***D4***	**223**
U.S.A. Waste of New York City	98 Lincoln Ave.	BRONX	***D5***	**679**
Republic Ser. (Waste Mgt. of NYC Oakpoint)	Oakpoint Ave.	BRONX	***D6***	**45**
Waste Ser. of NY (Waste Mgt. of NYC) (S.P.M.)	920 E. 132 St.	BRONX	***D7***	**576**
			Bronx Subtotal:	**2,467**
			Percent of Total:	**43%**
A&L Cesspool	38-40 Review Ave.	QUEENS	***D16***	**0**
Cross County	122-52 Montauk St.	QUEENS	***D18***	**27**
Crown (Five Counties)	172-33 Douglas Ave.	QUEENS	***D17***	**618**
New Style	49-10 Grand Ave.	QUEENS	***D19***	**38**
Regal Recycling	172-02 Douglas Ave.	QUEENS	***D20***	**206**
Waste Mgt. of NYC Qns. (Review Ent.)	38-50 Review Ave.	QUEENS	***D22***	**0**
Tully Environment Inc.	127-20 34th Ave.	QUEENS	***D21***	**6**
			Queens Subtotal:	**895**
			Percent of Total:	**16%**
			Putrescible Total:	**5,703**

Table 2.5-3
BIC-DSNY Carter Survey Responses
Out-of-City Destinations of Waste Disposed[1]

Out-of-City Disposal Sites From Carter Survey Form	State	Fax-Back Total Tons 2003	Fax-Back Tons/Day 2003	Percent of Exported Waste
WESTERN NEW JERSEY GROUP				
Covanta, Warren County	NJ			
Warren County Landfill, Union, NJ	NJ			
PCFA,Oxford, NJ	NJ			
Waste Management Hunterdon County, NJ	NJ			
BFI, Fairview, NJ	NJ			
Bridgewater Resources, Somerset	NJ			
Union County Disposal, Union County, NJ	NJ			
Subtotal		**144,013**	**462**	**NA**
NEWARK FACILITIES				
Recycling & Salvage, Newark, NJ	NJ			
American Refuel, Newark, NJ	NJ			
Hi Tech, Newark, NJ	NJ			
DJM South Kearny, NJ	NJ			
NJMC, Arlington, NJ	NJ			
Subtotal		**51,935**	**166**	**NA**
NEAR STATEN ISLAND				
Automated Modular Systems, Linden, NJ	NJ			
Waste Management Julia St., Elizabeth	NJ			
SWTR, Elizabeth, NJ	NJ			
Subtotal		**51,389**	**165**	**NA**
NORTH METRO AREA				
Onyx, Totowa, NJ	NJ			
Garafola Transfer Station, Garfield, NJ	NJ			
Waste Management of NJ, Fairlawn NJ	NJ			
Allegro Sanitation, Secaucus, NJ	NJ			
Subtotal		**4,794**	**15**	**NA**

Table 2.5-3 (continued)
BIC-DSNY Carter Survey Responses
Out-of-City Destinations of Waste Disposed[1]

Out-of-City Disposal Sites From Carter Survey Form	State	Fax-Back Total Tons 2003	Fax-Back Tons/Day 2003	Percent of Exported Waste
SOUTHERN NEW JERSEY				
Midco, New Brunswick, NJ	NJ			
Camden County	NJ			
Woodhur Ltd, Wrightstown, NJ	NJ			
Subtotal		**21,868**	**70**	
NEW JERSEY TOTAL		**273,999**		**85%**
NEW YORK STATE				
American Refuel, Westbury, NY	NY			
Capital Compost, Menands, NY	NY			
Town of North Hempstead	NY			
Waste Management, Yonkers, NY	NY			
BFI Suburban, Westchester, NY	NY			
Sanitary District #1, Lawrence, NY	NY			
A1 Compaction, Yonkers, NY	NY			
Winter Brothers, West Babylon, NY	NY			
RIC, Mamaroneck, NY	NY			
Wheelabrator, Westchester, Peekskill, NY	NY			
Subtotal		**39,782**	**128**	**12%**
OTHER LOCATIONS				
Better Management Corp. of Ohio	OH			
American Ref Fuel, Chester, PA	PA			
Subtotal		**10,366**	**33**	**3%**
Total		**324,147**		**100%**
Facilities Not in Fax-Back Form				
Pen Pac Fulton	NJ			
Onyx Robros	NJ			

Notes:
(1) Numbers may not add due to rounding.
NA = Not applicable.

Table 2.5-2 shows daily tons arriving at each of the DSNY's licensed putrescible Transfer Stations, obtained from the disposal information faxed by each of the licensed putrescible collection firms surveyed by BIC-DSNY. All data concerned disposed tons for the period January to June, 2003. The data were converted to tons per day by dividing the aggregate for the six months by 156 days. Forty-one percent (41%) of in-City disposed tons (the tons are tipped in-City, but then are transported outside the City for final disposal) are tipped in Brooklyn, 43% are tipped in Bronx and 16% are tipped in Queens. There were no putrescible Transfer Stations operating in Manhattan or Staten Island during the first half of 2003.

Direct export of putrescible solid waste occurs when the collection vehicle first tips its load at a transfer station or disposal facility located outside the City boundaries. Table 2.5-3 displays the out-of-City disposal of commercial waste, as reported by the licensed collection companies. Most of the companies that directly export waste are themselves located outside the City; their trucks tip at a disposal facility near their firm's deployment location. As many firms from New Jersey collect waste in the City, and, particularly, in Manhattan, it is not surprising that the majority of directly exported waste is tipped in New Jersey; New Jersey receives 85% of the waste that is directly exported from the City. In 2003, the DSNY's Consultants estimate that 324,147 tons were directly exported from the City, based upon the results from the fax-back survey. Thus, New Jersey received just under 275,000 tons from the City. New York State outside the City, including Long Island and Westchester Counties, received 12% of directly exported commercial putrescible waste, and 3% went to other locations (Pennsylvania and Ohio).

The out-of-City disposed waste going to New Jersey is concentrated in those areas near the City. Over 50% goes to counties in western New Jersey, including Warren, Hunterdon and Union Counties. An additional 19% of the waste going to New Jersey goes to facilities in Newark and another 19% to facilities located in proximity to Staten Island. The remaining 8% of the waste is delivered to scattered locations, including southern New Jersey and the north Metro Area.

2.6 Garaging of Collection Vehicles

Table 2.6-1 shows where the haulers park their refuse and recycling vehicles and whether the vehicles are parked outdoors or indoors, by community district (CD). About 44% of the 823 vehicles reported in the survey are parked indoors. The largest proportion, 40%, are parked in Brooklyn. This location is followed by Bronx, in which 19% of the vehicles are parked, Queens 18%, and New Jersey with 14%. Manhattan and Staten Island each have 3% of the vehicles. Nassau and Suffolk Counties together have 2% and Westchester County has 2%. Overall, about 82% of all the refuse and recyclable collection vehicles servicing the commercial sector in the City are parked within City limits, with 18% parked outside the City limits.

Table 2.6-1
Truck Parking by Borough, Community District, Town &/or Zip Code, 2003

Borough, Community District, Town, &/or Zip Code	Number Parked Indoors (Number of Trucks)	Total Trucks	Percentage of Trucks in CD/Town	Percentage of Total Trucks (In and Out of City)
Manhattan				
CDs 4,5 – 10001	0	18	86%	
CDs 10,11 – 10035	0	3	14%	
Total Manhattan	0	21	100%	3%
Brooklyn				
CDs 2,6 – 11201	0	9	3%	
CDs 9,7,18 – 11203	0	3	1%	
CDs 1,2,3 – 11205	4	4	1%	
CDs 1,3,4 – 11206	8	11	3 %	
CDs 5,9,10 – 11208	0	24	7%	
CDs 14,15,17,18 – 11210	3	3	1%	
CDs 3,8,9,17 – 11213	3	3	1%	
CDs 11,13 – 11214	2	2	1%	
CDs 6,7,9,14 – 11215	11	14	4%	
CDs 2,6,8 – 11217	4	7	2%	
CDs 7,10,11,12 – 11219	11	11	3%	
CDs 7,10,12 – 11220	0	1	>1%	
CD 1 – 11222	9	32	10%	
CD 6 – 11231	16	21	6%	
CDs 7,12 – 11232	18	18	5%	
CDs 5,16,17,18 – 11236	9	10	3%	
CDs 1,4 – 11237	5	159	48%	
Total Brooklyn	103	332	100%	40%
Bronx				
CDs 1,3,4 – 10451	54	54	35%	
CDs 1,2 – 10454	6	6	4%	
CDs 9,11 – 10461	2	2	1%	
CDs 6,9,10,11 – 10462	12	15	10%	
CDs 10,11 – 10465	0	3	2%	
CDs 7, 8,11,12 – 10467	6	6	4%	
CDs 10,11,12 – 10469	0	2	1%	
CDs 2,9,10 – 10473	2	4	3%	
CD 2 – 10474	39	62	40%	
CDs 12 – 11466	0	1	1%	
Total Bronx	121	155	100%	19%

Table 2.6-1 (Continued)
Truck Parking by Borough, Community District, Town &/or Zip Code, 2003

Borough, Community District, Town, &/or Zip Code	Number Parked Indoors (Number of Trucks)	Total Trucks	Percentage of Trucks in CD/Town	Percentage of Total Trucks (In and Out of City)
Queens				
CDs 1,2 – 11101	5	5	3%	
CD 1 – 11102	2	4	3%	
CD 1 – 11105	4	12	8%	
CD 1 – 11106	0	1	1%	
CDs 1,3 – 11370	1	2	1%	
CDs 1,2,3,4,5 – 11377	1	1	1%	
CD 5 – 11378	3	23	16%	
CD 5 – 11385	13	20	14%	
CDs 8,12 – 11423	1	21	14 %	
CDs 8,12 – 11432	10	10	7%	
CD 12 – 11433	18	23	16%	
CDs 12,13 – 11434	5	24	16%	
Total Queens	63	146	100%	18%
Staten Island				
CD 1 - 10302	3	6	29%	
CD 1 – 10310	12	12	57%	
CDs 1,2,3 – 10314	0	3	14%	
Total Staten Island	15	21	100%	3%
New York City Total	302	675	82%	82%
New Jersey				
Newark – 07104	0	8	7%	
Newark – 07114	17	17	15%	
Jersey City – 07305	0	2	2%	
Hackensack – 07601	0	4	4%	
Jersey City - 07304	0	2	2%	
Jersey City - 07305	0	10	9%	
Jersey City - 07307	9	14	12%	
Hoboken - 07030	2	3	3%	
Lyndhurst, Kearny - 07071	0	14	12%	
Kearny - 07032	0	8	7%	
Elizabeth - 07201	2	4	4%	
East & South Brunswick, Sayerville - 08816	5	5	4%	
North Bergen - 07047	0	8	7%	

Table 2.6-1 (Continued)
Truck Parking by Borough, Community District, Town &/or Zip Code, 2003

Borough, Community District, Town, &/or Zip Code	Number Parked Indoors (Number of Trucks)	Total Trucks	Percentage of Trucks in CD/Town	Percentage of Total Trucks (In and Out of City)
Clifton - 07014	8	8	7%	
Secaucus - 07094	0	4	4%	
Millstone, Monroe, Englishtown, Marlboro, Manalapan - 07726	0	2	2%	
Total New Jersey	43	113	100%	14%
Nassau & Suffolk Counties				
Babylon, Suffolk – 11704	0	8	47%	
Babylon, Suffolk – 11757	0	1	6%	
Hempstead, Nassau – 11096	0	4	24%	
Hempstead, Nassau – 11559	2	2	12%	
Hempstead, Nassau – 11783	0	2	12%	
Total Nassau & Suffolk Counties	2	17	100%	2%
Westchester County				
Croton-on-Hudson, Cortlandt, Yorktown - 10520	3	3	17%	
Mount Vernon - 10550	2	2	11%	
Mount Vernon - 10553	11	11	61%	
Yonkers, Greenburgh - 10710	2	2	11%	
Total Westchester County	18	18	100%	2%
Total Outside New York City	68	153	18%	18%
Total Trucks	365	823		

Attachment 1

BIC Directive and Fax-Back Tonnage Form

BUSINESS INTEGRITY COMMISSION
100 Church Street · 20th Floor
New York · New York 10007
Tel. (212) 676-6219 · Fax (212) 676-6204

October 9, 2003

COMMISSION DIRECTIVE

TO ALL LICENSED TRADE WASTE CARTERS AND THOSE OPERATING WITH TEMPORARY PERMISSION OR IN GRANDFATHERED STATUS

This directive is accompanied by a two-page survey form. You are required to complete both pages, which call for you to supply information on the amount of refuse and recyclables your company tipped in the first six (6) months of 2003, and to list the transfer stations at which you tipped refuse and/or recyclables during the same timeframe.

This form must be completed and returned by fax no later than October 17, 2003. It is to be faxed to 212-788-4019 or 212-788-3949.

If you have any questions regarding the content of the survey form, how to complete it or any other aspect of this order, call **Linda Urbanski of the NYC Sanitation Department, at tel.** 646-885-4809.

A data collection team may conduct an in-person, follow-up interview. If you are going to be interviewed, you will receive a telephone call to schedule the interview. Your company must make a senior manager available for the follow-up interview.

This survey is being conducted as part of New York City's commercial waste study, about which the commission has previously informed you. The data you are supplying is a vital part of the study and will be used in formulating the city's comprehensive solid waste management plan.

Failure to return the completed survey form, failure to supply all of the required information or failure to cooperate with the follow-up interview will be considered a violation of commission rules, 17 RCNY, section 1-09, and will subject you to a fine.

José Maldonado
Chairman

CWS2-1

New York City Comprehensive Commercial Waste Management Study Phase II
Summary Sheet

Carter's Name & Address: _____

Preparer/Contact Person: _____

Phone Number/Fax Number _____

Summary of Transfer Stations:

January 1-June 30, 2003	Number of Stations	Total Refuse Collected		Total Recycling Collected		(A) Grand Total
			+		=	

Destinations:

Enter totals from the detail sheet prepared for each transfer station to which you delivered garbage or recyclables.

Name of Transfer Station	Garbage Quantity Tons	Recycling Quantity Tons
GRAND TOTALS		

Fax completed sheets to NYC DOS per instructions in cover letter.

New York City Comprehensive
Commercial Waste Management Study Phase II

CWS2-2

Detail Sheet

Fill in one sheet for each location at which you delivered garbage and recyclables from January 1 through June 30, 2003

Company Name: _____ Preparer/Contact Person: _____

Company Address: _____

Phone Number _____ Fax Number: _____

Transfer Station: Name _____
Address _____
Borough (if in NYC) _____
State _____

FILL OUT A SEPARATE SHEET FOR EACH LOCATION WHERE YOU DELIVERED GARBAGE OR RECYCLABLES

Year 2003 Month:	Garbage Quantity Tons
January	
February	
March	
April	
May	
June	
GARBAGE TOTALS	

Year 2003 Month	Specify type of material (eg. Cardboard)	Recyclables Quantity Tons
January		
February		
March		
April		
May		
June		
RECYCLABLE TOTALS		

Attachment 2

Survey Form for On-Site or Telephone Hauler Interviews

NEW YORK CITY COLLECTOR DATA

Name of Firm _____
Street Address _____
Borough or City, State _____
Phone _____-_____-_____
Fax _____-_____-_____
Cell _____-_____-_____
e-mail _____
Business Integrity # _____
Name/title of Contact _____
Interview completed by: _____
Date: _____

I. TRADE WASTE ONLY

Trucks	Rear Load	Rear Load	Front Load	Roll Off	Other _____	Other _____	Other _____	Total
# owned								
# leased								
% Deployed at night								
% Deployed during day								
Cubic yard capacity								
Truck shifts/week:*								
Manhattan								
Brooklyn								
Bronx								
Queens								
Staten Island								
TOTAL								
# of loads (pulls)/truck shift								
Manhattan								
Brooklyn								
Bronx								
Queens								
Staten Island								
Average miles/truck shift								
Average weight/load								
Jan-June MSW tons 2003								
* A truck shift = a truck and crew deployed for a day or night's work								

II. NEW YORK CITY RECYCLING COLLECTION – PAGE 2

COMMODITY	TRUCKS USED			WEEKLY TRUCK SHIFTS BY BOROUGH					TONS/ LOAD	LOADS/ TS**	TOTAL JAN-JUNE 2003 TONS
	TYPE*/ YDS^3	% DEPLOYED AT NIGHT /DAY	MILES/ TRUCK SHIFT	MANHATTAN	BROOKLYN	BRONX	QUEENS	STATEN ISLAND			
OFFICE PAPER		/									
NEWSPRINT		/									
CORRUGATED		/									
MIXED PAPER		/									
OTHER PAPER____		/									
WOOD PALLETS		/									
GLASS		/									
METAL CANS (NON AL)		/									
ALUMINUM CANS		/									
PLASTIC #_____		/									
OTHER _____		/									
Other _____		/									
Other _____		/									
Other _____		/									

*** TYPE – INDICATE LOADING LOCATION & TYPE (E.G. RL PACKER; OPEN TOP (OT) ROLL OFF; STAKE BODY, ETC.)**
****TS= TRUCK SHIFT**

1. Where are vehicles parked? Zip code: ___ ___ ___ ___ ___ Borough or City: _____
2. Are they parked indoors? (1=yes; 0=no) [ ]
3. Totals for first half 2003:# of Customers Miles Driven

Manhattan _____ _____ Queens _____ _____

Brooklyn _____ _____ Staten Island _____ _____

Bronx _____ _____

NEW YORK CITY COLLECTOR DATA – PAGE 3

II. TRUCK SHIFT WORK SHEETS

A. GARBAGE TRUCK SHIFT WORK SHEET

Truck Type & Cubic Yard Capacity	Borough	Truck shifts per day							
		Sun.	Mon.	Tues.	Wed	Thurs.	Fri.	Sat.	Total
1. Rear load ___yds	Manhattan								
	Brooklyn								
	Queens								
	Bronx								
	Staten Island								
	Total								
2. _____ ___yds	Manhattan								
	Brooklyn								
	Queens								
	Bronx								
	Staten Island								
	Total								
3. _____ ___yds	Manhattan								
	Brooklyn								
	Queens								
	Bronx								
	Staten Island								
	Total								
4. _____ __yds	Manhattan								
	Brooklyn								
	Queens								
	Bronx								
	Staten Island								
	Total								

NEW YORK CITY COLLECTOR DATA – PAGE 4

B. RECYCLING TRUCK SHIFT WORK SHEET

Truck Type & Cubic Yard Capacity	Borough	Truck shifts per day							
		Sun.	Mon.	Tues.	Wed	Thurs.	Fri.	Sat.	Total
1. Rear load ___yds	Manhattan								
	Brooklyn								
	Queens								
	Bronx								
	Staten Island								
	Total								
2. _____ ___yds	Manhattan								
	Brooklyn								
	Queens								
	Bronx								
	Staten Island								
	Total								
3. _____ ___yds	Manhattan								
	Brooklyn								
	Queens								
	Bronx								
	Staten Island								
	Total								
4. _____ ___yds	Manhattan								
	Brooklyn								
	Queens								
	Bronx								
	Staten Island								
	Total								

CONSISTENCY CHECK QUESTIONS

Note questions and resolution of any inconsistencies in analyzing the faxed CWS2 forms and the BIC summary form:

_____

_____

_____

_____

_____

_____

_____

_____

COMMENTS AND SUGGESTIONS

What would you like to see done differently in New York City regarding waste collection and disposal?

_____

_____

_____

_____

_____

_____

_____

_____

Attachment 3

Expanded Tables of Recycling by Commodity

Table A.3-1
Commercial Putrescible Waste
Tons of Recycled Waste, 2003[(1)(2)(3)]
(Tons/Year)

Material	Manhattan	Brooklyn	Bronx	Queens	Staten Island	Total	Percent of Total Tons
Mixed Office Paper	267,344	99,070	28,873	46,472	992	442,751	51%
Old Corrugated Cardboard	80,934	59,943	45,032	115,557	19,963	321,429	37%
Sorted Office Paper	8,528	4,004	1,040	4,628	1,456	19,656	2%
Newspaper	4,498	3,432	650	3,432	0	12,012	1%
Textiles	4,164	3,885	105	3,885	46.6	12,085	1%
Wooden Pallets	16,707	5,633	2,398	5,594	1,066	31,397	4%
Organics	0	655	0	655	0	1,310	<1%
Bakery Waste	0	2,808	0	0	0	2,808	<1%
Bottles and Cans	14,709	6,719	2,879	6,719	1,280	32,306	4%
Plastic Bags	156	156	0	0	0	312	<1%
Metal	104	0	0	0	0	104	<1%
Total	397,144	186,305	80,976	186,942	24,803	876,170	100%
Percent of Total Tons	45%	21%	9%	21%	4%	100%	

Notes:
(1) Tons are rounded to the nearest whole number.
(2) Total tons include estimates from the carter survey, plus materials recycled from Transfer Stations from mixed loads, plus estimated deposit containers.
(3) Numbers may not add due to rounding.

Table A.3-2
Materials Recycled from Transfer Stations from Mixed Loads, 2003

Material	Non-Putrescible Transfer Stations	Putrescible Transfer Stations	Total Tons	Tons/day
Wood chips[1]	26,057	582	26,639	85
Old Corrugated Cardboard	4,481	348	4,829	15
Mixed Office Paper	931	479	1,410	5
Plastic bottles, jugs	994	0	994	3
Textiles	1,165	0	1,165	4
Totals	33,627	1,409	35,037	112

Notes:
(1) 50% of wood chips is assumed to come from commercial sector.
(2) Numbers may not add due to rounding.

Attachment 4

Discussion of Commercial Recycling through the Deposit System

Table A.4-1
Estimated Beverage Containers Recycled from the Commercial Sector through the Deposit System, 2003

	Glass (tons)	Plastic (tons)	Aluminum (tons)	Total (tons)[1]
Beer and Wine Products	28,000		450	28,450
Soda		1,400	1,150	2,550
Total	28,000	1,400	1,600	31,000

Note:
[1] Numbers may not add due to rounding.

The deposit container estimate was developed from a survey of recycling facilities and an analysis of beverage consumption market data combined with New York State Department of Environmental Conservation (NYSDEC) deposit initiation and redemption data for Region 2. Since the NYSDEC tracks deposits initiated or redeemed by dollars, the market consumption data is necessary to determine point of consumption (residential or commercial) and the material and size of the containers. The types of the various containers, by material and size, will impact the tons generated and recovered. The most recent data available were used in this analysis.

An estimated 28,000 tons of deposit glass containers were recovered through recycling facilities in 2002 (see Volume II, Appendix A). This same quantity was assumed for 2003. Although most of the deposit glass containers are from beer products, some wine products are also included. An analysis of beer consumption market data[1] would suggest an 85% commercial recycling rate of glass deposit containers in the City. NYSDEC deposit redemption data estimates a combined residential and commercial return rate of 72% for beer containers in 2001.[2] This suggests that the commercial sector recovers glass beer bottles at a higher rate than the residential sector.

The quantity of aluminum beer container generation was first estimated from The Beer Institute market consumption data, by gallons, for New York State adjusted to the City by population. On-premise sales of beer in aluminum packaging were estimated from national data.[3] The number of containers estimated from the marketing consumption data was then adjusted to match the NYSDEC deposit initiation data. Although the initiation of a deposit in the City, as tracked by NYSDEC, doesn't guarantee consumption within the City, the NYSDEC data is the best available information.[4] The adjusted number of containers was converted to tons with the factor 33.8 cans per pound.[5] The generation estimate was then combined with the NYSDEC average

---

[1] The Beer Institute data by gallons consumed and packaging mix for New York State 2000 adjusted to 2001 from U.S. consumption data (www.beerinstitute.org). The data year 2000 was the latest available at the state level. Commercial on-premise sales by volume estimated from Miller Brewing Company 2002 national data (Chapters 1 and 2 www.sabmiller.com/beer%20is%20volume%20with%20profit.).

[2] NYSDEC. Beverage Container Deposit and Redemption Statistics, October 1, 2000 – September 30, 2001.

[3] Commercial on-premise sales by volume and packaging estimated from Miller Brewing Company 2002 national data (Chapters 1 and 2 www.sabmiller.com/beer%20is%20volume%20with%20profit.).

[4] The market consumption data estimate was 6% lower than the NYSDEC deposit initiation data.

[5] The Aluminum Association, 2004, www.aluminum.org.

redemption rate of 72% to estimate commercial aluminum beer container recycling in the City. The NYSDEC 2001 Region 2 redemption rate which combines both residential and commercial redemption was assumed for 2003. This analysis estimated 450 tons of aluminum beer containers were recycled from the City's commercial sector through the deposit system.

Similar to aluminum beer containers, aluminum and plastic deposit soda containers were estimated from a combination of market consumption data,[6] packaging data,[7] and NYSDEC deposit data. The Northeast regional market consumption data combined with the packaging data predicted a number of deposit containers in the City greater than the NYSDEC statistics. The City estimate, based on regional consumption, was reduced approximately 50% to match NYSDEC deposit initiation data. A call to a soft drink industry representative verified that the City does consume soft drinks at a level below the Northeast regional average. The specific level of consumption is not available to the public. The estimated generation of containers developed from the market consumption data and NYSDEC deposit initiation data was then combined with NYSDEC deposit redemption data. The NYSDEC estimated that soda containers were redeemed at a 49% rate in 2001. This rate was assumed for 2003. This analysis estimated 1,400 tons of plastic soda containers and 1,150 tons of aluminum soda containers were recycled from the commercial sector through the deposit system.

---

[6] Beverage World, Regional soft drink consumption, May 2002. Gallons consumed per person per year.
[7] Datamonitor, United States - Soft Drinks Industry Profile, October 2002, www.datamonitor.com.

APPENDIX D

COMMERCIAL PUTRESCIBLE WASTE 20-YEAR FORECAST

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ATTACHMENTS

Attachment 1 Estimated Commercial Putrescible Waste Generation, 2003 through 2024, by Borough

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1.0 COMMERCIAL PUTRESCIBLE WASTE PROJECTIONS

This section of the Commercial Waste Management Study (Study) includes projections of commercial putrescible waste through the year 2024. The purpose of the commercial putrescible waste forecasts is to provide New York City (City) with an estimation of the quantity of waste that will have to be transferred and disposed over a 20-year planning period, as mandated by the Comprehensive Solid Waste Management Plan (New SWMP).

These projections are based on the following assumptions:

- Waste generation, on an average tons per employee basis, remains at 2003 levels for each borough;
- Waste generation, on an average tons per employee basis, remains constant across the community districts (CDs) within each borough; and
- The percentage recycling of waste generation, by borough, remains at 2003 levels.

By maintaining waste generation and recycling rates at 2003 levels, the projections in this section increase by the projected change in employment. Since world markets impact recycling, the more conservative approach of holding recycling rates at 2003 levels was chosen. No one can foresee with accuracy changes in the economy (e.g., booms and recessions), which affect the amounts of waste generation. In addition, it is difficult to predict how innovations and new products will affect the amounts. However, in spite of inherent limitations, for planning purposes it is still useful to look at projections.

These projections of the putrescible fraction of the City's commercial waste are based upon:

- Quarterly in-City putrescible Transfer Station reports for 2003 (City Department of Sanitation [DSNY] Quarterly Transfer Station Reports, or Quarterly Reports);
- The estimate of commercial putrescible waste recycling quantities developed from the Business Integrity Commission (BIC) and DSNY 2003 survey data, plus estimated recycling at City Transfer Stations, plus estimated recycling through the deposit container redemption system; and
- Current and projected employment statistics.

1.1 2003 Baseline Estimate of Commercial Putrescible Waste

An employment-based generation model was used, for comparison purposes, to estimate 2003 commercial putrescible waste quantities. Current employment statistics (2003) were entered into the model and the model results were then compared to the generation estimate developed from the BIC-DSNY carter survey conducted in 2003 and reported in this Study in Volume II, Appendix C. The employment-based generation model estimate is approximately 12% higher than the 2003 BIC-DSNY carter survey results.

The employment-based generation model results were also compared to the generation estimate developed from the Quarterly Reports plus the recycling estimates. The Quarterly Reports disposal estimate was based on the first three quarters of 2003; the data were annualized. The employment-based generation model estimate is approximately 10% higher than the Quarterly Reports plus the recycling estimate.

It was determined that the 2003 Quarterly Reports plus the recycling estimate provided a baseline estimate that was more realistic than the employment-based model. Therefore, the 2003 Quarterly Reports plus the commercial recycling estimate was chosen as the baseline for the New SWMP Planning Period forecast estimates.

For the projection estimates, the 2003 generation estimate developed from the Quarterly Reports plus the commercial recycling estimate was used to create factors that were then applied to City employment forecast data. Employment was chosen as the forecast indicator because job growth (or loss) will directly affect waste generation. Additionally, since employment forecast data are readily available, the waste quantity projections can be adjusted when the City employment forecast data are updated. The factors remained constant through the time series. The forecast estimates are in four- or five-year intervals through 2024.

1.2 Development of City Employment Forecast Data

Employment data were developed by Parsons Brinckerhoff using data from the New York Metropolitan Transportation Council (NYMTC). (See Volume II, Appendix B, Attachment 1.) NYMTC prepared employment projections for the City through the year 2025 early in 2001, basing their projections on the most current employment data available at that time. The categories of employment included total employment, total basic and total non-basic industries, and several "land use" categories (e.g., retail employment, office employment, etc.), which were pertinent to NYMTC tasks. The resultant NYMTC projections were prepared at county and census tract levels.

The 2000 NYMTC projections of employment were revised by NYMTC over the course of 2002 and 2003 to account for the effects of September 11 and superceded in July 2003 when an interim update of the projections was published by NYMTC in a supplement titled, "Demographic and Socioeconomic Forecasting Post September 11 Impacts, Technical Memoranda 3.1 and 3.2." This reported and accounted for the direct effects of September 11 -- both direct job loss in the City and geographic redistribution of employment within the City. These interim projections remained in the same format as the earlier projections (i.e., by counties and census tracts and using similar employment categories).

New projections from base years more recent than 2000 are under preparation by NYMTC at the time of this Study; however, at the time of this report, results were not available. Therefore, the interim projections have been utilized as the fundamental employment projection data on which the City Department of Sanitation (DSNY) waste estimation model relies.

Additional modifications to these interim projections, however, have been made in order to reflect baseline (2002) conditions at the CD level. First, the projections, which were available at the census tract level, have been translated into CDs according to City Department of City Planning (NYCDCP) guidance. Second, the job loss resulting from the effects of economic recession in the City, which was not reflected in the NYMTC interim projections, has also been incorporated into the projections on which the projections herein rely.

The NYMTC projections, which have been developed by its various associated agencies, account for such factors as regional trends in the metro area. They have also been made readily available to DSNY and are in public use. The interim projections, which also account for in-City redistribution of jobs since September 11, are the only such projections to 2025 available at the census tract level. These interim projections are necessary to generate employment projections for the New SWMP Planning Period. Therefore, in an effort to maximize the use of existing data, DSNY adjusted these projections only as necessary and possible to better reflect existing employment conditions, according to currently available employment data. Since the projections were prepared in five-year intervals from 2005 to 2025, a straight-line projection was assumed to derive projections for the year 2024.

The interim projections, once translated into CD-level geographies, were further adjusted to:

- Reflect 2000-2003 employment loss attributable to economic recession; and
- Maintain as accurately as possible the distribution of employment by industry sector.

Table 1.2-1 shows the employment forecast data, by borough, for 2003 through 2024.

1.3 Distribution of Commercial Putrescible Waste Generation to the Borough Level

The 2003 carter survey conducted by BIC-DSNY tabulated the origin of the commercial putrescible waste, by borough, as well as the quantities generated. These percentages were applied to the 2003 citywide waste generation total to estimate borough commercial putrescible waste generation. The origin of commercial putrescible waste by borough shown in this section reflects the percentages estimated through the survey.

The total quantity of waste generated in each borough in 2003 was divided by the total number of employees in each borough in 2003. These borough-specific average waste generation factors remained constant through 2024. The factors, on a tons per employee per year basis, are:

- Bronx 1.951;
- Brooklyn 1.381;
- Manhattan 0.677;
- Queens 1.312; and
- Staten Island 1.780.

Table 1.2-1
New York City Employment Forecast by Borough, 2003 through 2024

Borough	2003	2005	2010	2015	2020	2024
Bronx	203,965	204,865	211,763	217,157	227,169	234,905
Brooklyn	433,236	435,556	442,393	448,092	457,946	463,513
Manhattan	1,929,010	2,000,769	2,038,921	2,077,099	2,111,357	2,136,387
Queens	474,963	478,011	488,959	497,629	513,198	523,274
Staten Island	89,742	90,579	94,610	97,363	100,796	102,676
Total[(1)]	**3,130,916**	**3,209,780**	**3,276,646**	**3,337,340**	**3,410,466**	**3,460,755**

Note:
(1) Employment forecast data exclude education employees and local government employees.

The waste generation factors developed at the borough level were also assumed at the CD level. Tables showing commercial putrescible waste generation, at the CD level, are included as an attachment to this appendix. However, these estimates should be used with caution. The borough average generation factor may not be a good indicator for every CD within that borough, as one single large employer can greatly impact the average.

1.4 Commercial Putrescible Waste Recycled and Disposed Estimates

The commercial putrescible waste generation is that quantity of waste generated prior to any recycling efforts.[1] The 2003 BIC-DSNY survey of commercial collection firms, the estimated recycling at City Transfer Stations and estimated recycling through the deposit container redemption system were the sources for the recycled quantity estimates (for detail see Volume II, Summary Report, Table 3.2-1). The estimated recycling rates were developed from the 2003 data, which documented the quantity of materials recovered for recycling. To calculate the recycling rate, the quantity of recycled material was divided into the sum of recycled material plus waste disposed as determined from the 2003 Quarterly Reports. The data allowed for this calculation at the borough level. The recycling rates, by borough, are assumed to remain constant through 2024. For example, Manhattan recycled approximately 29% of the commercial putrescible waste that they generated in 2003 (71% was disposed); this rate (29%) was assumed through 2024 for Manhattan. The recycling percentages then were applied to the forecasted waste generation to obtain tonnage estimates for each four- or five-year interval.

The disposal estimates equal commercial putrescible waste generation minus commercial putrescible recycling for each borough.

1.5 Development of Final Database and Results

The final database for the commercial putrescible waste projections combined the generation factors developed from 2003 data collected by the in-City putrescible Transfer Stations in the Quarterly Reports plus the recycling estimate, the employment forecasts by borough and CD, waste origin (from the BIC-DSNY survey) and estimated recycling rates developed from the 2003 recycling data.

---

[1] Generation equals recycling plus disposal.

Table 1.5-1 shows citywide generation, recycling and disposal estimates for 2003 and 2005 through 2024 at four- or five-year intervals. Waste origin, by borough, is included in Table 1.5-2. Commercial putrescible waste generation by borough is shown in Table 1.5-3. The estimated recycling rate for each borough is shown in Table 1.5-4, and commercial putrescible waste recycling and disposal estimates, by borough, are shown in Tables 1.5-5 and 1.5-6.

Table 1.5-1
New York City Estimated Commercial Putrescible Waste Generation, Recycling and Disposal, 2003 through 2024

New York City	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
Generation	3,086,000	3,145,000	3,214,000	3,275,000	3,358,000	3,414,000
Recycling	824,000	840,000	858,000	874,000	895,000	909,000
Disposal	2,262,000	2,305,000	2,356,000	2,401,000	2,463,000	2,505,000

Table 1.5-2
Origin of Commercial Putrescible Waste Generation by Borough, 2003[(1)(2)]

	Percent of Generation
Bronx	12.9%
Brooklyn	19.4%
Manhattan	42.3%
Queens	20.2%
Staten Island	5.2%
New York City	100%

Notes:
(1) Numbers may not add due to rounding.
(2) Source: Commercial Waste Management Study, Volume II, Appendix C.

Table 1.5-3
Generation of Commercial Putrescible Waste by Borough, 2003 through 2024[(1)(2)(3)]

	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
Bronx	398,000	400,000	413,000	424,000	443,000	458,000
Brooklyn	599,000	602,000	611,000	619,000	633,000	640,000
Manhattan	1,306,000	1,355,000	1,380,000	1,406,000	1,429,000	1,446,000
Queens	623,000	627,000	642,000	653,000	673,000	687,000
Staten Island	160,000	161,000	168,000	173,000	180,000	183,000
Total (tons/yr)	**3,086,000**	**3,145,000**	**3,214,000**	**3,275,000**	**3,358,000**	**3,414,000**

Notes:
(1) 2003 numbers derived by multiplying generation quantities (Table 1.5-1) by borough of origin (Table 1.5-2). 2005 through 2024 numbers derived from employment generation factors.
(2) Numbers may not add due to rounding.
(3) Numbers for 2003 are preliminary, and not based upon a full year's worth of data. These numbers will be updated when data are available.

Table 1.5-4
Estimated Commercial Putrescible Waste Recycling Rate by Borough[(1)]

	Percent of Generation
Bronx	19.3
Brooklyn	29.2
Manhattan	28.6
Queens	28.3
Staten Island	14.4
New York City	26.7

Notes:
(1) Source: Percentages calculated from 2003 BIC-DSNY carter survey data or recycling at City Transfer Stations plus estimated recycling through the deposit container redemption system. It should be noted that these percentages are based upon preliminary data for 2003, and will be updated as more information becomes available.

Table 1.5-5
Recycling of Commercial Putrescible Waste by Borough, 2003 through 2024[(1)(2)]

	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
Bronx	77,000	77,000	80,000	82,000	86,000	89,000
Brooklyn	175,000	176,000	179,000	181,000	185,000	187,000
Manhattan	373,000	387,000	394,000	402,000	408,000	413,000
Queens	176,000	177,000	181,000	184,000	190,000	194,000
Staten Island	23,000	23,000	24,000	25,000	26,000	26,000
Total (tons/yr)	**824,000**	**840,000**	**858,000**	**874,000**	**895,000**	**909,000**

Notes:
(1) Derived by multiplying generation quantities (Table 1.5-3) by borough estimated recycling rate (Table 1.5-4).
(2) Numbers may not add due to rounding.

Table 1.5-6
Disposal of Commercial Putrescible Waste by Borough, 2003 through 2024[(1)(2)]

	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
Bronx	321,000	323,000	333,000	342,000	357,000	369,000
Brooklyn	424,000	426,000	432,000	438,000	448,000	453,000
Manhattan	933,000	968,000	986,000	1,004,000	1,021,000	1,033,000
Queens	447,000	450,000	461,000	469,000	483,000	493,000
Staten Island	137,000	138,000	144,000	148,000	154,000	157,000
Total (tons/yr)	**2,262,000**	**2,305,000**	**2,356,000**	**2,401,000**	**2,463,000**	**2,505,000**

Notes:
(1) Derived by subtracting recycling quantities (Table 1.5-5) from generation quantities (Table 1.5-3).
(2) Numbers may not add due to rounding.

Attachment 1

Estimated Commercial Putrescible Waste Generation, 2003 through 2024, by Borough

Bronx
Estimated Commercial Putrescible Waste Generation, 2003 through 2024

Community District	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
1	41,200	41,300	42,800	43,900	46,000	47,600
2	30,800	31,700	32,500	33,200	34,400	35,300
3	18,200	18,200	18,800	19,300	20,200	20,900
4	37,300	37,400	38,800	39,900	42,000	43,700
5	19,300	19,400	20,200	21,000	21,900	22,800
6	25,500	25,500	26,300	26,900	28,000	28,900
7	48,600	48,700	50,500	51,800	54,300	56,200
8	29,500	29,600	30,800	31,700	33,300	34,600
9	32,000	32,000	33,300	34,200	36,000	37,300
10	31,800	31,900	32,900	33,600	35,100	36,200
11	46,400	46,500	47,800	48,800	50,700	52,200
12	37,400	37,500	38,700	39,600	41,300	42,600
Total[(1)]	**398,000**	**399,700**	**413,400**	**423,900**	**443,200**	**458,300**

Notes:
(1) Numbers may not add due to rounding.

Brooklyn
Estimated Commercial Putrescible Waste Generation, 2003 through 2024

Community District	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
1	56,500	56,800	57,700	58,400	59,700	60,400
2	105,100	105,700	107,400	108,800	111,100	112,500
3	25,200	25,300	25,700	26,000	26,600	26,900
4	17,400	17,500	17,800	18,000	18,400	18,600
5	31,300	31,400	31,900	32,300	33,100	33,500
6	37,200	37,400	38,000	38,500	39,300	39,800
7	35,700	35,900	36,400	36,900	37,700	38,200
8	14,700	14,800	15,100	15,300	15,600	15,800
9	16,400	16,500	16,800	17,000	17,400	17,600
10	30,700	30,900	31,300	31,700	32,400	32,800
11	29,400	29,500	30,000	30,400	31,000	31,400
12	46,700	47,000	47,700	48,300	49,400	50,000
13	18,100	18,200	18,500	18,700	19,100	19,300
14	31,800	31,900	32,400	32,900	33,600	34,000
15	34,200	34,400	35,000	35,400	36,200	36,600
16	11,600	11,600	11,800	12,000	12,200	12,400
17	24,500	24,700	25,100	25,400	25,900	26,300
18	32,100	32,300	32,800	33,200	33,900	34,300
Total[1]	**598,600**	**601,800**	**611,400**	**619,200**	**632,600**	**640,400**

Notes:
(1) Numbers may not add due to rounding.

Manhattan
Estimated Commercial Putrescible Waste Generation, 2003 through 2024

Community District	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
1	198,800	204,100	206,900	209,800	212,300	214,200
2	86,500	87,200	87,600	88,000	88,300	88,500
3	27,400	27,700	27,900	28,000	28,200	28,300
4	99,900	122,300	134,100	146,000	156,600	164,400
5	533,500	545,900	552,500	559,100	565,000	569,400
6	155,400	159,300	161,400	163,500	165,400	166,800
7	45,900	47,000	47,600	48,300	48,800	49,200
8	89,700	90,500	90,900	91,400	91,700	92,000
9	22,000	22,000	22,000	22,000	22,000	22,000
10	8,600	9,100	9,300	9,500	9,800	9,900
11	21,200	22,400	23,000	23,600	24,100	24,500
12	15,200	15,200	15,200	15,200	15,200	15,300
Central Park	1,800	1,800	1,800	1,800	1,800	1,800
Total[(1)]	**1,305,900**	**1,354,500**	**1,380,200**	**1,406,200**	**1,429,200**	**1,446,300**

Notes:
(1) Numbers may not add due to rounding.

Queens
Estimated Commercial Putrescible Waste Generation, 2003 through 2024

Community District	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
1	66,000	66,400	68,000	69,300	71,600	73,100
2	67,400	67,800	69,300	70,600	72,700	74,200
3	53,300	53,600	54,800	55,800	57,500	58,600
4	33,700	33,900	34,700	35,300	36,400	37,100
5	54,400	54,800	56,000	57,000	58,800	59,900
6	86,300	86,800	88,800	90,400	93,200	95,000
7	69,400	69,800	71,400	72,600	74,900	76,400
8	34,300	34,500	35,300	35,900	37,100	37,800
9	20,200	20,400	20,800	21,200	21,800	22,300
10	13,800	13,900	14,200	14,500	14,900	15,200
11	26,800	27,000	27,600	28,100	29,000	29,500
12	62,900	63,300	64,700	65,900	67,900	69,200
13	23,000	23,100	24,000	24,100	24,800	25,300
14	11,700	11,800	12,000	12,300	12,600	12,900
Total[(1)]	**623,200**	**627,100**	**641,600**	**653,000**	**673,200**	**686,500**

Notes:
(1) Numbers may not add due to rounding.

Staten Island
Estimated Commercial Putrescible Waste Generation, 2003 through 2024

Community District	2003 (tons)	2005 (tons)	2010 (tons)	2015 (tons)	2020 (tons)	2024 (tons)
1	86,100	86,900	90,700	93,400	96,700	98,500
2	49,500	50,000	52,200	53,700	55,600	56,600
3	24,200	24,400	25,500	26,200	27,200	27,700
Total[(1)]	**159,800**	**161,300**	**168,400**	**173,300**	**179,500**	**182,800**

Notes:
(1) Numbers may not add due to rounding.

APPENDIX E

NON-PUTRESCIBLE COMMERCIAL WASTE QUANTIFICATION AND PROJECTIONS

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1.0 ESTIMATED QUANTITIES OF CONSTRUCTION AND DEMOLITION DEBRIS AND CLEAN FILL

1.1 Introduction

This report estimates and projects through 2024 the quantities of non-putrescible waste and clean fill generated in New York City (City). Together, these two waste stream components are generally referred to as construction and demolition (C&D) debris. The City defines non-putrescible waste[1] and clean fill[2] according to the type of materials being discarded. Both waste streams consist of inert materials and both might include materials from building construction, demolition or renovation or materials resulting from non-building construction such as road or bridge work. Clean fill loads mostly consist of single materials such as dirt, concrete, asphalt millings or gravel. Non-putrescible waste tends to include these same materials, but generally in loads with multiple materials. Non-putrescible waste also includes many building-related materials, such as sheetrock, plaster, electrical cables, piping, window frames, etc.

Most communities in the United States do not separate C&D debris into the categories used by the City. Rather, C&D debris is broken down into two major categories: 1) building-related debris generated from building construction, demolition and renovation; and 2) non-building debris generated from activities such as road construction, sewer installation and bridge renovation or construction. In order to project C&D quantities for the City, predictive data series were obtained from F.W. Dodge, enabling predictions of building- and non-building-related C&D debris. As these are the only predictive data series available, the City Department of Sanitation's (DSNY) Consultant developed estimates of the sum of non-putrescible and clean fill for the City. Clean fill is projected by utilizing its historic percentage and applying that percentage to the sum of building-related and non-building-related C&D.

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[1] Non-putrescible solid waste, as defined in DSNY regulations (Subchapter A of 4 RCNY 16), is solid waste, whether or not contained in receptacles, that does not contain organic matter having the tendency to decompose with the formation of malodorous by-products, including but not limited to dirt, earth, plaster, concrete, rock, rubble, slag, ashes, waste timber, lumber, Plexiglas, fiberglass, ceramic tiles, asphalt, sheetrock, tar paper, tree stumps, wood, window frames, metal, steel, glass, plastic pipes and tubes, rubber hoses and tubes, electric wires and cables, paper and cardboard.

[2] Fill material, as defined in DSNY regulations, is only clean material consisting of earth, ashes, dirt, concrete, rock, gravel, asphalt millings, stone or sand, provided that such material shall not contain organic matter having the tendency to decompose with the formation of malodorous by-products.

1.2 Report Organization

This report is organized as follows. First, aggregate current quantities of C&D debris are determined, as reported in the DSNY's non-putrescible and fill material Quarterly Transfer Station Reports (Quarterly Reports). Next, future generation amounts are projected. To project C&D quantities into the future, however, it is necessary to relate the quantity of C&D to activities that result in the generation of this waste. The factors utilized are the projected amount of building activity and non-building construction and maintenance activity. Section 3.0 presents estimates of C&D in the City categorized as building-related and non-building-related, using data from F. W. Dodge regarding the level of such activities. These projections are used to derive an overall C&D estimate range, which in turn is separated into DSNY's categories using the relative proportions observed in recent years. The results are summarized and compared to those obtained in several other jurisdictions.

2.0 C&D DEBRIS IN NEW YORK CITY

2.1 Background

In 2000, there were 30 non-putrescible Transfer Stations (TSs) in the City. By early 2003, the number had been reduced to 28. These non-putrescible Transfer Stations typically receive C&D debris in roll-off containers. C&D debris consists of all the inert materials generated during building construction, demolition or remodeling. These materials include wood, metals, sheetrock, concrete, porcelain fixtures, appliances, carpeting, tiles, roofing materials, and, from non-building sources, asphalt, fill and large metals. Some Transfer Stations sort the materials to recover recyclables, such as metal, wood and aggregate. C&D debris, less quantities recycled, must be disposed of in landfills outside the City limits. After recycling and/or densification, the residuals of C&D processing are hauled out of the City in transfer trailers for disposal.

Most new construction in the City takes place on sites that require the demolition of existing buildings, while renovation is common in commercial and residential buildings when there is a change of tenancy. Typically, C&D debris is collected by a firm in the waste hauling (carter) or recycling business, hired as a subcontractor by the firm doing the construction, demolition or renovation work. C&D carters are licensed by the Business Integrity Commission (BIC). A small minority of the C&D debris is self-hauled by the firm or resident doing the work.

2.2 DSNY Quarterly Transfer Station Reports

The private non-putrescible Transfer Stations in the City are required to provide Quarterly Reports to the DSNY on the quantities of materials received, processed, recycled and disposed. As of early 2003, four (4) of these Transfer Stations did not use scales to weigh inbound loads; their reports list cubic yards received, which are converted to tons using density factors for various materials. Mixed C&D debris is converted to tons at a density of 1,500 pounds per cubic yard (lbs/cy).[3] Loads of recyclables are converted at a density of 500 lbs/cy. Most loads of a

[3] This is the density factor for C&D debris provided by the New York State Department of Environmental Conservation (NYSDEC).

single type of fill material (road building material, gravel, dirt, rocks, asphalt, and concrete) are converted at densities of approximately 2,200 lbs/cy. In 2000, approximately 49% of the materials received by non-putrescible Transfer Stations was weighed. By 2003, the figure rose to approximately 60%.

In early 2003, there were 20 fill material Transfer Stations licensed by the DSNY. None of these stations weighed incoming or outgoing debris. These materials are converted to tons either by the Transfer Station itself or by the DSNY, using the density factors for various materials referred to above.

Table 2.2-1 presents a summary of reported and estimated tons received by non-putrescible and fill material Transfer Stations for the first quarter of 2003. As indicated, there is a difference in the average weight of mixed C&D arriving at non-putrescible Transfer Stations and fill material Transfer Stations. In early 2003, approximately 60% of the non-putrescible Transfer Stations weighed incoming materials received just over 80% of aggregate non-putrescible materials. These stations provide DSNY with both cubic yards and tons of this material. When the density is actually computed for these weighed tons of mixed C&D debris, the density is 732 lbs/cy (calculated density). The DSNY uses 1,500 lbs/cy to estimate the weight of materials reported by non-putrescible Transfer Stations without scales. For the first quarter of 2003, estimated tons of mixed C&D debris are equal to 526,623 tons at the default density of 1,500 lbs/cy, and 443,927 tons at the calculated density of 732 lbs/cy. Assuming the unweighed tons approximate the provided density of 732 lbs/cy for the weighed tons, this results in an aggregate overestimate equal to 82,676 tons. It should be noted that these estimates are preliminary, as a full year's worth of data was not available at the time that this estimate was prepared, and are only utilized for comparative purposes.

Table 2.2-1
2003 DSNY C&D Debris
Utilizing Data for First Quarter of 2003

Input Material	Default Density (lbs/cy)	Tons by Type of Transfer Station		
		Non-Putrescible	Clean Fill	Total
Mixed C&D				
Weighed tons		351,085	78,789	429,874
calculated density (lbs/cy)		732	2,173	
Estimated tons	1,500			
@ calculated density		78,780	154,935	233,715
@ default density		161,456	224,422	385,878
Concrete	2,260	2,547	233,255	234,227
Road building material	2,320	991	76,833	77,824
Rock/Dirt/Fill	2,420	3,432	578,384	582,948
Gravel/Stone/Rocks	2,420	0	15,521	15,521
Bulk metal	500	963	0	1,281
Wood	500	4,717	0	6,274
Total tons				
@ calculated density		442,515	1,137,718	1,581,665
@ default density		526,191	1,207,205	1,733,828
Overestimate (Underestimate)		**82,676**	**(69,487)**	**13,189**
As a percent of total at calculated density		18.7%	-5.8%	0.8%

Notes:
lbs/cy = pounds per cubic yard

For fill material, the provided density is 2,173 lbs/cy for mixed C&D while the default density used by DSNY remains at 1,500 lbs/cy. Thus, fill is underestimated by 277,949 tons, which amounts to 5.8% of the total quantity of fill.

When aggregated, these overestimates and underestimates approximately cancel each other out. There is a less than 1% difference in the total tons computed using the provided density and the total tons computed using the default density. Some variation may be expected given the varying densities of the various components comprising C&D. As greater quantities of the heavier clean fill are delivered, DSNY may be underestimating the tonnage by utilizing the default density of 1,500 lbs/cy. The DSNY's aggregate C&D figures will be utilized as the baseline to project the total quantity of non-putrescible waste from the year 2003 through 2024.

2.3 Total Estimated Quantities of C&D Debris

Table 2.3-1 presents the daily average tonnages of fill and non-putrescible material by quarter, for the years 2000 through the first three quarters of 2003. As shown by this table, the amount of non-putrescible waste has increased by approximately 8.9% since the year 2000. Fill material, however, has increased dramatically over the same period of time, increasing by 70.1%. This same rate of growth cannot be expected to continue through the New SWMP Planning Period, and shows the high degree of variability in C&D generation from year to year. This variability makes it difficult to predict the future generation of C&D quantities and leads to the conclusion that a range of values may be more appropriate for predicting future C&D quantities.

Table 2.3-2 also presents the DSNY-reported quantities of clean fill and non-putrescible waste, which together equal the total quantity of C&D waste in the City, for the years 2000, 2001, 2002 and 2003, both on a tons per day and tons per year basis. C&D ranged from 6.35 million tons in 2000 to 7.91 million tons in 2002. For 2003, total tons are estimated at 8.64 million, by utilizing data from the first three quarters of 2003, and assuming that the 4th quarter would average 100% of the 3rd quarter for fill, and 90% of the 3rd quarter for C&D (as was the case in years 2000-2002). Average daily tonnage is in the 20,000 to 27,000 range, and it has increased steadily over these four years. It is not known if the trend will continue to rise, or if tonnages will, over time, revert to quantities more typical of the year 2000. The average of the three years for which complete data is available is just under 7 million tons. As also shown by the table, on average, clean fill represented approximately 60% of the total amount of C&D for the years 2000 through 2002, and non-putrescible C&D represented the remaining 40%. However, as shown by the 2003 data, clean fill appears to be accounting for an ever larger percentage of C&D debris, totaling almost 70%. Therefore, in allocating the total quantity of non-putrescible waste into C&D and clean fill constituents, a range will be shown with clean fill constituting between 60% and 70% of the total material, and C&D constituting between 30% and 40% of the total.

Table 2.3-1
DSNY Quarterly Reports
Year 2000-2003

DSNY Quarterly Reports Data - Fill Material				
Period	**2000 (tpd)**	**2001 (tpd)**	**2002 (tpd)**	**2003 (tpd)**
Quarter 1	8,847	9,192	12,347	14,801
Quarter 2	11,819	13,024	15,875	20,054
Quarter 3	11,687	12,258	19,186	20,718
Quarter 4	11,210	12,348	19,505	N/A
Average of all Quarters	10,891	11,706	16,728	18,524
% Change Year to Year		7.5%	42.9%	10.7%
% Change from Year 2000 to Year 2003				**70.1%**
DSNY Quarterly Reports Data - Non-Putrescible (C&D) Material				
Period	**2000 (tpd)**	**2001 (tpd)**	**2002 (tpd)**	**2003 (tpd)**
Quarter 1	8,022	9,438	8,065	7,020
Quarter 2	9,854	10,562	8,567	9,303
Quarter 3	10,726	10,078	9,222	9,580
Quarter 4	9,301	8,862	8,587	N/A
Average of all Quarters	9,475	9,735	8,610	8,634
% Change Year to Year		2.7%	11.6%	0.3%
% Change from Year 2000 to Year 2003				**-8.9%**

Table 2.3-2
Total Estimated Quantity of C&D in New York City

Item	Year			Average	2003[2]
	2000	2001	2002		
Tons per day input[1]					
Non-Putrescible C&D	9,475	9,735	8,610	9,274	8,626
Clean Fill C&D	10,891	11,706	16,729	13,109	19,069
Total C&D	20,366	21,441	25,340	22,382	27,695
Tons per year input					
Non-Putrescible C&D	2,956,200	3,037,398	2,686,398	2,893,332	2,691,390
Clean Fill C&D	3,398,070	3,652,194	5,219,526	4,089,930	5,949,450
Total C&D	6,354,270	6,689,592	7,905,924	6,983,262	8,640,840
Clean fill as percent of Total C&D	53.5%	54.6%	66.0%	58.6%	68.9%

Notes:
(1) Based upon 312 days per year of operation.
(2) 2003 consists of first three quarters, plus fourth quarter estimated at 90% of third quarter for non-putrescible and 100% of third quarter tonnages for fill material.

3.0 RESIDENTIAL CONSTRUCTION AND DEMOLITION DEBRIS ESTIMATES

This section provides estimates of the generation of C&D debris from residential construction, demolition and renovation. In order to approximate the difference in the characteristics of the City's housing stock in Staten Island compared to the other four boroughs, single-family C&D generation factors are used for Staten Island, and multi-family/commercial figures are used for the remaining boroughs.

3.1 Residential C&D Generation Factors

In order to estimate residential construction, demolition and renovation debris, one must first obtain waste generation factors specific to these activities in the residential sector. These waste generation factors were assembled, using a combination of sources obtained from the literature and surveys of construction firms and C&D haulers in the New York region. Next, the square footage of residential construction, demolition and renovation is projected through the year 2024. Finally, the appropriate residential waste generation factor is multiplied by the square footage to estimate C&D generation.

Table 3.1-1 presents the data used to derive waste generation factors. In summary, these averages used to estimate C&D from construction, demolition and renovation are:

- Residential construction debris at a rate of 4.10 pounds per square foot for single-family construction and 3.99 pounds per square foot for multi-family construction. This is combined into a weighted average of 4.02 pounds per square foot.
- Residential demolition debris at a rate of 85.10 pounds per square foot for single-family dwellings and 50.50 pounds per square foot for multi-family dwellings.
- Residential renovation at a weighted average rate of 27.30 pounds per square foot.

Table 3.1-1
Residential Construction, Demolition and Renovation Waste Generation Factors

Generation Factor (Pounds per Square Foot)	Comments	Source
4.00	National single-family	Jim Johnson, "OCC Means Volume at Sites," *Waste News*, March 31, 2003. Source: National Association of Home Builders Research Center.
5.47	Converted from 0.012 to 0.02 cubic yards/square foot @ 342 lbs/cubic yard. (See Table A-2)	*Illinois Construction and Demolition Site Recycling Guidebook,* Illinois Department of Commerce and Community Affairs. November 1997.
4.38	National single-family	Franklin Associates, Ltd. *Characterization of Building-Related Construction and Demolition Debris in the United States,* United States Environmental Protection Agency (USEPA), Office of Solid Waste, EPA530-R-98-010. June 1998.
2.96	Illinois sample. Average of range 1.92 –4.0 pounds per square foot.	*DuPage County Construction and Demolition Waste Survey and Education Program Report*, DuPage County Solid Waste Department and Illinois Department of Commerce and Community Affairs, November 1997.
3.35	1.5 pounds of wood /square foot, comprising 44.8% of residential construction debris.	Jim Johnson, "All Roads Lead to Landfill," *Waste News*, March 31, 2003. Source: National Association of Home Builders Research Center.
4.47	Average of 1.3 to 2.1 lbs. of wood /square foot, comprising 44.8% of residential construction debris.	Lynn Merrill, "Small Guys, Big Business," *Waste Age,* October 2000 Source: National Association of Home Builders Research Center.
4.10	National single-family. Average of 3.0 to 5.2 pounds per square foot.	*Residential Construction Waste Management: A Builder's Field Guide,* National Association of Home Builders Research Center.
4.10	**Average Single-Family Construction**	
3.99	**Average Multi-Family Construction (New York City)**	**Interviews with five construction companies in New York City.**
115.00	National single-family (1)	Franklin Associates, Ltd. *Characterization of Building-Related Construction and Demolition Debris in the United States,* USEPA, Office of Solid Waste, EPA530-R-98-010. June 1998.
55.20	Single-family demolition, 0.1 cubic yards per square foot, converted at 552 pounds per sq. ft.	Interview with Haggard Construction and WLNNS Demolition, Hopatcong, New Jersey.
85.10	**Average Single-Family Demolition**	
64.40	Multi-family public housing in Hartford, CT.	USEPA, *Building Savings: Strategies for Waste Reduction of Construction and Demolition Debris from Buildings, June 2000.*
36.56	Multi-family demolition, estimated at 0.0666 cubic yards per square foot, converted at 549 pounds per square foot.	Interview with URS Engineers, New York, New York (Chief Estimating Engineer).
50.50	**Average Multi-Family Demolition**	
9.0	Average of 7 to 11 pounds for whole house remodeling. 10% weighting.	*A Field Guide for Residential Remodelers,* National Association of HomeBuilders Research Center.
35.5	Average of 4 to 67 pounds per square foot, kitchen remodeling. 40% weighting.	*A Field Guide for Residential Remodelers,* National Association of HomeBuilders Research Center.
37.5	Average of 5 to 70 pounds per square foot, bathroom remodeling. 30% weighting.	*A Field Guide for Residential Remodelers,* National Association of HomeBuilders Research Center.
4.0	Average of 3 to 5 pounds per square foot, roof remodeling. 10% weighting.	*A Field Guide for Residential Remodelers,* National Association of HomeBuilders Research Center.
5.5	Average of 3 to 8 pounds per square foot, deck remodeling. 10% weighting.	*A Field Guide for Residential Remediless,* National Association of Homebuilders Research Center.
27.3	**New York City Residential Renovation Weighted Average**	

Note:

(1) This estimate includes concrete from basements, slabs, and driveways. Without these inclusions, the Franklin Associates figure for single-family is 49.5 pounds per square foot.

The waste generation factors for residential construction debris in Table 3.1-1 indicate that there is a general consensus on the waste generation rates per square foot of residential construction. Of the seven sources, four are in the 4.00 to 4.50 pounds per square foot range. The average waste generation is 4.10 pounds per square foot.

For multi-family construction waste generation, the average of information obtained during interviews with five City construction firms is used. This is derived based on the following average scenario: container use over the course of an average multi-family construction job averages one 30-cubic-yard container per week. This would apply to construction of a 25-story building with 375,000 square feet, occurring over 18 to 24 months, or in 21 months on average. Over the course of this 1.75-year period, 2,730 cubic yards of debris would be generated, which equates to 749 tons of debris, using a construction debris density of 549 lbs/cy. (See Attachment 1 and Table A-2.) This equates to a generation rate of 3.99 pounds per square foot. This is the generation factor used for multi-family construction.[4] Except for Staten Island, which has a high proportion of single-family housing, most of the City's residential construction is multi-family units. A weighted average generation factor of 4.02 pounds per square foot was applied to account for the relative weighting of projected square footage of single- and multi-family construction in the City.

3.2 Projections of Residential Construction, Demolition and Renovation Activity

Data on the annual square feet of residential construction in each of the City's five boroughs was obtained from F.W. Dodge. These data are actual figures through 2002, and estimates through 2007. A least squares regression was fitted to the available data and the resulting equation was used to estimate square feet of construction in the City through 2024. The square feet of residential construction within the City between 1997 and 2007 can be estimated using the following equation:

[4] As most of the United States is housed in single-family or low-rise multi-family structures, there are few estimates of higher-rise multi-family C&D generation rates in the literature.

$$MRSF = 10.4583 + 3.92963 * \ln(t) \qquad R^2=0.83$$
$$(10.09) \quad (6.60)$$

where:

MRSF = millions of residential square feet

10.4583 = the intercept of the equation computed by least squares regression

ln(t) = the natural logarithm of the variable t, which represents time and takes the value of 1 for 1997, 2 for 1998, and so on through 28 for 2024

3.92963 = the coefficient of the variable ln(t), computed by least squares regression

The values of the t-statistics show the precision with which the intercept and the coefficient of the independent variables have been estimated and are presented in parentheses below the estimated constants. These values indicate significance at a 99% level of confidence. The R^2 indicates the percentage of the overall variation in the data, which is explained by the equation – more than 83% of the variation is explained by this simple estimating equation. This methodology is used to estimate the new square footage of residential construction that is shown in Table 3.2-1.

With respect to demolition debris, given the City's built environment, new construction generally requires the demolition of existing buildings. Most often, the replacement building is larger than the demolished building. A timeline for demolition on any plot of land was hypothesized as a basis for estimating the quantity of residential demolition debris. That timeline is:

- 50% would have been demolished in the year prior to construction;
- 30% two years before construction;
- 10% three years before construction; and
- 10% four years before construction.

The square footage demolished is assumed to equal 90% of new construction. These assumptions generated a time series for residential square feet demolished that closely mirrors that of residential construction. The square feet demolished are multiplied by the per square foot demolition debris factor to estimate residential demolition debris. The residential square feet of demolition are shown in the third column of Table 3.2-1.

Table 3.2-1
Projected Residential Construction, Demolition and Renovation in New York City

Year	Residential Construction (Millions of Square Feet)	Residential Demolition (Millions of Square Feet)	Residential Renovation (Millions of Square Feet)
2000	16.688	15.69	4.75
2001	18.932	16.37	3.93
2002	17.163	15.82	3.10
2003	16.944	16.31	0.52
2004	18.904	17.40	1.06
2005	20.225	17.77	0.44
2006	19.626	17.29	0.80
2007	18.529	16.91	1.26
2008	18.870	17.20	1.36
2009	19.184	17.46	1.51
2010	19.474	17.71	1.69
2011	19.745	17.94	1.91
2012	19.998	18.16	2.17
2013	20.235	18.36	2.45
2014	20.460	18.56	2.76
2015	20.672	18.74	3.10
2016	20.873	18.91	3.46
2017	21.064	19.08	3.85
2018	21.246	19.24	4.26
2019	21.420	19.39	4.70
2020	21.587	19.54	5.16
2021	21.747	19.68	5.64
2022	21.901	19.81	6.14
2023	22.049	19.94	6.66
2024	22.192	20.06	7.21

The square footage demolished is assumed to equal 90% of new construction. These assumptions generated a time series for residential square feet demolished that closely mirrors that of residential construction. The square feet demolished are multiplied by the per square foot demolition debris factor to estimate residential demolition debris. The residential square feet of demolition are shown in the third column of Table 3.2-1.

Data on the square feet of residential renovations are not readily available. However, F.W. Dodge does collect data reporting the total value of residential renovation and new construction for each of the City's boroughs. The estimated square footage of residential renovation can be derived from this overall estimate. (See Attachment 1 for a description of how these computations were performed.)

Residential expenditures for renovation and new construction are projected from 2008 to 2024 at the average rate of growth projected from 2003 to 2007 -- 2.18%. Table 3.2-1 presents estimates of annual square footage of residential renovation, using a generation factor per square foot of residential space renovated, shown in Table 3.1-1. This factor is computed by taking a weighted average of generation rates for different types of remodeling. Kitchens, with an average of 35.5 pounds per square foot, and baths, with an average of 37.5 pounds of waste per square foot, are rooms most frequently remodeled, and they are accorded 40% and 30%, respectively, in the weighted average. The other types of remodeling are: whole house, generating an average of 9 pounds per square foot; roof renovation, generating an average of 4 pounds per square foot; and deck renovation, generating an average of 5.5 pounds per square foot. Each of these categories is weighted 10% in the average. The weighted average debris generation factor is 27.3 pounds per square foot of residential renovation.

3.3 Projected Residential C&D Debris

Estimates of residential C&D debris are presented in Table 3.3-1. The form of the equation used to predict future construction activity in the residential sector is one that does not create any peaks or troughs, but rather generates a steady increase over time. Although the construction industry is known for its cyclical behavior, it is beyond the scope of this Commercial Waste Management Study (Study) to predict when economic cycles will occur. Thus, what will actually occur can be expected to differ from the steady trend predicted in this estimate.

Estimates of residential construction debris increases from 21,003 tons in 1997 to 31,952 in 2000, with further increases occurring at a slower rate of growth. Thus, in 2024, 44,589 tons of residential construction debris are predicted. How much of this material will require disposal will depend on recycling activities. What is certain is that transfer stations will be necessary to process the materials, either for reuse or for disposal.

As indicated in Table 3.1-1, the quantity of demolition debris generated per square foot demolished is much greater than the quantity of debris generated per square foot constructed. (Note: Debris generated during construction is 4.10 pounds per square foot for single-family and 3.99 pounds per square foot for multi-family residential structures, as shown in Table 3.1-1.) For single-family buildings, the average waste per square foot demolished is 85.10 pounds, with a range of 55.20 to 115.00 pounds per square foot. The comparable number for multi-family housing is 50.50 pounds per square foot demolished, with a range of 36.56 to 64.40 pounds. The amount of waste generated by a square foot of demolition is 12 to 20 times the quantity generated from constructing a square foot of residential space.

Estimates of annual generation of residential demolition debris are contained in Table 3.3-1. The estimated quantities increase from 431,526 tons in 1999 to 597,653 in 2024. The estimates are made using a blended waste generation rate, reflecting the mix of multi-family and single-family type housing stock in the City of 59.6 pounds per square foot demolished. The proportion of residential construction debris that will require disposal will depend on recycling activities; however transfer stations will be necessary to process this waste.

Table 3.3-1
Projected Residential Construction, Demolition and Renovation Debris for New York City, 1997-2024

Year	Residential Construction Debris in Tons	Residential Demolition Debris in Tons	Residential Building Renovation Debris in Tons	Total Residential Sector C&D Debris
1997	21,003	NA	NA	NA
1998	26,492	NA	NA	NA
1999	29,686	431,526	96,765	557,977
2000	31,952	467,262	64,865	564,079
2001	33,710	487,773	53,685	575,168
2002	35,146	471,105	42,397	548,648
2003	36,360	485,872	7,180	529,412
2004	37,412	518,212	14,524	570,148
2005	38,339	529,421	6,088	573,848
2006	39,169	515,098	11,029	565,296
2007	37,230	503,626	17,267	558,123
2008	37,915	512,223	18,673	568,811
2009	38,546	520,167	20,652	579,365
2010	39,130	527,549	23,178	589,857
2011	39,673	534,444	26,181	600,298
2012	40,181	540,913	29,621	610,715
2013	40,659	547,006	33,483	621,148
2014	41,109	552,765	37,729	631,603
2015	41,535	558,223	42,329	642,087
2016	41,939	563,410	47,297	652,646
2017	42,323	568,354	52,607	663,284
2018	42,689	573,074	58,231	673,994
2019	43,040	577,592	64,182	684,814
2020	43,375	581,922	70,434	695,731
2021	43,696	586,081	77,000	706,777
2022	44,005	590,082	83,866	717,953
2023	44,302	593,936	91,032	729,270
2024	44,589	597,653	98,485	740,727

As can be observed, residential renovation and construction debris waste quantities are roughly of the same magnitude. Renovation debris peaks in 1999, declines through 2005, and gradually increases through 2024, when it is roughly equivalent to the quantity produced in 1999.

Quantities of residential demolition debris are projected at 8 to 10 times the quantity of residential construction debris. Residential demolition debris increases from approximately 500,000 tons in the early 2000s to just under 600,000 tons per year in 2024. In the aggregate, residential C&D debris from all three activities is projected to increase from approximately 550,000 tons in 1999 to approximately 740,000 tons per year in 2024.

4.0 COMMERCIAL CONSTRUCTION, DEMOLITION AND RENOVATION DEBRIS

4.1 Commercial C&D Generation Factors

Commercial construction, demolition and renovation debris is estimated using a methodology comparable to that used to estimate residential C&D debris. First, waste generation factors specific to construction, demolition and renovation are assembled, using a combination of sources obtained from the literature and surveys of construction firms and C&D haulers in the New York region. Next, the square footage of commercial construction, demolition and renovation is projected through the year 2024. Finally, the appropriate commercial waste generation factor is multiplied by the square footage to estimate C&D generation.

Table 4.1-1 presents the data used to derive waste generation factors. In summary, these averages used to estimate C&D from construction, demolition and renovation are:

- Commercial construction debris at a rate of 3.8 pounds per square foot;
- Commercial demolition at a rate of 130.3 pounds per square foot; and
- Commercial renovation at a rate of 11.3 pounds per square foot.

4.2 Projections of Commercial Construction, Demolition and Renovation Activity

F.W. Dodge provided data indicating the number of square feet of new construction from 1993 to 2002, with predictions through 2007. They also provided dollar expenditures for commercial renovation and construction for the same period. In order to predict the square footage of commercial construction for the period 2008 through 2024, a least squares regression was fitted to the available data, and the resulting equation was used to project forward in time. The square feet of commercial construction within the City between 1993 and 2007 can be estimated using the following equation:

Table 4.1-1
Commercial Construction, Demolition and Renovation Waste Generation Factors

Pounds per Square Foot	Comments	Source
4.11	Commercial construction. New York City data. C&D generation ranges from 0.005-0.01 cubic yards per square foot, which averages 0.0075 cubic yards, converted to pounds as 549 lbs/cy (see Table 2.2-2)	Summary of information provided by local construction contractors.
3.08	Commercial construction. Madison, Wisconsin.	Jenna Kunde and Sonya Newenhouse, "Leading the Way to New C&D Markets," *Resource Recycling,* January 2002.
3.89	Commercial construction. National Data.	Franklin Associates, Ltd. *Characterization of Building-Related Construction and Demolition Debris in the United States,* USEPA, Office of Solid Waste, EPA530-R-98-010, June 1998.
4.10	Commercial construction. Four Times Square, New York City.	USEPA, *Building Savings: Strategies for Waste Reduction of Construction and Demolition Debris from Buildings, June 2000.*
3.80	**Average Commercial Construction**	
116.9	Commercial demolition. Four Times Square, New York City.	USEPA, *Building Savings: Strategies for Waste Reduction of Construction and Demolition Debris from Buildings, June 2000.*
186.2	Commercial demolition. Salem, Oregon.	USEPA, *Building Savings: Strategies for Waste Reduction of Construction and Demolition Debris from Buildings, June 2000.*
155.0	Commercial demolition. National data.	Franklin Associates, Ltd. *Characterization of Building-Related Construction and Demolition Debris in the United States,* USEPA, Office of Solid Waste, EPA530-R-98-010. June 1998.
63.2	Commercial demolition. New York City. 0.088 cubic yards converted @ 711 lbs/cy. (See Attachment 1, Table A-2)	Summary of information provided by local construction contractors. (URS Engineers)
130.3	**Average for Commercial Demolition**	
10.0	Commercial renovation. San Diego, CA.	USEPA, *Building Savings: Strategies for Waste Reduction of Construction and Demolition Debris from Buildings, June 2000.*
7.1	Commercial renovation. Austin, TX.	USEPA, *Building Savings: Strategies for Waste Reduction of Construction and Demolition Debris from Buildings, June 2000.*
16.0	Commercial renovation, New York City. A 2,500-square-foot building generates about 20 tons of C&D debris – or 16 pounds per square foot.	Summary of information provided by local construction contractors.
12.0	Commercial renovation, New York City. A 15,000-square-foot building generates about 90 tons of C&D, or 12 pounds per square foot.	Summary of information provided by local construction contractors.
11.3	**Average for Commercial Renovation**	

$$TCSF = 2891.564 + 4683.209 * \ln(t) \qquad R^2 = .65$$
$$(1.50) \qquad (4.91)$$

where:

TCSF = thousands of commercial square feet constructed

2891.564 = the intercept of the equation computed by least squares regression

ln(t) = the natural logarithm of the variable t, which represents time and takes the value of 1 for 1993, 2 for 1994, and so on through 32 for 2024

4683.209 = the coefficient of the variable ln(t), computed by least squares regression

Values for t-statistics showing the precision with which the intercept and the coefficient of the independent variables have been estimated are presented in parentheses below the estimated constants. The value of the intercept is not significantly different from zero. The coefficient of ln(t) is estimated with sufficient precision that one can be 99% confident that its value is different from zero and positive. The R^2 indicates the percentage of the overall variation in the data which is explained by the equation – more than 65% of the variation is explained by this simple estimating equation. This methodology was used to estimate the new square footage of commercial construction in the City from 1999 to 2024 that is presented in Table 4.2-1.

Because almost all new commercial construction takes place on sites where other buildings once stood, the following assumptions and timeline over which demolition occurs prior to new construction were assumed.

- 70% of commercial construction is preceded by demolition. (This is consistent with either new buildings being larger than the ones they replace and/or with some buildings being constructed on previously long-vacant plots.)
- 50% of the demolition occurs in the year prior to new construction;
- 30% two years before construction;
- 10% three years prior to construction; and
- 10% four years before construction.

Table 4.2-1
Projected Commercial Construction, Demolition and Renovation

Year	Commercial Construction (Thousands of Square Feet)	Commercial Demolition (Thousands of Square Feet)	Commercial Renovation (Thousands of Square Feet)
1999	12,418	9,561	107,651
2000	12,727	10,887	107,570
2001	21,204	12,491	108,120
2002	15,109	10,047	107,828
2003	13,178	9,594	108,114
2004	13,918	9,977	108,430
2005	14,525	10,261	108,771
2006	14,891	10,350	109,134
2007	14,469	10,326	109,466
2008	14,770	10,576	109,805
2009	15,054	10,831	110,153
2010	15,322	11,093	110,509
2011	15,575	11,361	110,873
2012	15,815	11,635	111,247
2013	16,044	11,916	111,629
2014	16,261	12,204	112,021
2015	16,470	12,499	112,422
2016	16,669	12,801	112,833
2017	16,860	13,110	113,253
2018	17,044	13,427	113,684
2019	17,220	13,751	114,126
2020	17,391	14,083	114,578
2021	17,555	14,424	115,040
2022	17,714	14,772	115,515
2023	17,867	15,129	116,000
2024	18,016	15,494	116,497

These assumptions are the basis of a time series projecting the square feet of commercial space demolished in the City each year, as a function of the square feet constructed in each of the next four years. That time series is presented in Table 4.2-1.

Projections of commercial square footage renovated in the City involved the following steps:

1. Data on number of employees in broad categories of employment were developed for the City.
2. A literature search yielded estimates of the square feet of workspace per employee in specific employment categories.
3. The number of employees and square foot per employee yielded an estimate of the total amount of commercial space in the City.
4. It was assumed that 8% of the City's commercial space was renovated each year.

Table 4.2-2 presents the factors used to derive total estimated square footage by employment category. Attachment 2 to this report provides a more detailed description of this methodology.

Table 4.2-2
Estimated Commercial Space in New York City

Type of Employment	Commercial Floor Space in Northeast (Millions of Square Feet)[(1)(2)]	Thousands of Employees in Northeast[(1)(3)]	Square Feet Per Employee	Thousands of Employees In New York City[(3)]	Estimated Commercial Floor Space in New York City (Millions of Square Feet)
Education and Health Services	2,162	3,949	547	626.2	342.8
Transportation, trade and utilities	3,156	4,693	672	526.1	353.8
Hospitality and leisure	1,807	1,888	957	576.4	551.8
Office	2,389	8,524	280	1,578.2	442.3
Total	**9,514**	**19,054**	**499**	**3,306.9**	**1,690.7**

Notes:

(1) Northeast Region includes Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont in New England, and New Jersey, New York and Pennsylvania in the Middle Atlantic Regions.

(2) Commercial square feet of floor space from Department of Energy, Energy Information Administration, 1999. Commercial Buildings Energy Consumption Survey: Building Characteristics Table B3: Census Region, Number of Buildings and Floor space, 1999.

(3) Number of employees from Bureau of Labor Statistics, Current Employment Statistics Survey, Table 5. Employees on non-farm payrolls by state and selected industry division, for the Northeast Region. Number of employees from Bureau of Labor Statistics, Current Employment Statistics Survey. Current Employment by Industry for New York City.

The estimates appear reasonable. Office space is estimated at 442.3 million square feet for the year 2002. This total compares relatively closely with that reported by the Citizen's Budget Commission -- 408.6 million square feet in 1999. The total commercial square footage in the City is estimated at 1,690.7 million square feet in 2002. Because DSNY collects from educational and institutional customers, these categories were excluded from the above square footage estimates. Then, for each year going forward from 2002, the aggregate commercial square footage is computed as the previous year's total, plus the new construction in the current year, less the demolition in the current year. A similar computation to subtract net additions is employed to move back to years before 2002.

Once the aggregate commercial square footage is computed for each year from 1999 to 2024, the estimated square footage that is renovated is computed. Usually, commercial space is renovated when there is a change in tenancy, e.g., at the end of a lease which is not renewed, or when a restaurant goes out of business and is replaced with another restaurant or business of a different type. Some space may go several decades without renovation, while other spaces may turn over and consequently be renovated several times a decade. The analysis assumes that 8% of the commercial space is renovated each year.[5] Thus, for 2002, the aggregate commercial space in the City is 1,690.7 million square feet, less the space in the education and health services industry (342.8 million square feet), or 1,347.9 million square feet. Eight percent (8%) of this space amounts to 107,828 square feet. The figures represent 8% of commercial space excluding education and health services space.

4.3 Projected Commercial C&D Debris

The final computation necessary to estimate C&D debris for commercial construction, demolition and renovation is to multiply the square feet presented in Table 4.2-1 by the average generation factors presented in Table 4.1-1. These results are presented below in Table 4.3-1.

[5] This figure was obtained in the course of conversations with property managers of office buildings. Information about other types of commercial buildings was not available.

Table 4.3-1
Projected Commercial Construction, Demolition and Renovation Debris in New York City, 1999-2024

Year	Commercial Construction (Tons)	Commercial Demolition (Tons)	Commercial Renovation (Tons)	Commercial Total (Tons)
1999	23,563	622,924	606,884	1,253,371
2000	24,149	709,347	606,425	1,339,921
2001	40,234	813,838	609,525	1,463,597
2002	28,670	654,580	607,879	1,291,129
2003	25,005	625,097	609,495	1,259,597
2004	26,409	650,021	611,273	1,287,703
2005	27,560	668,533	613,196	1,309,289
2006	28,255	674,335	615,244	1,317,834
2007	27,455	672,804	617,112	1,317,371
2008	28,118	689,057	619,025	1,336,200
2009	28,797	705,702	620,985	1,355,484
2010	29,493	722,750	622,992	1,375,235
2011	30,205	740,209	625,047	1,395,461
2012	30,935	758,089	627,152	1,416,176
2013	31,682	776,403	629,308	1,437,393
2014	32,447	795,158	631,516	1,459,121
2015	33,231	814,366	633,778	1,481,375
2016	34,034	834,039	636,094	1,504,167
2017	34,856	854,186	638,466	1,527,508
2018	35,698	874,820	640,895	1,551,413
2019	36,560	895,953	643,383	1,575,896
2020	37,444	917,596	645,931	1,600,971
2021	38,348	939,762	648,541	1,626,651
2022	39,285	962,464	651,213	1,652,962
2023	40,223	985,714	653,950	1,679,887
2024	41,195	1,009,525	656,754	1,707,474

Note:
Because data presented in Tables 4.1-1 and 4.2-2 are rounded, and the data in Table 4.3-1 are computed from underlying spreadsheets where data are not rounded, a simple multiplication of waste generation factors by square feet, and adjusting for tons rather than pounds, will yield slightly different estimates than those presented in Table 4.3-1. For example, for 1999, commercial construction of 3.8 pounds per square foot multiplied by 12,418 thousand square feet yields an estimated C&D tonnage of 23,594 tons for that year. The computation reflected in the table above is actually 12,417.8 x 3.795 x 1000/2000= 23,563 tons.

Demolition and renovation account for almost all of the C&D debris in the commercial sector. For example, in 1999, commercial construction is 2% of all commercial sector C&D debris, while demolition accounts for just under half, and renovation accounts for the remaining approximately 48%.

Commercial demolition debris is projected to increase from 622,924 tons in 1999 to 1,009,525 tons by the year 2024. In that year it would amount to 60% of the aggregate C&D debris from the commercial sector. In 1999, commercial C&D debris totaled 1,253,371 tons; it is projected to increase to approximately 1,707,474 tons by 2024. Commercial construction debris is relatively small, whereas commercial demolition and renovation account for roughly equal proportions of the commercial waste stream and together account for almost 98% of all commercial C&D debris.

5.0 SUMMARY OF RESULTS FOR BUILDING-RELATED C&D

Table 5-1 summarizes the estimates of building-related C&D debris for both the residential and commercial sectors. C&D debris was more than 1.75 million tons in each of the last five years. The building-related C&D debris peaked in 2001 at 2.04 million tons, and then decreased rapidly in 2002 and 2003 with the recession. On a per capita basis, the City generates between 0.228 and 0.253 tons of building-related C&D debris per resident.

Table 5-1
Building-Related C&D Debris

Item	1999	2000	2001	2002	2003
Residential:					
Construction	29,686	31,952	33,710	35,146	36,360
Demolition	431,526	467,262	487,773	471,105	485,872
Renovation	96,765	64,865	53,685	42,397	7,180
Subtotal	557,977	564,079	575,168	548,648	529,412
Commercial:					
Construction	23,563	24,149	40,234	28,670	25,005
Demolition	622,924	709,347	813,838	654,580	625,097
Renovation	606,884	606,425	609,525	607,879	609,495
Subtotal	1,253,371	1,339,921	1,463,597	1,291,129	1,259,597
Total	1,811,348	1,904,000	2,038,765	1,839,777	1,789,009
City Population [(1)]	7,947,660	8,108,546	8,062,027	8,084,316	
Per capita building debris	0.22791	0.23481	0.25288	0.22757	

Notes:
(1) 1999 population from Bureau of Economic Analysis, Population and Income Survey; 2000, 2001 and 2002 population data from U.S. Census Bureau, GCT-T1. Population Estimates.

Table 5-2 shows a breakdown of the quantities of commercial and residential C&D projected for the New SWMP Planning Period.

Table 5-2
Total Projected Building-Related C&D Debris, 2000-2024

Year	Commercial C&D Debris Total	Residential C&D Debris Total	Total Building-Related C&D
2000	1,340,000	564,000	1,904,000
2001	1,464,000	575,000	2,039,000
2002	1,291,000	549,000	1,840,000
2003	1,260,000	529,000	1,789,000
2004	988,000	570,000	1,558,000
2005	1,309,000	574,000	1,883,000
2006	1,318,000	565,000	1,883,000
2007	1,317,000	558,000	1,875,000
2008	1,336,000	569,000	1,905,000
2009	1,355,000	579,000	1,935,000
2010	1,375,000	590,000	1,965,000
2011	1,395,000	600,000	1,996,000
2012	1,416,000	611,000	2,027,000
2013	1,437,000	621,000	2,059,000
2014	1,459,000	632,000	2,091,000
2015	1,481,000	642,000	2,123,000
2016	1,504,000	653,000	2,157,000
2017	1,528,000	663,000	2,191,000
2018	1,551,000	674,000	2,225,000
2019	1,576,000	685,000	2,261,000
2020	1,601,000	696,000	2,297,000
2021	1,627,000	707,000	2,333,000
2022	1,653,000	718,000	2,371,000
2023	1,680,000	729,000	2,409,000
2024	1,707,000	741,000	2,448,000

6.0 NON-BUILDING-RELATED C&D

Non-building debris includes waste materials generated in the process of constructing, demolishing and renovating bridges; dams, reservoirs and river banks; power plants and gas and communications facilities; sewerage and waste disposal facilities; streets and highways; water supply systems; and "other" non-building activities. Data on the value of this construction in the City from 1993 to 2007 (the 2003 through 2007 data are projections) were obtained from F.W. Dodge, McGraw Hill Construction. The data are expressed in constant 1996 dollars.

6.1 Methodology

Non-building debris generation resulted from the expenditure of $1.5 billion dollars in the City in 1993, increasing to a maximum of $3.4 billion in 2002. The methodology to estimate the quantity of debris associated with these expenditures is as follows:

1. Obtain the total quantity of C&D and non-building debris from the City's non-putrescible and fill material Transfer Stations for 2000, 2001 and 2002, and available data from 2003.
2. Estimate the quantity of non-building-related C&D debris by subtracting the estimated building-related C&D debris for each of these years from the City total.
3. Subtract the building-related C&D debris generation from the total of all reported debris generation (both C&D and non-building-related as used herein) to obtain an estimate of non-building debris generation.
4. Correlate the tons of non-building debris generation in each of the years to the dollar value of non-building debris-generating activities (tons per thousand dollars of expenditures on non-building-related construction, demolition and renovation).
5. Average these ratios for the three years.
6. Based on F.W Dodge data, project the City's expenditures for non-building-related construction, demolition and renovation using a least squares equation estimated over the period 1993 to 2007, projecting forward to 2024.
7. Use the average tons per thousand dollars of expenditures on non-building construction, demolition and renovation to estimate non-building debris quantities for the City for the period through 2024.

6.1.1 Deriving Non-Building-Related Debris Generation Factors

Table 6.1.1-1 presents the data used to compute the tons of non-building debris per thousand dollars of expenditures on the activities generating these waste materials. Starting with the total C&D estimates in Table 7.1-1, the building-related component, as presented in Table 5-2 is subtracted to estimate the non-building related component. The non-building component is then divided by the F.W. Dodge estimated value of non-building construction (in 1996 dollars), which yields a factor of non-building related debris per $1,000 of expenditure. Reported total annual C&D debris generation increased from 6.4 million tons in 2000 to an estimated 8.6 million tons in 2003. For the three years with full data available (2000 – 2002), the non-building-related debris generation factor is 1.96 tons per thousand dollars of expenditures on such projects. For the year 2003, the rate increases to 2.97 tons per $1,000 expenditure.

6.1.2 Projecting Non-Building Debris Generation

F.W. Dodge provided data for the City indicating the dollars of activity in non-building construction from 1993 to 2002, with predictions through 2007. In order to predict non-building activity for the period 2008 through 2024, a least squares regression is fitted to the available data. The resulting equation is used to project forward in time. The value of non-building-related construction, demolition and renovation activity within the City between 1993 and 2007 can be estimated using the following equation:

$$TDNBA = 14.1419 + 0.20628 * \ln(t) \qquad R^2 = .50$$

$$(123.42) \qquad (3.61)$$

where:

TDNBA = thousands of constant dollars of activity in non-building-related construction, demolition and renovation

14.1419 = the intercept of the equation computed by least squares regression

ln(t) = the natural logarithm of the variable t, which represents time and takes the value of 1 for 1993, 2 for 1994, and so on through 32 for 2024

0.20628 = the coefficient of the variable ln(t), computed by least squares regression

Table 6.1.1-1
Non-Building-Related Debris Generation Factors

Item	Applicable Year				
	2000	2001	2002	Average (2000-2002)	2003
Total C&D (building & non-building) debris: Generated[1]	6,354,270	6,689,592	7,905,924	NA	8,640,840
Aggregate building debris generation[2]	1,904,000	2,038,765	1,839,777	NA	1,789,009
Estimated tons of non-building-generated debris[3]	4,450,270	4,650,827	6,066,147	NA	6,851,831
Value of non-building-related construction, demolition and renovation[4]	$2,535,203	$2,079,637	$3,236,764	NA	$2,306,670
Tons of non-building-related debris per $1,000 of expenditure	1.76	2.24	1.87	1.96	2.97

Notes:
(1) From DSNY Quarterly Transfer Station Reports.
(2) See Table 5-1.
(3) Obtained by subtracting building-related C&D debris from total C&D debris.
(4) Data obtained from F.W. Dodge, McGraw Hill Construction. In thousands of 1996 constant dollars.

The value for the t-statistics, in parentheses below the estimated constants, shows the precision with which the intercept and the coefficient of the independent variables have been estimated. The value of the intercept is significantly different from zero, at a 99% confidence level. The coefficient of ln(t) is estimated with sufficient precision that one can be 99% confident that its value is different from zero and positive.

The R^2 indicates the percentage of the overall variation in the data which is explained by the equation – 50% of the variation is explained by this simple estimating equation.

Table 6.1.2-1 presents the dollar value of non-building-related construction, demolition and renovation in the City from 1999 to 2024. This table also contains the estimated tons of non-building-related C&D debris, which will be generated as a result of the predicted level of economic activity, based both upon the average level for the years 2000 – 2002 (1.96 tons per $1,000) as well as for the latest level determined for the year 2003, or 2.97 tons per $1,000 expended on non-building-related construction, demolition and renovation. The quantity of non-building-related C&D tons is projected to decline in 2004, and then increase steadily over the New SWMP Planning Period.

Table 6.1.2-1
Projected Non-Building-Related Construction, Demolition and Renovation Debris in New York City, 2000-2024

Year	Value of Non-Building-Related Construction	Non-Building-Related C&D Debris[1]	Non-Building-Related C&D Debris
	(000s of 1996 $)	(1.96 * Value) (Tons)	(2.97 * Value) (Tons)
2000	$2,535,203	4,450,000	NA
2001	$2,079,637	4,651,000	NA
2002	$3,236,764	6,066,000	NA
2003	$2,306,670	NA	6,852,000
2004	$2,143,400	4,201,000	6,366,000
2005	$2,177,569	4,268,000	6,467,000
2006	$2,281,721	4,472,000	6,777,000
2007	$2,340,870	4,588,000	6,952,000
2008	$2,455,527	4,813,000	7,293,000
2009	$2,486,428	4,873,000	7,385,000
2010	$2,515,918	4,931,000	7,472,000
2011	$2,544,135	4,987,000	7,556,000
2012	$2,571,197	5,040,000	7,636,000
2013	$2,597,205	5,091,000	7,714,000
2014	$2,622,248	5,140,000	7,788,000
2015	$2,646,404	5,187,000	7,860,000
2016	$2,669,739	5,233,000	7,929,000
2017	$2,692,316	5,277,000	7,996,000
2018	$2,714,186	5,320,000	8,061,000
2019	$2,735,399	5,361,000	8,124,000
2020	$2,755,997	5,402,000	8,185,000
2021	$2,776,019	5,441,000	8,245,000
2022	$2,795,500	5,479,000	8,303,000
2023	$2,814,473	5,516,000	8,359,000
2024	$2,832,965	5,553,000	8,414,000

Notes:
(1) Utilized actual tons of non-building-related debris per $1,000 of expenditure for the years 2000-2002, from Table 6.1.1-1.

7.0 SUMMARY OF TOTAL C&D ESTIMATES AND CONCLUSIONS

7.1 Summary of Estimated Total C&D Generation

The previous sections have provided separate estimates for residential, commercial and non-building-related debris generation in the City. Table 7.1-1 summarizes the estimates derived for residential and commercial building-related C&D debris, and the non-building-related C&D, which together constitute total C&D waste. The total estimated building-and non-building-related C&D for 2003 is shown to be 8,641,000, as reported in the 2003 Quarterly Reports, with the fourth quarter estimated as mentioned previously in this report. This quantity was utilized for the baseline in projecting waste quantities for the New SWMP Planning Period. A low-to-high range is shown in this table to account for the differences between data for non-building-related C&D for the years 2000 to 2002 and for 2003, as discussed in the previous section. Relative quantities of building-related residential and commercial waste and non-building-related materials will vary over time in accordance with the methodologies previously described.

As discussed in Section 2.3, clean fill has historically constituted approximately 60% of the total quantity of C&D material, but in 2003 constituted almost 70% of total C&D. Hence, both of these percentages were utilized in Tables 7.1-2 through 7.1-5, which disaggregate the total estimate for C&D debris into the clean fill and non-putrescible categories used by the City in regulating its Transfer Stations. Tables 7.1-2 and 7.1-3 utilize the lower estimate of 1.96 tons per $1,000 expended, and show non-putrescible material ranging from 2.4 to 3.2 million tons in 2024 (or 7,690 to 10,260 tpd). Clean fill material would range from 4.8 to 5.6 million tons, or 15,390 to 17,950 tpd. Tables 7.1-4 and 7.1-5 utilize the higher estimate of 2.97 tons per $1,000 for non-building-related material expended, and show quantities of non-putrescible waste ranging from approximately 3.3 to 4.3 million tons in 2024, or 10,440 to 13,930 tons per day. Clean fill material would range from 6.5 to 7.6 million tons per year, or 20,890 to 24,370 tons per day.

Table 7.1-1
Aggregate Estimate of C&D Debris, 2000 to 2024[1]

Year	Total C&D Debris			
	Average (2000-2002) Estimate (Using 1.96)	Upper Estimate (Using 2.97)	Average (2000-2002) Estimate (Using 1.96)	Upper Estimate (Using 2.97)
	(Tons)	(Tons)	(tpd)	(tpd)
2000[2]	6,354,000	NA	20,400	NA
2001[2]	6,690,000	NA	21,400	NA
2002[2]	7,906,000	NA	25,300	NA
2003[2]	NA	8,641,000	NA	27,700
2004	5,759,000	7,924,000	18,500	25,400
2005	6,151,000	8,351,000	19,700	26,800
2006	6,355,000	8,660,000	20,400	27,800
2007	6,464,000	8,828,000	20,700	28,300
2008	6,718,000	9,198,000	21,500	29,500
2009	6,808,000	9,320,000	21,800	29,900
2010	6,896,000	9,437,000	22,100	30,200
2011	6,982,000	9,552,000	22,400	30,600
2012	7,066,000	9,663,000	22,600	31,000
2013	7,149,000	9,772,000	22,900	31,300
2014	7,230,000	9,879,000	23,200	31,700
2015	7,310,000	9,983,000	23,400	32,000
2016	7,390,000	10,086,000	23,700	32,300
2017	7,468,000	10,187,000	23,900	32,700
2018	7,545,000	10,287,000	24,200	33,000
2019	7,622,000	10,385,000	24,400	33,300
2020	7,698,000	10,482,000	24,700	33,600
2021	7,774,000	10,578,000	24,900	33,900
2022	7,850,000	10,674,000	25,200	34,200
2023	7,926,000	10,768,000	25,400	34,500
2024	8,001,000	10,862,000	25,600	34,800

Notes:

(1) This table was derived by determining the annual changes for each of the discrete categories of waste (e.g., residential construction, renovation, etc.), quantifying the aggregate annual change and applying those changes to the 2003 baseline number.

(2) The actual tons of non-building-related debris per $1,000 of expenditure was utilized for the years 2000-2003, as derived in Table 6.1.1-1.

Table 7.1-2
Range of Quantities of Non-Putrescible and Fill Material, 2004-2024
(based upon average data for 2000-2002, in tons per year)

	Average (2000-2002) Estimate (Using 1.96)			
Year	Non-Putrescible		Fill	
	30%	40%	60%	70%
2004	1,728,000	2,304,000	3,455,000	4,031,000
2005	1,845,000	2,460,000	3,691,000	4,306,000
2006	1,907,000	2,542,000	3,813,000	4,449,000
2007	1,939,000	2,585,000	3,878,000	4,525,000
2008	2,015,000	2,687,000	4,031,000	4,702,000
2009	2,042,000	2,723,000	4,085,000	4,766,000
2010	2,069,000	2,759,000	4,138,000	4,827,000
2011	2,095,000	2,793,000	4,189,000	4,888,000
2012	2,120,000	2,827,000	4,240,000	4,947,000
2013	2,145,000	2,860,000	4,289,000	5,004,000
2014	2,169,000	2,892,000	4,338,000	5,061,000
2015	2,193,000	2,924,000	4,386,000	5,117,000
2016	2,217,000	2,956,000	4,434,000	5,173,000
2017	2,240,000	2,987,000	4,481,000	5,227,000
2018	2,264,000	3,018,000	4,527,000	5,282,000
2019	2,287,000	3,049,000	4,573,000	5,335,000
2020	2,310,000	3,079,000	4,619,000	5,389,000
2021	2,332,000	3,110,000	4,665,000	5,442,000
2022	2,355,000	3,140,000	4,710,000	5,495,000
2023	2,378,000	3,170,000	4,755,000	5,548,000
2024	2,400,000	3,200,000	4,800,000	5,601,000

Table 7.1-3
Range of Quantities of Non-Putrescible and Fill Material, 2004-2024
(based upon average data for 2000-2002, in tons per day)

Year	Average (2000-2002) Estimate (Using 1.96)			
	Non-Putrescible		Fill	
	30% (tpd)	40% (tpd)	60% (tpd)	70% (tpd)
2004	5,540	7,380	11,070	12,920
2005	5,910	7,890	11,830	13,800
2006	6,110	8,150	12,220	14,260
2007	6,210	8,290	12,430	14,500
2008	6,460	8,610	12,920	15,070
2009	6,550	8,730	13,090	15,270
2010	6,630	8,840	13,260	15,470
2011	6,710	8,950	13,430	15,670
2012	6,790	9,060	13,590	15,850
2013	6,870	9,170	13,750	16,040
2014	6,950	9,270	13,900	16,220
2015	7,030	9,370	14,060	16,400
2016	7,110	9,470	14,210	16,580
2017	7,180	9,570	14,360	16,750
2018	7,260	9,670	14,510	16,930
2019	7,330	9,770	14,660	17,100
2020	7,400	9,870	14,800	17,270
2021	7,480	9,970	14,950	17,440
2022	7,550	10,060	15,100	17,610
2023	7,620	10,160	15,240	17,780
2024	7,690	10,260	15,390	17,950

Table 7.1-4
Range of Quantities of Non-Putrescible and Fill Material, 2004-2024
(based upon 2003 data, in tons per year)

Year	Upper Estimate (Using 2.97)			
	Non-Putrescible		Fill	
	30%	40%	60%	70%
2004	2,377,000	3,169,000	4,754,000	5,547,000
2005	2,505,000	3,340,000	5,010,000	5,845,000
2006	2,598,000	3,464,000	5,196,000	6,062,000
2007	2,648,000	3,531,000	5,297,000	6,180,000
2008	2,759,000	3,679,000	5,519,000	6,439,000
2009	2,796,000	3,728,000	5,592,000	6,524,000
2010	2,831,000	3,775,000	5,662,000	6,606,000
2011	2,866,000	3,821,000	5,731,000	6,686,000
2012	2,899,000	3,865,000	5,798,000	6,764,000
2013	2,932,000	3,909,000	5,863,000	6,841,000
2014	2,964,000	3,952,000	5,927,000	6,915,000
2015	2,995,000	3,993,000	5,990,000	6,988,000
2016	3,026,000	4,034,000	6,052,000	7,060,000
2017	3,056,000	4,075,000	6,112,000	7,131,000
2018	3,086,000	4,115,000	6,172,000	7,201,000
2019	3,115,000	4,154,000	6,231,000	7,269,000
2020	3,145,000	4,193,000	6,289,000	7,337,000
2021	3,173,000	4,231,000	6,347,000	7,405,000
2022	3,202,000	4,269,000	6,404,000	7,471,000
2023	3,230,000	4,307,000	6,461,000	7,538,000
2024	3,259,000	4,345,000	6,517,000	7,603,000

Table 7.1-5
Range of Quantities of Non-Putrescible and Fill Material, 2004-2024
(based upon 2003 data, in tons per day)

Year	Upper Estimate (Using 2.97)			
	Non-Putrescible		Fill	
	30% (tpd)	40% (tpd)	60% (tpd)	70% (tpd)
2004	7,620	10,160	15,240	17,780
2005	8,030	10,710	16,060	18,740
2006	8,330	11,100	16,650	19,430
2007	8,490	11,320	16,980	19,810
2008	8,840	11,790	17,690	20,640
2009	8,960	11,950	17,920	20,910
2010	9,070	12,100	18,150	21,170
2011	9,180	12,250	18,370	21,430
2012	9,290	12,390	18,580	21,680
2013	9,400	12,530	18,790	21,920
2014	9,500	12,670	19,000	22,160
2015	9,600	12,800	19,200	22,400
2016	9,700	12,930	19,400	22,630
2017	9,800	13,060	19,590	22,860
2018	9,890	13,190	19,780	23,080
2019	9,990	13,310	19,970	23,300
2020	10,080	13,440	20,160	23,520
2021	10,170	13,560	20,340	23,730
2022	10,260	13,680	20,530	23,950
2023	10,350	13,810	20,710	24,160
2024	10,440	13,930	20,890	24,370

7.2 Comparison to Other Jurisdiction

C&D debris can be expressed as pounds per capita per day, facilitating comparisons across jurisdictions. Table 7.2-1 presents comparative data for various jurisdictions. The data presented in this report estimate building-related C&D debris for the City in 2000 at 1.29 pounds per capita per day and 1.25 pounds per capita per day in 2002. The slight decrease is due to a decrease in construction and renovation attributable to the economic recession. Overall, including non-building debris, C&D debris increased from 4.64 pounds per capita per day in 2000 to 5.54 pounds per capita per day in 2002. This increase is due to the extra debris from 9/11 and to a slight decrease in the City's population in the interval.

The estimates presented for other jurisdictions include two for the United States and one for Massachusetts. With the exception of the United States estimate published by Chartwell, all the sources are in the 4.0 to 5.5 pounds per capita per day range. The United States estimate is almost 8 pounds per capita per day. This obviously reflects rural areas, where the quantity of asphalt per resident is undoubtedly greater than in strictly urban areas such as the City. The estimates from this report coincide closely with those in the 2000 Preliminary Report and the 2002 update of the Preliminary Report. These reports provide daily tons of non-putrescible waste, daily tons of clean fill, and recyclables. A per capita C&D debris estimate derived from these data is 4.29 and 4.85 pounds per capita per day for 2000 and 2002, respectively.[6]

[6] Including material delivered to a rock crushing plant at Fresh Kills Landfill, where clean fill and aggregates that are processed and recycled on site increases the C&D per capita by 0.09 pound in 2000 and 0.07 pounds in 2002.

Table 7.2-1
Comparative Data on Construction and Demolition Debris Generation

Jurisdiction	Year	Pounds per Capita per Day		Source
		Building-Related C&D Debris	Total C&D Debris	
New York City	2000	1.29	4.64	This report
New York City	2002	1.25	5.54	This report
New York City	2000	NA	4.29	(1)
New York City	2002	NA	4.85	(2)
United States	1996	2.8	NA	(3)
United States	2002	NA	7.84	(4)
Massachusetts	2001	NA	4.99	(5)

Sources:

(1) Data obtained from New York City Department of Sanitation and Urbitran Associates, Inc., *New York City Comprehensive Commercial Waste Management Study, Preliminary Report.* New York City Department of Sanitation. June 2002. Appendices. Tonnages for individual Transfer Stations were summed to obtain the annual totals. Increase the pounds per capita per day by 0.09 to account for materials processed at the rock crushing plant at Fresh Kills Landfill.

(2) Update of Preliminary Report. {[(23116.47*312) – 60000)]*2000/365}/8084316. Increase the pounds per capita per day by 0.07 to account for materials processed at the rock crushing plant at Fresh Kills Landfill.

(3) Franklin Associates, *Characterization of Building-Related Construction and Demolition Debris in the United States.* USEPA, Municipal and Industrial Solid Waste Division, Office of Solid Waste, # EPA 530-R98-010. June 1998.

(4) Chartwell Information, *Solid Waste Digest.* Vol 13, Number 7-8 (July/August 2003) p. 1. 153,430,312 tons of C&D at landfills or other waste disposal sites, plus an estimated 100,000,000 tons of concrete and 150,000,000 tons of asphalt (97% of which is recycled).

(5) Massachusetts Department of Environmental Protection, *Beyond 2000 Solid Waste Master Plan,* Section 1: 2001 Solid Waste Data and Waste Management Capacity Projections.

Franklin Associates' 1998 report for the United States Environmental Protection Agency (USEPA) estimates only building-related C&D debris. Their estimate of 2.8 pounds per capita per day is significantly higher than that obtained from any other jurisdiction. However, it should be noted that their methodology did not allow for any on-site use of C&D debris. They assumed that all C&D generated in the course of construction, demolition or renovation would be hauled off to a disposal site. In fact, much of the excavation and fill material created in building or demolishing a structure is frequently put to use for site grading and preparation of roadbeds or driveway beds. Thus, it is to be expected that estimates derived using this methodology would be greater than those estimating only those materials delivered to a disposal site.

One final comment is appropriate concerning the quantity of C&D debris in the City. Only those materials delivered to Transfer Stations are included in these totals. In renovating large buildings, it is not uncommon for many appliances and fixtures to be stripped from the building and taken to a recycling center – bathroom fixtures are often recycled in this way – and they are some of the heaviest components of C&D debris. This would be an additional explanation as to why the Franklin Associate estimates would exceed those of jurisdictions measuring C&D debris as delivered to the disposal site.

Attachment 1

Construction and Demolition Debris Density Derivations and Discussion and Note on Calculation of Residential Renovation Activity

C&D DEBRIS ESTIMATION METHODOLOGY

A.1 Non-Putrescible Mixed C&D Estimations (From Licensed New York City Non-Putrescible Transfer Stations)

All private non-putrescible Transfer Stations in the City are required to provide quarterly reports to the DSNY on the quantities of materials received, processed, recycled and disposed. In 2003, four (4) of these Transfer Stations did not use scales to weigh inbound loads; they estimate tons by multiplying the cubic yards received by a density factor (lbs/cy). The density factor for C&D debris that these Transfer Stations have been instructed to use is 1,500 lbs/cy.[1] By 2003, approximately 80% of C&D handled by non-putrescible Transfer Stations was weighed.

In order to more accurately estimate C&D debris tonnages, an analysis of typical weights of C&D loads in the City was conducted with the cooperation of Waste Management at their facility at 123 Varick Street in Brooklyn. The analysis consisted of recording the volume, type of C&D debris and weight of more than 500 loads during one week in July 2003. From these data, density factors were computed for the following types on inbound C&D loads:

- Residential and commercial construction;
- Demolition and renovation debris, and
- Non-building debris.

Table A-1 presents the results of this analysis. There is a very wide range in the density of C&D debris. For commercial construction debris, for example, the average density was 532 pounds, with a range of 77 to 2,536 pounds. The standard deviations of the samples are typically relatively large – ranging from one third of the sample mean to almost as large as the mean itself.

[1] This is the density factor for C&D provided by the NYSDEC.

Table A-1
C&D Debris Density in New York City, July 2003

Item	Pounds per Cubic Yard by Type of C&D Debris				
	Single-Family	Multi-Family	Commercial	Non-Building	Other
Construction (*n*)[1]	*40*	*48*	*112*	*23*	*9*
Average	517	481	532	881	446
Standard deviation	270	296	404	790	225
Minimum	62	116	77	227	160
Maximum	1,345	1,535	2,536	3,512	842
Demolition (*n*)	*57*	*55*	*131*	*33*	*15*
Average	656	546	582	610	542
Standard deviation	433	269	522	421	482
Minimum	152	173	55	136	91
Maximum	2,110	1,188	2,422	2,629	1,707
Renovation (*n*)	*35*	*44*	*50*	*8*	*14*
Average	470	476	461	860	707
Standard deviation	304	251	264	1,223	549
Minimum	54	27	121	177	39
Maximum	1,518	1,188	1,168	3,864	1,679
Other (*n*)	*6*	*5*	*16*	*NA*	*5*
Average	337	494	365	NA	272
Standard deviation	122	486	210	NA	176
Minimum	206	106	79	NA	87
Maximum	553	1,319	768	NA	559

Note:
[1] *n = Number of samples.*

The data in Table A-1 are somewhat useful in determining the density of C&D debris. However, given the wide variance in density factors observed here, and given that this Transfer Station is one of the few C&D Transfer Stations with a scale, additional sources were desired.[2] Accordingly, literature searches and interviews with selected C&D haulers operating in the City were conducted to identify additional sources of data for comparison with this sample data. The density data from these sources are displayed in Table A-2.

[2] The Varick Street Transfer Station has a scale. Many Transfer Stations receiving C&D debris do not have scales. It is possible that drivers with loads of particularly heavy materials would go to the Transfer Stations without scales.

Table A-2
C&D Densities, Multiple Sources

Type of C&D	Pounds/Cubic Yard	Source & Comments
Single-Family Construction	517 160 350 Average = 342	New York City data (1) Probably single-family (2) Probably single-family (3)
Single-Family Renovation	470 433 133 Average = 345	New York City data (1) New York City data (4) New York City data (5)
Single-Family Demolition	656 150 930 472 Average = 552	New York City data (1) Unknown location (6) Unknown location (7) Shredded residential material (6)
Commercial/Multi-Family Construction	481 532 600 581 Average = 549	New York City multi-family (1) New York City commercial (1) New York City commercial (4) New York City commercial (9)
Commercial/Multi-Family Renovation	461 476 Average = 469	New York City multi-family (1) New York City commercial (1)
Commercial/Multi-Family Demolition	546 582 867 850 Average = 711	New York City multi-family (1) New York City commercial (1) New York City commercial (4) New York City commercial (8)
Non Building Construction, Renovation and Demolition	881 610 860 950 Average = 825	New York City construction (1) New York City demolition (1) New York City renovation (1) New York City non-building (9)

Sources:

(1) New York City Data Collection, Varick Street, July 2003.
(2) Peter Yost, "C&D/Wood Debris Management Trends," *Resource Recycling,* November 1998.
(3) National Association of Home Builders Research Center, "Does Grinding and Buying at the Construction Site Work?" *Construction Materials Recycler,* February 12, 1999.
(4) Interview with Boro Wide Recycling, New York City (Michael Christina).
(5) Interview with Alta Recycling, New York City (Omar Diez).
(6) Shred Max web site http://www.shredmax.com.
(7) Bette K. Fishbein, Building for the Future: Strategies to Reduce Construction and Demolition Waste in Municipal Projects, INFORM Special Report, June 1998.
(8) Interview with Kids Waterfront Corporation (Louis Sanzo).
(9) One week's worth of C&D load tickets, from Point Recycling.

As shown in Table A-2, density figures from the literature and interviews are generally lower than those derived from the Varick Street observations.

Table A-2 combines and summarizes the data obtained from all sources for specific types of C&D and non-building materials. Averaging the data on density from all sources for specific material types results in estimated densities as follows:

- Single-family residential construction at 342 lbs/cy.
- Single-family residential renovation at 345 lbs/cy.
- Single-family residential demolition at 552 lbs/cy.
- Commercial and multi-family construction at 549 lbs/cy.
- Commercial and multi-family renovation at 469 lbs/cy.
- Commercial and multi-family building demolition debris at 711 lbs/cy.
- Non-building construction, renovation and demolition at 825 lbs/cy, obtained from the survey at a non-putrescible Transfer Station, which receive mainly mixed C&D waste. The City also licenses clean fill Transfer Stations. Most of the material they receive is heavy concrete, asphalt, rocks and dirt, with weights per cubic yard in the 2,400 pound range. Many of these stations report incoming tons as mixed C&D, which the DSNY converts to tons at the 1,500-pounds-per-cubic-yard factor described above. If the unweighed C&D debris at the non-putrescible Transfer Stations is in the 800-pounds-per-cubic-yard density range, and that at the fill material Transfer Stations in the 2,200-pounds-per-cubic-yard density range, then an average of 1,500 pounds for both stations appears reasonable.

A.2 Residential Renovation Estimation Computations

1. Multiply the known square footage of new residential construction by the cost/square foot ($83).
2. Subtract this estimated cost of new construction from the combined cost of new construction and renovation.
3. Divide the resulting estimated cost of renovation by the cost per square foot to renovate ($70).
4. Result: Estimated square feet renovated.

NOTE: The value of construction and renovation is presented in constant 1996 dollars.

Attachment 2

Commercial Renovation Estimation Computations

Commercial Renovation Estimation Computations

1. From the 1999 Department of Energy's Energy Information Administration's 1999 Commercial Buildings Energy Consumption Survey, data were obtained regarding total commercial floor space by type of industry in the Northeast Region.

2. The numbers of employees for each of these categories employed in the Northeast Region and in New York City (City) were obtained from the Bureau of Labor Statistics, Current Employment Statistics Survey.

3. From these data, the square feet of commercial space occupied by different types of employees in the Northeast Region was computed.

4. The computed square feet of space per employee was then applied to the City employment figures to estimate commercial square footage by type of industry.

NOTE:
These data series are displayed in Table 4.2-2. The City's service employees (these data exclude producers of goods) are about 48% employed in the Office category. For the Northeast region, a slightly smaller percentage of employees, 45%, are employed in this category. The Northeast has 25% of its workers in transportation, trade and utilities, compared to just 16% for the City. Though the percentage representation of each of these industries in the employment base may differ between the region and the City, one may assume that the square feet occupied by each employee in different industries would be comparable between the region and the City. There is a significant difference in the space occupied by employees is different industries. For example, transportation, trade and utility workers each occupy an average of 672 square feet whereas office workers occupy just 280 square feet each. Using the actual employment figures for the City and the average square footage occupied by each employee in the four different industry groupings, the estimated commercial square footage for the City was computed.

Attachment 3

Weighted Average Densities, Non-Putrescible Waste

Weighted Average Densities, Non-Putrescible Waste

Item	Year 2000 Tons	Percent of Total	Density	Weighted Average Pounds
Residential				
Construction	31,952	1.70%	342	6
Demolition	467,262	24.90%	552	137
Renovation	37,353	2.00%	345	9
Commercial				
Construction	24,149	1.29%	549	7
Demolition	709,347	37.80%	711	269
Renovation	606,425	32.3%	469	152
Total Building-Related C&D	1,876,488	100.00%		580
Non-Building Related C&D			825	825

See Table A-2 for the density figures and their sources. Tonnages derived from various tables in text.

COMMERCIAL WASTE MANAGEMENT STUDY

VOLUME III

CONVERTED MARINE TRANSFER STATIONS -

Commercial Waste Processing and Analysis of Potential Impacts

March 2004

Prepared for:

New York City Department of Sanitation
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PREFACE

Local Law 74 of 2000 (LL74) mandated the conduct of a comprehensive study of commercial waste management (Commercial Waste Management Study or Study) in New York City (City) by a Consultant funded by the City Department of Sanitation (DSNY). This Study undertaken to comply with LL74 will assist the City in managing the commercial waste stream in the most efficient and environmentally sound manner, and assist in the development of the City's Solid Waste Management Plan (New SWMP) for the New SWMP Planning Period.

As stated in LL74, the Study should include an analysis of *"whether putrescible and non-putrescible solid waste transfer stations and city-owned marine transfer stations should receive and process both residential and commercial solid waste and the options for transporting such solid waste to and from such transfer stations, including an analysis of potential environmental, economic and public health impacts."* The Commercial Waste Management Study Final Scope of Work describes the approach used to address this issue.

In addition to this Volume III, the Study consists of five other volumes:

- Volume I: Private Transfer Station Evaluations;
- Volume II: Commercial Waste Generation and Projections;
- Volume IV: Evaluation of Waste Disposal Capacity Potentially Available to New York City;
- Volume V: Manhattan Transfer Station Siting Study; and
- Volume VI: Waste Vehicle Technology Assessment.

This volume, Volume III: Converted Marine Transfer Stations (MTSs) – Commercial Waste Processing and Analysis of Potential Impacts, reports on: (i) the capacity required by DSNY for DSNY-managed Waste at each of the Converted MTSs; (ii) the quantity of capacity potentiallyavailable for private carters delivering commercial waste; and (iii) the results of the

environmental review evaluating whether that capacity can be used without causing potentially unmitigatible adverse environmental impacts. The reports and appendices that provide the analyses and data in support of this Executive Summary are:

"Summary Report on Commercial Waste Processing at Converted MTSs" and its **Appendix**:

Appendix A: MTS Environmental Evaluation

Technical Backup for the MTS Environmental Evaluation is available on request by contacting the office of the DSNY Assistant Commissioner, Harry Szarpanski, P.E., (917) 237-5501.

EXECUTIVE SUMMARY

Scope of Analysis/Approach

LL74 requires the Study to consider whether the City's MTS system could accommodate commercial waste as well. When LL74 was adopted, the concept of developing an MTS Conversion Program for containerizing waste for long-term export was not established as a policy objective of the City. Given this policy objective, addressing the issue of processing commercial waste at the Converted MTSs first required, as a foundation, an environmental review of the potential impacts associated with processing DSNY-managed Waste at the new facilities. That environmental review, using City Environmental Quality Review (CEQR) methodologies, is reported in Volume III, Appendix A, MTS Environmental Evaluation, to this report. It concludes that the DSNY-managed Waste generated in the wastesheds that historically delivered to the MTS system can be containerized for export without causing potentially unmitigatible significant adverse environmental impacts. The next step was to analyze what impacts would result from the potential delivery of commercial putrescible waste to the Converted MTSs.

It is important to emphasize that this assessment focuses solely on environmental considerations. It should not be interpreted as a general conclusion that export of commercial waste through the Converted MTSs is feasible. Some of the additional factors that bear on the issue of feasibility that are <u>not</u> addressed in this report are:

- The economics of export through the MTSs, which will be determined in part by proposals from private vendors for transport and disposal of containerized waste from the Converted MTSs. The City has just received and begun evaluating these proposals. Thus the economics of commercial waste export through the Converted MTSs is not yet known.
- The types of business arrangements that the City would enter into with carters for exporting commercial waste through the MTSs, which are not yet defined.
- Whether further development of the designs for the Converted MTSs will substantiate the operational assumptions or necessitate that the assumed operational capacity be reduced.

- The comparative cost of exporting through the existing private Transfer Stations, which could be more attractive.
- The potential permit limitations that NYSDEC may place on the operation of the Converted MTSs.
- The location of some MTSs in relation to the sources of commercial waste generation, which may not provide the same efficiencies and consequently be as attractive to private carters as delivering to private Transfer Stations.

The evaluation of processing commercial putrescible waste at the Converted MTSs is an incremental analysis, complying with the CEQR procedures, that builds on the foundation of the Volume III, Appendix A, MTS Environmental Evaluation report. The analysis of the potential on-site-related impacts associated with processing DSNY-managed Waste is based on the design capacities of the Converted MTSs and concluded that there were no unmitigatible significant adverse impacts. Since commercial putrescible waste deliveries would not exceed these facility design capacities, the potential processing of some quantities of the City's commercial putrescible waste would not cause any incremental significantly adverse impacts attributable to on-site operations.

The analysis of off-site impacts associated with processing putrescible commercial waste required an incremental environmental review of the potential for on-site air quality and off-site (mobile) air quality and noise impacts attributable to delivery of such commercial waste.

The starting point in evaluating the potential capacity available for commercial putrescible waste was defining a scenario for DSNY's capacity requirements that reserved the block of time from 8:00 a.m. to 8:00 p.m. for processing DSNY-managed Waste and assumed that deliveries of DSNY-managed Waste during the 8:00 p.m. to 8:00 a.m. period would have priority over deliveries of commercial waste. Table ES-1 summarizes:

- The design capacity in tons per day (tpd) that each Converted MTS is capable of processing under a normal operations scenario;
- The capacity reserved for DSNY-managed Waste; and
- The potential available excess capacity at each of the Converted MTSs.

The column showing DSNY-managed Waste reserved capacity reflects the historical average peak day generation in the respective MTS wastesheds. Under conditions of high peak generation, the MTSs can be operated to process DSNY-managed Waste in excess of the tpd quantities shown in the table.

Table ES-1
DSNY-managed Waste Reserved Capacity Scenario

Converted MTS Facility	Converted MTS Design Capacity[1] (tpd)	DSNY-managed Waste Reserved Capacity (tpd)	Excess Capacity, 8:00 a.m. to 8:00 p.m. (tons)	Excess Capacity, 8:00 p.m. to 8:00 a.m. (tons)
West 135th Street	4,290	1,180	1,211	1,853
East 91st Street	4,290	880	1,227	2,183
West 59th Street[2]	2,145	880	279	956
South Bronx	4,290	2,190	333	1,732
North Shore	4,290	2,370	622	1,000
Greenpoint	4,290	2,360	575	1,145
Hamilton Avenue	4,290	2,170	630	1,337
Southwest Brooklyn	4,290	1,090	1,418	1,725
Totals	32,175	13,120	6,295	11,931

Notes:
(1) Based on operating MTSs under normal operating conditions. Spare operating lines are not used to process waste.
(2) West 59th Street is a lift and load operation, not an open top-loading slot system.

Given the DSNY-managed Waste Reserved Capacity Scenario, a Commercial Waste Capacity Scenario was defined to determine the potential available capacity that could be used by private carters delivering waste from commercial sources. This scenario identified the potential available capacity on an hourly basis at each Converted MTS, and provided the basis for evaluating the potential on-site air quality, off-site air quality and off-site noise impacts associated with the delivery of commercial waste in nighttime hours. The maximum capacity potentially available for processing commercial waste was evaluated with a spreadsheet model that incorporates both Converted MTS design and operating parameters developed by the DSNY's Consultant design team and arrival profiles for DSNY-managed Waste. It is assumed that, between the hours of 8:00 p.m. and 8:00 a.m., both DSNY-managed Waste and commercial waste could be received and processed at the Converted MTSs. Table ES-2 summarizes the

results of this evaluation. As shown in the "Potential Available Capacity, 8:00 p.m. to 8:00 a.m." column, the total capacity potentially available for processing commercial waste during this period totals 11,931 tons, allocated among the eight MTSs. This does not take into account any environmental constraints that may limit the potential delivery of commercial waste.

Table ES-2
Available Potential Excess Capacity at Converted MTSs
Based on the Capacity Reserved for DSNY-managed Waste

Converted MTS Facility	Average Day Design Capacity [1] (tpd)	Potential Available Capacity, Average Peak Day (tpd)	Average Peak Day			Maximum Number of DSNY Collection Vehicles, 8:00 a.m. to 8:00 p.m. (peak hour)	Potential Range of Maximum Number of Collection Vehicles[3] 8:00 p.m. to 8:00 a.m. (peak hour)
			Potential Available Capacity, 8:00 a.m. to 8:00 p.m. (tons)	Potential Available Capacity, 8:00 p.m. to 8:00 a.m. (tons)	Potential Additional Number of Commercial Vehicles, 8:00 p.m. to 8:00 a.m.[2] (per day)		
West 135th Street	4,290	3,110	1,211	1,853	175	30	20-22
East 91st Street	4,290	3,410	1,227	2,183	199	28	19-21
West 59th Street [4]	2,145	1,265	279	956	91	21	10-12
South Bronx	4,290	2,100	333	1,732	163	64	21-23
North Shore	4,290	1,920	622	1,000	95	39	24-26
Greenpoint	4,290	1,930	575	1,145	109	61	22-24
Hamilton Avenue	4,290	2,120	630	1,337	129	32	23-25
Southwest Brooklyn	4,290	3,200	1,418	1,725	162	27	21-23
Totals	**32,175**	**19,055**	**6,295**	**11,931**	**1,123**		

Notes:

(1) Based on operating the MTSs under normal operating conditions. Spare operating line is not used to process waste.

(2) Assuming commercial collection vehicles deliver an average of 11 tons per truck. (Field data indicates commercial collection vehicles average between 11 and 13 tons per truck.)

(3) DSNY collection vehicles and commercial Waste Hauling Vehicles.

(4) West 59th Street is a lift and load operation - not an open top-loading slot system.

Findings

Processing of Commercial Waste at the Converted MTSs

1. The CEQR analyses in the MTS Environmental Evaluation show there are no potentially significant unmitigatible adverse environmental impacts associated with on-site processing of DSNY-managed Waste. This would also apply to processing of commercial waste at each converted MTS in the quantities shown in Table ES-2. However, further evaluation of potential on-site air quality, off-site noise and off-site air quality impacts from nighttime deliveries of commercial waste was required.

2. The on-site air quality analysis of processing DSNY-managed Waste at some of the Converted MTS sites showed that using the facility average design capacity (including the processing of commercial waste) to estimate pollutants did not cause an exceedance of annual average standards.

3. The off-site air quality analysis of processing DSNY-managed Waste at some of the Converted MTS sites showed that using the conservative assumption that peak hour conditions occur 24 hours per day (a Tier I analysis) resulted in unmitigatible environmental impacts for PM_{10} and $PM_{2.5}$. (See Section 10 of the individual chapters in the MTS Environmental Evaluation for these analyses.) Therefore, a Tier II air quality analysis was also performed for deliveries of commercial waste at intersections near each of the Converted MTS sites. The analysis used data on actual hourly traffic volumes on routes to and from the site and included the higher number of commercial collection vehicles assumed to deliver to each Converted MTS during the 8:00 p.m. to 8:00 a.m. period. No significant adverse unmitigatible environmental off-site air quality impacts were identified.

4. Evaluating the potential for off-site noise impacts required the use of a second-level noise screening analysis. (See Section 3.14.5.2 of Volume III, Appendix A for a detailed explanation.) The results of this analysis indicate that the number of potential commercial Waste Hauling Vehicles that could be routed to the MTSs during various hours within the 8:00 p.m. to 8:00 a.m. period must be limited to less than the available

excess capacity to avoid causing potential impacts at sensitive receptors on the analyzed routes these vehicles might take to the MTSs. The amount of available capacity that can potentially be used to process commercial waste during the hours of 8:00 a.m. to 8:00 p.m. without causing any significant adverse noise impacts is summarized in Table ES-3.

Table ES-3
Converted MTS
Potential Commercial Waste Capacities Summary Table

Location	Converted MTS Design Capacity		DSNY-managed Waste Delivered 8:00 p.m. to 8:00 a.m. (tons)	Potential Converted MTS Capacity with Off-Site Noise Constraints	
	Total Potential Commercial Vehicles (per day)	Potential Commercial Waste Tonnage 8:00 p.m. to 8:00 a.m. (tons)		Total Potential Commercial Vehicles (per day)	Potential Commercial Waste Tonnage 8:00 p.m. to 8:00 a.m. (tons)
West 135th Street	175	1,853	301	95	1,029
East 91st Street(1)	199	2,183	17	71	781
West 59th Street(2)	91	956	114	91	956
South Bronx(1)	163	1,732	433	150	1,611
North Shore(3)	95	1,000	901	95	1,000
Greenpoint(1)	109	1,145	793	109	1,145
Hamilton Avenue(1)	129	1,337	710	124	1,306
Southwest Brooklyn(4)	162	1,725	418	76	828
Total	**1,123**	**11,931**	**3,687**	**811**	**8,656**

Notes:

(1) Need to use different routes for potential commercial Waste Hauling Vehicles to deliver the full amount of excess capacity for commercial waste.

(2) Can take all potential commercial Waste Hauling Vehicles without any noise constraints.

(3) There is a route to the North Shore Converted MTS that does not pass sensitive receptors that must be used from 12:00 a.m. to 6:00 a.m. to deliver the full amount available for commercial capacity. The route should not be used at other times upon request from the City Department of Transportation (NYCDOT) due to congestion that occurs at certain intersections along the route during daytime traffic hours.

(4) Outbound trucks passing 26th Street between Cropsey Avenue and Shore Road limit the number of inbound commercial Waste Hauling Vehicles that can be accommodated at the Southwest Brooklyn Converted MTS.

Since these results are based on a second-level screening for noise impacts, a detailed off-site noise analysis, utilizing the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) Version 2.1, is being performed to determine if noise impacts would actually occur at these sensitive receptor locations and/or if additional potential commercial Waste Hauling Vehicles could be routed to the MTS during the 8:00 p.m. to 8:00 a.m. hour, without causing unmitigatible significant adverse off-site noise impacts, to fully utilize the potentially available capacity of the MTSs. The results of the off-site detailed noise analyses will be available at a later date.

5. This evaluation of potential processing commercial waste at the Converted MTSs was limited to an environmental review that focused on traffic, on-site and off-site air quality and noise, and on-site odor impacts.

Processing of DSNY-Managed Waste at the Converted MTSs

This section summarizes key findings from Volume III, Appendix A, MTS Environmental Evaluation, an environmental review of operations for the Converted MTSs in processing DSNY-managed Waste.

1. Table ES-4 summarizes the facility design capacity assumptions and the assumed tons of DSNY-managed Waste processed during average peak days that were the basis of the MTS Environmental Evaluation. The assumed tons of DSNY-managed Waste in this table vary from the tons shown in the DSNY-managed Waste Reserved Capacity Scenario Table ES-1. This reflects a contingency added to DSNY average peak day deliveries to provide a margin of conservatism in the analysis.

2. Based on the design capacity and operating assumption, described in more detail in Volume III, the MTS Environmental Evaluation found there were no unmitigatible significant adverse environmental impacts associated with processing the average peak day deliveries of DSNY-managed Waste. The environmental evaluation demonstrates the Converted MTSs will enable export of DSNY-managed Waste in an efficient and environmentally sound manner. This summary conclusion is supported by the environmental evaluation that addressed: Land Use, Zoning and Public Policy;

Table ES-4
MTS Environmental Analysis Information

Converted MTS Facility	Total Number of Loading Slots	DSNY-managed Waste Average Peak Day Deliveries, (tons)[1]	Number of DSNY-Managed Vehicles, Average Peak Day	Average Day Design Capacity[2] (tpd)	Peak-Hour Number of DSNY Collection Vehicles
West 135th Street	4	1,416	222	4,290	30
East 91st Street	4	1,093	130	4,290	28
West 59th Street[3]	3	1,068	124	2,145	21
South Bronx	4	2,804	363	4,290	64
North Shore	4	2,672	329	4,290	39
Greenpoint	4	3,387	423	4,290	61
Hamilton Avenue	4	2,248	267	4,290	32
Southwest Brooklyn	4	1,388	166	4,290	27
Totals		**16,076**	**2,024**	**32,175**	

Notes:

(1) All MTSs based on scale data from Fiscal Year 1998 received from the DSNY Bureau of Cleaning and Collection with a 20% contingency allowance, except for the South Bronx MTS. South Bronx MTS data is based on Fiscal Year 1997 with a 20% contingency allowance.

(2) Based on operating the MTS under normal operating conditions. Spare operating line is not used to process waste.

(3) West 59th Street is a lift and load operation - not an open top-loading slot system.

Socioeconomic Conditions; Neighborhood Character; Community Facilities and Services; Open Space and Parklands; Cultural Resources; Traffic and Transportation; Air Quality; Noise; Infrastructure and Energy and Solid Waste; Natural Resources (including Endangered Species and Habitats); Water Quality; Waterfront Revitalization Program; Hazardous Materials; and Urban Design and Visual Quality. For the eight MTSs, the following measures were identified to mitigate estimated adverse impacts for traffic and on-site noise:

- Traffic signal timing adjustments would mitigate estimated traffic impacts identified at five intersections near the South Bronx Converted MTS; three intersections near the Southwest Brooklyn Converted MTS; three intersections near the Greenpoint Converted MTS; two intersections near the Hamilton Avenue Converted MTS; one intersection near the West 135th Street Converted MTS; two intersections near the East 91st Street Converted MTS; and two intersections near the North Shore Converted MTS. No traffic impacts were estimated at traffic study intersections identified near the West 59th Street Converted MTS.

- Construction of a 20-foot-tall (from the ramp surface) noise barrier located on the southern side of the ramp at the South Bronx Converted MTS would mitigate the potential noise impact on a nearby prison barge. A 20-foot-tall (from the ramp surface) noise barrier located on the southeast property line of the Southwest Brooklyn Converted MTS and a restriction on the number of nighttime arrivals of collection vehicles queuing on trucks and ramps would mitigate the potential noise impact on a nearby residential complex.

- Subsurface site investigations at the Southwest Brooklyn, Greenpoint, and Hamilton Avenue Converted MTS sites are underway. Results will be provided at a later date.

These analyses and findings are detailed in the MTS Environmental Evaluation, the appendix to this volume.

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List of Acronyms/Definitions

Acronyms	
CD	community district
CEQR	City Environmental Quality Review
CO	carbon monoxide
DEIS	Draft Environmental Impact Statement
DSNY	New York City Department of Sanitation
FHWA	Federal Highway Administration
LL74	Local Law 74, effective December 19, 2000, enacted by the City Council, requiring a comprehensive assessment of commercial solid waste management in New York City
MTS	marine transfer station
NAAQS	National Ambient Air Quality Standards
NYCDOT	New York City Department of Transportation
NYSDOT	New York State Department of Transportation
PCE	passenger car equivalent
ppm	parts per million
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
STV	screening threshold value
SWMP	Solid Waste Management Plan
TNM	Traffic Noise Model
tpd	tons per day

Acronyms	
$\mu g/m^3$	micrograms per cubic meter

Definitions	
City	New York City
Commercial Waste Capacity Scenario	Scenario which identifies the available capacity on an hourly basis at each Converted MTS, and provides the basis on which potential air quality and noise impacts associated with the delivery of commercial waste in nighttime hours can be evaluated
Converted MTS	One of DSNY's eight marine transfer stations, modified to containerize waste for out-of-City export by barge or rail
DSNY-managed Waste	Solid waste that DSNY collects from all residential households in the City and the institutional waste of City, state and federal agencies that DSNY collects and/or for which DSNY arranges disposal
DSNY-managed Waste Reserved Capacity Scenario	Scenario which determines the Converted MTS capacity that would be required for DSNY-managed Waste to provide for an adequate margin to meet its peak demand requirements under all conditions except declared waste disposal emergencies
Final Study Scope or Final Scope of Work	Commercial Waste Management Study Final Scope of Work issued on July 31, 2003
MTS Conversion Program	The City's initiative to develop, at the sites of the existing marine transfer stations (MTSs), new converted MTSs that will containerize solid waste for long-term export by barge with the potential for additional intermodal transfers to enable delivery of containerized waste to disposal facilities outside of the City

Definitions	
New SWMP	The new comprehensive Solid Waste Management Plan to be developed in 2004 for both DSNY-managed Waste and commercial waste for the planning period 2004 through 2024
New SWMP Planning Period	The 20-year period from 2004 to 2024 addressed by the City's New Solid Waste Management Plan
Study	Commercial Waste Management Study
Transfer Station(s)	Privately owned and operated transfer station in New York City that accepts, transfers and transports some portion of municipal solid waste or construction and demolition (C&D) debris or fill material generated in the private sector for out-of-City disposal
Waste Hauling Vehicles	Collection vehicles/transfer trailers that are used to transport municipal solid waste, C&D debris or fill material to or from the Transfer Stations

1.0 POTENTIAL PROCESSING OF COMMERCIAL WASTE AT THE CONVERTED MARINE TRANSFER STATIONS AND RELATED POTENTIAL IMPACTS

1.1 Introduction

This report evaluates the capacity that would potentially be available at the Converted Marine Transfer Stations (MTSs) to containerize commercial waste delivered by private carters. When Local Law 74 (LL74) was adopted, the concept of developing an MTS Conversion Program for containerizing waste for long-term export was not established as a policy objective of New York City (City). Given this policy objective, addressing the issue of processing commercial waste at the Converted MTSs first required, as a foundation, an environmental review of the potential impacts associated with processing City Department of Sanitation (DSNY)-managed Waste. That environmental review, using City Environmental Quality Review (CEQR) methodologies, is reported in Volume III, Appendix A, MTS Environmental Evaluation. It addressed: Land Use, Zoning and Public Policy; Socioeconomic Conditions; Neighborhood Character; Community Facilities and Services; Open Space and Parklands; Cultural Resources; Traffic and Transportation; Air Quality; Odor; Noise; Infrastructure and Energy and Solid Waste; Natural Resources (including Endangered Species and Habitats); Water Quality; Waterfront Revitalization Program; Hazardous Materials; and Urban Design and Visual Quality. It demonstrates the Converted MTSs will enable export of DSNY-managed Waste in an efficient and environmentally sound manner and provides the basis on which the incremental environmental effects of containerizing and exporting commercial waste from the Converted MTSs are evaluated.

The Converted MTSs, if included in the new Solid Waste Management Plan (New SWMP), would be developed at up to eight of the existing MTS sites with the tons per day (tpd) design capacities indicated below:

- West 135th Street (Manhattan) – 4,290 tpd
- East 91st Street (Manhattan) – 4,290 tpd
- West 59th Street (Manhattan) – 2,145 tpd

- South Bronx (Hunts Point) – 4,290 tpd
- North Shore (Queens) – 4,290 tpd
- Greenpoint (Brooklyn) – 4,290 tpd
- Hamilton Avenue (Brooklyn) – 4,290 tpd
- Southwest Brooklyn– 4,290 tpd

Based on these design capacities and the operating assumption, described in more detail in Appendix A, MTS Environmental Evaluation, there were no unmitigatible significant adverse environmental impacts associated with processing the average peak day deliveries of DSNY-managed Waste. For the eight MTSs, the following measures were identified to mitigate estimated adverse impacts for traffic and on-site noise:

- Traffic signal timing adjustments would mitigate estimated traffic impacts identified at five intersections near the South Bronx Converted MTS; three intersections near the Southwest Brooklyn Converted MTS; three intersections near the Greenpoint Converted MTS; two intersections near the Hamilton Avenue Converted MTS; one intersection near the West 135th Street Converted MTS; two intersections near the East 91st Street Converted MTS; and two intersections near the North Shore Converted MTS. No traffic impacts were estimated at traffic study intersections identified near the West 59th Street Converted MTS.
- Construction of a 20-foot-tall (from the ramp surface) noise barrier located on the southern side of the ramp at the South Bronx Converted MTS would mitigate the potential noise impact on a nearby prison barge. A 20-foot-tall (from the ramp surface) noise barrier located on the southeast property line of the Southwest Brooklyn Converted MTS and a restriction on the number of nighttime arrivals of collection vehicles queuing on trucks and ramps would mitigate the potential noise impact on a nearby residential complex.
- Subsurface site investigations at the Southwest Brooklyn, Greenpoint, and Hamilton Avenue Converted MTS sites are underway. Results will be provided at a later date.

These analyses and findings are detailed in the MTS Environmental Evaluation, the appendix to this volume.

This report evaluates the use of available Converted MTS capacity, after processing all DSNY-managed Waste on a priority basis, to potentially containerize commercial waste without causing potentially significant unmitigatible adverse impacts.

It is important to emphasize that this assessment focuses solely on environmental considerations. It should not be interpreted as a general conclusion that export of commercial waste through the Converted MTSs is feasible. Some of the additional factors that bear on the issue of feasibility that are not addressed in this report are:

- The economics of export through the MTSs, which will be determined in part by proposals from private vendors for transport and disposal of containerized waste from the Converted MTSs. The City has just received and begun evaluating these proposals, thus the economics of commercial waste export through the Converted MTSs are not yet known.
- The types of business arrangements that the City would enter into with carters for exporting commercial waste through the MTSs, which are not yet defined.
- Whether further development of the designs for the Converted MTSs will substantiate the operational assumptions or necessitate that the assumed operational capacity be reduced.
- The comparative cost of exporting through the existing private Transfer Stations, which could be more attractive.
- The potential permit limitations that NYSDEC may place on the operation of the Converted MTSs.
- The location of some MTSs in relation to the sources of commercial waste generation, which may not provide the same efficiencies and consequently be as attractive to private carters as delivering to private Transfer Stations.

1.2 Summary of On-Site Impact Analyses in the MTS Environmental Evaluation

On-site air quality, odor and noise impacts in the MTS Environmental Evaluation were evaluated assuming that the Converted MTSs operated at their design capacities. Appropriate CEQR-based methodologies were applied to evaluate the potential for any significant unmitigatible adverse environmental impacts. As noted in Table 1.2-1, the design capacities are significantly higher than the anticipated quantities of DSNY-managed Waste. The MTS design capacities were based on, among other things, the following considerations:

- Ensuring a facility design with the capacity to containerize DSNY-managed Waste at the peak hourly arrival rates of DSNY collection vehicles;

- Providing redundancy in the system to deal with upset conditions affecting operations at a facility or with weather-related emergencies; and
- Allowing for future growth.

Table 1.2-1
MTS Environmental Analysis Information

Converted MTS Facility	Total Number of Loading Slots	DSNY-managed Waste Average Peak Day Deliveries, (tons)(1)	Number of DSNY-managed Vehicles, Average Peak Day	Average Day Design Capacity(2) (tpd)	Peak-Hour Number of DSNY Collection Vehicles
West 135th Street	4	1,416	222	4,290	30
East 91st Street	4	1,093	130	4,290	28
West 59th Street(3)	3	1,068	124	2,145	21
South Bronx	4	2,804	363	4,290	64
North Shore	4	2,672	329	4,290	39
Greenpoint	4	3,387	423	4,290	61
Hamilton Avenue	4	2,248	267	4,290	32
Southwest Brooklyn	4	1,388	166	4,290	27
Totals		**16,076**	**2,024**	**32,175**	

Notes:
(1) All MTSs based on scale data from Fiscal Year 1998 received from the DSNY Bureau of Cleaning and Collection with a 20% contingency allowance, except for the South Bronx MTS. South Bronx MTS data is based on Fiscal Year 1997 with a 20% contingency allowance.
(2) Based on operating the MTS under normal operating conditions. Spare operating line is not used to process waste.
(3) West 59th Street is a lift and load operation - not an open top-loading slot system.

Although these peak hourly arrival rates are not sustained over a 24-hour period, the MTS Environmental Evaluation of on-site impacts conservatively modeled these peak hour conditions to predict the potential for on-site noise and odor impacts, and air quality impacts for short-term (1-hour, 3-hour, 8-hour and 24-hour) averaging periods. Because the analyses of short-term averaging periods were based on facility operations at the design capacity, no additional evaluation of on-site noise and odor impacts related to the processing of commercial waste was required.

An evaluation of potential on-site air quality impacts for pollutants compared to annual average standards was modeled assuming commercial waste was processed at the Converted MTSs. Based on these analyses, the potential processing of some quantities of the City's commercial putrescible waste would not cause any incremental significantly adverse impacts attributable to on-site operations (see Attachment 4).

Table 1.2-1 also presents the average peak day[1] assumptions for delivery of DSNY-managed Waste used in the environmental analyses performed at each Converted MTS. For the on-site analysis, a 20% contingency factor (i.e., expected peak volumes were increased by 20%) was applied to the average peak day number of DSNY collection vehicles.

[1] The average peak day is the average of historic DSNY-managed Waste delivered to the existing MTSs on the peak day each week for 52 weeks (i.e., the average of 52 Tuesdays).

2.0 DSNY CAPACITY REQUIREMENTS AND POTENTIALLY AVAILABLE COMMERCIAL WASTE CAPACITY

2.1 DSNY-managed Waste Reserved Capacity Scenario

In evaluating the potential quantity of commercial waste that could be processed at the Converted MTSs, DSNY first determined the facility capacity that would be required for DSNY-managed Waste to provide for an adequate margin to meet its peak demand requirements under all conditions except declared waste disposal emergencies. This is referred to as the DSNY-managed Waste Reserved Capacity Scenario. This scenario differs in certain respects from the assumptions made in the MTS Environmental Evaluation. It is based on historical waste delivery patterns for the average peak days, not including a 20% contingency factor, and reserves all capacity between 8:00 a.m. and 8:00 p.m. for DSNY-managed Waste deliveries. Under conditions of high peak generation, the waste processing throughput of the Converted MTSs can be increased over a short period of time with the addition of personnel and extended shift operating time.

DSNY has defined the allocation of the total number of loads and tons of DSNY-managed Waste that would be delivered to each Converted MTS based on each MTS's historical wasteshed. They used a historical annual average of peak day deliveries to the existing MTSs as a basis for reserving sufficient capacity for processing DSNY-managed Waste at each Converted MTS. An hourly distribution of the loads and tons delivered to each MTS was developed based on historical delivery data to the existing MTSs provided by DSNY. For each Converted MTS, a model was set up using this delivery data to simulate the operation of each MTS for processing its allotted DSNY-managed Waste on an hourly basis under normal operating conditions. The following assumptions were made about the normal operations of the Converted MTSs:

- The Converted MTS would process ten containers per hour with three loading slots in operation, except for the West 59th Street MTS;
- The West 59th Street MTS would process five containers per hour using a lift-and-load-type operation and two of the three loading slots;
- The loader level would be kept as clear of waste as possible during processing hours by loading all waste received into containers as soon as possible and keeping stockpiles at a minimum;

- Each container would be loaded with approximately 20 to 22 tons of waste;
- Each barge would be loaded with 48 containers of waste;
- Barge switches would not interrupt waste processing operations; and
- Employees would effectively work six and one-half hours out of an eight-hour shift due to shift changes and break time during the shift.

Based on these assumptions, the Converted MTSs, except for the West 59th Street facility, would containerize a maximum of 220 tons of waste per hour and 4,290 tons of waste per day under normal operating conditions. The West 59th Street Converted MTS would containerize a maximum of 110 tons of waste per hour and 2,145 tons of waste per day.

Waste delivery profiles were established for each Converted MTS and tons and loads were allotted to each Converted MTS on an hourly basis. Facility performance was modeled on an hour-to-hour basis for 24 hours beginning with the first (8:00 a.m. to 4:00 p.m.) of three shifts. The model calculated the difference between the incoming tonnage and the maximum available processing capacity during the same hour. If the incoming tonnage exceeded the processing capacity of the Converted MTS for that hour, the excess tonnage is stockpiled. Stockpiled waste is processed during a subsequent hour, when additional capacity became available. If the total incoming waste plus any waste in the stockpile is less than the processing capacity of the Converted MTS, the model computed the capacity available during that hour to process additional waste.

In addition to calculating the available waste capacity at the Converted MTSs, the model calculated the cumulative tons received, cumulative tons containerized and cumulative number of DSNY collection vehicles that delivered waste to the MTS on an hourly basis. The capacity model also calculated the fluctuation in the stockpile and tonnage in the stockpile by hour and the approximate hour in which barge switches would occur. Table 2.1-1 presents a summary of the reserved capacity for DSNY-managed Waste and available excess capacity at each of the Converted MTSs. The column showing DSNY-managed Waste reserved capacity reflects the historical average peak day generation in the respective MTS wastesheds.

Table 2.1-1
DSNY-managed Waste Reserved Capacity Scenario

Converted MTS Facility	Converted MTS Design Capacity[1] (tpd)	DSNY-managed Waste Reserved Capacity (tpd)	Excess Capacity, 8:00 a.m. to 8:00 p.m. (tons)	Excess Capacity, 8:00 p.m. to 8:00 a.m. (tons)
West 135th Street	4,290	1,180	1,211	1,853
East 91st Street	4,290	880	1,227	2,183
West 59th Street[2]	2,145	880	279	956
South Bronx	4,290	2,190	333	1,732
North Shore	4,290	2,370	622	1,000
Greenpoint	4,290	2,360	575	1,145
Hamilton Avenue	4,290	2,170	630	1,337
Southwest Brooklyn	4,290	1,090	1,418	1,725
Totals	**32,175**	**13,120**	**6,295**	**11,931**

Notes:
(1) Based on operating MTSs under normal operating conditions. Spare operating lines are not used to process waste.
(2) West 59th Street is a lift and load operation, not an open top-loading slot system.
tpd = tons per day

2.2 Commercial Waste Capacity Scenario

Given the DSNY-managed Waste Reserved Capacity Scenario, a Commercial Waste Capacity Scenario was defined to determine the potential available capacity that could be used by private carters delivering waste from commercial sources. This scenario identified the potential available capacity on an hourly basis at each Converted MTS, and provided the basis for evaluating the potential off-site air quality and off-site noise impacts associated with the delivery of commercial waste in nighttime hours. The Commercial Waste Capacity Scenario involved the following steps:

- Quantifying the tons of waste and number of DSNY-managed Waste collection vehicles delivering waste to each Converted MTS on an hourly basis;
- Identifying hours in which additional waste could be delivered to the Converted MTSs;
- Calculating the additional tons of waste that could be delivered to each Converted MTS on an hourly basis;

- Estimating the additional number of collection vehicles it would take to deliver the additional waste;
- Identifying the potential commercial waste vehicle routes by approach direction (north, south, east, or west);
- Identifying the potential commercial wastesheds for each MTS;
- Estimating the number of commercial vehicles along each route based on the location of the waste source; and
- Determining if additional environmental analyses are required at each Converted MTS based on the additional number of collection vehicles that would deliver commercial waste and their assumed routes.

The following assumptions were made about commercial waste deliveries to the Converted MTSs:

- Commercial waste deliveries would occur only during the 8:00 p.m. to 8:00 a.m. period;
- Commercial collection vehicles would deliver an average of 11 tons per vehicle; and
- Commercial waste deliveries would not exceed the hourly waste processing capacity of each Converted MTS, thus commercial waste would not be stockpiled at the Converted MTSs.

It was assumed that all DSNY-managed Waste would be processed before any commercial waste was accepted at the MTS. Thus, the stockpile was reduced to zero tons, and all incoming DSNY-managed Waste containerized during an hour before excess capacity was allotted for commercial waste. Based on the available commercial waste tonnage, the model calculated the additional number of commercial collection vehicles required to deliver the commercial waste totaling the excess capacity. Additionally, the model calculated the total number of DSNY-managed Waste and potential commercial waste collection vehicles that could deliver waste in each hour.

Excess capacity was calculated for every hour of the day. Excess capacity on the first shift and first half of the second shift (8:00 a.m. to 8:00 p.m.) was considered additional contingency for DSNY-managed Waste. Because the hourly distribution is subject to fluctuation and cannot exactly replicate the delivery patterns of DSNY-managed Waste to the Converted MTSs, the total available capacity was summarized as a total tonnage between the hours of 8:00 a.m. to

8:00 p.m. Table 2.2-1 shows the capacity potentially available to commercial carters, based on the capacity assumptions for processing DSNY-managed Waste. The hourly results of the modeling, provided in tables in Attachment 1 to this report, show the hour-by-hour capacity analysis for each Converted MTS.

Table 2.2-1 also presents information on the potential additional number of commercial waste collection vehicles. It assumes that delivery of commercial waste by private carters uses all the remaining available capacity during the 8:00 p.m. to 8:00 a.m. period not required for processing of DSNY-managed Waste, not taking into account any environmental constraints that might limit deliveries of commercial waste. As shown in the "Potential Available Capacity, 8:00 p.m. to 8:00 a.m." column, the total capacity potentially available for processing commercial waste during this period totals 11,931 tons, allocated among the eight MTSs, not taking into account the environmental constraints.

Table 2.2-1
Available Potential Excess Capacity at Converted MTSs
Based on the Capacity Reserved for DSNY-managed Waste

Converted MTS Facility	Average Day Design Capacity [1] (tpd)	Potential Available Capacity, Average Peak Day (tpd)	Average Peak Day			Maximum Number of DSNY Collection Vehicles, 8:00 a.m. to 8:00 p.m. (peak hour)	Potential Range of Maximum Number of Collection Vehicles[3] 8:00 p.m. to 8:00 a.m. (peak hour)
			Potential Available Capacity, 8:00 a.m. to 8:00 p.m. (tons)	Potential Available Capacity, 8:00 p.m. to 8:00 a.m. (tons)	Potential Additional Number of Commercial Vehicles, 8:00 p.m. to 8:00 a.m.[2] (per day)		
West 135th Street	4,290	3,110	1,211	1,853	175	30	20-22
East 91st Street	4,290	3,410	1,227	2,183	199	28	19-21
West 59th Street [4]	2,145	1,265	279	956	91	21	10-12
South Bronx	4,290	2,100	333	1,732	163	64	21-23
North Shore	4,290	1,920	622	1,000	95	39	24-26
Greenpoint	4,290	1,930	575	1,145	109	61	22-24
Hamilton Avenue	4,290	2,120	630	1,337	129	32	23-25
Southwest Brooklyn	4,290	3,200	1,418	1,725	162	27	21-23
Totals	**32,175**	**19,055**	**6,295**	**11,931**	**1,123**		

Notes:

(1) Based on operating the MTSs under normal operating conditions. Spare operating line is not used to process waste.

(2) Assuming commercial collection vehicles deliver an average of 11 tons per truck. (Field data indicates commercial collection vehicles average between 11 and 13 tons per truck.)

(3) DSNY collection vehicles and commercial Waste Hauling Vehicles.

(4) West 59th Street is a lift and load operation - not an open top-loading slot system.

3.0 SUMMARY OF OFF-SITE IMPACT ANALYSES

A definitive determination of the quantity of potential commercial waste that can be processed at the Converted MTSs requires an assessment of whether commercial waste deliveries would cause any traffic, off-site air quality or off-site noise impacts. The MTS Environmental Evaluation evaluated the potential for traffic, off-site air quality and off-site noise impacts based on waste delivery profiles for DSNY-managed Waste with a 20% contingency to allow for potential variations in waste deliveries. This section identifies where those analyses were also sufficient for purposes of assessing the impacts associated with the delivery of commercial waste, and where additional analyses were required to determine whether commercial waste deliveries would potentially cause unmitigatible significant adverse environmental impacts.

To perform refined traffic, off-site air quality and noise analyses, it was necessary to identify likely locations where commercial waste might originate and be delivered to each Converted MTS and to develop potential routes for commercial waste vehicles to each Converted MTS. General commercial Waste Hauling Vehicle routes were developed by approach direction (north, south, east, or west). In some cases, more than one route per direction was identified as providing access to a Converted MTS. Waste Hauling Vehicle routes were identified to and from major highways and roadways in the vicinity of each Converted MTS, along local truck routes in the vicinity of each Converted MTS, and following the most direct route along local roads to a Converted MTS from the nearest truck route. As in the MTS Environmental Evaluation, it was assumed that commercial Waste Hauling Vehicles originating in different locations and delivering to the same Converted MTS will converge along routes in close proximity to the Converted MTS where access roads become limited.

To establish the approximate numbers of commercial Waste Hauling Vehicles along routes to each Converted MTS, an assessment was performed of commercial waste-generating establishments by zip code. The information developed in Volume II on commercial waste generation was used to develop commercial waste tonnages for an average peak day by zip code. Zip code boundaries for the City were plotted on a map, and commercial waste from establishments within those zip codes was assigned to each Converted MTS based on the community district (CD) assignment used in the Converted MTS Environmental Evaluation.

Those zip codes that fell within multiple CDs assigned to multiple Converted MTSs were assigned to the Converted MTS in which a greater proportion of the zip code boundary was contained. Once zip codes were assigned to a Converted MTS, the corresponding tonnage associated with that zip code was also assigned to the same Converted MTS. It was assumed that excess commercial tonnage that could not be processed at a Converted MTS would be processed at a private facility.

To analyze the full commercial capacity at each Converted MTS, additional zip codes were added to the wasteshed of a Converted MTS, until enough commercial waste would be delivered to the Converted MTS to fill the excess capacity. The additional zip codes were assigned based on geographic proximity to a Converted MTS and the commercial waste generated within a zip code. It was assumed that zip codes that generate greater volumes of commercial waste would be more likely to make up the difference between the excess capacity and allotted commercial tonnage.

Once sufficient commercial tonnage had been allotted to each Converted MTS, the trucks delivering tonnage from each zip code assigned to the Converted MTS were assigned along an approach to the Converted MTS. After all zip codes and their corresponding tonnages had been assigned, percentages by approach direction were calculated for each Converted MTS. These percentages were used to distribute the commercial waste vehicles along the assumed truck routes for the time period between 8:00 p.m. and 8:00 a.m. Commercial waste vehicles were assigned hourly in this manner as no hourly breakdown of commercial waste deliveries was available. The distribution of commercial waste vehicles by direction was then used for traffic, off-site air and off-site noise analyses.

3.1 Traffic

In the MTS Environmental Evaluation, traffic impacts were analyzed during background peak and facility-generated peak traffic hours using the appropriate CEQR-based methodologies. In evaluating the effect of additional commercial waste deliveries on traffic conditions, the analysis assumed that all remaining available capacity (i.e., the capacity not required to process DSNY-managed Waste) during the 8:00 p.m. to 8:00 a.m. period was used to process commercial waste.

The results of the analysis show that peak hour assumptions for processing of DSNY-managed Waste had higher background traffic volumes, lower (poorer) levels of service and a higher number of collection vehicles than would apply to commercial waste deliveries during the 8:00 p.m. to 8:00 a.m. period. (See Section 9 of the individual MTS chapters in the MTS Environmental Evaluation for these analyses.) Peak hour truck arrival rates during the 8:00 p.m. to 8:00 a.m. period (commercial waste plus DSNY collection vehicles) are lower than the peak hour number of DSNY collection vehicles analyzed during the peak hours at all eight Converted MTSs.

Table 2.2-1 illustrates the number of peak hour DSNY collection vehicles evaluated for the MTS Environmental Evaluation and the potential range of peak hour vehicles during commercial waste delivery hours. The peak hour number of vehicles during commercial delivery hours represents both DSNY collection vehicles and commercial Waste Hauling Vehicles. Since the traffic analysis in the MTS Environmental Evaluation found no significant adverse unmitigatible traffic impacts, there would also be no significant adverse unmitigatible environmental traffic impacts related to processing commercial waste during a peak period between 8:00 p.m. and 8:00 a.m., when there are lower background traffic volumes, higher (better) levels of service and a lower number of collection vehicles.

As noted in Section 1.1, for the eight MTSs, traffic signal timing adjustments would mitigate estimated traffic impacts identified at certain intersections related to delivery of DSNY-managed Waste.

3.2 Air Quality

The off-site air quality analyses during the peak hours for processing DSNY-managed Waste at each Converted MTS were based upon higher background traffic volumes, lower (poorer) levels of service and a higher number of collection vehicles than would be the case for deliveries of commercial waste during the 8:00 p.m. to 8:00 a.m. period. (See Section 10 of the individual chapters in the MTS Environmental Evaluation for these analyses.)

The peak hour conditions over 24 hours per day were conservatively assumed to occur under a Tier I[2] air quality analysis. Under these assumptions, there were no significant adverse unmitigatible environmental impacts. Therefore, there would also be no significant adverse unmitigatible air quality impacts related to processing commercial waste during an 8:00 p.m. to 8:00 a.m. peak period, when there are lower background traffic volumes, higher (better) levels of service and a lower number of collection vehicles.

The off-site air quality analysis of processing DSNY-managed Waste at some of the Converted MTS sites showed that using the conservative assumption that peak hour conditions occur 24 hours per day under a Tier I analysis resulted in unmitigatible environmental impacts for particulate matter less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$). (See Section 10 of the individual chapters in the MTS Environmental Evaluation for these analyses.) Therefore, a Tier II air quality analysis was performed at intersections near these Converted MTS sites that utilized actual hourly traffic volumes, including the higher number of collection vehicles used for deliveries of commercial waste to each Converted MTS during the 8:00 p.m. to 8:00 a.m. period, and there were no significant adverse unmitigatible environmental impacts. Tables in Attachment 4 provide more detailed information on the results of the off-site air quality analyses.

3.3 Noise

In the MTS Environmental Evaluation, off-site noise impacts were screened over a 24-hour period at intersections where sensitive receptors exist near convergence points along truck routes to and from the Converted MTSs. If required, based on screening, noise analyses were conducted for the worst hour (the hour when the greatest difference in noise levels was expected) during daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) hours. (See Section 3.14 in the MTS Environmental Evaluation for a detailed description of the off-site screening and analyses.)

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[2] The Tier I air quality analysis conservatively assumed that the peak hour traffic conditions occur 24 hours per day.

The screening analyses identified the potential for DSNY-managed Waste collection vehicles to double passenger car equivalents (PCEs) at two locations for the 91st Street Converted MTS, two locations for the North Shore Converted MTS, one location for the Hamilton Avenue Converted MTS and one location for the Southwest Brooklyn Converted MTS, at various hours during the nighttime. Off-site noise analyses were conducted during the worst daytime and nighttime hours identified through the screening process at these six locations with the potential to double PCEs. The off-site noise analyses results indicate an impact at one access road to the 91st Street Converted MTS, two locations on one access road to the North Shore Converted MTS and one access road to the Hamilton Avenue Converted MTS. Adjustments in the distribution of trucks and truck routes were made at these four locations. The screening, and, if required, the off-site noise analyses, were performed based on the adjusted lower levels of DSNY-managed Waste collection vehicles at these four locations. The results show that processing DSNY-managed Waste at any of the Converted MTSs would not cause any unmitigatible significant adverse off-site noise impacts. Results of the screening analyses and off-site noise analyses are provided in Sections 4.12 through 11.12 of the MTS Environmental Evaluation.

The off-site noise analysis of DSNY-managed Waste deliveries is not sufficient for purposes of assessing any impacts that would be associated with delivery of commercial waste. To determine if an adverse impact would be caused by the delivery of commercial waste, a screening level analysis was performed for each hour where additional truck volumes are estimated to determine if an off-site noise analysis would be required of commercial Waste Hauling Vehicle quantities and routes to and from the Converted MTSs.

3.3.1 Noise Impact Analysis of Commercial Waste Deliveries

A sequence of analyses were performed to determine if an adverse noise impact would be caused by the delivery of commercial waste to the MTSs, utilizing the noise methodology for the off-site screening, monitoring and detailed analysis provided in Section 3.14 of the MTS Environmental Evaluation. Results of the second-level noise screening analyses limit the number of commercial Waste Hauling Vehicles that could be routed to the MTSs during various hours within the 8:00 p.m. to 8:00 a.m. period without causing potentially significant adverse impacts at sensitive

receptors. Although a Converted MTS may have available capacity to process commercial waste during the hours of 8:00 a.m. to 8:00 p.m., the potential for off-site noise impacts, based on second-level screening, limits the use of that available processing capacity.

Noise-sensitive receptors were identified along the proposed commercial collection vehicle routes and existing traffic data were gathered for those locations. A first-level screening analysis (based on total traffic volumes and axle factors from the New York State Department of Transportation [NYSDOT]) and a second-level screening analysis (based on actual vehicle classification counts) were performed. The Future Build PCEs -- including DSNY-managed Waste collection vehicles, employee vehicles and commercial collection vehicles -- were compared to the Future No-Build PCEs for each hour during the 8:00 p.m. to 8:00 a.m. period, to determine if the proposed action would double PCEs and therefore cause a possible impact. Table 3.3.1-1 summarizes the results of that analysis.

Since these results are based on a second-level screening for noise impacts, a detailed off-site noise analysis, utilizing the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) Version 2.1, is being performed to determine if noise impacts would actually occur at these sensitive-receptor locations and/or if additional potential commercial Waste Hauling Vehicles could be routed to the MTS during the 8:00 p.m. to 8:00 a.m. hour, without causing unmitigatible significant adverse off-site noise impacts, to fully utilize the potentially available capacity of the MTSs. The results of this off-site detailed noise analyses will be provided in the Solid Waste Management Plan (SWMP) Draft Environmental Impact Statement (DEIS).

Tables in Attachment 5 provide more detailed information on the results of the second-level screening analysis, identifying the estimated range of commercial collection vehicles that can be routed through each of the roadways without causing an unmitigatible significant adverse off-site noise impact. (See Section 3.14.5.2 of the MTS Environmental Evaluation for a detailed description of the second-level screening analysis.)

Table 3.3.1-1
Converted MTS
Potential Commercial Waste Capacities Summary Table

Location	Converted MTS Design Capacity		DSNY-managed Waste Delivered 8:00 p.m. to 8:00 a.m. (tons)	Potential Converted MTS Capacity with Off-Site Noise Constraints	
	Total Potential Commercial Vehicles (per day)	Potential Commercial Waste Tonnage 8:00 p.m. to 8:00 a.m. (tons)		Total Potential Commercial Vehicles (per day)	Potential Commercial Waste Tonnage 8:00 p.m. to 8:00 a.m. (tons)
West 135th Street	175	1,853	301	95	1,029
East 91st Street(1)	199	2,183	17	71	781
West 59th Street(2)	91	956	114	91	956
South Bronx(1)	163	1,732	433	150	1,611
North Shore(3)	95	1,000	901	95	1,000
Greenpoint(1)	109	1,145	793	109	1,145
Hamilton Avenue(1)	129	1,337	710	124	1,306
Southwest Brooklyn(4)	162	1,725	418	76	828
Total	**1,123**	**11,931**	**3,687**	**811**	**8,656**

Notes:

(1) Need to use different routes for potential commercial Waste Hauling Vehicles to deliver the full amount of potential excess capacity for commercial waste.

(2) Can take all potential commercial Waste Hauling Vehicles without any noise constraints.

(3) There is a route to the North Shore Converted MTS that does not pass sensitive receptors that must be used from 12:00 a.m. to 6:00 a.m. to deliver the full amount available for commercial capacity. The route should not be used at other times upon request from the City Department of Transportation (NYCDOT) due to congestion that occurs at certain intersections along the route during daytime traffic hours.

(4) Outbound trucks passing 26th Street between Cropsey Avenue and Shore Road limit the number of inbound commercial Waste Hauling Vehicles that can be accommodated at the Southwest Brooklyn Converted MTS.

ATTACHMENT 1

FULL CAPACITY ANALYSIS FOR EACH CONVERTED MTS
HOURLY RESULTS OF MODELING

West 135th St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	162.0	15	110.0	52.0	52.0	162.0	110.0		0.0	0.0	0	15
2	9:00	10:00	185.4	17	220.0	-34.6	17.3	347.3	330.0		0.0	0.0	0	17
3	10:00	11:00	156.0	14	173.4	-17.3	0.0	503.4	503.4		46.6	0.0	0	14
4	11:00	12:00	116.4	11	110.0	6.4	6.4	619.8	613.4		0.0	0.0	0	11
5	12:00	13:00	84.6	8	91.0	-6.4	0.0	704.4	704.4		129.0	0.0	0	8
6	13:00	14:00	38.5	4	38.5	0.0	0.0	742.9	742.9		181.5	0.0	0	4
7	14:00	15:00	17.4	2	17.4	0.0	0.0	760.3	760.3		202.6	0.0	0	2
8	15:00	16:00	4.5	1	4.5	0.0	0.0	764.8	764.8		105.5	0.0	0	1
9	16:00	17:00	11.1	1	11.1	0.0	0.0	775.9	775.9		98.9	0.0	0	1
10	17:00	18:00	34.1	3	34.1	0.0	0.0	810.0	810.0		185.9	0.0	0	3
11	18:00	19:00	29.4	3	29.4	0.0	0.0	839.4	839.4		190.6	0.0	0	3
12	19:00	20:00	39.7	4	39.7	0.0	0.0	879.1	879.1		70.3	0.0	0	4
13	20:00	21:00	26.4	2	26.4	0.0	0.0	905.5	905.5		0.0	193.6	18	20
14	21:00	22:00	46.1	4	46.1	0.0	0.0	951.6	951.6		0.0	173.9	16	20
15	22:00	23:00	7.1	1	7.1	0.0	0.0	958.7	958.7		0.0	212.9	20	21
16	23:00	0:00	9.0	1	9.0	0.0	0.0	967.7	967.7		0.0	101.0	10	11
17	0:00	1:00	30.5	3	30.5	0.0	0.0	998.2	998.2		0.0	79.5	8	11
18	1:00	2:00	50.4	5	50.4	0.0	0.0	1048.6	1048.6		0.0	169.6	16	21
19	2:00	3:00	26.3	2	26.3	0.0	0.0	1074.9	1074.9	Barge Switch	0.0	193.7	18	20
20	3:00	4:00	18.4	2	18.4	0.0	0.0	1093.3	1093.3		0.0	91.6	9	11
21	4:00	5:00	6.6	1	0.0	6.6	6.6	1099.9	1093.3		0.0	213.4	20	21
22	5:00	6:00	6.2	1	0.0	6.2	12.8	1106.1	1093.3		0.0	207.2	19	20
23	6:00	7:00	14.1	1	0.0	14.1	26.9	1120.3	1093.3		0.0	193.1	18	19
24	7:00	8:00	59.7	6	0.0	59.7	86.7	1180.0	1093.3		0.0	23.3	3	9
Totals			1,180.0	112	1093.3						1210.9	1852.7	175	287
										Max	202.6	213.4	20	21
										Min	0.0	23.3	0	1
										Average	100.9	154.4	7	12

East 91st St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons))	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	113.4	10	110.0	3.4	3.4	113.4	110.0		0.0	0.0	0	10
2	9:00	10:00	192.9	17	196.3	-3.4	0.0	306.3	306.3		23.7	0.0	0	17
3	10:00	11:00	262.7	23	220.0	42.7	42.7	569.1	526.3		0.0	0.0	0	23
4	11:00	12:00	202.9	18	110.0	92.9	135.6	772.0	636.3		0.0	0.0	0	18
5	12:00	13:00	69.3	6	205.0	-135.6	0.0	841.3	841.3		15.0	0.0	0	6
6	13:00	14:00	19.7	2	19.7	0.0	0.0	861.0	861.0		200.3	0.0	0	2
7	14:00	15:00	1.6	1	1.6	0.0	0.0	862.6	862.6		218.4	0.0	0	1
8	15:00	16:00	0.0	0	0.0	0.0	0.0	862.6	862.6		110.0	0.0	0	0
9	16:00	17:00	0.0	0	0.0	0.0	0.0	862.6	862.6		110.0	0.0	0	0
10	17:00	18:00	0.0	0	0.0	0.0	0.0	862.6	862.6		220.0	0.0	0	0
11	18:00	19:00	0.0	0	0.0	0.0	0.0	862.6	862.6		220.0	0.0	0	0
12	19:00	20:00	0.0	0	0.0	0.0	0.0	862.6	862.6		110.0	0.0	0	0
13	20:00	21:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
14	21:00	22:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
15	22:00	23:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
16	23:00	0:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	110.0	10	10
17	0:00	1:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	110.0	10	10
18	1:00	2:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
19	2:00	3:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
20	3:00	4:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	110.0	10	10
21	4:00	5:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
22	5:00	6:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
23	6:00	7:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
24	7:00	8:00	17.4	2	0.0	17.4	17.4	880.0	862.6		0.0	92.6	9	11
Totals			880.0	79	862.6						1227.4	2182.6	199	278
										Max	220.0	220.0	20	23
										Min	0.0	92.6	0	0
										Average	102.3	181.9	8	12

West 59th St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	94.8	9	55.0	39.8	39.8	94.8	55.0		0.0	0.0	0	9
2	9:00	10:00	186.6	18	110.0	76.6	116.4	281.4	165.0		0.0	0.0	0	18
3	10:00	11:00	205.9	20	110.0	95.9	212.3	487.3	275.0		0.0	0.0	0	20
4	11:00	12:00	156.4	15	55.0	101.4	313.7	643.7	330.0		0.0	0.0	0	15
5	12:00	13:00	69.4	7	110.0	-40.6	273.1	713.1	440.0		0.0	0.0	0	7
6	13:00	14:00	25.8	2	110.0	-84.2	188.8	738.8	550.0		0.0	0.0	0	2
7	14:00	15:00	17.2	2	110.0	-92.8	96.0	756.0	660.0		0.0	0.0	0	2
8	15:00	16:00	1.0	1	55.0	-54.0	42.1	757.1	715.0		0.0	0.0	0	1
9	16:00	17:00	0.2	1	42.3	-42.1	0.0	757.3	757.3		12.7	0.0	0	1
10	17:00	18:00	2.9	1	2.9	0.0	0.0	760.2	760.2		107.1	0.0	0	1
11	18:00	19:00	2.7	1	2.7	0.0	0.0	762.9	762.9		107.3	0.0	0	1
12	19:00	20:00	3.3	1	3.3	0.0	0.0	766.2	766.2		51.7	0.0	0	1
13	20:00	21:00	2.7	1	2.7	0.0	0.0	769.0	769.0		0.0	107.3	10	11
14	21:00	22:00	1.5	1	1.5	0.0	0.0	770.5	770.5		0.0	108.5	10	11
15	22:00	23:00	0.5	1	0.5	0.0	0.0	771.0	771.0		0.0	109.5	10	11
16	23:00	0:00	0.0	0	0.0	0.0	0.0	771.0	771.0		0.0	55.0	5	5
17	0:00	1:00	20.0	2	20.0	0.0	0.0	791.1	791.1		0.0	35.0	4	6
18	1:00	2:00	22.1	2	22.1	0.0	0.0	813.1	813.1		0.0	87.9	8	10
19	2:00	3:00	23.4	2	23.4	0.0	0.0	836.5	836.5		0.0	86.6	8	10
20	3:00	4:00	19.1	2	19.1	0.0	0.0	855.5	855.5		0.0	35.9	4	6
21	4:00	5:00	7.1	1	0.0	7.1	7.1	862.6	855.5		0.0	102.9	10	11
22	5:00	6:00	2.9	1	0.0	2.9	10.0	865.5	855.5		0.0	100.0	10	11
23	6:00	7:00	3.0	1	0.0	3.0	13.0	868.6	855.5		0.0	97.0	9	10
24	7:00	8:00	11.4	1	0.0	11.4	24.5	880.0	855.5		0.0	30.5	3	4
Totals			880.0	93	855.5						278.8	956.1	91	184
										Max	107.3	109.5	10	20
										Min	0.0	30.5	0	1
										Average	23.2	79.7	4	8

South Bronx Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (Tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	242.4	27	110.0	132.42	132.42	242.4	110.0		0.0	0.0	0	27
2	9:00	10:00	288.2	32	220.0	68.20	200.63	530.6	330.0		0.0	0.0	0	32
3	10:00	11:00	303.6	34	220.0	83.58	284.20	834.2	550.0		0.0	0.0	0	34
4	11:00	12:00	246.2	27	110.0	136.19	420.39	1,080.4	660.0		0.0	0.0	0	27
5	12:00	13:00	205.9	23	220.0	-14.07	406.32	1,286.3	880.0		0.0	0.0	0	23
6	13:00	14:00	133.3	15	220.0	-86.70	319.62	1,419.6	1,100.0	Barge Switch	0.0	0.0	0	15
7	14:00	15:00	49.5	5	220.0	-170.49	149.13	1,469.1	1,320.0		0.0	0.0	0	5
8	15:00	16:00	15.3	2	110.0	-94.70	54.43	1,484.4	1,430.0		0.0	0.0	0	2
9	16:00	17:00	42.3	5	96.7	-54.43	0.00	1,526.7	1,526.7		13.3	0.0	0	5
10	17:00	18:00	67.9	8	67.9	0.00	0.00	1,594.6	1,594.6		152.1	0.0	0	8
11	18:00	19:00	84.6	9	84.6	0.00	0.00	1,679.2	1,679.2		135.4	0.0	0	9
12	19:00	20:00	77.5	9	77.5	0.00	0.00	1,756.7	1,756.7		32.5	0.0	0	9
13	20:00	21:00	60.2	7	60.2	0.00	0.00	1,816.9	1,816.9		0.0	159.8	15	22
14	21:00	22:00	68.7	8	68.7	0.00	0.00	1,885.6	1,885.6		0.0	151.3	14	22
15	22:00	23:00	29.1	3	29.1	0.00	0.00	1,914.7	1,914.7		0.0	190.9	18	21
16	23:00	0:00	0.8	1	0.8	0.00	0.00	1,915.5	1,915.5		0.0	109.2	10	11
17	0:00	1:00	9.8	1	9.8	0.00	0.00	1,925.3	1,925.3		0.0	100.2	10	11
18	1:00	2:00	22.2	2	22.2	0.00	0.00	1,947.4	1,947.4		0.0	197.8	18	20
19	2:00	3:00	31.9	4	31.9	0.00	0.00	1,979.4	1,979.4		0.0	188.1	18	22
20	3:00	4:00	36.0	4	36.0	0.00	0.00	2,015.3	2,015.3		0.0	74.0	7	11
21	4:00	5:00	17.8	2	0.0	17.80	17.80	2,033.1	2,015.3		0.0	202.2	19	21
22	5:00	6:00	22.0	2	0.0	21.99	39.78	2,055.1	2,015.3		0.0	180.2	17	19
23	6:00	7:00	1.9	1	0.0	1.95	41.73	2,057.1	2,015.3		0.0	178.3	17	18
24	7:00	8:00	132.9	15	0.0	132.93	174.66	2,190.0	2,015.3		0.0	0.0	0	15
Totals			2,190.0	246	2,015.3						333.3	1732.1	163	409
										Max	152.1	202.2	19	34
										Min	0.0	0.0	0	2
										Average	27.8	144.3	7	17

North Shore Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	142.4	17	110.0	32.4	32.4	142.4	110.0		0.0	0.0	0	17
2	9:00	10:00	184.2	22	216.6	-32.4	0.0	326.6	326.6		3.4	0.0	0	22
3	10:00	11:00	176.0	21	176.0	0.0	0.0	502.5	502.5		44.0	0.0	0	21
4	11:00	12:00	181.9	22	110.0	71.9	71.9	684.4	612.5		0.0	0.0	0	22
5	12:00	13:00	150.7	18	220.0	-69.3	2.5	835.1	832.5		0.0	0.0	0	18
6	13:00	14:00	104.1	13	106.7	-2.5	0.0	939.2	939.2		113.3	0.0	0	13
7	14:00	15:00	65.8	8	65.8	0.0	0.0	1005.0	1005.0		154.2	0.0	0	8
8	15:00	16:00	16.7	2	16.7	0.0	0.0	1021.7	1021.7		93.3	0.0	0	2
9	16:00	17:00	97.7	12	97.7	0.0	0.0	1119.4	1119.4	Barge Switch	12.3	0.0	0	12
10	17:00	18:00	116.2	14	116.2	0.0	0.0	1235.6	1235.6		103.8	0.0	0	14
11	18:00	19:00	122.7	15	122.7	0.0	0.0	1358.3	1358.3		97.3	0.0	0	15
12	19:00	20:00	110.7	14	110.0	0.7	0.7	1469.0	1468.3		0.0	0.0	0	14
13	20:00	21:00	80.4	10	81.1	-0.7	0.0	1549.3	1549.3		0.0	138.9	13	23
14	21:00	22:00	114.0	14	114.0	0.0	0.0	1663.4	1663.4		0.0	106.0	10	24
15	22:00	23:00	36.9	5	36.9	0.0	0.0	1700.3	1700.3		0.0	183.1	17	22
16	23:00	0:00	34.7	4	34.7	0.0	0.0	1735.0	1735.0		0.0	75.3	7	11
17	0:00	1:00	82.3	10	82.3	0.0	0.0	1817.2	1817.2		0.0	27.7	3	13
18	1:00	2:00	112.1	14	112.1	0.0	0.0	1929.4	1929.4		0.0	107.9	10	24
19	2:00	3:00	113.3	14	113.3	0.0	0.0	2042.6	2042.6		0.0	106.7	10	24
20	3:00	4:00	105.2	13	105.2	0.0	0.0	2147.9	2147.9	Barge Switch	0.0	4.8	1	14
21	4:00	5:00	80.6	10	0.0	80.6	80.6	2228.5	2147.9		0.0	139.4	13	23
22	5:00	6:00	68.7	8	0.0	68.7	149.4	2297.2	2147.9		0.0	70.6	7	15
23	6:00	7:00	31.2	4	0.0	31.2	180.5	2328.4	2147.9		0.0	39.5	4	8
24	7:00	8:00	41.6	5	0.0	41.6	222.1	2370.0	2147.9		0.0	0.0	0	5
Totals			2,370.0	289	2147.9						621.7	999.9	95	384
										Max	154.2	183.1	17	24
										Min	0.0	0.0	0	2
										Average	51.8	83.3	4	16

Greenpoint Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	99.2	10	99.2	0.0	0.0	99.2	99.2		10.8	0.0	0	10
2	9:00	10:00	180.1	18	180.1	0.0	0.0	279.3	279.3		39.9	0.0	0	18
3	10:00	11:00	197.6	20	197.6	0.0	0.0	476.9	476.9		22.4	0.0	0	20
4	11:00	12:00	184.5	19	110.0	74.5	74.5	661.4	586.9		0.0	0.0	0	19
5	12:00	13:00	178.9	18	220.0	-41.1	33.4	840.3	806.9		0.0	0.0	0	18
6	13:00	14:00	106.9	11	140.3	-33.4	0.0	947.2	947.2		79.7	0.0	0	11
7	14:00	15:00	64.9	7	64.9	0.0	0.0	1012.1	1012.1		155.1	0.0	0	7
8	15:00	16:00	28.5	3	28.5	0.0	0.0	1040.6	1040.6		81.5	0.0	0	3
9	16:00	17:00	86.6	9	86.6	0.0	0.0	1127.2	1127.2	Barge Switch	23.4	0.0	0	9
10	17:00	18:00	135.0	14	135.0	0.0	0.0	1262.2	1262.2		85.0	0.0	0	14
11	18:00	19:00	142.6	15	142.6	0.0	0.0	1404.8	1404.8		77.4	0.0	0	15
12	19:00	20:00	161.7	17	110.0	51.7	51.7	1566.5	1514.8		0.0	0.0	0	17
13	20:00	21:00	95.3	10	147.0	-51.7	0.0	1661.8	1661.8		0.0	73.0	7	17
14	21:00	22:00	101.6	10	101.6	0.0	0.0	1763.5	1763.5		0.0	118.4	11	21
15	22:00	23:00	46.8	5	46.8	0.0	0.0	1810.3	1810.3		0.0	173.2	16	21
16	23:00	0:00	5.1	1	5.1	0.0	0.0	1815.4	1815.4		0.0	104.9	10	11
17	0:00	1:00	54.4	6	54.4	0.0	0.0	1869.8	1869.8		0.0	55.6	6	12
18	1:00	2:00	112.7	12	112.7	0.0	0.0	1982.5	1982.5		0.0	107.3	10	22
19	2:00	3:00	131.8	13	131.8	0.0	0.0	2114.3	2114.3	Barge Switch	0.0	88.2	9	22
20	3:00	4:00	111.4	11	110.0	1.4	1.4	2225.7	2224.3		0.0	0.0	0	11
21	4:00	5:00	46.6	5	0.0	46.6	48.0	2272.3	2224.3		0.0	172.0	16	21
22	5:00	6:00	41.9	4	0.0	41.9	89.8	2314.1	2224.3		0.0	130.2	12	16
23	6:00	7:00	7.5	1	0.0	7.5	97.3	2321.6	2224.3		0.0	122.7	12	13
24	7:00	8:00	38.4	4	0.0	38.4	135.7	2360.0	2224.3		0.0	0.0	0	4
Totals			2,360.0	243	2224.3						575.2	1145.4	109	352
										Max	155.1	173.2	16	22
										Min	0.0	0.0	0	3
										Average	47.9	95.4	5	15

Hamilton Avenue Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	134.2	14	110.0	24.2	24.2	134.2	110.0		0.0	0.0	0	14
2	9:00	10:00	204.8	22	220.0	-15.2	9.0	339.0	330.0		0.0	0.0	0	22
3	10:00	11:00	202.7	22	211.7	-9.0	0.0	541.7	541.7		8.3	0.0	0	22
4	11:00	12:00	187.9	20	110.0	77.9	77.9	729.6	651.7		0.0	0.0	0	20
5	12:00	13:00	156.6	17	220.0	-63.4	14.5	886.3	871.7		0.0	0.0	0	17
6	13:00	14:00	94.9	10	109.5	-14.5	0.0	981.2	981.2		110.5	0.0	0	10
7	14:00	15:00	28.6	3	28.6	0.0	0.0	1009.8	1009.8		191.4	0.0	0	3
8	15:00	16:00	78.0	8	78.0	0.0	0.0	1087.8	1087.8	Barge Switch	32.0	0.0	0	8
9	16:00	17:00	118.5	13	110.0	8.5	8.5	1206.3	1197.8		0.0	0.0	0	13
10	17:00	18:00	81.8	9	90.3	-8.5	0.0	1288.1	1288.1		129.7	0.0	0	9
11	18:00	19:00	86.9	9	86.9	0.0	0.0	1375.0	1375.0		133.1	0.0	0	9
12	19:00	20:00	85.0	9	85.0	0.0	0.0	1460.0	1460.0		25.0	0.0	0	9
13	20:00	21:00	46.9	5	46.9	0.0	0.0	1506.9	1506.9		0.0	173.1	16	21
14	21:00	22:00	84.3	9	84.3	0.0	0.0	1591.1	1591.1		0.0	135.7	13	22
15	22:00	23:00	8.3	1	8.3	0.0	0.0	1599.5	1599.5		0.0	211.7	20	21
16	23:00	0:00	29.2	3	29.2	0.0	0.0	1628.6	1628.6		0.0	80.8	8	11
17	0:00	1:00	100.3	11	100.3	0.0	0.0	1728.9	1728.9		0.0	9.7	1	12
18	1:00	2:00	127.8	14	127.8	0.0	0.0	1856.7	1856.7		0.0	92.2	9	23
19	2:00	3:00	129.9	14	129.9	0.0	0.0	1986.6	1986.6		0.0	90.1	9	23
20	3:00	4:00	98.9	11	98.9	0.0	0.0	2085.5	2085.5		0.0	11.1	2	13
21	4:00	5:00	37.7	4	0.0	37.7	37.7	2123.2	2085.5		0.0	182.3	17	21
22	5:00	6:00	17.1	2	0.0	17.1	54.7	2140.2	2085.5		0.0	165.3	16	18
23	6:00	7:00	6.2	1	0.0	6.2	60.9	2146.5	2085.5		0.0	159.1	15	16
24	7:00	8:00	23.5	3	0.0	23.5	84.5	2170.0	2085.5		0.0	25.5	3	6
Totals			2,170.0	234	2085.5						630.0	1336.7	129	363
										Max	191.4	211.7	20	23
										Min	0.0	9.7	0	3
										Average	52.5	111.4	5	15

Southwest Brooklyn Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	97.2	10	97.2	0.0	0.0	97.2	97.2		12.8	0.0	0	10
2	9:00	10:00	165.8	17	165.8	0.0	0.0	263.0	263.0		54.2	0.0	0	17
3	10:00	11:00	121.6	13	121.6	0.0	0.0	384.5	384.5		98.4	0.0	0	13
4	11:00	12:00	82.1	9	82.1	0.0	0.0	466.6	466.6		27.9	0.0	0	9
5	12:00	13:00	32.0	3	32.0	0.0	0.0	498.6	498.6		188.0	0.0	0	3
6	13:00	14:00	9.5	1	9.5	0.0	0.0	508.1	508.1		210.5	0.0	0	1
7	14:00	15:00	8.9	1	8.9	0.0	0.0	517.0	517.0		211.1	0.0	0	1
8	15:00	16:00	11.1	1	11.1	0.0	0.0	528.1	528.1		98.9	0.0	0	1
9	16:00	17:00	36.2	4	36.2	0.0	0.0	564.2	564.2		73.8	0.0	0	4
10	17:00	18:00	36.4	4	36.4	0.0	0.0	600.6	600.6		183.6	0.0	0	4
11	18:00	19:00	37.3	4	37.3	0.0	0.0	637.9	637.9		182.7	0.0	0	4
12	19:00	20:00	33.9	4	33.9	0.0	0.0	671.9	671.9		76.1	0.0	0	4
13	20:00	21:00	32.2	3	32.2	0.0	0.0	704.1	704.1		0.0	187.8	18	21
14	21:00	22:00	29.5	3	29.5	0.0	0.0	733.6	733.6		0.0	190.5	18	21
15	22:00	23:00	2.2	1	2.2	0.0	0.0	735.8	735.8		0.0	217.8	20	21
16	23:00	0:00	0.0	0	0.0	0.0	0.0	735.8	735.8		0.0	110.0	10	10
17	0:00	1:00	101.4	11	101.4	0.0	0.0	837.2	837.2		0.0	8.6	1	12
18	1:00	2:00	92.9	10	92.9	0.0	0.0	930.2	930.2		0.0	127.1	12	22
19	2:00	3:00	69.1	7	69.1	0.0	0.0	999.3	999.3		0.0	150.9	14	21
20	3:00	4:00	32.4	3	32.4	0.0	0.0	1031.7	1031.7		0.0	77.6	8	11
21	4:00	5:00	14.1	1	0.0	14.1	14.1	1045.8	1031.7		0.0	205.9	19	20
22	5:00	6:00	4.9	1	0.0	4.9	19.0	1050.7	1031.7		0.0	201.0	19	20
23	6:00	7:00	4.9	1	0.0	4.9	23.9	1055.6	1031.7		0.0	196.1	18	19
24	7:00	8:00	34.4	4	0.0	34.4	58.3	1090.0	1031.7		0.0	51.7	5	9
Totals			1,090.0	116	1031.7						1418.1	1724.8	162	278
										Max	211.1	217.8	20	22
										Min	12.8	8.6	0	1
										Average	118.2	143.7	7	12

ATTACHMENT 2

ASSUMED COMMERCIAL WASTE VEHICLE TRUCK ROUTES

Assumed Commercial Waste Vehicle Truck Routes to MTSs

West 135th

From the north
Route 1N
To MTS: Broadway to (West 133rd St OR West 132nd St) to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse
Route 2N
To MTS: Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse

From the south
Route 1S
To MTS: Broadway to (West 133rd St OR West 132nd St) to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse
Route 2S
To MTS: Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse

From the east
Route 1E
To MTS: 3rd Ave to East 125th St (turns into West 125th St) to Riverside Drive (12th Ave) to West 135th St
From MTS: Reverse

Assumed Commercial Waste Vehicle Truck Routes to MTSs

East 91st

From the north
Route 1N
To MTS: 2nd Ave to (East 90th St OR East 88th St OR East 86th St) to York Ave to East 91st St
From MTS: East 91st St to York Ave to (East 91st St OR East 89th St OR East 87th St OR East 86th St) to (1st Ave OR 3rd Ave)

From the south
Route 1S
To MTS: 1st Ave to (East 90th St OR East 88th St) to York Ave to East 91st St
From MTS: East 91st St to York Ave to East 86th St to 2nd Ave
Route 2S
To MTS: 3rd Ave to East 86th St to York Ave to East 91st St
From MTS: East 91st St to York Ave to East 86th St to 2nd Ave

Assumed Commercial Waste Vehicle Truck Routes to MTSs

West 59th

From the north
Route 1N
To MTS: Columbus Ave to West 59th St
From MTS: West 59th St to Amsterdam Ave

From the south
Route 1S
To MTS: 12th Ave (Joe DiMaggio Hwy) to 12th Ave Service Road (starts at 57th St) to West 59th St
From MTS: Reverse
Route 2S
To MTS: 10th Ave to 57th Ave to 12th Ave Service Road to 59th St
From MTS: West 59th St to 11th Ave

From the east
Route 1E
To MTS: (2nd Ave or 3rd Ave) to East 57th St (turns into West 57th St) to 12th Ave Service Road to 59th St.
From MTS: Reverse

Assumed Commercial Waste Vehicle Truck Routes to MTSs

South Bronx

Route 1
To MTS: Bruckner Blvd to Leggett Ave to Randall Ave to Halleck St to Ryawa Ave
From MTS: Reverse
Route 2
To MTS: Bruckner Blvd to Leggett Ave to (Barry St OR Dupont St OR Truxton St) to Oak Point Ave to Hunt's Point Ave to Halleck St to Ryawa Ave
From MTS: Reverse
Route 3
To MTS: Bruckner Blvd to Longwood Ave to Tiffany St to East Bay Ave to Halleck St to Ryawa Ave
From MTS: Reverse
Route 4
To MTS: Bruckner Blvd to Longwood Ave to Tiffany St to Veile Ave to Halleck St to Ryawa Ave
From MTS: Reverse

Assumed Commercial Waste Vehicle Truck Routes to MTSs

North Shore

From the north
Route 1N
To MTS: 20th Ave to College Point Blvd to 31st Ave
From MTS: Reverse

From the south
Route 1S
To MTS: Van Wick Expressway to Whitestone Expressway to Linden Place to Whitestone Expressway Service Road (Westbound) to College Point Blvd to 31st Ave
From MTS: 31st Ave to College Point Blvd to Whitestone Expressway Service Road (Eastbound) to Linden Place to Whitestone Expressway Service Road (Westbound) to Whitestone Expressway to Van Wick Expressway
Route 2S
To MTS: Van Wick Expressway to College Point Blvd to 31st Ave
From MTS: Reverse

From the east
Route 1E
To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave
From MTS: Reverse
Route 2E
To MTS: Long Island Expressway to College Point Blvd to 31st Ave
From MTS: Reverse

From the west
Route 1W
To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave
From MTS: Reverse
Route 2W
To MTS: Long Island Expressway to College Point Blvd to 31st Ave
From MTS: Reverse
Route 3W
To MTS: Roosevelt Ave to College Point Blvd to 31st Ave
From MTS: Reverse

Assumed Commercial Waste Vehicle Truck Routes to MTSs

Greenpoint

From the north
Route 1N
To MTS: McGuiness Blvd to Greenpoint Ave to Kingsland Ave
From MTS: Reverse
Route 2N
To MTS: Queens Blvd to Greenpoint Ave to Starr Ave to Van Dam St to Greenpoint Ave to Kingsland Ave
From MTS: Kingsland Ave to Greenpoint Ave to Queens Blvd
Route 3N
To MTS: Van Dam St to Greenpoint Ave to Kingsland Ave
From MTS: Reverse

From the south
Route 1S
To MTS: McGuiness Blvd to Greenpoint Ave to Kingsland Ave
From MTS: Reverse
Route 2S
To MTS: Brooklyn-Queens Expressway to Meeker St (eastbound) to Varick St to Bridgewater St to Norman Ave to Kingsland Ave
From MTS: Kingsland Ave to Greenpoint Ave to Henry St to Norman Ave to Bridgewater St to Varick St to Meeker Ave to BQE

From the east
Route 1E
To MTS: Brooklyn-Queens Expressway to Meeker St (eastbound) to Varick St to Bridgewater St to Norman Ave to Kingsland Ave
From MTS: Kingsland Ave to Greenpoint Ave to McGuiness Blvd to Meeker St to BQE
Route 2E
To MTS: Long Island Expressway to Van Dam St to Greenpoint Ave to Kingsland Ave
From MTS: From MTS: Kingsland Ave to Greenpoint Ave to LIE

Assumed Commercial Waste Vehicle Truck Routes to MTSs

Hamilton Ave

From the north
Route 1N
To MTS: BQE to Hamilton Ave (southbound) (Exit 26)
From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to BQE
Route 2N
To MTS: (3rd Ave OR 4thAve) to 9th Street to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to 9th Street to 3rd Ave
Route 3N
To MTS: (3rd Ave to 9th Street to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave (to 9th St to 4th Ave)

From the south
Route 1S
To MTS: Gowanus Expressway to 4th Ave to Prospect to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 65th Street
Route 2S
To MTS: 65th St to 3rd Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 65th Street

From the east
Route 1E
To MTS: 39th St to 4th Ave to Prospect Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 39th St
Route 2E
To MTS: Prospect Expressway to Prospect Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound)
From MTS: Hamilton Ave (southbound) to 20th St to 10th Ave to Prospect Expressway

Assumed Commercial Waste Vehicle Truck Routes to MTSs

Southwest Brooklyn

From the north
Route 1N
To MTS: 86th St to 18th Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave
From MTS: 25th Av to Shore Road (southbound) to 26th Ave to Cropsey Ave to 18th Ave to 86th St

From the south
Route 1S
To MTS: Neptune Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave
From MTS: 25th Av to Shore Road (southbound) to 26th Ave to Cropsey Ave to Neptune Ave

From the east
Route 1E
To MTS: Kings Highway to Bay Parkway to Shore Road (southbound) to 25th Ave
From MTS: 25th Ave to Shore Road (southbound) to 26th Ave to Cropsey Ave to Bay Parkway to Kings Highway
Route 2E
To MTS: 86th St to 25th Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave
From MTS: 25th Ave to Shore Road (southbound) to 26th Ave to Cropsey Ave to 25th Ave to 86th St

ATTACHMENT 3

COMMERCIAL WASTE VEHICLE ALLOCATION BY APPROACH DIRECTION

Commercial Waste Vehicle Allocation by Approach Direction

West 135th St

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	1	16	1	0	18
9:00 PM	1	14	1	0	16
10:00 PM	1	18	1	0	20
11:00 PM	1	9	1	0	10
12:00 AM	1	7	0	0	8
1:00 AM	1	14	1	0	16
2:00 AM	1	16	1	0	18
3:00 AM	1	8	0	0	9
4:00 AM	1	18	1	0	20
5:00 AM	1	17	1	0	19
6:00 AM	1	16	1	0	18
7:00 AM	0	3	0	0	3

East 91st Street

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	2	18	0	0	20
9:00 PM	2	18	0	0	20
10:00 PM	2	18	0	0	20
11:00 PM	1	9	0	0	10
12:00 AM	1	9	0	0	10
1:00 AM	2	18	0	0	20
2:00 AM	2	18	0	0	20
3:00 AM	1	9	0	0	10
4:00 AM	2	18	0	0	20
5:00 AM	2	18	0	0	20
6:00 AM	2	18	0	0	20
7:00 AM	1	8	0	0	9

West 59th St

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	0	9	1	0	10
9:00 PM	0	9	1	0	10
10:00 PM	0	9	1	0	10
11:00 PM	0	4	1	0	5
12:00 AM	0	3	0	0	4
1:00 AM	0	7	1	0	8
2:00 AM	0	7	1	0	8
3:00 AM	0	3	0	0	4
4:00 AM	0	9	1	0	10
5:00 AM	0	9	1	0	10
6:00 AM	0	8	1	0	9
7:00 AM	0	3	0	0	3

Commercial Waste Vehicle Allocation by Approach Direction

South Bronx

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	6	9	0	0	15
9:00 PM	5	9	0	0	14
10:00 PM	7	11	0	0	18
11:00 PM	4	6	0	0	10
12:00 AM	4	6	0	0	10
1:00 AM	7	11	0	0	18
2:00 AM	7	11	0	0	18
3:00 AM	3	4	0	0	7
4:00 AM	7	12	0	0	19
5:00 AM	7	10	0	0	17
6:00 AM	7	10	0	0	17
7:00 AM	0	0	0	0	0

North Shore

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	1	8	3	1	13
9:00 PM	1	6	2	1	10
10:00 PM	1	10	4	2	17
11:00 PM	0	4	2	1	7
12:00 AM	0	2	1	0	3
1:00 AM	1	6	2	1	10
2:00 AM	1	6	2	1	10
3:00 AM	0	1	0	0	1
4:00 AM	1	8	3	1	13
5:00 AM	0	4	2	1	7
6:00 AM	0	2	1	0	4
7:00 AM	0	0	0	0	0

Greenpoint

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	3	3	0	0	7
9:00 PM	5	5	1	0	11
10:00 PM	7	7	1	0	16
11:00 PM	5	5	1	0	10
12:00 AM	3	3	0	0	6
1:00 AM	5	5	1	0	10
2:00 AM	4	4	1	0	9
3:00 AM	0	0	0	0	0
4:00 AM	7	7	1	0	16
5:00 AM	6	6	1	0	12
6:00 AM	6	6	1	0	12
7:00 AM	0	0	0	0	0

Commercial Waste Vehicle Allocation by Approach Direction

Hamilton Ave

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	9	3	4	0	16
9:00 PM	8	2	3	0	13
10:00 PM	12	3	5	0	20
11:00 PM	5	1	2	0	8
12:00 AM	1	0	0	0	1
1:00 AM	5	1	2	0	9
2:00 AM	5	1	2	0	9
3:00 AM	1	0	1	0	2
4:00 AM	10	3	4	0	17
5:00 AM	9	3	4	0	16
6:00 AM	9	2	4	0	15
7:00 AM	2	0	1	0	3

Southwest Brooklyn

Time	North	South	East	West	Total Commercial Vehicles
8:00 PM	15	1	2	0	18
9:00 PM	15	1	2	0	18
10:00 PM	16	1	2	0	20
11:00 PM	8	1	1	0	10
12:00 AM	1	0	0	0	1
1:00 AM	10	1	1	0	12
2:00 AM	11	1	2	0	14
3:00 AM	7	1	1	0	8
4:00 AM	15	1	2	0	19
5:00 AM	15	1	2	0	19
6:00 AM	15	1	2	0	18
7:00 AM	4	0	1	0	5

ATTACHMENT 4

ON- AND OFF-SITE AIR QUALITY ANALYSIS RESULTS
DSNY-MANAGED WASTE PLUS COMMERCIAL WASTE COLLECTION VEHICLES

Table A.4-1
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
West 135th Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	2,091	3,781	5,872	40,000	NA
	8-hour(6)	1,019	2,635	3,654	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	5	77	82	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	26	88	114	150	NA
	Annual	5	34	39	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.036(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	264	265	529	1,300	NA
	24-hour(6)	7	139	146	365	NA
	Annual	1	34	35	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.

(3) NAAQS = National Ambient Air Quality Standards.

(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-2
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
135th Street Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.(1) (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) (2) (μg/m³)	Acute Non-Cancer Hazard Index(3)	Highest Estimated Long-Term (Annual) Pollutant Conc.(4) (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) (5) (μg/m³)	Chronic Non-Cancer Hazard Index (6)	Highest Estimated Long-Term (Annual) Pollutant Conc. (4) (μg/m³)	Unit Risk Factors (7) (μg/m³)	Maximum Cancer Risk (8,9)
Carcinogenic Pollutants										
1	Benzene	9.56E-01	1.30E+03	7.36E-04	5.49E-03	1.30E-01	4.23E-02	5.49E-03	8.30E-06	4.56E-08
2	Formaldehyde	1.21E+00	3.00E+01	4.03E-02	6.95E-03	6.00E-02	1.16E-01	6.95E-03	1.30E-05	9.03E-08
3	1,3 Butadiene	4.01E-02	-	-	2.30E-04	3.60E-03	6.40E-02	2.30E-04	2.80E-04	6.45E-08
4	Acetaldehyde	7.86E-01	4.50E+03	1.75E-04	4.52E-03	4.50E-01	1.00E-02	4.52E-03	2.20E-06	9.94E-09
5	Benzo(a)pyrene	1.93E-04	-	-	1.11E-06	2.00E-03	5.54E-04	1.11E-06	1.70E-03	1.88E-09
6	Propylene	2.64E+00	-	-	1.52E-02	3.00E+03	5.06E-06	1.52E-02	NA	NA
Non-Carcinogenic Pollutants (10)										
7	Acrolein	9.48E-02	1.90E-01	4.99E-01	5.54E-04	2.00E-02	2.72E-02	5.54E-04	NA	NA
8	Toluene	4.19E-01	3.70E+04	1.13E-05	2.41E-03	4.00E+02	6.02E-06	2.41E-03	NA	NA
9	Xylenes	2.92E-01	4.30E+03	6.79E-05	1.68E-03	7.00E+02	2.40E-06	1.68E-03	NA	NA
10	Anthracene	1.92E-03	-	-	1.10E-05	2.00E-02	5.51E-04	1.10E-05	NA	NA
11	Benzo(a)anthracene	1.72E-03	-	-	9.89E-06	2.00E-02	4.95E-04	9.89E-06	NA	NA
12	Chrysene	3.62E-04	-	-	2.08E-06	2.00E-02	1.04E-04	2.08E-06	NA	NA
13	Naphthalene	8.69E-02	7.90E+03	1.10E-05	4.99E-04	3.00E+00	1.66E-04	4.99E-04	NA	NA
14	Pyrene	4.90E-03	-	-	2.81E-05	2.00E-02	1.41E-03	2.81E-05	NA	NA
15	Phenanthrene	3.01E-02	-	-	1.73E-04	2.00E-02	8.66E-03	1.73E-04	NA	NA
16	Dibenz(a,h)anthracene	5.98E-04	-	-	3.43E-06	2.00E-02	1.72E-04	3.43E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.43E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.71E-01**	**Total Estimated Combined Cancer Risk**		**2.12E-07**
		Acute Non-Cancer Hazard Index Threshold (11)		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold** (11)		**1.0E+00**	**Cancer Risk Threshold** (11)		**1.0E-06**

Notes to Table A.4-2:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-3
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
East 91st Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	1,158	3,781	4,939	40,000	NA
	8-hour(6)	3,38	2,635	3,023	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	6	77	83	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	19	88	107	150	NA
	Annual	4	34	38	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.036(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	56	265	321	1,300	NA
	24-hour(6)	9	139	148	365	NA
	Annual	1	34	35	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.

(3) NAAQS = National Ambient Air Quality Standards.

(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-4
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
East 91st Street Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.(1) (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) (2) (μg/m³)	Acute Non-Cancer Hazard Index(3)	Highest Estimated Long-Term (Annual) Pollutant Conc.(4) (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) (5) (μg/m³)	Chronic Non-Cancer Hazard Index (6)	Highest Estimated Long-Term (Annual) Pollutant Conc. (4) (μg/m³)	Unit Risk Factors (7) (μg/m³)	Maximum Cancer Risk (8,9)
Carcinogenic Pollutants										
1	Benzene	3.86E-01	1.30E+03	2.97E-04	7.69E-03	1.30E-01	5.91E-02	7.69E-03	8.30E-06	6.38E-08
2	Formaldehyde	4.88E-01	3.00E+01	1.63E-02	9.72E-03	6.00E-02	1.62E-01	9.72E-03	1.30E-05	1.26E-07
3	1,3 Butadiene	1.62E-02	-	-	3.22E-04	3.60E-03	8.95E-02	3.22E-04	2.80E-04	9.02E-08
4	Acetaldehyde	3.17E-01	4.50E+03	7.04E-05	6.32E-03	4.50E-01	1.40E-02	6.32E-03	2.20E-06	1.39E-08
5	Benzo(a)pyrene	7.77E-05	-	-	1.55E-07	2.00E-03	7.74E-04	1.55E-06	1.70E-03	2.63E-09
6	Propylene	1.07E+00	-	-	2.13E-03	3.00E+03	7.09E-06	2.13E-02	NA	NA
Non-Carcinogenic Pollutants (10)										
7	Acrolein	3.82E-02	1.90E-01	2.01E-01	7.62E-04	2.00E-02	3.81E-02	7.62E-04	NA	NA
8	Toluene	1.69E-01	3.70E+04	4.57E-06	3.37E-03	4.00E+02	8.42E-06	3.37E-03	NA	NA
9	Xylenes	1.18E-01	4.30E+03	2.74E-05	2.35E-04	7.00E+02	3.35E-06	2.35E-03	NA	NA
10	Anthracene	7.73E-04	-	-	1.54E-06	2.00E-02	7.70E-04	1.54E-05	NA	NA
11	Benzo(a)anthracene	6.94E-04	-	-	1.38E-06	2.00E-02	6.92E-04	1.38E-05	NA	NA
12	Chrysene	1.46E-04	-	-	2.91E-07	2.00E-02	1.45E-04	2.91E-06	NA	NA
13	Naphthalene	3.50E-02	7.90E+03	4.44E-06	6.99E-04	3.00E+00	2.33E-04	6.99E-04	NA	NA
14	Pyrene	1.98E-03	-	-	3.94E-05	2.00E-02	1.97E-03	3.94E-05	NA	NA
15	Phenanthrene	1.21E-02	-	-	2.42E-05	2.00E-02	1.21E-02	2.42E-04	NA	NA
16	Dibenz(a,h)anthracene	2.41E-04	-	-	4.80E-06	2.00E-02	2.40E-04	4.80E-05	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.18E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**3.80E-01**	**Total Estimated Combined Cancer Risk**		**2.97E-07**
		Acute Non-Cancer Hazard Index Threshold (11)		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold (11)**		**1.0E+00**	**Cancer Risk Threshold (11)**		**1.0E-06**

Notes to Table A.4-4:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-5
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
West 59th Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	3,033	4,353	7,386	40,000	NA
	8-hour(6)	582	3,322	3,904	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	4	77	81	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	14	88	102	150	NA
	Annual	1	34	35	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	4	-	-	NA	5
	Annual Neighborhood Average	0.033(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	57	265	322	1,300	NA
	24-hour(6)	13	139	152	365	NA
	Annual	1	34	35	80	NA

Notes:
(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.
NA = Not Applicable.

Table A.4-6
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
West 59th Street Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk: Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Acute Non-Cancer Risk: Short-Term (1-hr) Guideline Conc. (SGCs)[2] (μg/m³)	Acute Non-Cancer Risk: Acute Non-Cancer Hazard Index[3]	Chronic Non-Cancer Risk: Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Chronic Non-Cancer Risk: Long-Term (Annual) Guideline Conc. (AGCs)[5] (μg/m³)	Chronic Non-Cancer Risk: Chronic Non-Cancer Hazard Index[6]	Cancer Risk: Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Cancer Risk: Unit Risk Factors[7] (μg/m³)	Cancer Risk: Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	9.85E-01	1.30E+03	7.58E-04	4.06E-03	1.30E-01	3.12E-02	4.06E-03	8.30E-06	3.37E-08
2	Formaldehyde	1.25E+00	3.00E+01	4.15E-02	5.14E-03	6.00E-02	8.56E-02	5.14E-03	1.30E-05	6.68E-08
3	1,3 Butadiene	4.13E-02	-	-	1.70E-04	3.60E-03	4.73E-02	1.70E-04	2.80E-04	4.77E-08
4	Acetaldehyde	8.10E-01	4.50E+03	1.80E-05	3.34E-03	4.50E-01	7.42E-03	3.34E-03	2.20E-06	7.35E-09
5	Benzo(a)pyrene	1.98E-04	-	-	8.19E-07	2.00E-03	4.09E-04	8.19E-07	1.70E-03	1.39E-09
6	Propylene	2.72E+00	-	-	1.12E-02	3.00E+03	3.74E-06	1.12E-02	NA	NA
Non-Carcinogenic Pollutants [10]										
7	Acrolein	9.77E-02	1.90E-01	5.14E-01	4.03E-04	2.00E-02	2.01E-02	4.03E-04	NA	NA
8	Toluene	4.32E-01	3.70E+04	1.17E-05	1.78E-03	4.00E+02	4.45E-06	1.78E-03	NA	NA
9	Xylenes	3.01E-01	4.30E+03	7.00E-05	1.24E-03	7.00E+02	1.77E-06	1.24E-03	NA	NA
10	Anthracene	1.97E-03	-	-	8.14E-06	2.00E-02	4.07E-04	8.14E-06	NA	NA
11	Benzo(a)anthracene	1.77E-03	-	-	7.31E-06	2.00E-02	3.66E-04	7.31E-06	NA	NA
12	Chrysene	3.73E-04	-	-	1.54E-06	2.00E-02	7.68E-05	1.54E-06	NA	NA
13	Naphthalene	8.95E-02	7.90E+03	1.13E-05	3.69E-04	3.00E+00	1.23E-04	3.69E-04	NA	NA
14	Pyrene	5.05E-03	-	-	2.08E-05	2.00E-02	1.04E-03	2.08E-05	NA	NA
15	Phenanthrene	3.10E-02	-	-	1.28E-04	2.00E-02	6.40E-03	1.28E-04	NA	NA
16	Dibenz(a,h)anthracene	6.16E-04	-	-	2.54E-06	2.00E-02	1.27E-04	2.54E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**5.57E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.01E-01**	**Total Estimated Combined Cancer Risk**		**1.57E-07**
		Acute Non-Cancer Hazard Index Threshold [11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold [11]**		**1.0E+00**	**Cancer Risk Threshold [11]**		**1.0E-06**

Notes to Table A.4-6:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-7
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
South Bronx Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	947	3,781	4,728	40,000	NA
	8-hour(6)	182	2,635	2,817	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	3	68	71	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	18	73	91	150	NA
	Annual	5	25	30	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	1	-	-	NA	5
	Annual Neighborhood Average	0.027(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	35	325	360	1,300	NA
	24-hour(6)	3	144	147	365	NA
	Annual	0.7	31	32	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.

(3) NAAQS = National Ambient Air Quality Standards.

(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-8
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
South Bronx Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs)[5] (μg/m³)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Unit Risk Factors[7] (μg/m³)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	3.08E-01	1.30E+03	2.37E-04	4.23E-03	1.30E-01	3.25E-02	4.23E-03	8.30E-06	3.51E-08
2	Formaldehyde	3.98E-01	3.00E+01	1.30E-02	5.35E-03	6.00E-02	8.91E-02	5.35E-03	1.30E-05	6.95E-08
3	1,3 Butadiene	1.29E-02	-	-	1.77E-04	3.60E-03	4.92E-02	1.77E-04	2.80E-04	4.96E-08
4	Acetaldehyde	2.53E-01	4.50E+03	5.62E-05	3.48E-03	4.50E-01	7.73E-03	3.48E-03	2.20E-06	7.65E-09
5	Benzo(a)pyrene	6.20E-05	-	-	8.52E-07	2.00E-03	4.26E-04	8.52E-07	1.70E-03	1.45E-09
6	Propylene	8.51E-01	-	-	1.17E-02	3.00E+03	3.90E-06	1.17E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	3.05E-02	1.90E-01	1.61E-01	4.19E-04	2.00E-02	2.10E-02	4.19E-04	NA	NA
8	Toluene	1.35E-01	3.70E+04	3.65E-06	1.85E-03	4.00E+02	4.63E-06	1.85E-03	NA	NA
9	Xylenes	9.40E-02	4.30E+03	2.19E-05	1.29E-03	7.00E+02	1.85E-06	1.29E-03	NA	NA
10	Anthracene	6.17E-04	-	-	8.48E-06	2.00E-02	4.24E-04	8.48E-06	NA	NA
11	Benzo(a)anthracene	5.54E-04	-	-	7.61E-06	2.00E-02	3.81E-04	7.61E-06	NA	NA
12	Chrysene	1.16E-04	-	-	1.60E-06	2.00E-02	8.00E-05	1.60E-06	NA	NA
13	Naphthalene	2.80E-02	7.90E+03	3.54E-06	3.84E-04	3.00E+00	1.28E-04	3.84E-04	NA	NA
14	Pyrene	1.58E-03	-	-	2.17E-05	2.00E-02	1.08E-03	2.17E-05	NA	NA
15	Phenanthrene	9.70E-03	-	-	1.33E-04	2.00E-02	6.66E-03	1.33E-04	NA	NA
16	Dibenz(a,h)anthracene	1.92E-04	-	-	2.64E-06	2.00E-02	1.32E-04	2.64E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		1.74E-01	Total Estimated Chronic Non-Cancer Hazard Index		2.09E-01	Total Estimated Combined Cancer Risk		1.63E-07
		Acute Non-Cancer Hazard Index Threshold[11]		1.0E+00	Chronic Non-Cancer Hazard Index Threshold[11]		1.0E+00	Cancer Risk Threshold[11]		1.0E-06

Notes to Table A.4-8:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-9
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
North Shore Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	1,261	3,781	5,042	40,000	NA
	8-hour(6)	194	2,635	3,767	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	4	56	60	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	17	57	74	150	NA
	Annual	4	23	27	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	1	-	-	NA	5
	Annual Neighborhood Average	0.036(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	49	186	235	1,300	NA
	24-hour(6)	5	107	112	365	NA
	Annual	1	18.3	19	80	NA

Notes:
(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.
NA = Not Applicable.

Table A.4-10
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
North Shore Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] ($\mu g/m^3$)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] ($\mu g/m^3$)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Long-Term (Annual) Guideline Conc. (AGCs)[5] ($\mu g/m^3$)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Unit Risk Factors[7] ($\mu g/m^3$)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	4.06E-01	1.30E+03	3.12E-04	4.63E-03	1.30E-01	3.56E-02	4.63E-03	8.30E-06	3.84E-08
2	Formaldehyde	5.13E-01	3.00E+01	1.71E-02	5.85E-03	6.00E-02	9.75E-02	5.85E-03	1.30E-05	7.60E-08
3	1,3 Butadiene	1.70E-02	-	-	1.94E-04	3.60E-03	5.38E-02	1.94E-04	2.80E-04	5.43E-08
4	Acetaldehyde	3.33E-01	4.50E+03	7.41E-05	3.80E-03	4.50E-01	8.45E-03	3.80E-03	2.20E-06	8.36E-09
5	Benzo(a)pyrene	8.17E-05	-	-	9.32E-07	2.00E-03	4.66E-04	9.32E-07	1.70E-03	1.58E-10
6	Propylene	1.12E+00	-	-	1.28E-02	3.00E+03	4.26E-06	1.28E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	4.02E-02	1.90E-01	2.12E-01	4.59E-04	2.00E-02	2.29E-02	4.59E-04	NA	NA
8	Toluene	1.78E-01	3.70E+04	4.81E-06	2.03E-03	4.00E+02	5.07E-06	2.03E-03	NA	NA
9	Xylenes	1.24E-01	4.30E+03	2.88E-05	1.41E-03	7.00E+02	2.02E-06	1.41E-03	NA	NA
10	Anthracene	8.13E-04	-	-	9.27E-06	2.00E-02	4.63E-04	9.27E-06	NA	NA
11	Benzo(a)anthracene	7.30E-04	-	-	8.33E-06	2.00E-02	4.16E-04	8.33E-06	NA	NA
12	Chrysene	1.53E-04	-	-	1.75E-06	2.00E-02	8.75E-05	1.75E-06	NA	NA
13	Naphthalene	3.69E-02	7.90E+03	4.67E-06	4.20E-04	3.00E+00	1.40E-04	4.20E-04	NA	NA
14	Pyrene	2.08E-03	-	-	2.37E-05	2.00E-02	1.18E-03	2.37E-05	NA	NA
15	Phenanthrene	1.28E-02	-	-	1.46E-04	2.00E-02	7.29E-03	1.46E-04	NA	NA
16	Dibenz(a,h)anthracene	2.54E-04	-	-	2.89E-06	2.00E-02	1.45E-04	2.89E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.29E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.28E-01**	**Total Estimated Combined Cancer Risk**		**1.79E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold[11]**		**1.0E+00**	**Cancer Risk Threshold[11]**		**1.0E-06**

Notes to Table A.4-10:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-11
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Greenpoint Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	1,335	3,321	4,656	40,000	NA
	8-hour(6)	445	2,635	3,080	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	2	56	58	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	25	57	82	150	NA
	Annual	4	23	27	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.024(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	51	189	240	1,300	NA
	24-hour(6)	6	87	93	365	NA
	Annual	0.5	21	22	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.

(3) NAAQS = National Ambient Air Quality Standards.

(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.

NA = Not Applicable.

Table A.4-12
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Greenpoint Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.(1) (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs) (2) (μg/m³)	Acute Non-Cancer Hazard Index(3)	Highest Estimated Long-Term (Annual) Pollutant Conc.(4) (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs) (5) (μg/m³)	Chronic Non-Cancer Hazard Index (6)	Highest Estimated Long-Term (Annual) Pollutant Conc. (4) (μg/m³)	Unit Risk Factors (7) (μg/m³)	Maximum Cancer Risk (8,9)
Carcinogenic Pollutants										
1	Benzene	4.31E-01	1.30E+03	3.31E-04	3.00E-03	1.30E-01	2.31E-02	3.00E-03	8.30E-06	2.49E-08
2	Formaldehyde	5.45E-01	3.00E+01	1.82E-02	3.80E-03	6.00E-02	6.33E-02	3.80E-03	1.30E-05	4.94E-08
3	1,3 Butadiene	1.81E-02	-	-	1.26E-04	3.60E-03	3.50E-02	1.26E-04	2.80E-04	3.53E-08
4	Acetaldehyde	3.54E-01	4.50E+03	7.87E-05	2.47E-03	4.50E-01	5.49E-03	2.47E-03	2.20E-06	5.43E-09
5	Benzo(a)pyrene	8.68E-05	-	-	6.05E-07	2.00E-03	3.03E-04	6.05E-07	1.70E-03	1.03E-09
6	Propylene	1.19E+00	-	-	8.31E-03	3.00E+03	2.77E-06	8.31E-03	NA	NA
Non-Carcinogenic Pollutants (10)										
7	Acrolein	4.27E-02	1.90E-01	2.25E-01	2.98E-04	2.00E-02	1.49E-02	2.98E-04	NA	NA
8	Toluene	1.89E-01	3.70E+04	5.10E-06	1.32E-03	4.00E+02	3.29E-06	1.32E-03	NA	NA
9	Xylenes	1.32E-01	4.30E+03	3.06E-05	9.18E-04	7.00E+02	1.31E-06	9.18E-04	NA	NA
10	Anthracene	8.63E-04	-	-	6.02E-06	2.00E-02	3.01E-04	6.02E-06	NA	NA
11	Benzo(a)anthracene	7.76E-04	-	-	5.41E-06	2.00E-02	2.70E-04	5.41E-06	NA	NA
12	Chrysene	1.63E-04	-	-	1.14E-06	2.00E-02	5.68E-05	1.14E-06	NA	NA
13	Naphthalene	3.92E-02	7.90E+03	4.96E-06	2.73E-04	3.00E+00	9.10E-05	2.73E-04	NA	NA
14	Pyrene	2.21E-03	-	-	1.54E-05	2.00E-02	7.70E-04	1.54E-05	NA	NA
15	Phenanthrene	1.36E-02	-	-	9.47E-05	2.00E-02	4.73E-03	9.47E-05	NA	NA
16	Dibenz(a,h)anthracene	2.69E-04	-	-	1.88E-06	2.00E-02	9.39E-05	1.88E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.43E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**1.48E-01**	**Total Estimated Combined Cancer Risk**		**1.16E-07**
		Acute Non-Cancer Hazard Index Threshold (11)		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold (11)**		**1.0E+00**	**Cancer Risk Threshold (11)**		**1.0E-06**

Notes to Table A.4-12:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-13
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Hamilton Avenue Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	1,334	3,321	4,655	40,000	NA
	8-hour(6)	393	2,636	3,029	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	4	56	60	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	21	82	103	150	NA
	Annual	5	22	27	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.029(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	45	152	197	1,300	NA
	24-hour(6)	9	94	103	365	NA
	Annual	1	24	25	80	NA

Notes:
(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.
NA = Not Applicable.

Table A.4-14
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Hamilton Avenue Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] ($\mu g/m^3$)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] ($\mu g/m^3$)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Long-Term (Annual) Guideline Conc. (AGCs)[5] ($\mu g/m^3$)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Unit Risk Factors[7] ($\mu g/m^3$)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	4.75E-01	1.30E+03	3.65E-04	6.22E-03	1.30E-01	4.79E-02	6.22E-03	8.30E-06	5.17E-08
2	Formaldehyde	6.01E-01	3.00E+01	2.00E-02	7.87E-03	6.00E-02	1.31E-02	7.87E-03	1.30E-05	1.02E-07
3	1,3 Butadiene	1.99E-02	-	-	2.61E-04	3.60E-03	7.24E-02	2.61E-04	2.80E-04	7.30E-08
4	Acetaldehyde	3.90E-01	4.50E+03	8.67E-05	5.12E-03	4.50E-01	1.14E-03	5.12E-03	2.20E-06	1.13E-08
5	Benzo(a)pyrene	9.57E-05	-	-	1.25E-06	2.00E-03	6.27E-04	1.25E-06	1.70E-03	2.13E-09
6	Propylene	1.31E+00	-	-	1.72E-02	3.00E+03	5.74E-06	1.72E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	4.71E-02	1.90E-01	2.48E-01	6.17E-04	2.00E-02	3.09E-02	6.17E-04	NA	NA
8	Toluene	2.08E-01	3.70E+04	5.63E-06	2.73E-03	4.00E+02	6.82E-06	2.73E-03	NA	NA
9	Xylenes	1.45E-01	4.30E+03	3.37E-05	1.90E-03	7.00E+02	2.72E-06	1.90E-03	NA	NA
10	Anthracene	9.52E-04	-	-	1.25E-05	2.00E-02	6.24E-04	1.25E-05	NA	NA
11	Benzo(a)anthracene	8.55E-04	-	-	1.12E-05	2.00E-02	5.60E-04	1.12E-05	NA	NA
12	Chrysene	1.80E-04	-	-	2.35E-06	2.00E-02	1.18E-05	2.35E-06	NA	NA
13	Naphthalene	4.32E-02	7.90E+03	5.46E-06	5.66E-04	3.00E+00	1.89E-05	5.66E-04	NA	NA
14	Pyrene	2.43E-03	-	-	3.19E-05	2.00E-02	1.59E-04	3.19E-05	NA	NA
15	Phenanthrene	1.50E-02	-	-	1.96E-04	2.00E-02	9.81E-03	1.96E-04	NA	NA
16	Dibenz(a,h)anthracene	2.97E-04	-	-	1.49E-06	2.00E-02	3.89E-05	1.49E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**2.68E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**3.07E-01**	**Total Estimated Combined Cancer Risk**		**2.40E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold[11]**		**1.0E+00**	**Cancer Risk Threshold[11]**		**1.0E-06**

Notes to Table A.4-14:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-15
Highest Estimated Concentrations of the Criteria Pollutants from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Southwest Brooklyn Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-site Emission Sources (1)	Background Pollutant Concentrations (2)	Highest Estimated On-site Pollutant Concentrations	NAAQS(3)	STV(4)
Carbon Monoxide (CO), $\mu g/m^3$	1-hour(6)	1,391	3,781	5,172	40,000	NA
	8-hour(6)	419	2,635	3,054	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	4	56	60	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour(7)	22	91	113	150	NA
	Annual	4	27	31	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	2	-	-	NA	5
	Annual Neighborhood Average	0.028(5)	-	-	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour(6)	47	152	199	1,300	NA
	24-hour(6)	8	94	102	365	NA
	Annual	0.7	24	25	80	NA

Notes:
(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Background concentrations were obtained from the NYCDEP on April 18, 2003.
(3) NAAQS = National Ambient Air Quality Standards.
(4) Screening Threshold Value (STV) established by the NYCDEP and NYSDEC.
(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.
(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration in this provides a very conservative comparison with standards.
(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is quite conservative.
NA = Not Applicable.

Table A.4-16
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutant from On-site Emissions
DSNY-managed Waste Plus Commercial Waste
Southwest Brooklyn Converted MTS

		Acute Non-Cancer Risk			Chronic Non-Cancer Risk			Cancer Risk		
No.	Toxic Air Pollutants	Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] (μg/m³)	Short-Term (1-hr) Guideline Conc. (SGCs)[2] (μg/m³)	Acute Non-Cancer Hazard Index[3]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Long-Term (Annual) Guideline Conc. (AGCs)[5] (μg/m³)	Chronic Non-Cancer Hazard Index[6]	Highest Estimated Long-Term (Annual) Pollutant Conc.[4] (μg/m³)	Unit Risk Factors[7] (μg/m³)	Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	7.42E-01	1.30E+03	5.71E-04	4.28E-03	1.30E-01	3.29E-02	4.28E-03	8.30E-06	3.56E-08
2	Formaldehyde	9.39E-01	3.00E+01	3.13E-02	5.42E-03	6.00E-02	9.03E-02	5.42E-03	1.30E-05	7.04E-08
3	1,3 Butadiene	3.11E-02	-	-	1.80E-04	3.60E-03	4.99E-02	1.80E-04	2.80E-04	5.03E-08
4	Acetaldehyde	6.10E-01	4.50E+03	1.36E-04	3.52E-03	4.50E-01	7.83E-03	3.52E-03	2.20E-06	7.75E-09
5	Benzo(a)pyrene	1.50E-04	-	-	8.63E-07	2.00E-03	4.32E-04	8.63E-07	1.70E-03	1.47E-09
6	Propylene	2.05E+00	-	-	1.18E-02	3.00E+03	3.95E-06	1.18E-02	NA	NA
Non-Carcinogenic Pollutants[10]										
7	Acrolein	7.36E-02	1.90E-01	3.87E-01	4.25E-04	2.00E-02	2.12E-02	4.25E-04	NA	NA
8	Toluene	3.25E-01	3.70E+04	8.80E-06	1.88E-03	4.00E+02	4.69E-06	1.88E-03	NA	NA
9	Xylenes	2.27E-01	4.30E+03	5.27E-05	1.31E-03	7.00E+02	1.87E-06	1.31E-03	NA	NA
10	Anthracene	1.49E-03	-	-	8.59E-06	2.00E-02	4.29E-04	8.59E-06	NA	NA
11	Benzo(a)anthracene	1.34E-03	-	-	7.71E-06	2.00E-02	3.86E-04	7.71E-06	NA	NA
12	Chrysene	2.81E-04	-	-	1.62E-06	2.00E-02	8.10E-05	1.62E-06	NA	NA
13	Naphthalene	6.75E-02	7.90E+03	8.54E-06	3.89E-04	3.00E+00	1.30E-04	3.89E-04	NA	NA
14	Pyrene	3.80E-03	-	-	2.19E-05	2.00E-02	1.10E-03	2.19E-05	NA	NA
15	Phenanthrene	2.34E-02	-	-	1.35E-04	2.00E-02	6.75E-03	1.35E-04	NA	NA
16	Dibenz(a,h)anthracene	4.64E-04	-	-	2.68E-06	2.00E-02	1.34E-04	2.68E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**4.20E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**2.12E-01**	**Total Estimated Combined Cancer Risk**		**1.65E-07**
		Acute Non-Cancer Hazard Index Threshold[11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold**[11]		**1.0E+00**	**Cancer Risk Threshold**[11]		**1.0E-06**

Notes to Table A.4-16:

(1) Estimated by multiplying the total 1-hr HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(2) Short-term (1-hr) guideline concentrations (SGC) established by NYSDEC.

(3) Estimated by dividing the maximum 1-hr concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total hydrocarbons.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC.

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

Table A.4-17
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
West 135th Street Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
12th Ave. & 133rd St.									
Existing Conditions	NA [5]	77 [6]	34 [6]						
Future No-Build Conditions	NA [5]	77 [6]	34 [6]						
Future Build Conditions	NA [5]	77 [6]	34 [6]						
Future Build Incremental				0.4	0.27 [6]	0.67	0.02	0.06 [6]	0.08
Broadway & 133rd St.									
Existing Conditions	NA [5]	77 [6]	33 [6]						
Future No-Build Conditions	NA [5]	77 [6]	33 [6]						
Future Build Conditions	NA [5]	78 [6]	34 [6]						
Future Build Incremental				0.4	0.21 [6]	0.61	0.02	0.06 [6]	0.04

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21$\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-18
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
East 91st Street Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
York Ave. & 86th St.									
Existing Conditions	NA [5]	76	32 [6]						
Future No-Build Conditions	NA [5]	77	32 [6]						
Future Build Conditions	NA [5]	77	32 [6]						
Future Build Incremental				0.31	0.3 [6]	0.68	0.04	0.09 [6]	0.1
York Ave. & 91st St.									
Existing Conditions	4	86	35 [6]						
Future No-Build Conditions	4	87	35 [6]						
Future Build Conditions	4	89	36 [6]						
Future Build Incremental				0.88	1.36 [6]	2.17	0.04	0.1 [6]	0.1

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-19
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
West 59th Street Converted MTS

	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
Air Quality Receptor Site	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
59th St. and 12th Avenue									
Existing Conditions	NA [5]	86	36						
Future No-Build Conditions	NA [5]	92	40						
Future Build Conditions	NA [5]	93	41						
Future Build Incremental				1.57	0.77 [6]	2.36	0.03	0.04 [6]	0.06
Route 9A & 57th									
Existing Conditions	NA [5]	105	44						
Future No-Build Conditions	NA [5]	109	44						
Future Build Conditions	NA [5]	109	44						
Future Build Incremental				0.64	0.2 [6]	0.87	0.03	0.03 [6]	0.05

Notes:

[1] PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

[2] The maximum estimated concentrations of on-site emissions near the intersection considered.

[3] The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

[4] The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

[5] Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-20
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
South Bronx Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
Bruckner & Leggett									
Existing Conditions	6	121	42						
Future No-Build Conditions	5	117	41						
Future Build Conditions	5	118	41						
Future Build Incremental				0.02	0.31	0.33	0.0003	0.09	0.09
Bruckner & Longwood									
Existing Conditions	NA [5]	132	42						
Future No-Build Conditions	NA [5]	129	41						
Future Build Conditions	NA [5]	129	43						
Future Build Incremental				0.02	0.36	0.39	0.0004	0.08	0.08
Tiffany & Randall									
Existing Conditions	3	93	32						
Future No-Build Conditions	3	88	34						
Future Build Conditions	3	99	34						
Future Build Incremental				0.03	0.28	0.31	0.0006	0.06	0.06

Table A.4-20 (Continued)
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
South Bronx Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
Halleck & Ryawa									
Existing Conditions	NA [5]	84	28						
Future No-Build Conditions	NA [5]	95	32						
Future Build Conditions	NA [5]	98	33						
Future Build Incremental				0.10	0.54	0.65	0.03	0.07	0.09
Halleck & East Bay/Hunts Point									
Existing Conditions	4	111	44						
Future No-Build Conditions	4	110	43						
Future Build Conditions	4	113	44						
Future Build Incremental				0.07	0.34	0.45	0.002	0.05	0.05

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21$\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-21
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
North Shore Converted MTS

	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
Air Quality Receptor Site	**8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)**	**24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)**	**Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)**	**Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)**	**Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)**	**Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)**	**Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)**	**Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)**	**Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)**
College Point Blvd. & 31st Ave.									
Existing Conditions	4.4	87	35						
Future No-Build Conditions	4.8	88	35						
Future Build Conditions	4.3	91	36						
Future Build Incremental				0.12	0.41 [5]	0.71	0.01	0.1 [5]	0.1
College Point Blvd. & Booth Memorial Ave.									
Existing Conditions	5.1	100	41						
Future No-Build Conditions	4.5	102	42						
Future Build Conditions	4.9	102	42						
Future Build Incremental				0.02	0.30	0.35	0.002	0.1	0.1
College Point Blvd., 32nd Ave. & WSE Service Rd.									
Existing Conditions	5.0	96	39						
Future No-Build Conditions	4.9	97	39						
Future Build Conditions	4.9	98	40						
Future Build Incremental				0.06	0.38	0.56	0.01	0.1	0.1

Notes for Table A.4-21:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr $PM_{10} = 46\ \mu g/m^3$; Annual $PM_{10} = 21 \mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-22
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Greenpoint Converted MTS

	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
Air Quality Receptor Site	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
Kingsland Ave., Greenpoint Ave. & Norman Ave.									
Existing Conditions	5.2	104	43						
Future No-Build Conditions	4.8	105	43						
Future Build Conditions	4.9	105	43						
Future Build Incremental				0.061	0.7	0.76	0.02	0.1	0.1
Greenpoint Ave., Review Ave. & VanDam St.									
Existing Conditions	NA [5]	118	49						
Future No-Build Conditions	NA [5]	102	40						
Future Build Conditions	NA [5]	103	40						
Future Build Incremental				0.037	0.3	0.34	0.01	0.1	0.1
Greenpoint Ave., McGuiness Blvd. & Provost									
Existing Conditions	NA [5]	104	40						
Future No-Build Conditions	NA [5]	105	40						
Future Build Conditions	NA [5]	106	41						
Future Build Incremental				0.037	0.5	0.54	0.006	0.1	0.1

Notes for Table A.4-22:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-23
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Hamilton Avenue Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
20th St., 3rd Ave. & 4th Ave.									
Existing Conditions	NA [5]	128 [6]	37 [6]						
Future No-Build Conditions	NA [5]	127 [6]	38 [6]						
Future Build Conditions	NA [5]	131 [6]	38 [6]						
Future Build Incremental				0.075	0.5	0.58	0.006	0.10	0.1
Hamilton Ave., Hamilton Pl. & 14th St.									
Existing Conditions	NA [5]	137 [6]	43 [6]						
Future No-Build Conditions	NA [5]	141 [6]	45 [6]						
Future Build Conditions	NA [5]	142 [6]	45 [6]						
Future Build Incremental				0.46	0.3	0.76	0.03	0.05	0.08

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21$\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

Table A.4-24
Maximum Estimated Potential Pollutant Concentrations Near Selected Roadway Intersection
DSNY-managed Waste Plus Commercial Waste Hauling Vehicles
Southwest Brooklyn Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
26th Ave., Cropsey Ave & Shore Parkway									
Existing Conditions	NA [5]	137	47						
Future No-Build Conditions	NA [5]	136	46						
Future Build Conditions	NA [5]	136	46						
Future Build Incremental				0.25	0.4	0.65	0.03	0.06	0.09
Bay Parkway, Cropsey Ave. & Shore Parkway									
Existing Conditions	NA [5]	147 [3]	54 [3]						
Future No-Build Conditions	NA [5]	149 [3]	55 [3]						
Future Build Conditions	NA [5]	150 [3]	55 [3]						
Future Build Incremental				0.10	0.3	0.40	0.006	0.1	0.1

Notes:

(1) PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility AM, and PM peak traffic conditions plus background concentration (24-hr PM_{10} = 46 $\mu g/m^3$; Annual PM_{10} = 21$\mu g/m^3$).

(2) The maximum estimated concentrations of on-site emissions near the intersection considered.

(3) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 3 meters from the edge of the roadways using AM, midday or PM peak traffic conditions .

(4) The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project-induced [or future build] traffic only) estimated by taking the difference between the maximum $PM_{2.5}$ concentrations for the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways using AM, midday or PM peak traffic conditions.

(5) Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

ppm = parts per million.

$\mu g/m^3$ = micrograms per cubic meter.

ATTACHMENT 5

COMMERCIAL WASTE TRUCKS ALLOWED BASED ON SECOND-LEVEL NOISE SCREENING

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
135th Street Converted MTS			
From the north			
Route 1N A To MTS: Broadway to West 133rd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. - 12 a.m., 6 a.m. - 8 a.m. [2]	2-7	3 - 18
Route 1N B To MTS: Broadway to West 132nd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. - 12 a.m., 6 a.m. - 8 a.m. [2]	1-5	3 - 18
Route 2N To MTS: Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. – 1 a.m., 4 a.m. – 8 a.m. [2]	2-16	3 - 20
From the south			
Route 1S A To MTS: Broadway to West 133rd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. - 12 a.m., 6 a.m. - 8 a.m. [2]	3-7	3 - 18
Route 1S B To MTS: Broadway to West 132nd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. - 12 a.m., 6 a.m. - 8 a.m. [2]	1-5	3 - 18
Route 2S To MTS: Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. – 1 a.m., 4 a.m. – 8 a.m. [2]	2-16	3 - 20
From the east			
Route 1E To MTS: 3rd Ave to East 125th St (turns into West 125th St) to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 p.m. – 1 a.m., 4 a.m. – 8 a.m. [2]	2-16	3 - 20
91st Street Converted MTS			
From the north			
Route 1N A To MTS: 2nd Ave to East 90th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 91st St to (1st Ave OR 3rd Ave)	8 p.m. - 2 a.m., 5 a.m. - 8 a.m. [2]	1-2	1-2
Route 1N B To MTS: 2nd Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 89th to (1st Ave OR 3rd Ave)	8 p.m. - 2 a.m., 6 a.m. - 7 a.m. [2]	1-2	1-2
Route 1N C To MTS: 2nd Ave East 86th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 87th St to (1st Ave OR 3rd Ave)	8 p.m. – 11 p.m., 6 a.m. - 7 a.m. [2]	1-2	1-2
From the south			
Route 1S A To MTS: 1st Ave to East 90th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 4 a.m. - 7 a.m. [2]	3-4	9-20

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
Route 2S To MTS: 3rd Ave to East 86th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1 - 12	9-20
59th Street Converted MTS[2]			
From the north			
Route 1N To MTS: Columbus Ave to West 59th St From MTS: West 59th St to Amsterdam Ave	8 p.m. - 3 a.m., 4 a.m. - 8 a.m. [2]	0-1	0-1
From the south			
Route 1S To MTS: 12th Ave (Joe DiMaggio Hwy) to 12th Ave Service Road (starts at 57th St) to West 59th St From MTS: Reverse	8 p.m. – 8 a.m.	3-9	3-9
Route 2S To MTS: 10th Ave to 57th Ave to 12th Ave Service Road to 59th St From MTS: West 59th St to 11th Ave	8 p.m. – 8 a.m.	3-9	3-9
From the east			
Route 1E To MTS: (2nd Ave or 3rd Ave) to East 57th St (turns into West 57th St) to 12th Ave Service Road to 59th St. From MTS: Reverse	8 p.m. – 8 a.m.	3-10	3-10
South Bronx Converted MTS			
Route 1 To MTS: Bruckner Blvd to Leggett Ave to Randall Ave to Halleck St to Ryawa Ave From MTS: Reverse	8 p.m. - 8 a.m.	0-7	0-7
Route 2 To MTS: Bruckner Blvd to Leggett Ave to (Barry St OR Dupont St OR Truxton St) to Oak Point Ave to Hunt's Point Ave to Halleck St to Ryawa Ave From MTS: Reverse	8 p.m. - 8 a.m.	0-7	0-7
Route 3 To MTS: Bruckner Blvd to Longwood Ave to Tiffany St to East Bay Ave to Halleck St to Ryawa Ave From MTS: Reverse	8 p.m. - 1 a.m., 2 a.m. – 8 a.m. [2]	0-7	0-7
Route 4 To MTS: Bruckner Blvd to Longwood Ave to Tiffany St to Viele Ave to Halleck St to Ryawa Ave From MTS: Reverse	8 p.m. - 1 a.m., 2 a.m. – 8 a.m. [2]	0-7	0-7
North Shore Converted MTS			
From the north			
Route 1N To MTS: 20th Ave to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. - 8 a.m.	0-1	0-1

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
From the south			
Route 1S To MTS: Van Wick Expressway to Whitestone Expressway to Linden Place to Whitestone Expressway Service Road (Westbound) to College Point Blvd to 31st Ave From MTS: 31st Ave to College Point Blvd to Whitestone Expressway Service Road (Eastbound) to Linden Place to Whitestone Expressway Service Road (Westbound) to Whitestone Expressway to Van Wick Expressway	8 p.m. - 8 a.m.	0 -16	0 -16
Route 2S To MTS: Van Wick Expressway to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 12 a.m., 6 a.m. – 8 a.m. [2]	0 – 11	0-14
From the east			
Route 1E To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 1 a.m., 3 a.m. – 4 a.m., 5 a.m. – 8 a.m. [2]	0 – 5	0 - 5
Route 2E To MTS: Long Island Expressway to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 12 a.m., 6 a.m. – 8 a.m. [2]	0 – 11	0 - 14
From the west			
Route 1W To MTS: Northern Blvd to Linden Place to Whitestone Expressway Service Road (Eastbound) to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 1 a.m., 3 a.m. – 4 a.m., 5 a.m. – 8 a.m. [2]	0 – 2	0 - 2
Route 2W To MTS: Long Island Expressway to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 12 a.m., 6 a.m. – 8 a.m. [2]	0 – 11	0 - 14
Route 3W To MTS: Roosevelt Ave to College Point Blvd to 31st Ave From MTS: Reverse	8 p.m. – 1 a.m., 3 a.m. – 4 a.m., 6 a.m. – 8 a.m. [2]	0 – 2	0 - 2
Greenpoint Avenue Converted MTS			
From the north			
Route 1N To MTS: McGuiness Blvd to Greenpoint Ave to Kingsland Ave From MTS: Reverse	8 p.m. - 2 a.m., 3 a.m. - 8 a.m. [2]	0 – 8	0 – 8
Route 2N To MTS: Queens Blvd to Greenpoint Ave to Starr Ave to Van Dam St to Greenpoint Ave to Kingsland Ave From MTS: Kingsland Ave to Greenpoint Ave to Queens Blvd	8 p.m. - 8 a.m.	1 –6	0 – 7

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
Route 3N To MTS: Van Dam St to Greenpoint Ave to Kingsland Ave From MTS: Reverse	8 p.m. - 8 a.m.	0 – 7	0 – 7
From the south			
Route 1S To MTS: McGuiness Blvd to Greenpoint Ave to Kingsland Ave From MTS: Reverse	8 p.m. - 2 a.m., 3 a.m. - 8 a.m. [2]	0 – 8	0 - 8
Route 2S To MTS: Brooklyn-Queens Expressway to Meeker St (eastbound) to Varick St to Bridgewater St to Norman Ave to Kingsland Ave From MTS: Kingsland Ave to Greenpoint Ave to Henry St to Norman Ave to Bridgewater St to Varick St to Meeker Ave to BQE	8 p.m. - 8 a.m.	0 – 6	0 - 9
From the east			
Route 1E To MTS: Brooklyn-Queens Expressway to Meeker St (eastbound) to Varick St to Bridgewater St to Norman Ave to Kingsland Ave From MTS: Kingsland Ave to Greenpoint Ave to McGuiness Blvd to Meeker St to BQE	8 p.m. - 2 a.m., 3 a.m. - 8 a.m. [2]	0 – 8	0 – 8
Route 2E To MTS: Long Island Expressway to Van Dam St to Greenpoint Ave to Kingsland Ave From MTS: From MTS: Kingsland Ave to Greenpoint Ave to LIE	8 p.m. - 8 a.m.	0 – 7	0 – 7
Hamilton Avenue Converted MTS			
From the north			
Route 1N To MTS: BQE to Hamilton Ave (southbound) (Exit 26) From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to BQE	8 p.m. - 8 a.m.	1 – 12	1 - 12
Route 2NA To MTS: 3rd Ave to 9th Street to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to 9th Street to 3rd Ave	8 p.m. - 8 a.m.	1 – 9	1 - 12
Route 2NB To MTS: 4th Ave to 9th Street to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave to Hamilton Ave (northbound) to 9th Street to 3rd Ave	8 p.m. - 8 a.m.	1 – 9	1 - 12
Route 3N To MTS: 3rd Ave to 9th Street to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound) to 20th St to 3rd Ave (to 9th St to 4th Ave)	8 p.m. - 8 a.m.	1 – 9	1 - 12
From the south			

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
Route 1S To MTS: Gowanus Expressway to 4th Ave to Prospect to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 65th Street	8 p.m. -2 a.m., 3 a.m. – 8 a.m. [2]	0 – 3	0 – 3
Route 2S To MTS: 65th St to 3rd Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 65th Street	8 p.m. - 8 a.m.	0 – 3	0 – 3
From the east			
Route 1E To MTS: 39th St WB to 4th Ave NB to Prospect Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 39th St	8 p.m. - 2 a.m., 4 a.m. – 8 a.m. [2]	0-5	0-5
Route 2E To MTS: Prospect Expressway to Prospect Ave to Hamilton Ave (northbound) to Hamilton Place to Hamilton Ave (southbound) From MTS: Hamilton Ave (southbound) to 20th St to 10th Ave to Prospect Expressway	8 p.m. -2 a.m., 4 a.m. – 8 a.m. [2]	0-4	0-5
Southwest Brooklyn Converted MTS			
From the north			
Route 1N To MTS: 86th St to 18th Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave From MTS: 25th Av to Shore Road (southbound) to 26th Ave to Cropsey Ave to 18th Ave to 86th St	8 p.m. - 2 a.m., 4 a.m. - 8 a.m. [2]	1 - 12	1 - 16
From the south			
Route 1S To MTS: Neptune Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave From MTS: 25th Av to Shore Road (southbound) to 26th Ave to Cropsey Ave to Neptune Ave	8 p.m. - 2 a.m., 4 a.m. - 8 a.m. [2]	0-1	0-1
From the east			
Route 1E To MTS: Kings Highway to Bay Parkway to Shore Road (southbound) to 25th Ave From MTS: 25th Ave to Shore Road (southbound) to 26th Ave to Cropsey Ave to Bay Parkway to Kings Highway	8 p.m. - 2 a.m., 4 a.m. - 8 a.m. [2]	0 – 2	0 – 2

Summary of Commercial Waste Trucks Allowed for the 8:00 p.m. to 8:00 a.m. Period Based on Second-Level Noise Screening and the DSNY-managed Waste Reserved Capacity (Continued)

Routes Screened [1]	Commercial Waste Trucks Based on Second-Level Noise Screening		Range of Commercial Waste Trucks Allowed during 8:00 p.m. to 8:00 a.m. Period Based on DSNY Managed Waste Reserved Capacity at MTS
	Hours Where Commercial Waste Trucks are Allowed	Range of Commercial Waste Trucks Allowed during these Hours	
Route 1S B To MTS: 1st Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 p.m. - 2 a.m., 5 a.m. - 7 a.m. [2]	1-6	9-20
Route 2E To MTS: 86th St to 25th Ave to Cropsey Ave to Bay Parkway to Shore Road (southbound) to 25th Ave From MTS: 25th Ave to Shore Road (southbound) to 26th Ave to Cropsey Ave to 25th Ave to 86th St	8 p.m. - 2 a.m., 5 a.m. - 8 a.m. [2]	0 – 2	0 – 2

Notes:

(1) It is assumed that one route will be chosen for multiple routes originating from the same direction.

(2) Hours not listed cannot accept any commercial waste trucks based on second-level noise screening analysis.

West 135th Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N (A)[1]	To MTS: Broadway to West 133rd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 - 9 pm	16	7
		9 - 10 pm	14	6
		10 - 11 pm	18	5
		11 pm - 12 am	9	4
		12 - 1 am	7	0
		1 - 2 am	14	0
		2 - 3 am	16	0
		3 - 4 am	8	0
		4 - 5 am	18	0
		5 - 6 am	17	0
		6 - 7 am	16	6
		7 - 8 am	3	2
1-N (B)	To MTS: Broadway to West 132nd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 - 9 pm	16	5
		9 - 10 pm	14	3
		10 - 11 pm	18	3
		11 pm - 12 am	9	2
		12 - 1 am	7	0
		1 - 2 am	14	0
		2 - 3 am	16	0
		3 - 4 am	8	0
		4 - 5 am	18	0
		5 - 6 am	17	0
		6 - 7 am	16	1
		7 - 8 am	3	3

Notes:

[1] This route is predominantly for trucks leaving the MTS. One truck per hour for the hours of 8 p.m. to 6 a.m. is assigned to deliver waste to the MTS using this route. The proposed and allowed Commercial Waste Truck numbers shown above for this route are trucks leaving the MTS.

1-S (A)[1]	To MTS: Broadway to West 133rd St to Riverside Drive (12th Ave) to West 135th St From MTS: Reverse	8 - 9 pm	16	7
		9 - 10 pm	14	6
		10 - 11 pm	18	5
		11 pm - 12 am	9	4
		12 - 1 am	7	0
		1 - 2 am	14	0
		2 - 3 am	16	0
		3 - 4 am	8	0
		4 - 5 am	18	0
		5 - 6 am	17	0
		6 - 7 am	16	6
		7 - 8 am	3	3

Notes:

[1] This route is predominantly for trucks leaving the MTS. One truck per hour for the hours of 8 p.m. to 6 a.m. is assigned to deliver waste to the MTS using this route. The proposed and allowed Commercial Waste Truck numbers shown above for this route are trucks leaving the MTS.

West 135th Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-S (B)	**To MTS:** Broadway to West 132nd St) to Riverside Drive (12th Ave) to West 135th St **From MTS:** Reverse	8 - 9 pm	16	5
		9 - 10 pm	14	3
		10 - 11 pm	18	3
		11 pm - 12 am	9	2
		12 - 1 am	7	0
		1 - 2 am	14	0
		2 - 3 am	16	0
		3 - 4 am	8	0
		4 - 5 am	18	0
		5 - 6 am	17	0
		6 - 7 am	16	1
		7 - 8 am	3	3
2-N & 2-S	**To MTS:** Amsterdam Ave to West 125th St to Riverside Drive (12th Ave) to West 135th St **From MTS:** Reverse	8 - 9 pm	18	15
		9 - 10 pm	16	15
		10 - 11 pm	20	12
		11 pm - 12 am	10	10
		12 - 1 am	8	8
		1 - 2 am	16	0
		2 - 3 am	18	0
		3 - 4 am	9	0
		4 - 5 am	20	2
		5 - 6 am	19	10
		6 - 7 am	18	16
		7 - 8 am	3	3
1-E	**To MTS:** 3rd Ave to East 125th St (turns into West 125th St) to Riverside Drive (12th Ave) to West 135th St **From MTS:** Reverse	8 - 9 pm	18	15
		9 - 10 pm	16	15
		10 - 11 pm	20	12
		11 pm - 12 am	10	10
		12 - 1 am	8	8
		1 - 2 am	16	0
		2 - 3 am	18	0
		3 - 4 am	9	0
		4 - 5 am	20	2
		5 - 6 am	19	10
		6 - 7 am	18	16
		7 - 8 am	3	3

East 91st Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 a.m. to 8:00 p.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N (A)	To MTS: 2nd Ave to East 90th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 91st St to 1st Ave or 3rd ave	8 - 9 pm	2	2
		9 - 10 pm	2	2
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	1	1
		1 - 2 am	2	2
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	0
		5 - 6 am	2	1
		6 - 7 am	2	2
		7 - 8 am	1	0
1-N (B)	To MTS: 2nd Ave to East 88th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 89th St to 1st Ave OR 3rd Ave	8 - 9 pm	2	2
		9 - 10 pm	2	2
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	1	1
		1 - 2 am	2	1
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	0
		5 - 6 am	2	0
		6 - 7 am	2	2
		7 - 8 am	1	0
1-N (C)	To MTS: 2nd Ave to East 86th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 87th St to 1st Ave OR 3rd Ave	8 - 9 pm	2	1
		9 - 10 pm	2	2
		10 - 11 pm	2	1
		11 pm - 12 am	1	0
		12 - 1 am	1	0
		1 - 2 am	2	0
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	0
		5 - 6 am	2	0
		6 - 7 am	2	2
		7 - 8 am	1	0
1-SA	To MTS: 1st Ave to East 90th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 - 9 pm	20	4
		9 - 10 pm	20	4
		10 - 11 pm	20	4
		11 pm - 12 am	10	4
		12 - 1 am	10	4
		1 - 2 am	20	4
		2 - 3 am	20	0
		3 - 4 am	10	0
		4 - 5 am	20	4
		5 - 6 am	20	4
		6 - 7 am	20	3
		7 - 8 am	9	0

East 91st Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 a.m. to 8:00 p.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-SB	To MTS: 1st Ave to East 88 th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 - 9 pm	20	4
		9 - 10 pm	20	3
		10 - 11 pm	20	2
		11 pm - 12 am	10	4
		12 - 1 am	10	2
		1 - 2 am	20	1
		2 - 3 am	20	0
		3 - 4 am	10	0
		4 - 5 am	20	0
		5 - 6 am	20	1
		6 - 7 am	20	6
		7 - 8 am	9	0
2-S	To MTS: 3rd Ave to East 86th St to York Ave to East 91st St From MTS: East 91st St to York Ave to East 86th St to 2nd Ave	8 - 9 pm	20	9
		9 - 10 pm	20	8
		10 - 11 pm	20	6
		11 pm - 12 am	10	5
		12 - 1 am	10	3
		1 - 2 am	20	2
		2 - 3 am	20	0
		3 - 4 am	10	0
		4 - 5 am	20	1
		5 - 6 am	20	5
		6 - 7 am	20	12
		7 - 8 am	9	0

West 59th Street Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 a.m. to 8:00 p.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	**To MTS:** Columbus Ave to West 59th St **From MTS:** West 59th St to Amsterdam Ave	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	1	1
		11 pm - 12 am	1	1
		12 - 1 am	1	1
		1 - 2 am	1	1
		2 - 3 am	1	1
		3 - 4 am	1	0
		4 - 5 am	1	1
		5 - 6 am	1	1
		6 - 7 am	1	1
		7 - 8 am	0	0
1-S	**To MTS:** 12th Ave (Joe DiMaggio Hwy) to 12th Ave Service Road (starts at 57th St) to West 59th St **From MTS:** Reverse	8 - 9 pm	9	9
		9 - 10 pm	9	9
		10 - 11 pm	9	9
		11 pm - 12 am	4	4
		12 - 1 am	3	3
		1 - 2 am	7	7
		2 - 3 am	7	7
		3 - 4 am	3	3
		4 - 5 am	9	9
		5 - 6 am	9	9
		6 - 7 am	8	8
		7 - 8 am	3	3
2-S	**To MTS:** 10th Ave to 57th Ave to 12th Ave Service Road to 59th St **From MTS:** West 59th St to 11th Ave	8 - 9 pm	9	9
		9 - 10 pm	9	9
		10 - 11 pm	9	9
		11 pm - 12 am	4	4
		12 - 1 am	3	3
		1 - 2 am	7	7
		2 - 3 am	7	7
		3 - 4 am	3	3
		4 - 5 am	9	9
		5 - 6 am	9	9
		6 - 7 am	8	8
		7 - 8 am	3	3
1-E	**To MTS:** (2nd Ave or 3rd Ave) to East 57th St (turns into West 57th St) to 12th Ave Service Road to 59th St. **From MTS:** Reverse	8 - 9 pm	10	10
		9 - 10 pm	10	10
		10 - 11 pm	10	10
		11 pm - 12 am	5	5
		12 - 1 am	4	4
		1 - 2 am	8	8
		2 - 3 am	8	8
		3 - 4 am	4	4
		4 - 5 am	10	10
		5 - 6 am	10	10
		6 - 7 am	9	9
		7 - 8 am	3	3

South Bronx Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1	**To MTS:** Bruckner Blvd to Leggett Ave to Randall Ave to Halleck St to Ryawa Ave **From MTS:** Reverse	8 - 9 pm	6	6
		9 - 10 pm	5	5
		10 - 11 pm	7	7
		11 pm - 12 am	4	4
		12 - 1 am	4	4
		1 - 2 am	7	7
		2 - 3 am	7	7
		3 - 4 am	3	3
		4 - 5 am	7	7
		5 - 6 am	7	7
		6 - 7 am	7	7
		7 - 8 am	0	0
2	**To MTS:** Bruckner Blvd to Leggett Ave to (Barry St OR Dupont St OR Truxton St) to Oak Point Ave to Hunt's Point Ave to Halleck St to Ryawa Ave **From MTS:** Reverse	8 - 9 pm	6	6
		9 - 10 pm	5	5
		10 - 11 pm	7	7
		11 pm - 12 am	4	4
		12 - 1 am	4	4
		1 - 2 am	7	7
		2 - 3 am	7	7
		3 - 4 am	3	3
		4 - 5 am	7	7
		5 - 6 am	7	7
		6 - 7 am	7	7
		7 - 8 am	0	0
3 & 4	<u>Truck Route 3</u> **To MTS:** Bruckner Blvd to Longwood Ave to Tiffany St to East Bay Ave to Halleck St to Ryawa Ave **From MTS:** Reverse <u>Truck Route 4</u> **To MTS:** Bruckner Blvd to Longwood Ave to Tiffany St to Viele Ave to Halleck St to Ryawa Ave **From MTS:** Reverse	8 - 9 pm	6	4
		9 - 10 pm	5	5
		10 - 11 pm	7	6
		11 pm - 12 am	4	4
		12 - 1 am	4	4
		1 - 2 am	7	0
		2 - 3 am	7	4
		3 - 4 am	3	3
		4 - 5 am	7	7
		5 - 6 am	7	7
		6 - 7 am	7	7
		7 - 8 am	0	0

North Shore Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	**To MTS:** 20th Avenue WB to College Point Blvd SB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	1	1
		11 pm - 12 am	0	0
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	1	1
		3 - 4 am	0	0
		4 - 5 am	1	1
		5 - 6 am	0	0
		6 - 7 am	0	0
		7 - 8 am	0	0
1-S	**To MTS:** Van Wick Expwy NB to Whitestone Expwy NB to Linden Place NB to Whitestone Expwy Service Rd WB to College Point Blvd NB to 31st Ave WB **From MTS:** 31st Ave EB to College Point Blvd SB to Whitestone Expwy Service Rd WB to Whitestone Expwy SB to Van Wick Expwy SB	8 - 9 pm	12	12
		9 - 10 pm	9	9
		10 - 11 pm	16	16
		11 pm - 12 am	7	7
		12 - 1 am	3	3
		1 - 2 am	9	9
		2 - 3 am	9	9
		3 - 4 am	1	1
		4 - 5 am	12	12
		5 - 6 am	7	7
		6 - 7 am	4	4
		7 - 8 am	0	0
2-S & 2-E & 2-W	**2-S** **To MTS:** Van Wick Expwy NB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse) **2-E** **To MTS:** LIE WB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse) **2-W** **To MTS:** LIE EB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	11	11
		9 - 10 pm	8	8
		10 - 11 pm	14	8
		11 pm - 12 am	6	6
		12 - 1 am	3	0
		1 - 2 am	8	0
		2 - 3 am	8	0
		3 - 4 am	1	0
		4 - 5 am	11	0
		5 - 6 am	6	0
		6 - 7 am	3	1
		7 - 8 am	0	0
1-E	**To MTS:** Northern Blvd WB to Linden Place NB to Whitestone Expwy Service Rd WB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	4	4
		9 - 10 pm	3	3
		10 - 11 pm	5	5
		11 pm - 12 am	2	2
		12 - 1 am	1	1
		1 - 2 am	3	0
		2 - 3 am	3	0
		3 - 4 am	0	0
		4 - 5 am	4	0
		5 - 6 am	2	2
		6 - 7 am	1	1
		7 - 8 am	0	0

North Shore Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-W	**To MTS:** Northern Blvd EB to Linden Place NB to Whitestone Expressway Service Road WB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	0
		2 - 3 am	1	0
		3 - 4 am	0	0
		4 - 5 am	1	0
		5 - 6 am	1	1
		6 - 7 am	0	0
		7 - 8 am	0	0
3-W	**To MTS:** Roosevelt Ave EB to College Point Blvd NB to 31st Ave WB **From MTS:** (reverse)	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	0
		2 - 3 am	1	0
		3 - 4 am	0	0
		4 - 5 am	1	0
		5 - 6 am	1	0
		6 - 7 am	1	1
		7 - 8 am	0	0

Greenpoint Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	**To MTS:** McGuinness Blvd SB to Greenpoint Ave EB to Kingsland Ave NB **From MTS:** (reverse)	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	8	8
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	4
		2 - 3 am	4	0
		3 - 4 am	0	0
		4 - 5 am	8	8
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
2-N	**To MTS:** Queens Blvd WB to Greepoint Ave WB to Starr Ave NB to Van Dam WB to Greenpoint WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave EB to Queens Blvd EB	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	7	6
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	2
		2 - 3 am	4	2
		3 - 4 am	0	0
		4 - 5 am	7	2
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
3-N	**To MTS:** LIE WB to Van Dam St WB to Greenpoint Ave WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave EB to LI	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	7	6
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	5
		2 - 3 am	4	3
		3 - 4 am	0	0
		4 - 5 am	7	7
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
1-S	**To MTS:** McGuinness Blvd NB to Greenpoint Ave EB to Kingsland Ave NB **From MTS:** (reverse)	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	8	8
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	4
		2 - 3 am	4	0
		3 - 4 am	0	0
		4 - 5 am	8	8
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0

Greenpoint Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
2-S	**To MTS:** BQE EB to Meeker St EB to Varick St NB to Bridgewater St WB to Norman Ave WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave WB to Henry St SB to Norman Ave EB to Bri	8 - 9 pm	4	3
		9 - 10 pm	6	6
		10 - 11 pm	9	6
		11 pm - 12 am	5	3
		12 - 1 am	3	3
		1 - 2 am	5	4
		2 - 3 am	5	2
		3 - 4 am	0	0
		4 - 5 am	9	8
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
1-E	**To MTS:** BQE WB to Meeker St EB to Varick St NB to Bridgewater St WB to Norman Ave WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave WB to McGuinness Blvd SB to Meeker St EB	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	8	6
		11 pm - 12 am	5	3
		12 - 1 am	3	3
		1 - 2 am	5	4
		2 - 3 am	4	0
		3 - 4 am	0	0
		4 - 5 am	8	8
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0
2-E	**To MTS:** LIE WB to Van Dam St WB to Greenpoint Ave WB to Kingsland Ave NB **From MTS:** Kingsland Ave SB to Greenpoint Ave EB to LI	8 - 9 pm	3	3
		9 - 10 pm	5	5
		10 - 11 pm	7	6
		11 pm - 12 am	5	5
		12 - 1 am	3	3
		1 - 2 am	5	5
		2 - 3 am	4	3
		3 - 4 am	0	0
		4 - 5 am	7	7
		5 - 6 am	6	6
		6 - 7 am	6	6
		7 - 8 am	0	0

Hamilton Avenue Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second-Level Screening and the DSNY-managed Waste Reserve Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	**To MTS:** BQE WB to Hamilton Ave SB/Exit 26 **From MTS:** Hamilton Ave SB To 20th St EB to Hamilton Ave NB to BQE EB	8 - 9 pm	9	9
		9 - 10 pm	8	8
		10 - 11 pm	12	12
		11 pm - 12 am	5	5
		12 - 1 am	1	1
		1 - 2 am	5	5
		2 - 3 am	5	5
		3 - 4 am	1	1
		4 - 5 am	10	10
		5 - 6 am	9	9
		6 - 7 am	9	9
		7 - 8 am	2	2
2-N (A)	**To MTS:** 3rd SB to 9th St WB to Hamilton Ave SB **From MTS:** Hamilton Ave SB to 20th St EB to 3rd Ave NB	8 - 9 pm	9	9
		9 - 10 pm	8	8
		10 - 11 pm	12	7
		11 pm - 12 am	5	5
		12 - 1 am	1	1
		1 - 2 am	5	1
		2 - 3 am	5	2
		3 - 4 am	1	1
		4 - 5 am	10	4
		5 - 6 am	9	9
		6 - 7 am	9	9
		7 - 8 am	2	2
2-N (B)	**To MTS:** 4th Ave SB to 9th St WB to Hamilton Ave SB **From MTS:** Hamilton Ave SB to 20th St EB to 3rd Ave NB	8 - 9 pm	9	9
		9 - 10 pm	8	8
		10 - 11 pm	12	7
		11 pm - 12 am	5	5
		12 - 1 am	1	1
		1 - 2 am	5	1
		2 - 3 am	5	2
		3 - 4 am	1	1
		4 - 5 am	10	4
		5 - 6 am	9	9
		6 - 7 am	9	9
		7 - 8 am	2	2
3-N	**To MTS:** 3rd Ave SB to 9th St WB to Hamilton Ave SB **From MTS:** Hamilton Ave SB to 20th St EB to 3rd Ave NB to 9th St to 4th Ave	8 - 9 pm	9	9
		9 - 10 pm	8	8
		10 - 11 pm	12	7
		11 pm - 12 am	5	5
		12 - 1 am	1	1
		1 - 2 am	5	1
		2 - 3 am	5	2
		3 - 4 am	1	1
		4 - 5 am	10	4
		5 - 6 am	9	9
		6 - 7 am	9	9
		7 - 8 am	2	2

Hamilton Avenue Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second-Level Screening and the DSNY-managed Waste Reserve Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-S	To MTS: Gowanus Expwy NB to 4th Avenue NB to Prospect Avenue WB to Hamilton Ave NB to Hamilton Place WB to Hamilton Ave SB From MTS: Hamilton Ave (southbound, turns into 3rd Ave) to 65th St	8 - 9 pm	3	3
		9 - 10 pm	2	2
		10 - 11 pm	3	3
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	1	0
		3 - 4 am	0	0
		4 - 5 am	3	1
		5 - 6 am	3	3
		6 - 7 am	2	2
		7 - 8 am	0	0
2-S	To MTS: 65th St WB to Hamilton Ave NB to Hamilton Place WB to Hamilton Ave SB From MTS: Hamilton Ave SB to 65th St EB	8 - 9 pm	3	3
		9 - 10 pm	2	2
		10 - 11 pm	3	3
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	1	1
		3 - 4 am	0	0
		4 - 5 am	3	3
		5 - 6 am	3	3
		6 - 7 am	2	2
		7 - 8 am	0	0
1-E	To MTS: 39th St WB to 4th Ave NB to Prospect Ave WB to Hamilton Ave NB to Hamilton Pl WB to Hamilton Ave SB From MTS: Hamilton Ave SB to 39th St EB	8 - 9 pm	4	4
		9 - 10 pm	3	3
		10 - 11 pm	5	5
		11 pm - 12 am	2	2
		12 - 1 am	0	0
		1 - 2 am	2	2
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	4	2
		5 - 6 am	4	4
		6 - 7 am	4	4
		7 - 8 am	1	1
2-E	To MTS: Prospect Expwy WB to Prospect Ave WB to Hamilton Ave NB to Hamilton Pl WB to Hamilton Ave SB From MTS: Hamilton Av SB to 20th St EB to 10th Ave NB to Prospect Expwy EB	8 - 9 pm	4	4
		9 - 10 pm	3	3
		10 - 11 pm	5	2
		11 pm - 12 am	2	2
		12 - 1 am	0	0
		1 - 2 am	2	2
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	4	2
		5 - 6 am	4	2
		6 - 7 am	4	4
		7 - 8 am	1	1

Southwest Brooklyn Converted MTS
Hourly Summary of Potential Commercial Waste Hauling Vehicles Allowed for the 8:00 p.m. to 8:00 a.m. Period
Based on Second Level Noise Screening and the DSNY-managed Waste Reserved Capacity

Traffic Route Number	Traffic Route Description	Hour	Weighted Average	
			Potential Commercial Waste Hauling Vehicles	Potentially Allowed Commercial Waste Hauling Vehicles
1-N	**To MTS:** 86th St SB to 18th Ave WB to Cropsey Ave SB to Bay Pkwy WB to Shore Road SB to 25th Ave WB **From MTS:** 25th Ave EB to Shore Road SB to 26th Ave EB to Cropsey Ave NB to 18th Ave EB to 86th St NB	8 - 9 pm	15	11
		9 - 10 pm	15	9
		10 - 11 pm	16	5
		11 pm - 12 am	8	4
		12 - 1 am	1	1
		1 - 2 am	10	2
		2 - 3 am	11	0
		3 - 4 am	7	0
		4 - 5 am	15	2
		5 - 6 am	15	3
		6 - 7 am	15	12
		7 - 8 am	4	4
1-S	**To MTS:** Neptune Ave WB to Cropsey Ave NB to Bay Pkwy WB to Shore Road SB to 25th Ave WB **From MTS:** 25th Ave EB to Shore Road SB to 26th Ave EB to Cropsey Ave SB to Neptune EB	8 - 9 pm	1	1
		9 - 10 pm	1	1
		10 - 11 pm	1	1
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	1	0
		3 - 4 am	1	0
		4 - 5 am	1	1
		5 - 6 am	1	1
		6 - 7 am	1	1
		7 - 8 am	0	0
1-E	**To MTS:** Kings Hwy WB to Bay Pkwy WB to Shore Road SB to 25th Ave WB **From MTS:** 25th Ave EB to Shore Road SB to 26th Ave EB to Cropsey Ave NB to Bay Pkwy EB to Kings Hwy EB	8 - 9 pm	2	2
		9 - 10 pm	2	2
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	2
		5 - 6 am	2	2
		6 - 7 am	2	2
		7 - 8 am	1	1
2-E	**To MTS:** 86th St NB to 25th Ave WB to Cropsey Ave NB to Bay Pkwy WB to Shore Road SB to 25th Ave WB **From MTS:** 25th Ave EB to Shore Road SB to 26th Ave EB to Cropsey Ave NB to 25th Ave EB to 86th St SB	8 - 9 pm	2	2
		9 - 10 pm	2	2
		10 - 11 pm	2	2
		11 pm - 12 am	1	1
		12 - 1 am	0	0
		1 - 2 am	1	1
		2 - 3 am	2	0
		3 - 4 am	1	0
		4 - 5 am	2	0
		5 - 6 am	2	2
		6 - 7 am	2	2
		7 - 8 am	1	1

COMMERCIAL WASTE MANAGEMENT STUDY

VOLUME IV

EVALUATION OF WASTE DISPOSAL CAPACITY POTENTIALLY AVAILABLE TO NEW YORK CITY

March 2004

Prepared for:

New York City Department of Sanitation
for submission to the New York City Council

Prepared by:

Henningson, Durham & Richardson
Architecture and Engineering, P.C.

This report was prepared by

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List of Acronyms/Definitions

Acronyms	
C&D	construction and demolition
DSNY	New York City Department of Sanitation
LL74	Local Law 74, effective December 19, 2000, enacted by the City Council, requiring a comprehensive assessment of commercial solid waste management in New York City
MSW	municipal solid waste
PADEP	Pennsylvania Department of Environmental Protection
tpd	tons per day
WTE	waste-to-energy

Definitions	
City	New York City
Consultant	The DSNY's Consultant Team, including Henningson, Durham & Richardson Architecture and Engineering, P.C.; Parsons Brinckerhoff Quade and Douglas, Inc.; Ecodata, Inc.; Franklin Associates, Ltd.; Urbitran Associates, Inc.; HydroQual, Inc.; and Cambridge Environmental, Inc., who prepared the Commercial Waste Management Study
DSNY-managed Waste	Solid waste that DSNY collects from all residential households in the City and the institutional waste of City, state and federal agencies that DSNY collects and/or for which DSNY arranges disposal
Final Study Scope or Final Scope of Work	Commercial Waste Management Study Final Scope of Work issued on July 31, 2003
New SWMP	The new comprehensive Solid Waste Management Plan to be developed in 2004 for both DSNY-managed Waste and commercial waste for the planning period 2004 through 2024
New SWMP Planning Period	The 20-year period from 2004 to 2024 addressed by the City's New Solid Waste Management Plan
Study	Commercial Waste Management Study
Transfer Station	Privately owned and operated transfer station in New York City that accepts, transfers and transports some portion of municipal solid waste or construction and demolition (C&D) debris or fill material generated in the private sector for out-of-City disposal

EXECUTIVE SUMMARY

PREFACE

Local Law 74 of 2000 (LL74) mandated a comprehensive study of commercial waste management (Commercial Waste Management Study or Study) in New York City (City) by a Consultant funded by the City Department of Sanitation (DSNY). This Study undertaken to comply with LL74 will assist the City in managing the commercial waste stream in the most efficient and environmentally sound manner, and assist in the development of the City's Solid Waste Management Plan (New SWMP) for the New SWMP Planning Period.

As stated in the Commercial Waste Management Study Final Scope of Work, one of the Study's objectives is to "*evaluate trends in the supply and cost of waste disposal capacity that will be available to the City.*" Specifically, *"The Study will evaluate the volume of out-of-City waste disposal capacity that is economically accessible by export in transfer trailers from the City. If the Study projects a decline, the Study will also identify the means to encourage a shift in commercial waste transport operations to barge or rail modes to ensure access to more remote disposal sites."*

In addition to this Volume IV, the Study consists of five other volumes:

- Volume I: Private Transfer Station Evaluations;
- Volume II: Commercial Waste Generation and Projections;
- Volume III: Converted Marine Transfer Stations – Commercial Waste Processing and Analysis of Potential Impacts;
- Volume V: Manhattan Transfer Station Siting Study; and
- Volume VI: Waste Vehicle Technology Assessment.

This Volume IV: Evaluation of Waste Disposal Capacity Potentially Available to New York City, examines the waste disposal capacity potentially available within seven states (Georgia, New York, New Jersey, Ohio, Pennsylvania, South Carolina and Virginia) for accepting City waste, either via truck transfer or by barge or rail. Historic market price information was also gathered and reviewed.

EXECUTIVE SUMMARY

Scope of Analysis/Approach

The survey was primarily based on interviews with landfill and waste-to-energy (WTE) operators and municipal solid waste management employees. (The surveyed area includes states that can be reasonably accessed by truck transfer, ocean-going vessel transport, and rail.)

In addition to conducting the surveys, data on historic market prices in the surveyed area were reviewed. Historical market price information was gathered from *Solid Waste Digest* published reports.

An attempt was made to develop a reasonable econometric model based on the survey results. The econometric model approach was formulated and a determination was made that the data gathered was not sufficient to obtain meaningful results, primarily due to the lack of responses from the landfill operators on questions concerning long-term contract tip fees. Though the econometric model was not developed, the data was analyzed to estimate or determine:

- The excess capacity at high-capacity[1] landfills;
- Trends of historical spot market disposal price (i.e., tip fee) levels;
- Ownership of high-capacity landfills with rail access;
- Comparison of tip fees at rail-accessible and non-rail-accessible landfills; and
- Inflation-adjusted, real per ton tip fees.

[1] High-capacity landfills are those that accepted at least 1,000 tons per day (tpd) of municipal solid waste (MSW) in 2003.

Findings

The results of this assessment are summarized below:

- In the list of high-capacity[2] disposal sites, there are a number of mega-landfills (landfills with a substantially larger capacity than 1,000 tons per day [tpd]) in states within the mid-Atlantic, Southeast and Midwest regions, exclusive of Pennsylvania and New York, that appear to have sufficient physical capacity to meet the additional demand of both DSNY-managed Waste and commercial waste generated by the City.

- Dispose of all the DSNY-managed Waste and commercial waste generated by the City over the New SWMP Planning Period. Most of the identified long-term disposal capacity is located more than 400 miles from the City and, therefore, is most likely economically accessible by rail, and to a lesser extent, by barge.

- Assuming the continuation of existing regulatory policies, landfill capacity in Pennsylvania will continue to decrease, and real tip fees should increase. (It is reasonable to assume, however, that some additional landfill capacity will be permitted to accommodate waste generated in Pennsylvania.) Data gathered during 2002 and 2003 indicate that there have been limited expansion/modification permits granted to mega-landfills in Pennsylvania, and while real (inflation-adjusted) spot market tip fee prices decreased over the six-year period of 1997 to 2003, these fees have increased in real dollars during the past two years (2002 to 2003). Part, but not all, of this increase is due to the Pennsylvania Department of Environmental Protection (PADEP)-imposed $4.00 per ton fee applied to all solid waste disposed of in Pennsylvania municipal solid waste (MSW) landfills, which went into effect in June of 2002.

- Assuming a relatively competitive marketplace, and given that there appears to be a sufficient amount of landfill capacity in the surveyed area, it is reasonable to expect that the long-term real (inflation-adjusted) contract tip fees in the surveyed area (exclusive of New York and Pennsylvania) will remain relatively stable in the near term.

- The above conclusion assumes a relatively competitive marketplace for disposal capacity. Two firms own approximately 70% of the high-capacity landfills with rail access, including 100% of the capacity in both Georgia and South Carolina, and more than 80% of the landfills meeting this criteria in Pennsylvania. The result of this effective duopoly could lead to market conditions and pricing structures that deviate from normal, competitive marketplaces.

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[2] There were 87 high-capacity landfills identified in this report. Of these 87 landfills, 30 have rail access and one has barge access.

EVALUATION OF WASTE DISPOSAL CAPACITY POTENTIALLY AVAILABLE TO NEW YORK CITY

1.0 OVERVIEW AND SUMMARY CONCLUSIONS

To better understand New York City's (City's) requirements for a commercial waste transfer infrastructure over the New SWMP Planning Period, as part of the Commercial Waste Management Study (Study), an economic study was performed to develop information on the economic market for the disposal of waste exported from the City. As part of the assessment, surveys were conducted of 282 landfill and waste-to-energy (WTE) facility operators and municipal solid waste management employees in seven states (Georgia, New York, New Jersey, Ohio, Pennsylvania, South Carolina and Virginia – collectively referred to as the "surveyed area"). In addition to these surveys, available data from state regulatory agencies and *Solid Waste Digest* published reports were analyzed. From this data, an assessment was made of the potential available disposal capacity and pricing, which included consideration of the regulatory policies, economic accessibility and market competition that may affect the pricing.

The results of this assessment are summarized below:

- In the list of high-capacity[1] disposal sites, there are a number of mega-landfills (landfills with a substantially larger capacity than 1,000 tons per day [tpd]) in states within the mid-Atlantic, Southeast and Midwest regions, exclusive of Pennsylvania and New York, that appear to have sufficient physical capacity to meet the additional demand of both DSNY-managed Waste and commercial waste generated by the City.

- Dispose of all the DSNY-managed Waste and commercial waste generated by the City over the New SWMP Planning Period. Most of the identified long-term disposal capacity is located more than 400 miles from the City and, therefore, is most likely economically accessible by rail, and to a lesser extent, by barge.

- Assuming the continuation of existing regulatory policies, landfill capacity in Pennsylvania will continue to decrease, and real tip fees should increase. (It is reasonable to assume, however, that some additional landfill capacity will be permitted to accommodate waste generated in Pennsylvania.) Data gathered during 2002 and 2003 indicate that there have been limited expansion/modification permits granted to mega-landfills in Pennsylvania, and while real (inflation-adjusted) spot

[1] There were 87 high-capacity landfills identified in this report. Of these 87 landfills, 30 have rail access and one has barge access.

market tip fee prices decreased over the six-year period of 1997 to 2003, these fees have increased in real dollars during the past two years (2002 to 2003). Part, but not all, of this increase is due to the Pennsylvania Department of Environmental Protection (PADEP)-imposed $4.00 per ton fee applied to all solid waste disposed of in Pennsylvania municipal solid waste (MSW) landfills, which went into effect in June of 2002.

- Assuming a relatively competitive marketplace, and given that there appears to be a sufficient amount of landfill capacity in the surveyed area, it is reasonable to expect that the long-term real (inflation-adjusted) contract tip fees in the surveyed area (exclusive of New York and Pennsylvania) will remain relatively stable in the near term

- The above conclusion assumes a relatively competitive marketplace for disposal capacity. Two firms own approximately 70% of the high-capacity landfills with rail access, including 100% of the capacity in both Georgia and South Carolina, and more than 80% of the landfills meeting this criteria in Pennsylvania. The result of this effective duopoly could lead to market conditions and pricing structures that deviate from normal, competitive marketplaces.

2.0 METHODOLOGY

The survey was primarily based on interviews with landfill and WTE operators and municipal solid waste management employees. (The surveyed area includes states that can be reasonably accessed by truck transfer, ocean-going vessel transport, and rail.)

In addition to conducting the surveys, data on historic market prices in the surveyed area were reviewed. Historical market price information was gathered from *Solid Waste Digest* published reports.

An attempt was made to develop a reasonable econometric model based on the survey results. The econometric model approach was formulated and a determination was made that the data gathered was not sufficient to obtain meaningful results, primarily due to the lack of responses from the landfill operators on questions concerning long-term contract tip fees. Though the econometric model was not developed, the data was analyzed to estimate or determine:

- The excess capacity at high-capacity[2] landfills;
- Trends of historical spot market disposal price (i.e., tip fee) levels;
- Ownership of high-capacity landfills with rail access;
- Comparison of tip fees at rail-accessible and non-rail-accessible landfills; and
- Inflation-adjusted, real per ton tip fees.

[2] High-capacity landfills are those that accepted at least 1,000 tpd of municipal solid waste (MSW) in 2003.

3.0 RESULTS

3.1 Potentially Available Long-Term Disposal Capacity

The survey results were not sufficient to estimate the actual remaining excess capacity of all or most of the landfills in the surveyed area. This was due to both a lack of complete responses to the survey and responses indicating landfills with "unlimited" permitted capacity that didn't provide the physical capacity information, which would have been used to estimate excess capacity of the landfill. However, the information gathered from the sources mentioned above was combined to assess the available capacity. The results of this assessment are shown in Table 3.1-1.

Table 3.1-1
Available Landfill Capacity and Average Tip Fees

One-Way Travel Distance from New York City (miles)(1)	Number of Landfills(2)	2003 Calculated Available Excess Capacity(3) (tpd)	2003 Average Spot Market Tip Fees ($/ton)
0-150	7	N/A(4)	$57.60
150-400	5	1,750	$42.80
>400	16	44,000	$31.10
TOTAL	**28**	**45,750**	

Notes:
(1) Over-the-road distance.
(2) Of the 282 surveyed landfills, these are the only ones that met the criteria of having a significant (1,000 tpd) amount of excess capacity, or in the case of the landfills within 150 miles of the City, having 2003 average levels of intake of at least 2,500 tpd.
(3) For landfills with no daily limits on capacity, tpd excess capacity was calculated based on an assumed 20-year landfill life and subtraction of the 2003 tpd intake.
(4) Unless current regulatory policy trends change, there appears to be less than 20 years of remaining capacity within 150 miles of the City, assuming a continuation of current intake levels.

A total of 28 landfills within the surveyed area with current significant available capacity are included in the results from this survey and research effort. Sixteen of the landfills are located more than 400 miles from the City. The cost of truck transportation increases significantly once the distance that a single driver can travel (round trip) in one day without an extended off-duty break is exceeded, as required by the U.S. Department of Transportation Federal Motor Carrier Safety Administration guidelines. These guidelines limit the hours that drivers may drive

without going off-duty. A truck relay is an option, but the increased operations or capital costs required for this option increases the truck transportation costs. While barging is also an export option, only one landfill surveyed (located in Virginia) is accessible by barge.

The 44,000 tpd of estimated excess capacity in landfills greater than 400 miles from the City is primarily attributable to six remote regional mega-landfills with no daily permit limits. The operators of these six landfills indicated having a minimum of 30 million tons of remaining capacity. The available daily capacity at these landfills was based on an assumed 20-year landfill life. In addition to the predominance of capacity available in the 400-mile plus range, these landfills reported significantly lower tip fees than those closer to the major centers of waste generation. As indicated in Table 3.1-1, costs tend to decrease inversely with distance from the New York metropolitan area.

3.2 Disposal Capacity in Pennsylvania

The primary results of "A Report on Pennsylvania Landfill Capacity for the New York Department of Sanitation" completed in April 2002 for the City Department of Sanitation (DSNY) are:

- *"Based on current utilization rates and assuming a favorable permit renewal policy, the existing permitted capacity in Pennsylvania that is within 250 miles of New York City would be exhausted in approximately 7.6 years and all of the state's landfill capacity would be exhausted in 11.1 years. This assumes a continuation of steady-state conditions. But data obtained from landfill operators shows a significant increase [in] utilization rates in 2001 over 2000 and the City is but one of numerous out-of-state sources that are heavily dependent on Pennsylvania's landfill capacity."*

- *"There are applications for an additional 50,000,000 tons of landfill capacity within the 250-mile radius pending before the Pennsylvania Department of Environmental Protection ([PA]DEP)[3]. Approval of all of these applications for expansions and renewals would increase the available capacity within a 250-mile radius of New York by 32%."*

[3] Based on survey information obtained by HDR from [PA]DEP and landfill operators/owners.

- *"Pennsylvania environmental officials are advocating legislation on the state and federal level that would, respectively: (i) legalize what is now a temporary moratorium on issuance of permit expansions and renewals; and (ii) increase state authority to limit and otherwise regulate imports.*[4] *In recent actions, Pennsylvania DEP has denied landfill expansion (Empire Alliance) and renewal (Tullytown) applications."*

Since the submittal of the above report, there have been several developments in the status of the permit expansions/modifications for mega-landfills in Pennsylvania, as summarized below:

- Tullytown Resource Recovery Facility – PADEP approved an expansion that will add about 2.5 years of disposal life to the landfill at its current average daily volume. Without expansion, the landfill would have reached capacity in about six months or less.
- Southern Alleghanies Landfill – PADEP approved a modification that increased the capacity of the landfill by approximately 60 acres of disposal area, but does not increase the daily tonnage of waste to be accepted.
- Conestoga Landfill – PADEP approved a modification that increased the average daily volume of waste by 2,000 tpd.
- J&J Landfill – PADEP approved an expansion that increases waste acceptance from 650 tpd on average to 1,200 tpd. Expansion of the J&J Landfill will extend the operational life of the facility by approximately 11 years.
- Dauphin Meadows Landfill – PADEP denied an expansion on the basis that the harms outweighed the benefits.
- Pottstown Landfill – the operators have dropped their plans for a vertical expansion on the western portion of the landfill.

In addition to the permit expansion and modification updates since the time of the April 2002 report, remaining capacity information in Pennsylvania was gathered, as shown in Table 3.2-1. These data shows the remaining capacity in Pennsylvania continuing to decline in 2002, albeit at a lower rate than the previous two years. It is reasonable to assume, however, that additional capacity will be permitted to dispose of waste generated in Pennsylvania.

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[4] 2001 Testimony of David Hess, Secretary of Pennsylvania DEP [PADEP] before state and federal legislative committees.

Table 3.2-1
Pennsylvania Landfill Remaining Capacity

Year	Remaining Capacity (Tons)	Year over Year % Change
1999	255,897,000	
2000	230,849,000	-10%
2001	203,945,000	-12%
2002	187,869,000	-7.9%

Both the permit expansion/modification updates and remaining capacity quantities for 2002 support the conclusions reached in the April 2002 report. While the expansion/modification permits granted to Tullytown, Southern Alleghanies, Conestoga and J&J landfills may increase the time period originally estimated for the exhaustion of landfill capacity, the data continues to support the conclusion that the landfill capacity in Pennsylvania over the New SWMP Planning Period will not be sufficient to dispose of both DSNY-managed Waste and commercial waste.

3.3 Landfill Disposal Tip Fee Pricing Structure

While only seven mega-landfill operators were willing to discuss possible long-term contract fees, the information gathered from these operators proved valuable. On average, these landfill operators indicated these long-term (defined as 20 years) contract tip fees to be approximately 50% lower than the spot market tip fees. This supports the reasonable assumption that a party that can make a long-term commitment of a large volume of waste would obtain a substantially better price than the spot market rate.

In order to make an assessment of the overall pricing structure, trends of spot market tip fees of high-capacity landfills over the six-year period between 1997-2003 were analyzed. Tip fee data was provided by *Solid Waste Digest* published reports. Only those landfills where all six years of spot market tip fee data were available were included. Table 3.3-1 shows the results of the analysis of all the landfills satisfying the above criteria.

Table 3.3-1
Trends in Average Spot Market Tip Fees by State and by Year of Selected High-Capacity Landfills

State		1997	1998	1999	2000	2001	2002	2003	Average Spot Market Tip Fee (1997-2003) in 2003$	6-yr Change (1997-2003)
Ohio	Avg Spot Mkt Price per Ton	$29.87	$29.90	$30.38	$29.62	$29.29	$29.58	$30.40		**$0.52**
	Inflation Adjusted Avg Spot Mkt Price per Ton	$34.24	$33.74	$33.55	$31.64	$30.43	$30.25	$30.40	$32.03	
	Inflation Adjusted Annual Percent Change in Tip Fees	-	-1.4%	-0.6%	-5.7%	-3.8%	-0.6%	0.5%		**-11.2%**
South Carolina	Avg Spot Mkt Price per Ton	$27.20	$27.78	$29.82	$30.97	$31.00	$31.33	$33.94		**$6.74**
	Inflation Adjusted Avg Spot Mkt Price per Ton	$31.17	$31.35	$32.94	$33.08	$32.21	$32.05	$33.94	$32.39	
	Inflation Adjusted Annual Percent Change in Tip Fees	-	0.6%	5.1%	0.4%	-2.6%	-0.5%	5.9%		**8.9%**
Georgia	Avg Spot Mkt Price per Ton	$29.94	$30.61	$32.17	$32.24	$32.73	$32.75	$33.98		**$4.03**
	Inflation Adjusted Avg Spot Mkt Price per Ton	$34.32	$34.54	$35.52	$34.45	$34.00	$33.49	$33.98	$34.33	
	Inflation Adjusted Annual Percent Change in Tip Fees	-	0.7%	2.8%	-3.0%	-1.3%	-1.5%	1.4%		**-1.0%**
Virginia	Avg Spot Mkt Price per Ton	$41.02	$39.72	$39.86	$41.01	$41.26	$42.11	$42.83		**$1.81**
	Inflation Adjusted Avg Spot Mkt Price per Ton	$47.02	$44.83	$44.02	$43.81	$42.87	$43.06	$42.83	$44.06	
	Inflation Adjusted Annual Percent Change in Tip Fees	-	-4.7%	-1.8%	-0.5%	-2.1%	0.4%	-0.5%		**-8.9%**
New York	Avg Spot Mkt Price per Ton	$45.03	$42.04	$42.51	$42.58	$42.65	$41.38	$38.50		**-$6.53**
	Inflation Adjusted Avg Spot Mkt Price per Ton	$51.60	$47.44	$46.94	$45.49	$44.31	$42.31	$38.50	$45.23	
	Inflation Adjusted Annual Percent Change in Tip Fees	-	-8.1%	-1.1%	-3.1%	-2.6%	-4.5%	-9.0%		**-25.4%**
Pennsylvania	Avg Spot Mkt Price per Ton	$48.32	$48.45	$49.32	$49.71	$49.36	$50.54	$53.11		**$4.80**
	Inflation Adjusted Avg Spot Mkt Price per Ton	$55.37	$54.67	$54.46	$53.10	$51.28	$51.69	$53.11	$53.38	
	Inflation Adjusted Annual Percent Change in Tip Fees	-	-1.3%	-0.4%	-2.5%	-3.4%	0.8%	2.8%		**-4.1%**
New Jersey[1]	Avg Spot Mkt Price per Ton		N/A	N/A	N/A	N/A	N/A	N/A	N/A	**N/A**

Note:
(1) There were no high-capacity New Jersey landfills.

Table 3.3-1 shows that the average spot market tip fees are less expensive in states that are a greater distance from the New York metropolitan area. In addition, the data on this table show that in all states except South Carolina, spot market tip fees decreased in real (inflation-adjusted) dollars from 1997 to 2003. The trends shown for tip fees in Pennsylvania support the discussion earlier in this report on the diminishing remaining capacity and the resulting increasing tip fees, as can be observed in the 2002 and 2003 real (inflation-adjusted) increases in tip fees.

3.4 Potential Effect of Ownership of Landfills on the Competition in the Disposal Marketplace

As shown in Table 3.4-1, two firms own approximately 70% of the high-capacity landfills with rail access, including 100% of the capacity in both Georgia and South Carolina, and more than 80% of the landfills meeting this criteria in Pennsylvania. The result of this effective duopoly could lead to market conditions and pricing structures that deviate from normal, competitive marketplaces.

Table 3.4-1
Ownership of Selected High-Capacity Landfills with Rail Access

State	Number of Landfills Meeting Selection Criteria	Number of Landfills owned by Two Companies	Percent of Total Selected Landfills Owned by Two Companies
Georgia	2	2	100%
South Carolina	4	4	100%
Pennsylvania	12	10	83%
Ohio	8	5	63%
Virginia	2	0	0%
New York	2	0	0%
Totals	**30**	**21**	**70%**

ATTACHMENT A

QUESTIONS FOR LANDFILL OWNERS/OPERATORS

Questions for Landfill Owners/Operators

State/Landfill Name:

Public/Private Ownership:

Date/Time:

Person Called/Title:

Phone Number:

The questions below pertain to a survey that HDR Engineering Inc., as consultants to the New York City Department of Sanitation, is conducting to determine the putrescible solid waste landfill market.

1. What wastes (MSW, Commercial, C&D, ash residue, hazardous waste) are accepted at the landfill?

2a. What is your historical spot market tip fee? Please specify number of days/week and days/year that are used in your calculations.

2b. What is your average contract tip fee? Please provide public rate schedule.

3a. At current rate of usage, what is the permitted remaining life of the landfill (in tons)? And what is the physical remaining life of the landfill?

3b. What is your permitted average tons per day (tpd)?

3c. What is the permitted maximum tpd?

3d. What is the current average tpd?

4. Do you accept waste from sources outside of your state? From New York City (NYC)? How much waste is currently accepted from the NYC, tpd?

5. Do you have a host community agreement to accept out-of-state waste? Example: Would you require a host community agreement with a city in another community, region, or state, such as NYC?

6. Do you accept waste from Municipalities and/or Private companies? What is your % breakdown between municipal and private customers?

7. Which municipalities are currently sending waste to your landfill? Please provide a copy of any contracts you have with municipalities.

8. Which private companies are currently sending waste to your landfill? Please provide a copy of any contracts you have with private companies.

9. Is the landfill accessible by rail? If so, is there a transfer facility at the landfill for loading and unloading rail cars?

10. Have you filed for an expansion permit for the landfill? How big is the expansion? What is the status of the expansion permit?

11. What are the operational hours and days for receiving waste?

12. How many operational days are there in one calendar year?

13. When does the landfill's operational permit expire? How many years is a typical permit for?

14. What would the tip fee be for a contract to deliver 600-1,200 tpd of commercial waste to the landfill for 20 years?

ATTACHMENT B

QUESTIONS FOR WASTE-TO-ENERGY FACILITY OWNERS/OPERATORS

Questions for Waste-to-Energy Facility Owners/Operators

State/Facility Name:

Public/Private Ownership:

Date/Time:

Person Called/Title:

Phone Number:

The questions below pertain to a survey that HDR Engineering Inc., as consultants to the New York City Department of Sanitation, is conducting to determine the putrescible solid waste marketplace.

1. What wastes besides Municipal Solid Waste (MSW) are accepted at the facility?

2. What is your historical spot market disposal fee? (Please specify number of days/week and days/year that are used in your calculations.)

3a. What is your average contract tip fee? (Please provide public rate schedule.)

3b. What is your permitted average tons per day (tpd)?

3c. What is the permitted maximum tpd?

3d. What is the current average tpd?

4. Do you accept waste from sources outside of your state? From New York City (NYC)? How much waste is currently accepted from NYC, tpd?

5. Do you have a host community agreement to accept out-of-state waste? Example: Would you require a host community agreement with a city in another community, region, or state, such as NYC? What is the host community fee payment (per ton)? Please provide a copy of the host community agreement.

6. Do you pay a PILOT (Payment in Lieu of Taxes) payment to your community? If so, how much is this payment (per ton)?

7. Do you accept waste from Municipalities and/or Private companies? What is your % breakdown between municipal and private clients?

8. Which municipalities are currently sending waste to your facility? Please provide copies of any contracts you have with municipalities.

9. Which private companies are currently sending waste to your facility? Please provide copies of any contracts you have with private companies.

10. Is the facility accessible by rail? If so, is there a transfer facility at the facility for loading and unloading rail cars?

11. What are the operational hours and days for receiving waste?

12. How many operational days are there in one calendar year?

13. When does the facility's operational permit expire? How many years is a typical permit for?

14. Do you have plans for expansion at your facility?

15. What would the tip fee be for a contract to deliver 600-1,200 tpd of commercial waste to your facility for 20 years?

ATTACHMENT C

QUESTIONS FOR MUNICIPAL SOLID WASTE MANAGEMENT EMPLOYEES

Questions for Municipal Solid Waste Management Employees

State/Community Name:

Date/Time:

Person Called/Title:

Phone Number:

The questions below pertain to a survey that HDR Engineering Inc., as consultants to the New York City Department of Sanitation, is conducting to determine the putrescible solid waste landfill market.

1. How many tons of MSW (Municipal Solid Waste) does your community export per day? Per year?

2. What landfills and/or Waste-to-Energy facilities are you currently sending your waste to?

3. Please estimate the percent of your community's waste going to each of these landfills/facilities.

4. Please list the tipping/disposal fees that you pay for each of the landfills/facilities.

5. Please list any Private companies that transport your community's waste. Please also provide approximate tonnage that these Private companies transport.

6. Please provide a copy of any contracts you have with landfills/Waste-to-Energy facilities.

COMMERCIAL WASTE MANAGEMENT STUDY

VOLUME V

MANHATTAN TRANSFER STATION SITING STUDY REPORT

March 2004

Prepared for:

New York City Department of Sanitation
for submission to the New York City Council

Prepared by:

Henningson, Durham & Richardson
Architecture and Engineering, P.C.

This report was prepared by

Henningson, Durham & Richardson
Architecture and Engineering, P.C.

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List of Acronyms/Definitions

Acronyms	
DSNY	New York City Department of Sanitation
FHL	Friends of the High Line
LL74	Local Law 74, effective December 19, 2000, enacted by the City Council, requiring a comprehensive assessment of commercial solid waste management in New York City
MTS	marine transfer station
tpd	tons per day
TYP	typical

Definitions	
2001 Plan	February 2001 Final Comprehensive Solid Waste Management Plan Modification and Final Environmental Impact Statement
City	New York City
Consultant	The DSNY's Consultant Team, including Henningson, Durham & Richardson Architecture and Engineering, P.C.; Parsons Brinckerhoff Quade and Douglas, Inc.; Ecodata, Inc.; Franklin Associates, Ltd.; Urbitran Associates, Inc.; HydroQual, Inc.; and Cambridge Environmental, Inc., who prepared the Commercial Waste Management Study
Converted MTS	One of DSNY's eight marine transfer stations, modified to containerize waste for out-of-City export by barge or rail
Final Study Scope or Final Scope of Work	Commercial Waste Management Study Final Scope of Work issued on July 31, 2003
New SWMP	The new comprehensive Solid Waste Management Plan to be developed in 2004 for both DSNY-managed Waste and commercial waste for the planning period 2004 through 2024
New SWMP Planning Period	The 20-year period from 2004 to 2024 addressed by the City's New Solid Waste Management Plan
Study	Commercial Waste Management Study
Transfer Station(s)	Privately owned and operated transfer station in New York City that accepts, transfers and transports some portion of municipal solid waste or construction and demolition debris or fill material generated in the private sector for out-of-City disposal

EXECUTIVE SUMMARY

PREFACE

Local Law 74 of 2000 (LL74) mandated a comprehensive study of commercial waste management (Commercial Waste Management Study or Study) in New York City (City) by a Consultant funded by the City Department of Sanitation (DSNY). This Study undertaken to comply with LL74 will assist the City in managing the commercial waste stream in the most efficient and environmentally sound manner, and assist in the development of the City's Solid Waste Management Plan (New SWMP) for the New SWMP Planning Period.

As stated in the Commercial Waste Management Study Final Scope of Work: *"The potential need for new commercial waste transfer station capacity will be investigated…"* As one element of this investigation, the Consultant *"…will investigate potential sites for truck-to-barge or truck-to-rail transfer stations in lower and midtown Manhattan. This analysis will define facility design criteria, identify any sites that conform to these criteria, conduct a fatal flaw analysis of factors that would preclude siting at these locations, and, if no such flaws are identified, summarize the advantages and disadvantages of the sites that appear feasible."*

In addition to this Volume V, the Study consists of five other volumes:

- Volume I: Private Transfer Station Evaluations;
- Volume II: Commercial Waste Generation and Projections;
- Volume III: Converted Marine Transfer Stations – Commercial Waste Processing and Analysis of Potential Impacts;
- Volume IV: Evaluation of Waste Disposal Capacity Potentially Available to New York City; and
- Volume VI: Waste Vehicle Technology Assessment.

Manhattan generates approximately 42% of the putrescible waste collected by private carters in the City, yet there are no private putrescible waste Transfer Stations located in this borough. This volume, Volume V: Manhattan Transfer Station Siting Study, investigates and evaluates potential sites for locating new transfer stations in Manhattan.

EXECUTIVE SUMMARY

Scope of Analysis/Approach

The purpose of this report is to evaluate the potential to develop Manhattan-based truck-to-barge or truck-to-rail transfer stations. Facility conceptual designs and site plans were prepared to determine the feasibility of using each site as a transfer station, and research on land use regulations and applicable laws was also undertaken to identify other obstacles to development.

Five screening criteria were established, which, for further consideration, potential sites were required to meet. These criteria were:

- Technical and operationally feasible transfer station sites with the capability to process at least 1,000 tons per day (tpd) of waste.
- Conformance to the zoning and proximity to sensitive-use criteria outlined in DSNY's Siting Rules.
- Adherence to legislative restrictions on the use of the site for transfer stations.
- Suitability for export of waste by barge or rail.
- Collection vehicle access from nearby truck routes.

Four sites were evaluated: West 140th Street, Pier 42, West 30th Street and West 13th Street (Gansevoort Property). None of these four sites currently serve or are permitted as waste transfer facilities.

Findings

- The West 140th Street site was determined to be infeasible due to technical reasons. Specifically, there is insufficient property available to ramp trucks up to the required site level and at an acceptable grade due to the rail elevation. Other operational problems included lack of maneuvering room, traffic problems and limited on-site parking. In addition, the site is zoned M1 and is within 400 feet of Riverbank State Park.

- The Pier 42 site has significant technical disadvantages. Prohibitions against its use as a transfer station agreed to between the City and other parties present serious obstacles to its development as a transfer station. In addition, it is located in an M1-4 zone and is within 400 feet of a playground and park.

- The West 30th Street site was determined to be infeasible for technical reasons. It lies within two zones -- M1-6 and M2-3 -- and the portion located within the compliant M2-3 zone is too small to construct a 1,000 tpd transfer station. In addition, due to the site's limited size, rail operations would not be feasible, there would be insufficient space for storage of waste or for containers, there would be no room for on-site parking, and there would be limited queuing and maneuvering space.

- The West 13th Street site is overseen and operated by the Hudson River Park Trust and is situated within the Hudson River Park. It formerly served as the location of a marine transfer station (MTS) and is zoned M3-2. In order for it to serve as a site for a new waste transfer facility, the state legislation that created the Hudson River Park would have to be amended. Additionally, federal and state permits issued to allow for the development of the park, in particular those related to development over the water, would have to be modified. Important obstacles exist to making this site a transfer station.

As a result of the considerations noted above, all four Manhattan sites were determined to either be technically infeasible or have significant legislative, zoning, land use and/or technical obstacles for the development of a private putrescible transfer station.

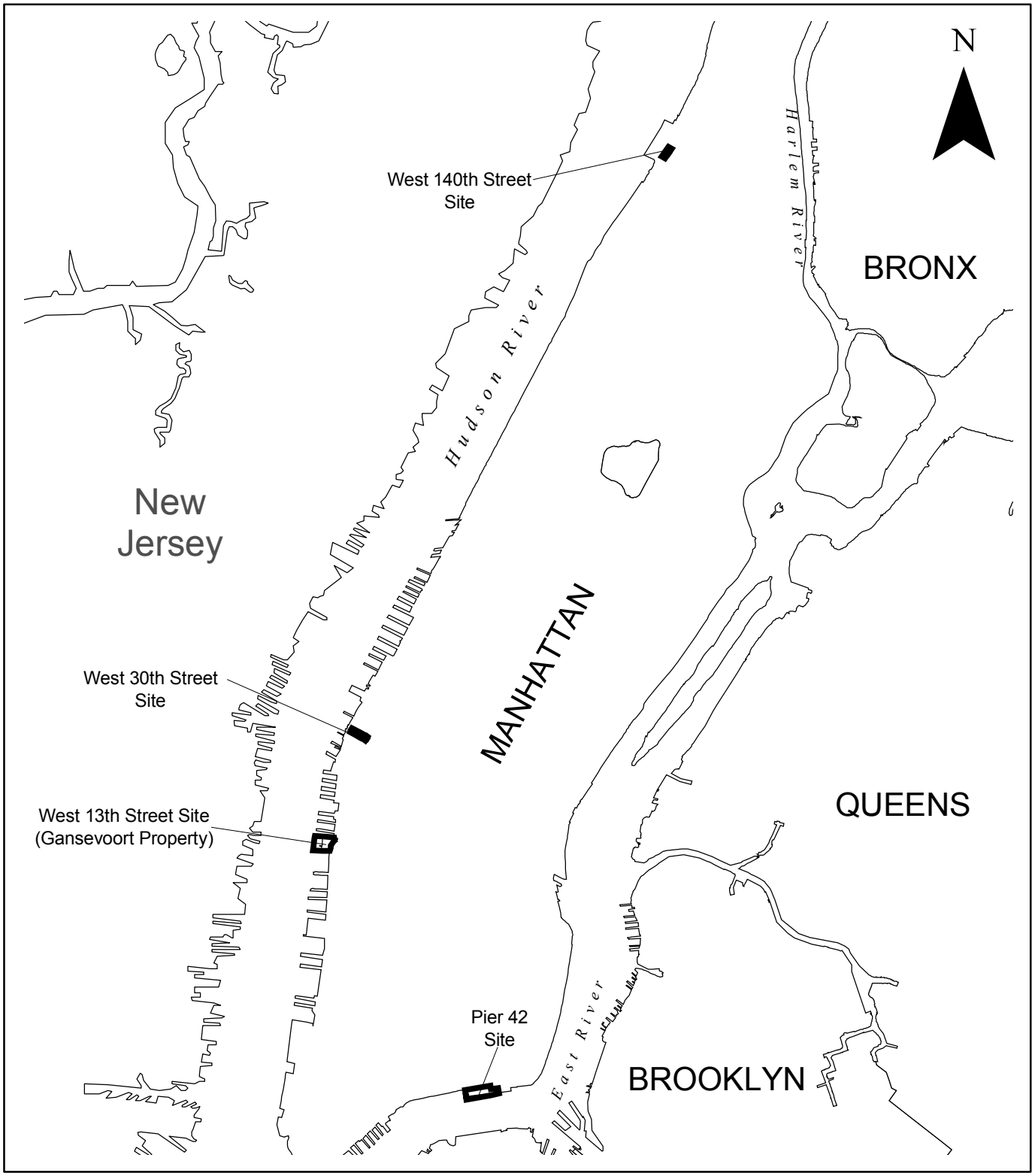
MANHATTAN TRANSFER STATION SITING STUDY REPORT

1.0 OVERVIEW

The Final Study Scope of the Commercial Waste Management Study (Study) includes an investigation of potential sites for new waste transfer stations in Manhattan.

As reported in Volume II of this Study (Commercial Waste Generation and Projections), Manhattan generates approximately 42% of the putrescible waste in New York City (City) collected by private carters. There are no private putrescible waste Transfer Stations in Manhattan. The City Department of Sanitation (DSNY) has three marine transfer stations (MTSs) in the borough that have been inactive as waste transfer facilities for three years. However, the West 59th Street MTS continues to be used to transfer paper from DSNY's Curbside Program to the Visy Plant on Staten Island.

The Study evaluated three sites south of and one site north of 80th Street in Manhattan that met the minimum criteria discussed below. Sites were selected based upon comments received during the Study scoping meetings, as well as sites previously identified in the 2001 Plan. The four sites are: West 140th Street, Pier 42, West 30th Street and West 13th Street (Gansevoort Property), shown in Figure 1-1, Site Location Map. None of these four sites currently serve or are permitted as waste transfer facilities. Facility conceptual designs and site plans were prepared to determine the feasibility of using each site as a transfer station. Research on land use regulations and laws applicable to these sites was also undertaken to identify regulatory or legislative obstacles to development of these sites.



Site delineations and analysis boundaries are approximate.

0 0.5 1 2 Miles

Figure 1-1
Site Location Map

CITY OF NEW YORK
DEPARTMENT OF SANITATION

2.0 SCREENING CRITERIA

Five screening criteria were established, which, for further consideration, potential sites were required to meet. These criteria were:

- Technical and operationally feasible transfer station sites with the capability to process at least 1,000 tons per day (tpd) of waste.
- Conformance to the zoning and proximity to sensitive-use criteria outlined in DSNY's Siting Rules.
- Adherence to legislative restrictions on the use of the site for transfer stations.
- Suitability for export of waste by barge or rail.
- Collection vehicle access from nearby truck routes.

While the 1998 Siting Rules were challenged in court after being announced and DSNY has committed to revise them, the published version (October 1998) of these rules was used for the purpose of evaluating the sites in this report. This was done in anticipation that some aspects of those Siting Rules will be reflected in the modified Siting Rules, to be announced July 31, 2004. Therefore, the Siting Rules for new putrescible transfer stations used for this report include the following:

- Transfer stations may only be located in either an M2 or an M3 zone;
- Transfer stations may not be located in M1 zones; and
- Transfer stations may not be located within 400 feet of a residential district, a public park or a school.

According to the 1998 Siting Rules, the above restrictions would not apply to a putrescible transfer station that receives and removes by rail or barge all of the solid waste that it processes, provided all of such transfer station's waste processing operations are enclosed. However, since these Siting Rules will be revised, it was decided that these rules should be applied to all sites, regardless of mode of export. This is to ensure the most thorough analysis, given the uncertainty of the content of the anticipated Siting Rules.

The minimum requirement for distance from a residential district, public park or school is 400 feet (although a variance might be available if the facility would not cause adverse environmental impacts). This distance was therefore used to identify the "Usable" portion of each site. The figures labeled "Siting Requirements" for each site show the "Usable" portions of each site, according to the Siting Rules described above.

3.0 ASSESSMENT OF SITES

The following describes each evaluated site, indicating location, land use, technical, operational and legislative considerations.[1]

3.1 West 140th Street Site

The West 140th Street site is located on Block 2101, which runs between the North River Water Pollution Control Plant on the Hudson River and the Henry Hudson Parkway, from about West 145th Street to just south of West 137th Street. The site abuts the Henry Hudson Parkway and the Riverbank State Park directly to the west. Directly to the east, the site abuts Riverside Park North, which in turn abuts Riverside Drive and a residential area zoned R8. (See Figure 3.1-1, West 140th Street Zoning.) There is a mapped recreational area north of the site at approximately 146th Street.

The site is mapped as a public park and is zoned M1. The M1 zone extends from Riverside Park North westward to the U.S. Pierhead Line in the Hudson River. The existing rail lines run north-south through the site and are elevated approximately 20 feet over the existing grade. Site access is gained via an existing access road at ground level from the southwest.

The conceptual design evaluated for a truck-to-barge transfer station at West 140th Street has trucks entering and exiting the site using the existing access road. (See Figure 3.1-2, West 140th Street Site Plan.) The trucks are directed to any one of six tipping bays to unload onto the loading floor, which is at the same elevation as the tipping floor. Front-end loaders then move the solid waste into one of three loading slots with empty open top-loaded containers located beneath the slots.

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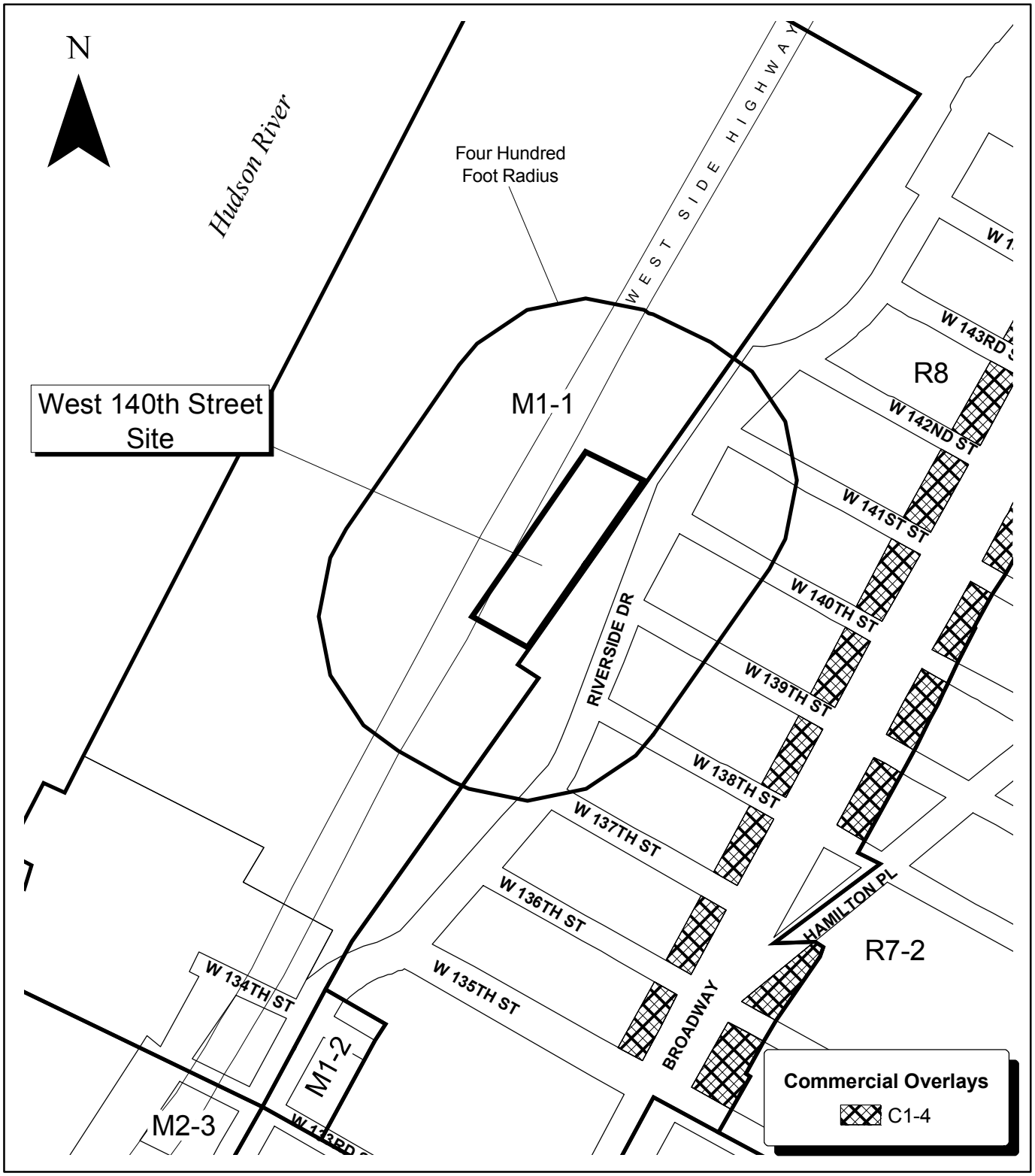
[1] The lots and blocks were as identified by either the DSNY Office of Real Estate or the Tax Assessor's Office.



Site delineations and analysis boundaries are approximate.
Base Map Source: New York City Department of City Planning

0 200 400 800 Feet

Figure 3.1-1 West 140th Street Zoning

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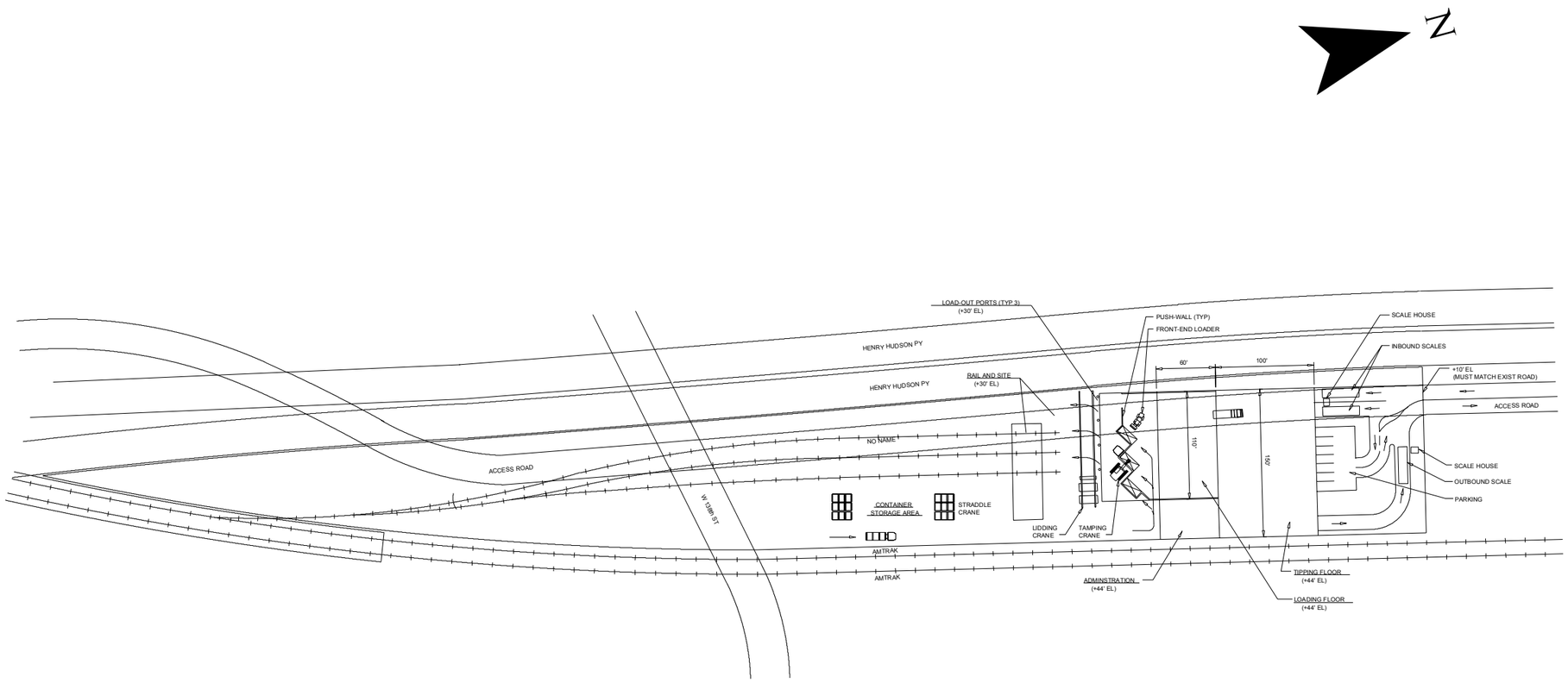
Figure 3.1-2
West 140th Street
Site Plan

City of New York
Department of Sanitation



TECHNICAL/OPERATIONAL CONSIDERATIONS:

1. HIGH VOLUME OF BACKFILL IS NECESSARY TO LEVEL THE SITE. APPROXIMATELY 96,800 CY OF BACKFILL WOULD BE NECESSARY TO ALLOW CONNECTION TO EXISTING RAIL LINES.
2. BACKFILLING WOULD ELIMINATE AN EXISTING ACCESS ROAD.
3. INSUFFICIENT AREA FOR TRUCK MANEUVERING.
4. SUBSTANTIALLY INSUFFICIENT PROPERTY TO RAMP TRUCKS UP TO REQUIRED SITE LEVEL.
5. LIMITED ON-SITE PARKING
6. THE EXISTING RAIL ELEVATION (+30') IS DRIVING THE BUILDING ELEVATION (+44').

Hydraulic excavators are used to tamp and pack the waste into the containers. These containers are then lidded and moved into position where they can be loaded onto rail cars by a straddle crane. Each 85-foot rail car has the capacity to carry four 8½-foot-wide-by-12-foot-high-by-20-foot-long open top-loaded containers. The average throughput for this facility is 3,003 tpd, assuming that two loading slots are in operation processing seven containers per hour with an average of 22 tons of waste per container for 19.5 hours a day.

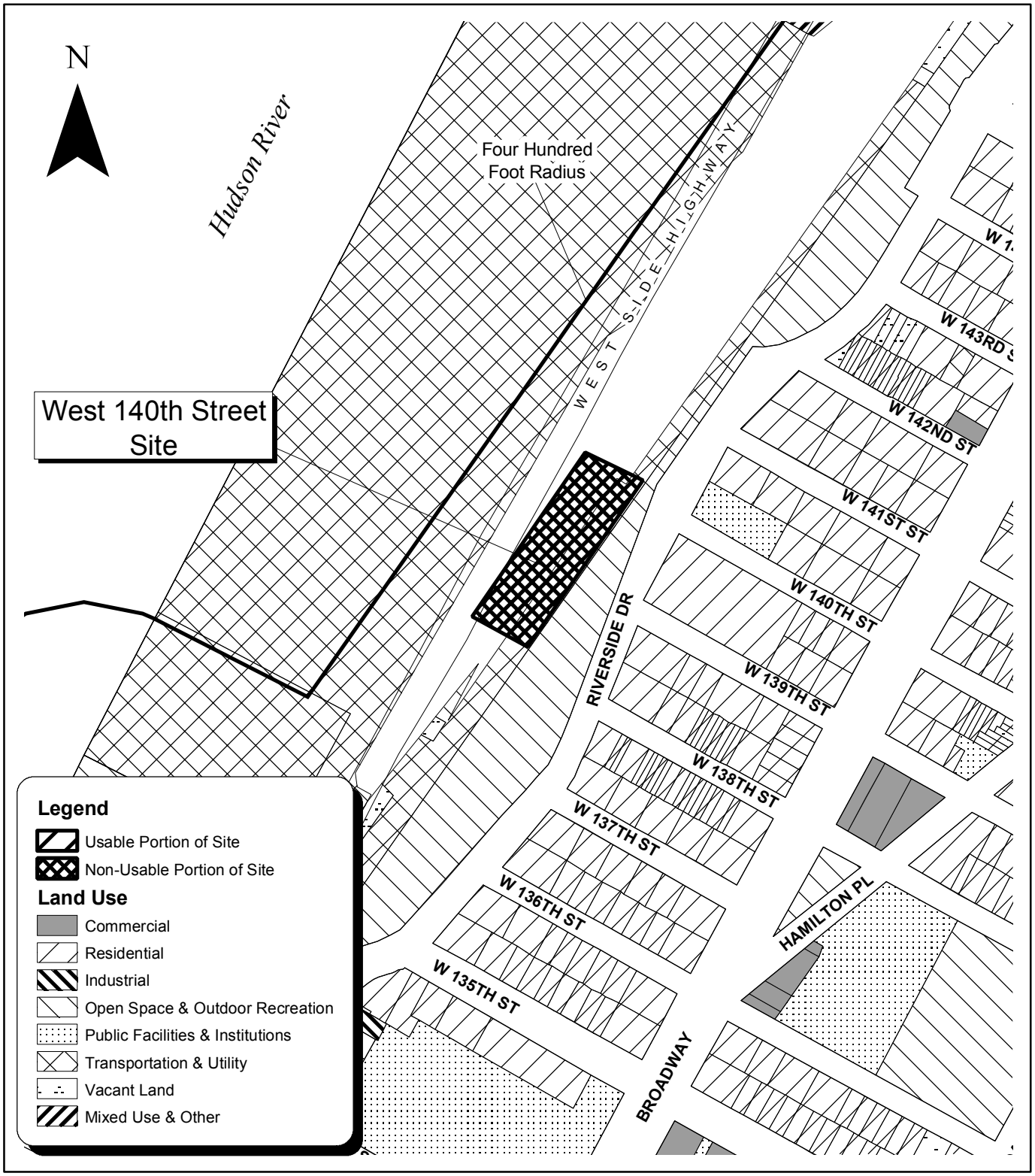
The investigation of the West 140th Street site for use as a waste transfer facility found it to be infeasible for the following reasons:

- There is insufficient property to ramp trucks up to the required site level; and
- The existing rail elevation (+30') determines the building elevation (+44'). The building elevation (+44') is substantially higher than the existing road (+10') and there is insufficient room to ramp up to the facility at an acceptable grade.

In addition to these technical flaws, the assessment of the West 140th Street site also identified the following design and operational considerations:

- Approximately 100,000 cubic yards of backfill would be required to construct a facility at the same elevation as the existing rail line;
- Backfilling would eliminate the existing access road;
- A new ramp providing truck access between the transfer station and West 144th Street would interfere with the current access to an existing facility in the northeast section of the site;
- On-site truck maneuvering room would be severely constrained and is considered to be insufficient -- outbound commercial trucks would have tight turning radii and minimal queuing distance prior to the outbound scale;
- Employee traffic will be mixed with collection truck traffic entering and leaving the site; and
- There is limited on-site parking (the maximum number of parking stalls that fit on the design is seven).

The site did not satisfy the Siting Rules criteria for zoning and minimum distance from a public park. (See Figure 3.1-3, West 140th Street Siting Requirements.) The entire site is within 400 feet of Riverbank State Park. Except for a small portion of the upland area, the site is also located within 400 feet of a residential zoning (R8) area to the east. In conclusion, the West 140th Street site was found technically infeasible and in conflict with Siting Rules criteria.



Site delineations and analysis boundaries are approximate.
Base Map Source: New York City Department of City Planning

0 200 400 800 Feet

Figure 3.1-3 West 140th Street Siting Requirements

CITY OF NEW YORK
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3.2 Pier 42 Site

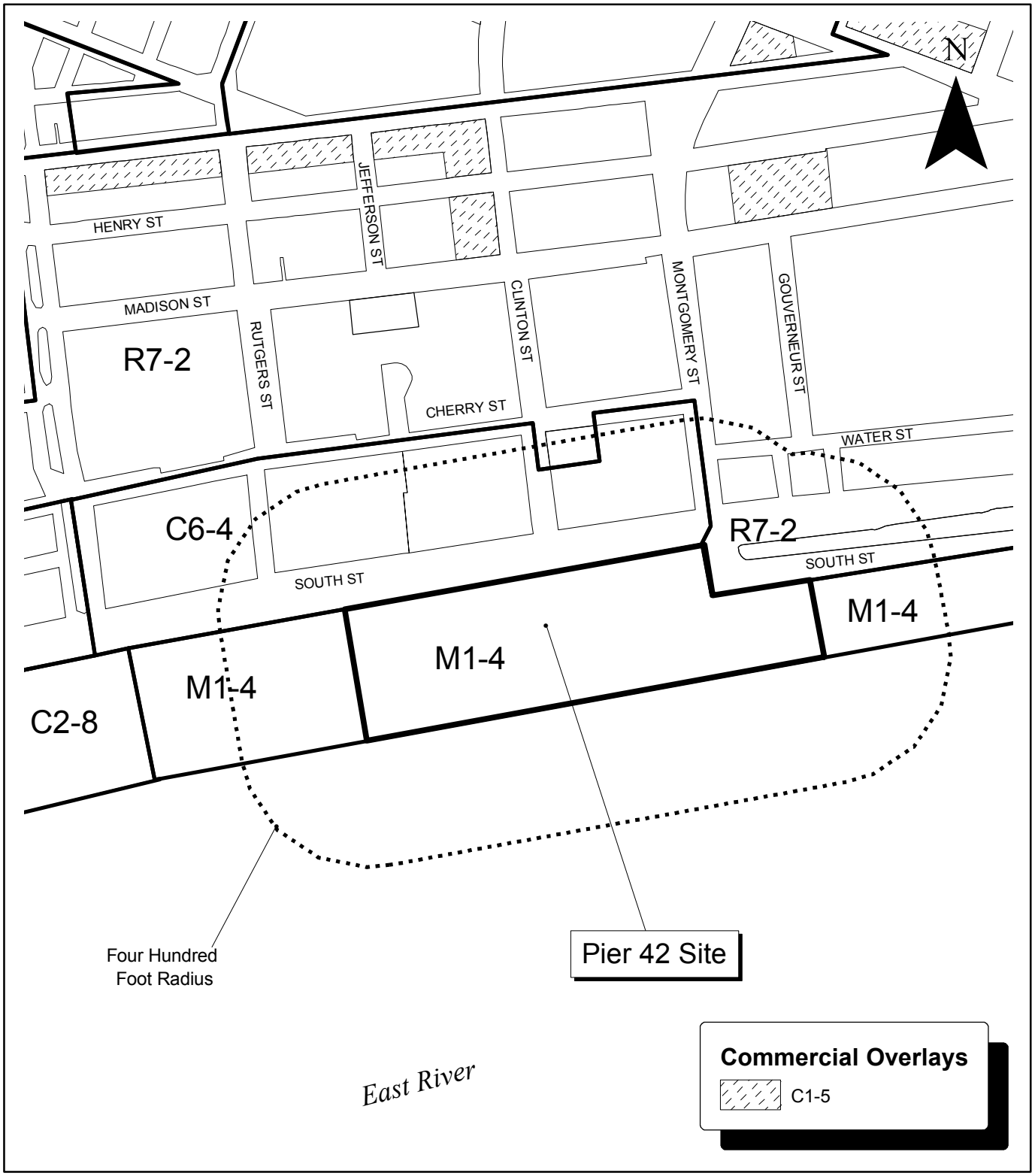
Pier 42 is located on the East River and is bounded by South Street to the north and the U.S. Pierhead Line to the south. Piers 41 and 44 abut the site to the west and east, respectively. The site is located within an M1-4 zone that extends inland towards South Street. The area to the north of South Street has C6-4 zoning. (See Figure 3.2-1, Pier 42 Zoning.)

The conceptual design evaluated for a truck-to-barge MTS at Pier 42 has collection vehicles entering and leaving the site from South Street. (See Figure 3.2-2, Pier 42 Site Plan.) Vehicles enter and exit the tipping floor from the north side of the transfer station. They are directed to any one of six tipping bays to unload onto the loading floor, which is at the same elevation as the tipping floor. Front-end loaders then pile the waste near the hydraulic excavators that are used for lift and load operations to fill and pack the containers.

Container shuttle cars, located on the pier level of the transfer station, would be used to convey the containers back and forth between the gantry cranes, lidding stations and lidding slots. After the containers are filled with waste, the shuttle cars convey them to the lidding station, where water-tight lids will be attached to the containers. The containers are then loaded onto a deck barge by a gantry crane. The deck barge has the capacity to transport 48 8½-foot-wide-by-12-foot-high-by-20-foot-long open top-loaded containers to and from the transfer station. The average throughput for this facility is 2,145 tpd assuming two ports in operation processing five containers per hour with an average of 22 tons of waste per container for 19.5 hours a day.

While there were no technical or operational fatal flaws in the proposed conceptual plan, an assessment of the Pier 42 site identified the following design and operational considerations:

- Queuing would be limited to only one truck on site.
- As can be observed in the Site Plan (Figure 3.2-2), the relatively small size of the site would cause potential problems in locating an outbound scale and parking on site, and in providing adequate maneuvering room for trucks, front-end loaders and a gantry crane.



Site delineations and analysis boundaries are approximate.
Base Map Source: New York City Department of City Planning

0 200 400 800 Feet

Figure 3.2-1 Pier 42
Zoning

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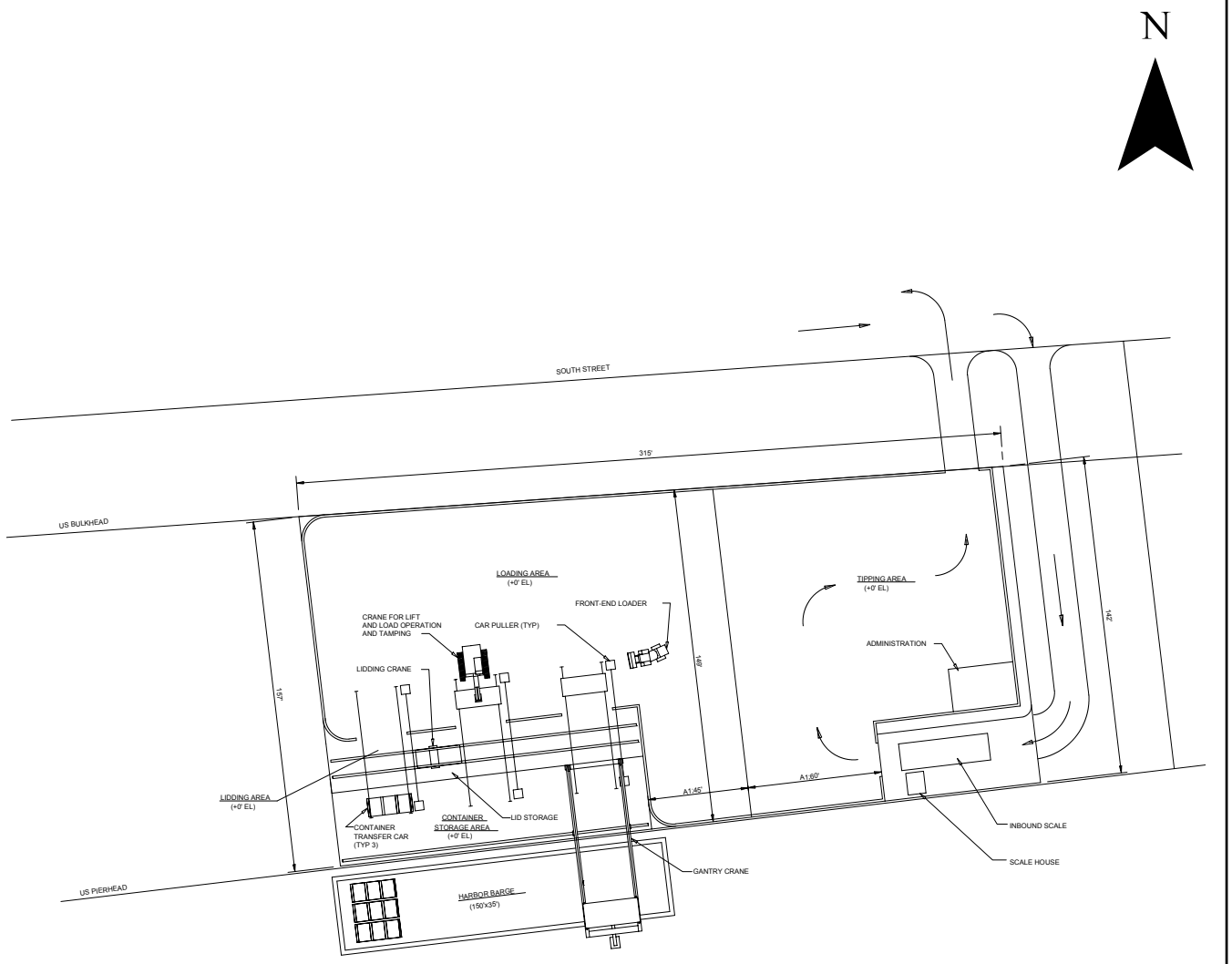

TECHNICAL/OPERATIONAL CONSIDERATIONS:

1. NO TRUCK MANEUVERING AREA FOR BOTH CONTAINER TRANSFER AND TIPPING FLOOR.
2. NO AREA FOR OUTBOUND SCALE.
3. LIMITED OPERATING ROOM FOR FRONT-END LOADER.
4. NO ON-SITE PARKING.
5. INSUFFICIENT SPACE FOR OCEAN-GOING BARGE LOADING WITH GANTRY CRANE
6. GANTRY CRANE CANNOT PERMANENTLY PROJECT OVER U.S. PIERHEAD LINE. CRANE WOULD NEED TO RETRACT WHEN NOT IN USE.
7. LIMITED TO ONE HARBOR BARGE LOADING AT A TIME.
8. NO ROOM FOR RAMPS. THEREFORE, LIFT AND LOAD OPERATION IS NECESSARY.
9. NO ACCESS TO DOCK.
10. MINIMAL ON-SITE QUEUING.

Figure 3.2-2 Pier 42
Site Plan

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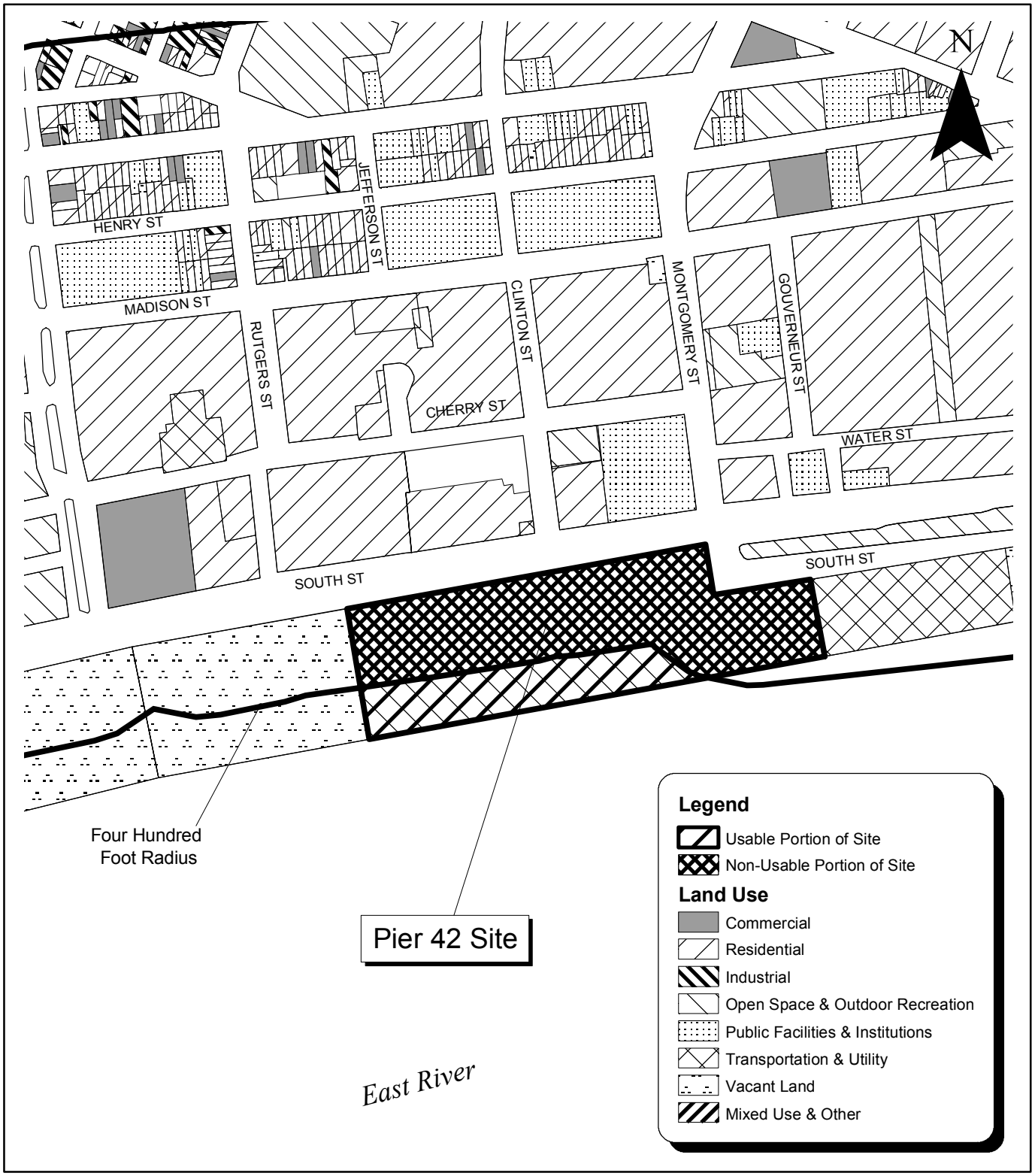
- Since the gantry crane cannot permanently project over the U.S. Pierhead Line, the crane would need to retract when not in use.
- There is no room for ramps. Therefore, containers would be filled with waste, using a less efficient lift and load operation.
- There is no access to the dock. This limitation will not allow for waste processing equipment stock to be located at the dock level.

In addition to the design and operational considerations mentioned above, an assessment of the Pier 42 site also identified the following traffic considerations:

- All access to the Pier 42 site is gained by a proposed access drive at the intersection of South and Montgomery Streets. The intersection is currently signalized. South Street is a local, two-way, four-lane surface street that runs parallel to the elevated FDR Drive. Montgomery Street is a two-way, two-lane roadway featuring a wide, painted, center median.

- South Street is designated by the City as a local truck route between State Street and Pike Slip. To access the site, trucks will be required to travel along South Street between Pike Slip and Montgomery Street, which is a section of South Street that is not designated as a local truck route. For these movements to occur, the designation of South Street as a local truck route will need to be extended, by the City, to the Montgomery Street intersection. This may be difficult to accomplish because the neighborhoods along the north side of South Street are heavily residential and are located in the "Zone E – Lower East Side" limited truck zone.

The site did not satisfy the Siting Rules criteria with regards to zoning and land use, including minimum distance from a public park. (See Figure 3.2-3, Pier 42 Siting Requirements.) A playground on Cherry Street and a portion of East River Park are both within 400 feet of the site. The entire site is also zoned M1-4 and is therefore precluded from use by the Siting Rules. Additionally, language contained in a 1994 Memorandum of Understanding among the City, State Assembly Leader Sheldon Silver and Gouverneur Gardens Housing Corporation specifically precludes the City's use of Pier 42 as a site for a waste transfer facility. In conclusion, the Pier 42 site has significant technical disadvantages, and prohibitions against its use as a transfer station agreed to between the City and other parties present serious obstacles to its development.



Site delineations and analysis boundaries are approximate.
Base Map Source: New York City Department of City Planning

0 200 400 800 Feet

Figure 3.2-3 Pier 42 Siting Requirements

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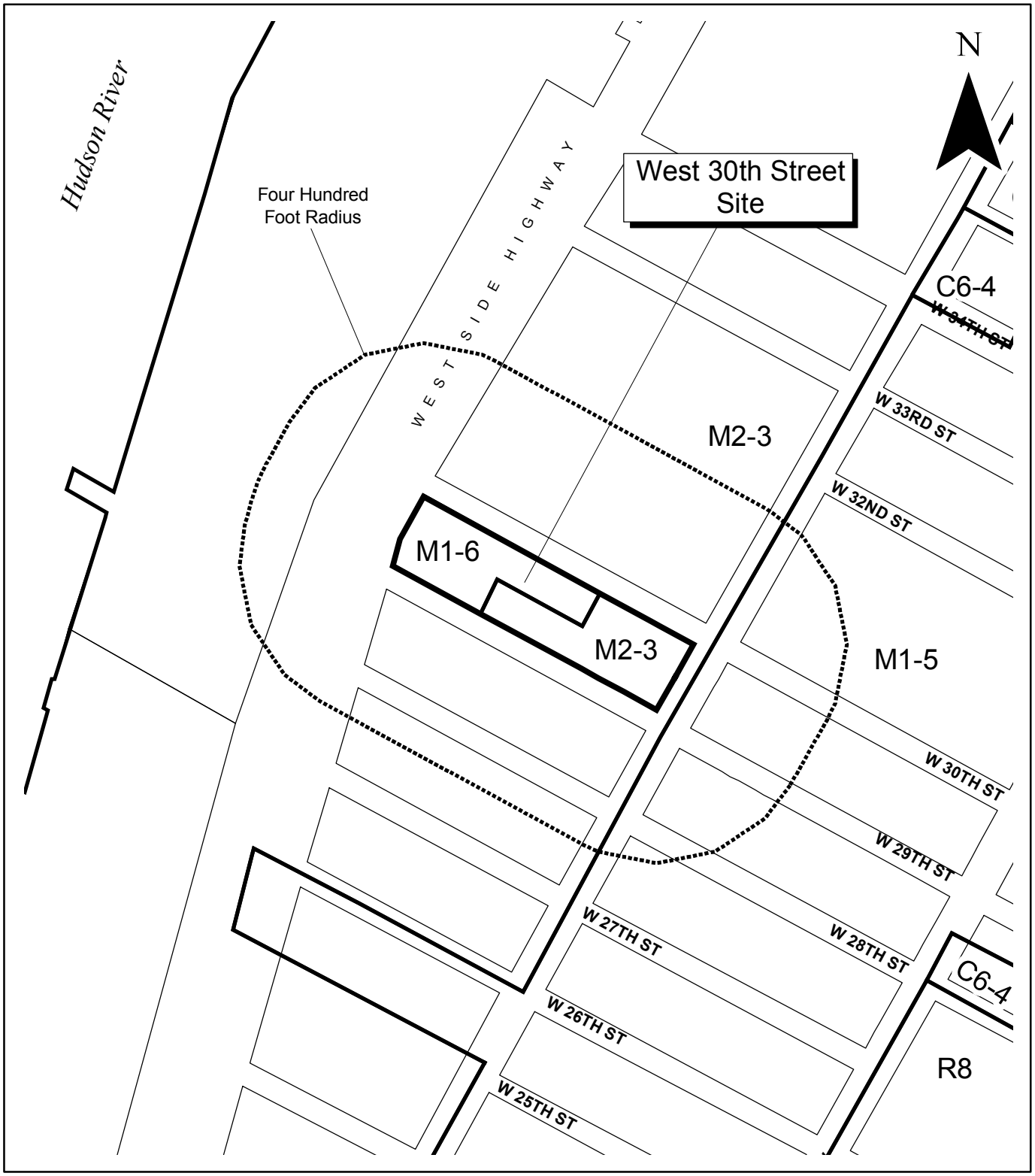
3.3 West 30th Street Site

The West 30th Street site, defined as Block 675, is bounded by 11th Avenue to the east, 12th Avenue (West Side Highway) to the west, West 29th Street to the south and West 30th Street to the north. The site is zoned as M1-6 and M2-3 for the western and eastern portions, respectively. (See Figure 3.3-1, West 30th Street Zoning.) An existing gas station with underground fuel storage tanks is located on the northeast portion of the site. An existing (inactive) elevated rail line runs along the north side of West 30th Street.

The elevated rail (also called the High Line) and the rail easement atop it are owned by CSX. The land beneath the High Line is owned in parcels by New York State, the City and over 20 private property owners. The High Line is currently not in use; the last train ran on the High Line in 1980. A 501 (c)(3) organization called Friends of the High Line (FHL), made up of City residents, business owners, artists and gallery owners, architects and design professionals, is dedicated to its preservation and adaptive reuse. As part of a federally-sanctioned railbanking program, a not-for-profit organization (such as FHL), or the City or state, can negotiate with a railroad for interim trail use of an out-of-service line. FHL won an Article 78 lawsuit in March 2002 effectively halting a demolition proposal negotiated in the early 1990s. At this time, there is a financial feasibility study being conducted on the reuse of the High Line. FHL is lobbying for its consideration as a park. In opposition, an organization called the Chelsea Property Owners group, made up of landowners who own property beneath, and adjacent to, the High Line, is lobbying for its demolition.

The two groups mentioned above are dedicated to planned uses of the High Line and appear to pose significant obstacles to the redevelopment of the High Line as an active rail line. In addition to these obstacles, interconnecting with the existing elevated rail line would require construction of a processing facility and platform at the same elevation as the rail line and require providing a ramp up from the ground level. The portion of the site that is appropriately zoned under the Siting Rules is limited to approximately 79,120 square feet. The site's limited size does not accommodate the structural arrangements necessary to connect to the existing overhead rail and, therefore, rail operations would not be feasible.



Site delineations and analysis boundaries are approximate.
Base Map Source: New York City Department of City Planning

0 200 400 800 Feet

Figure 3.3-1 West 30th Street Zoning

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A conceptual evaluation of a transfer station at this site also found the following fundamental flaws:

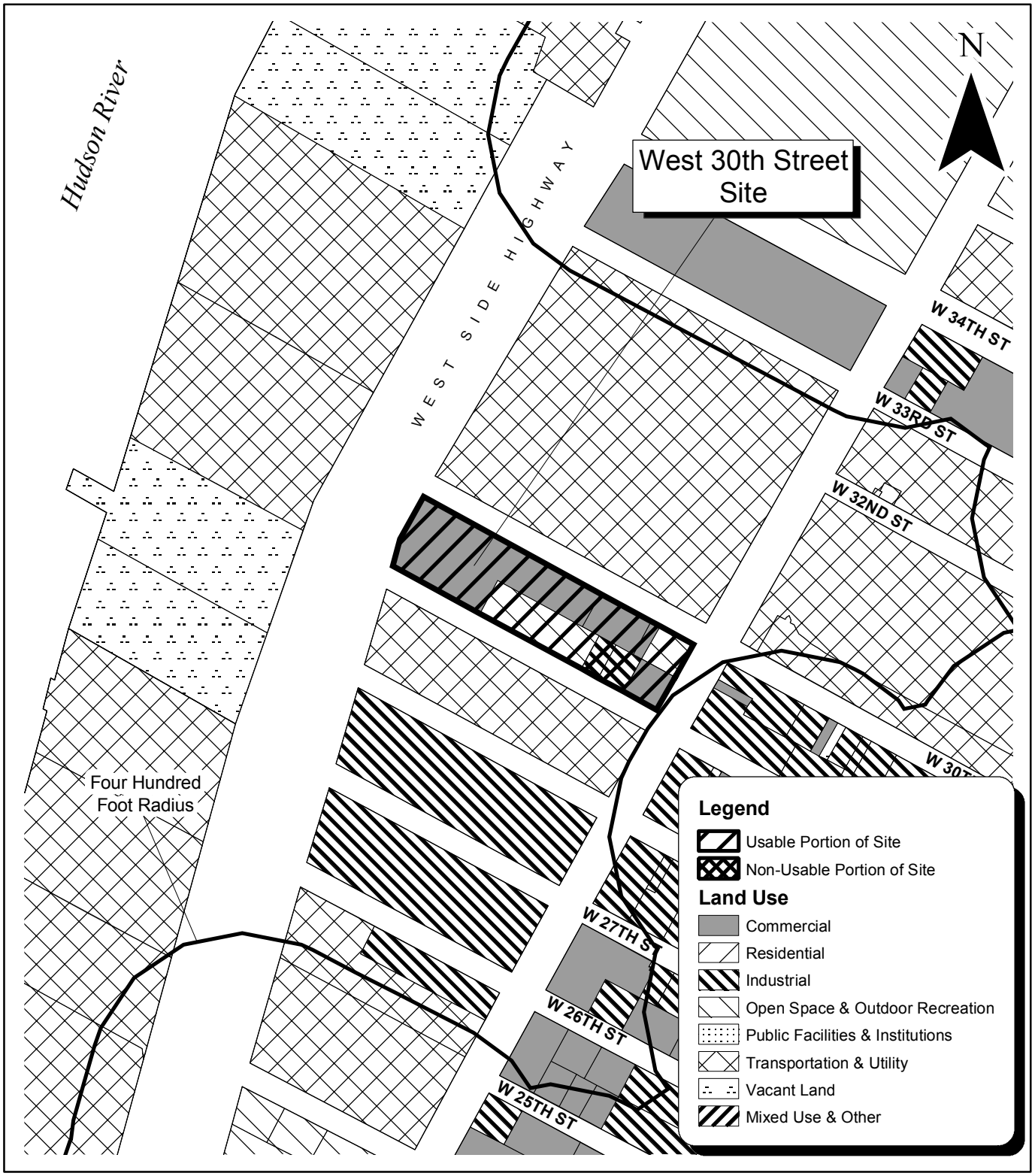
- There is insufficient storage area for waste;
- There is no room on site for parking;
- There is no room for container storage; and
- The available square footage of the conforming portion of the site would severely limit queuing and maneuvering space.

In addition to the design and operational considerations mentioned above, an assessment of the West 30th Street site also identified the following traffic considerations:

- West 30th Street is the only street available for the trucks to access the site. At the location of the site, West 30th Street is a one-way eastbound street. The intersection of 12th Avenue and West 30th Street is a signalized intersection. Twelfth Avenue is designated by the City as a local truck route, as well as West 30th Street between Broadway and 11th Avenue. However, the section of West 30th Street used by traffic traveling to the proposed facility is not designated as a local truck route. For operation of trucks to occur on West 30th Street between 12th Avenue and 11th Avenue, the City will need to extend the truck route designation to this section.

- The intersection of West 30th Street and 11th Avenue is a signalized intersection. Eleventh Avenue is a one-way southbound street at the intersection with West 30th Street, and is designated by the City as a local truck route. Upon exiting the facility, trucks must travel onto West 30th Street. Access to the network of local truck routes can be gained via West 30th Street, 11th Avenue, 10th Avenue and West 23rd Street. The addition of the truck traffic expected at this facility may impact the operation of the site intersections.

No portion of the site is within 400 feet of mapped residential districts, public parks or schools. The western portion of the site is zoned M1-6 and therefore does not comply with the DSNY's Siting Criteria. (See Figure 3.3-2, West 30th Street Siting Requirements.) The remaining eastern portion of the site (approximately 79,120 square feet) is zoned M2-3 and therefore does comply with the Siting Rules. Although a portion of the West 30th Street site was found to comply with the Siting Rules, this site is considered to be infeasible because the compliant portion is not large enough to construct a transfer station with the required capacity.



Site delineations and analysis boundaries are approximate.
Base Map Source: New York City Department of City Planning

0 200 400 800 Feet

Figure 3.3-2 West 30th Street Siting Requirements

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3.4 West 13th Street Site (Gansevoort Property)

Located on Block 651 along the Hudson River, the West 13th Street site is bounded by a pedestrian walkway along the West Side Highway to the east and the U.S. Pierhead Line to the west. Bloomfield Street and Gansevoort Street abut the site to the north and south, respectively. The site is zoned M3-2, use group 18, which allows for all manufacturing uses. (See Figure 3.4-1, West 13th Street [Gansevoort Property] Zoning.) The site was formerly used as an MTS, but was shut down in July 1991.

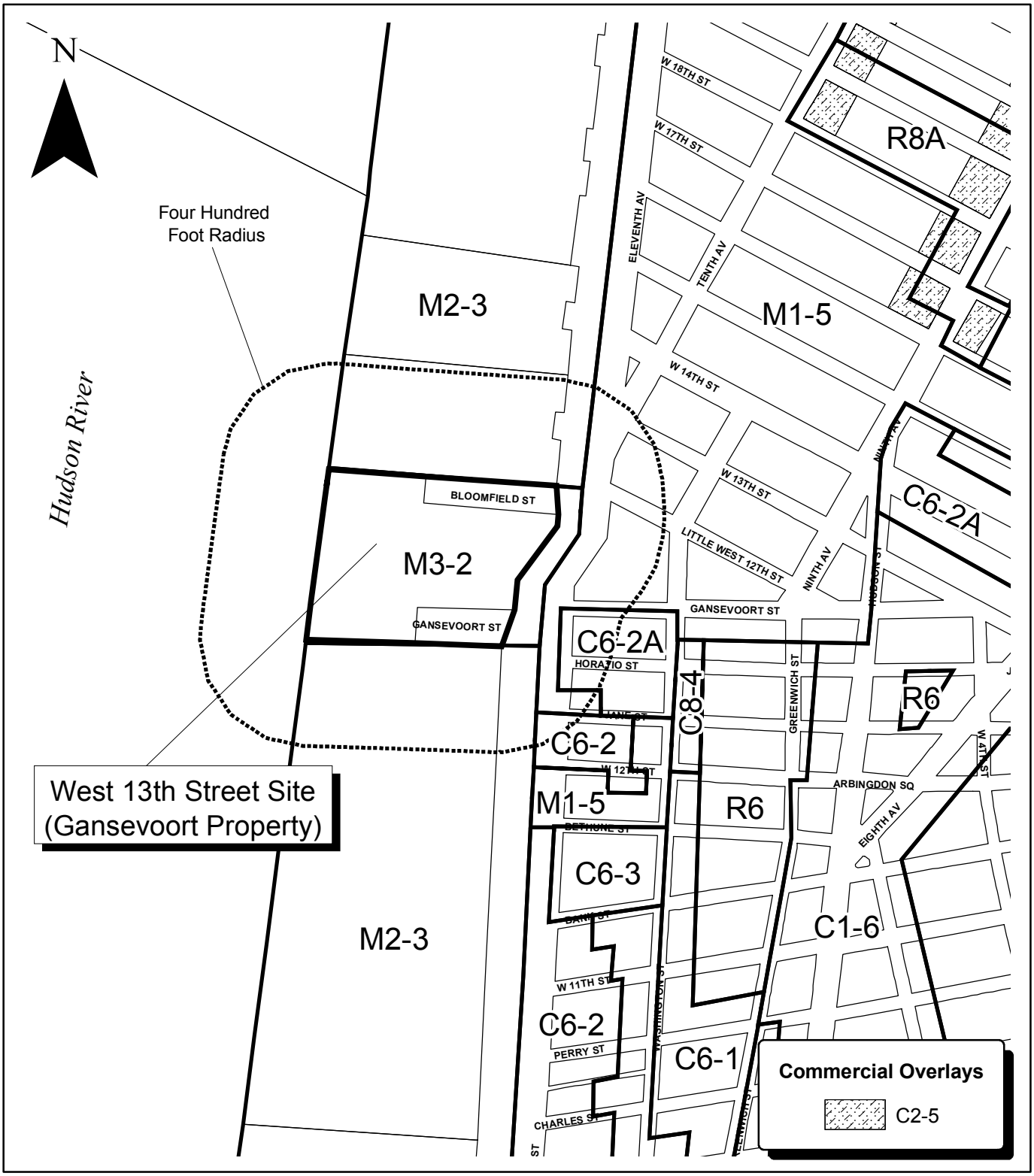
The Gansevoort site plan in this report was developed by modifying a design similar to that proposed for DSNY's Converted MTSs on upland sites such as the Greenpoint, Brooklyn, facility. (See Figure 3.4-2, West 13th Street [Gansevoort Property] Site Plan.) While there were no technical or operational fatal flaws in the proposed conceptual plan, an assessment of the Gansevoort site identified the following design and operational considerations:

- Ramps would need to be structural ramps in lieu of earth-supported;
- Construction of the in-bound ramp on Bloomfield Street and the facility on Gansevoort Street would be subject to the City's Uniform Land Use Review Procedure; and
- The out-bound ramp projects over Marginal Street. This will impact pedestrian access to the parkland usages along the pedestrian way directly adjacent to the eastern end of the site.

In addition to the design and operational considerations mentioned above, an assessment of the Gansevoort site also identified the following traffic considerations:

- In-bound trucks must arrive at the site via 11th Avenue southbound. Eleventh Avenue is recognized by the City as both a through truck route and a local truck route. Local truck routes, which would provide in-bound access to 11th Avenue, are 12th Avenue and 10th Avenue, both of which merge with 11th Avenue north of Gansevoort Street, and West 14th Street.

- Upon exiting the facility, trucks must travel south on 11th Avenue. West Houston Street and Canal Street, located 16 blocks and 19 blocks south, respectively, of the site, are the closest truck routes that provide a means for exiting vehicles to reverse their direction.



Site delineations and analysis boundaries are approximate.
Base Map Source: New York City Department of City Planning

0 250 500 1,000 Feet

Figure 3.4-1 West 13th Street (Gansevoort Property) - Zoning

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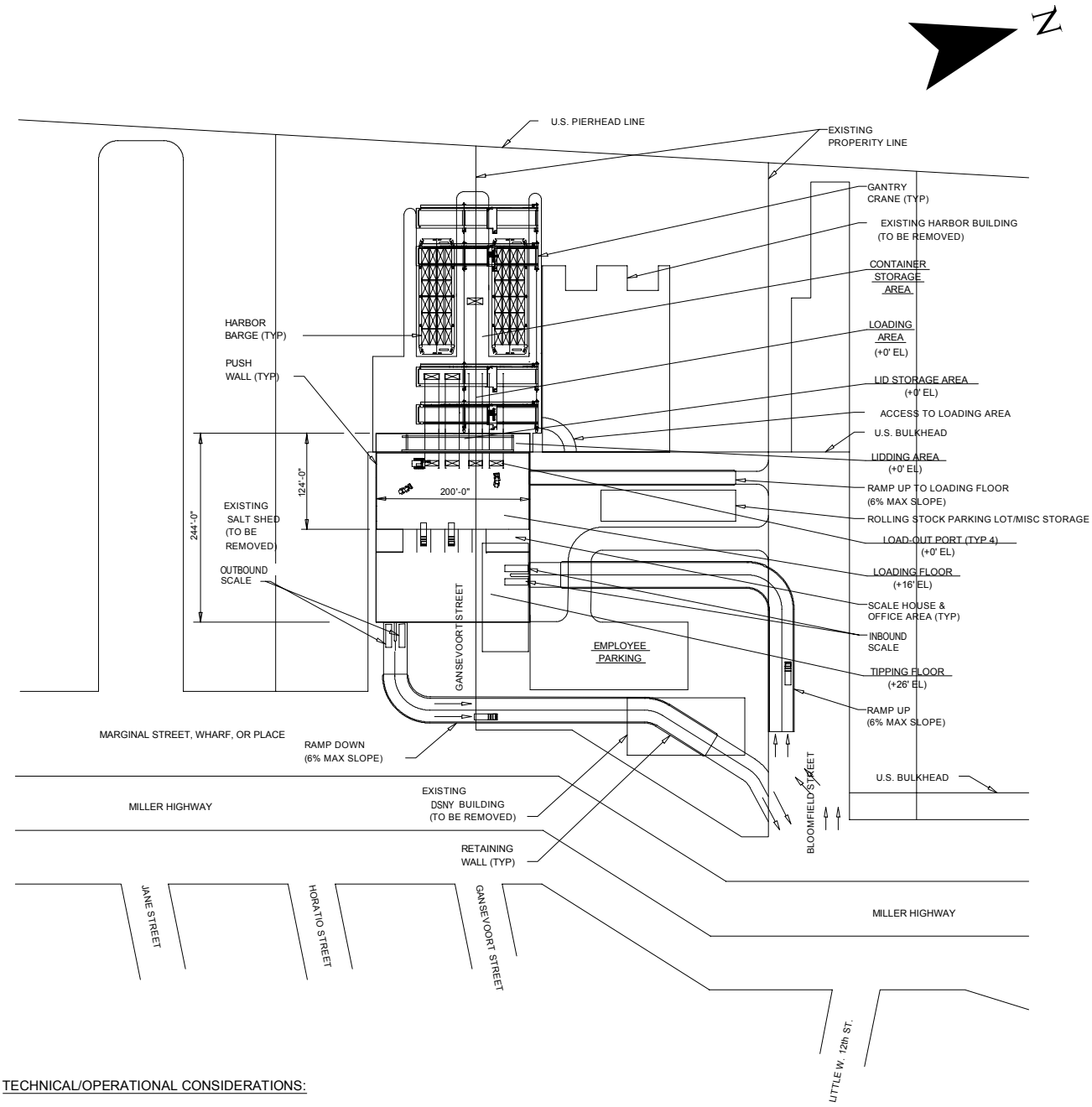

TECHNICAL/OPERATIONAL CONSIDERATIONS:

1. SUBSTANTIAL DEMOLITION WOULD BE REQUIRED ON SITE. DSNY BUILDING, SALT SHED AND HARBOR BUILDING WOULD NEED TO BE REMOVED.
2. RAMPS WOULD NEED TO BE STRUCTURAL RAMPS IN LIEU OF EARTH SUPPORTED.
3. TRAFFIC SIGNALS WILL BE NEEDED TO ALLOW FOR OUTBOUND TRAFFIC TO ENTER THE HIGHWAY.
4. OUTBOUND RAMP PROJECTS OVER "MARGINAL STREET."

HDR

HydroQual

Figure 3.4-2 West 13th Street (Gansevoort Property) - Site Plan

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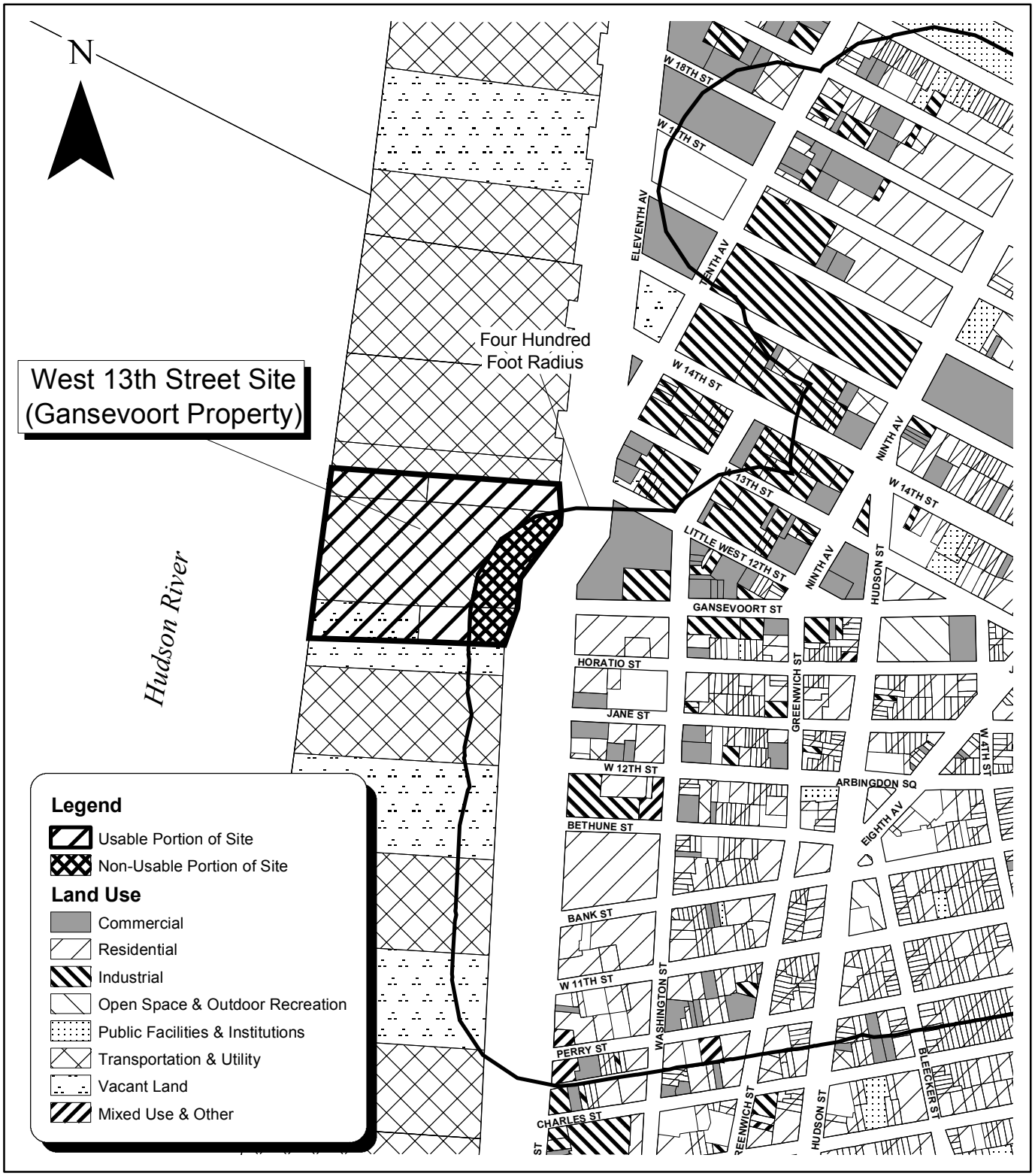
THE CITY OF NEW YORK DEPARTMENT OF SANITATION

Furthermore, there may be potential difficulties with respect to the Siting Rules, since the site is no longer owned by DSNY and is part of a public park. (See Figure 3.4-3, West 13th Street [Gansevoort Property] Siting Requirements.)

The Hudson Park River Trust, the city/state partnership charged with the development of the Hudson River Park, oversees and operates the site, and is currently in the planning stages for converting the Gansevoort property into parkland with recreational activities. These recreational areas will include a sandy beach, baseball fields, batting cages, a play lawn, a sunning beach and a marina, as well as a stop for water taxis. Fire Department Marine Company One, Manhattan's only remaining waterside fire station, will remain on Pier 53, adjacent to the Gansevoort property to the North. Other future plans include an overlook platform and park concessions. This plan is a part of a larger plan to convert the waterfront, from Battery Park City to West 59th Street, into park facilities between the U.S. Pierhead Line and the western boundary of West 11th and 12th Streets.

Current Law (Assembly Bill 9833-B of March 10, 1998) states: "The City of New York shall use its best efforts for the relocation of the sanitation garage and by December 31, 2003 relocate the salt pile and remove the incinerator." If the DSNY sought to change this language and pursued the development of the transfer station at Gansevoort, the legislation that created the park would have to be amended. The DSNY would be seeking to develop non-park use on managed parkland. Approval of this type of legislation is rare.

State law also requires that any "alienation of parkland" pertaining to the Gansevoort property (as part of the larger parkland overseen by the Hudson River Park Trust) not only necessitates an act of the Legislature, but also requires that it be subject to the City's Uniform Land Use Review Procedure. Furthermore, the law designates the waterside area of the property, and all the property along the designated parkland, as an "estuarine sanctuary" and is thereby subject to applicable environmental conservation law. Additionally, federal and state permits issued to allow for the development of the park, in particular those related to development over the water, would have to be modified. Important obstacles exist to making this site a transfer station.



Site delineations and analysis boundaries are approximate.
Base Map Source: New York City Department of City Planning

0 250 500 1,000 Feet

Figure 3.4-3 West 13th Street (Gansevoort Property) - Siting Requirements

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In addition to the legislative restrictions mentioned above, the site is adjacent to public parks on Pier 51 that include a new maritime-themed playground, a water play area, climbing equipment and slides and viewing scopes, which have been open to the public since Spring 2003.

In conclusion, it may be possible to obtain a permit for the site, but the substantial land use and legislative constraints pose obstacles to the development of this site as a transfer station.

4.0 CONCLUSIONS

This Study has reviewed four potential sites for possible use as waste transfer facilities capable of processing 1,000 tpd. The four sites are: West 140th Street, Pier 42, West 30th Street and West 13th Street (Gansevoort Property). As a result of location, land use, technical, operational and legislative criteria considerations, all four potential sites present either significant problems in terms of technical feasibility or present major obstacles in terms of legislative or land use constraints, as summarized in Table 4-1.

Table 4-1
Results of Screening Evaluation

Site	Screening Result
West 140th Street	Infeasible due to technical issues
Pier 42	Very significant technical and land use obstacles to overcome
West 30th Street	Infeasible due to technical issues
West 13th Street (Gansevoort Property)	Important legislative and zoning obstacles exist to making this a transfer station

COMMERCIAL WASTE MANAGEMENT STUDY

VOLUME VI

WASTE VEHICLE TECHNOLOGY ASSESSMENT

March 2004

Prepared for:

New York City Department of Sanitation
for submission to the New York City Council

Prepared by:

Henningson, Durham & Richardson
Architecture and Engineering, P.C.'s
Subconsultant, Urbitran, Inc.

This report was prepared for

Henningson, Durham & Richardson
Architecture and Engineering, P.C.

by its
Subconsultant

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List of Acronyms/Definitions

Acronyms	
AFV	alternative fuel vehicle
CAA	Clean Air Act
CH_4	methane gas
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CNG	compressed natural gas
CO	carbon monoxide
CO_2	carbon dioxide
DOC	diesel oxidation catalyst
DOE	Department of Energy
DPF	diesel particulate filter
DSNY	New York City Department of Sanitation
EGR	exhaust gas recirculation
EPACT	Energy Policy Act
ETBE	ethyl tertiary butyl ether
GVWR	gross vehicle weight rating
HAP	hazardous air pollutant
HC	hydrocarbon
HEV	hybrid electric vehicle
hp	horsepower
hp-hr	horsepower-hour

Acronyms	
LL74	Local Law 74, effective December 19, 2000, enacted by the City Council, requiring a comprehensive assessment of commercial solid waste management in New York City
LNG	liquefied natural gas
MTA	Metropolitan Transportation Authority
NO_X	nitrogen oxide
NYCDEP	New York City Department of Environmental Protection
NYCDOT	New York City Department of Transportation
NYCT	New York City Transit
NYSDEC	New York State Department of Environmental Conservation
NYSERDA	New York State Energy Research and Development Authority
O_3	ozone
OEM	original equipment manufacturer
PM	particulate matter
ppm	parts per million
psi	pounds per square inch
SCR	selective catalytic reduction
SO_2	sulfur dioxide
TEA-21	Transportation Equity Act for the 21st Century
USDA	United States Department of Agriculture
ULSD	ultra-low-sulfur diesel fuel
USEPA	United States Environmental Protection Agency

Definitions	
City	New York City
B5	A blend of biodiesel fuel, made up of 95% petroleum-based diesel fuel and 5% biodiesel fuel
B20	A blend of biodiesel fuel, made up of 80% petroleum-based diesel fuel and 20% biodiesel fuel
B100	Biodiesel fuel in its pure form with no petroleum diesel fuel added
Consultant	The DSNY's Consultant Team, including Henningson, Durham & Richardson Architecture and Engineering, P.C.; Parsons Brinckerhoff Quade and Douglas, Inc.; Ecodata, Inc.; Franklin Associates, Ltd.; Urbitran Associates, Inc.; HydroQual, Inc.; and Cambridge Environmental, Inc., who prepared the Commercial Waste Management Study
E10	Ethanol blend of 10% ethanol and 90% gasoline
E85	Ethanol blend of 85% ethanol and 15% gasoline
E95	Ethanol blend of 95% ethanol and 5% gasoline
Final Study Scope or Final Scope of Work	Commercial Waste Management Study Final Scope of Work issued on July 31, 2003
M85	Mixture of 85% methanol and 15% gasoline
M100	Pure methanol
New SWMP	The new comprehensive Solid Waste Management Plan to be developed in 2004 for both DSNY-managed Waste and commercial waste for the planning period 2004 through 2024
New SWMP Planning Period	The 20-year period from 2004 to 2024 addressed by the City's New Solid Waste Management Plan
Study	Commercial Waste Management Study

EXECUTIVE SUMMARY

PREFACE

Local Law 74 of 2000 (LL74) mandated a comprehensive study of commercial waste management (Commercial Waste Management Study or Study) in New York City (City) by a Consultant funded by the City Department of Sanitation (DSNY). This Study undertaken to comply with LL74 will assist the City in managing the commercial waste stream in the most efficient and environmentally sound manner, and to assist in the development of the City's Solid Waste Management Plan (New SWMP) for the New SWMP Planning Period.

Among the topics that LL74 requires the Study to address are: *". . . the size and type of vehicles that should be authorized to transport sold waste to or from putrescible and non-putrescible solid waste transfer stations and fuel type requirements for such vehicles."* The Commercial Waste Management Study Final Scope of Work elaborates on this requirement, stating: *"Under almost any scenario for the future, the movement of solid waste in the City will remain heavily dependent upon diesel-powered trucks. The ideal and most effective measure to reduce air pollution would be to reduce the emissions by these trucks. The main objective of this Task is to determine if particulate traps, alternate fuels, or truck types might be feasible and lawful means of reducing truck emissions. In consultation with DSNY, which has extensive experience in testing alternative fuels and emissions control equipment on its collection fleet, the Consultant Team will provide an overview of the different options for alternative fuels and vehicle types/retrofits. The focus will be on proven technologies and vehicle types. If regulations are to be imposed or incentives provided, they must represent realistic emission reduction technology and options that would not create undue hardship for truck fleet operators. . . . An evaluation will be performed to determine if a particular type or types of vehicle would be more economically and environmentally feasible. To assess whether alternatives can be implemented, the following will be examined: Regulatory Options . . . [and] . . . Institutional Barriers."*

In addition to this Volume VI, this Study consists of five other volumes:

- Volume I: Private Transfer Station Evaluations;
- Volume II: Commercial Waste Generation and Projections;
- Volume III: Converted Marine Transfer Stations – Commercial Waste Processing and Analysis of Potential Impacts;
- Volume IV: Evaluation of Waste Disposal Capacity Potentially Available to New York City; and
- Volume V: Manhattan Transfer Station Siting Study.

This volume, Volume VI: Waste Vehicle Technology Assessment, reports on a survey of alternative fuels, new engine technologies and vehicle emission retrofit options that are appropriate for use on waste collection vehicles and profiles the innovative DSNY programs and initiatives implemented to evaluate alternative fuels, engine technologies and retrofit options. The volume provides an assessment of the advantages and disadvantages of the various options to reduce consumption of fossil fuels and/or reduce vehicle emissions, and recommends cleaner technologies, including technologies that DSNY had previously tested and, in some cases, targeted for implementation.

EXECUTIVE SUMMARY

Scope of Analysis/Approach

The purpose of this evaluation is to explore the different types of alternative and clean fuel technologies available to determine which clean and alternative fuel technologies are most feasible for the unique demands of heavy-duty refuse haulers operating in the City. The review presented in the Waste Vehicle Technology Assessment report weighs the economic, environmental and logistical advantages and disadvantages of various clean and alternative fuel technologies. After thorough research and analysis of all available viable options, including several case studies, options that are best suited for heavy-duty refuse haulers operating in the City are presented.

Findings

The report found that clean diesel technology is best suited for the City's refuse hauling vehicles. It provides substantial emission reduction benefits without having a major impact on fuel efficiency and cost. Natural gas technologies are also well suited for the City's refuse hauling vehicles. However, the use of this technology entails significant infrastructure investment, and, because of high demand for natural gas, has greater cost uncertainties.

Clean Diesel Options

The clean diesel options discussed in the report can cut vehicle emissions by 90% or more.

Engine tune-ups are the least expensive way to reduce particulate matter (PM) emissions. This emission reduction strategy can also lower operating costs, extend engine life and improve fuel economy. However, it should be noted that repairs and maintenance of diesel engines tend to increase nitrogen oxide (NO_X) emissions.

In addition to tune-ups, in certain circumstances, the **replacement of older diesel engines and equipment** may be the most sensible and cost-effective emissions improvement options. When old vehicles are replaced, fleet managers can substitute their oldest and worst emissions performers with new technology present in new diesel engines that are designed to produce much lower emissions.

Sulfur found in fuel degrades the effectiveness and life of after-treatment devices by inhibiting the function of existing filters and catalysts. By using **ultra-low-sulfur diesel** (ULSD) (which has a sulfur content of 15 parts per million [ppm] or less) and/or low-sulfur diesel fuel (sulfur content between 30 ppm and 15 ppm), there can be improvements in the performance of after-treatment technologies seeking to reduce emission levels. However, ULSD fuel only reduces PM and sulfur dioxide (SO_2) emissions. Without after-treatment devices, it does not reduce emissions such as hydrocarbons (HC), carbon monoxide (CO) or NO_X emissions. Some operating and maintenance concerns associated with ULSD fuel include a slightly lower fuel economy as compared with regular diesel, and concerns regarding the lubrication properties of the fuel. DSNY, a leader in experimenting with heavy-duty refuse vehicles, currently has 600 of its 2,040 refuse collection trucks using low-sulfur diesel fuel.

Diesel oxidation catalysts (DOCs) devices are considered the most proven of after-treatment options and can be used with existing or used engines to pollute less by retrofitting them.[1] According to the Diesel Technology Forum, emissions benefits include reductions of total PM by 20% to 50% and CO and HC by 60% to 90%.[2] They do not reduce NO_X emissions.

Diesel particulate filters (DPFs), when used with ULSD fuel, can reduce PM emissions by 50% to 90%, and HC and CO emissions by as much as 90%. However, like oxidation catalysts, these devices do not reduce NO_X emissions.

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[1] Diesel Technology Forum, *Clean Air, Better Performance*, 2003.
[2] *Ibid.*

Although the use of DOCs and DPFs is not yet widely available for waste collection trucks, tests are ongoing that are assessing the use of these after-treatment options. DSNY is taking the lead in testing these technologies.

Another emission reduction strategy is to use **exhaust gas recirculation** to decrease NO_X levels. With the new, lower-sulfur diesel fuels, production of sulfuric acid will be minimized. This technology can reduce NO_X emissions by as much as 40%, and can also be used with engines being retrofitted.

Selective catalytic reduction (SCR) has been used for over 15 years to reduce NO_X emissions from stationary sources. Emission reductions include NO_X by 75% to 90%, HC reductions up to 80% and PM reductions of 20% to 30%.

Currently, **NO_X catalysts** are being experimented with in the United States on retrofitted vehicles. Two NOx catalyst technologies, "lean NO_X catalyst" and "NO_X absorber," are currently being developed, and can reduce NO_X emissions up to 70%.

Natural Gas

The main incentive for choosing natural gas as an alternative fuel for heavy-duty refuse trucks is the emissions benefits. Studies of heavy-duty engines running on compressed natural gas (CNG) and diesel have shown that engines fueled with CNG emit significantly less PM (80% to 90% less) and NO_X (50% to 60% less) emissions than diesel engines. Another benefit of using a CNG engine is the reduction of engine noise, as CNG engines are significantly quieter than diesel engines. Furthermore, investing in CNG facilities now will ease future transitions to hydrogen fuel cells as a vehicle-fueling source.[3]

[3] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*

One of the major disincentives to creating a CNG refuse truck fleet is the cost related to purchasing the trucks and the infrastructure needed for a CNG facility. A CNG trash hauler can cost up to $70,000 more than a conventional diesel truck. In addition, the cost of a CNG facility with fueling, proper ventilation and leakage alarms can cost $500,000 to $1,250,000 to construct.[4] Another disadvantage of CNG is that most of the natural gas used in CNG engines comes from reserves in North America. Due to unmet demand for natural gas in the U.S., natural gas has seen extreme price fluctuations. In addition to the high costs, other issues, such as lower fuel efficiency than conventional diesel garbage trucks (due to heavier weight and longer size of vehicles), limited vehicle range, and high methane (CH_4) and CO_2 emissions, must be considered.

Other Available Technologies

The report also evaluates the costs and benefits of other alternatives, including biodiesel, fuel cells, battery electric, propane, ethanol, methanol, and hybrid electric vehicles (HEVs), but none were deemed as promising and cost effective to DSNY as the clean diesel and natural gas options.

Based on this report, DSNY should consider the following options:

- Continuing to utilize and experiment with ULSD fuel and clean diesel technology in existing vehicles with the goal of all diesel vehicles, currently in operation, utilizing clean diesel technology to meet United States Environmental Protection Agency (USEPA) 2004 and 2007 emissions standards.
- Continuing to make clean diesel technology the preferred vehicle standard for new heavy-duty refuse vehicle purchases.
- Continuing to test and compare alternative fuel exhaust emissions in order to evaluate hybrid electric refuse vehicles.

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[4] *Ibid.*

- Continuing to pursue its CNG heavy-duty program, so that DSNY will be able to take advantage of potential advancements in CNG technology and fuel cell technology.
- Continuing to develop partnerships with fuel suppliers, original equipment manufacturers (OEMs) and infrastructure providers in order to help reduce the cost of clean fuel implementation.
- For light-duty vehicles, continuing with ethanol purchase and plans for ethanol fueling facilities.
- Utilizing government grants and economic incentives to offset the higher costs associated with natural gas, hybrid electric and ethanol vehicles.

Private waste haulers in the City should consider these options:

- Retrofitting old diesel vehicles with clean diesel technology.
- Beginning to use ULSD ahead of June 2006 mandate.
- Deploying and purchasing clean diesel vehicles now to avoid future expenses that will be needed to meet new strict USEPA emission standards.
- Utilizing government grants and economic incentives to help offset the incremental capital costs associated with natural gas refuse vehicles.
- In conjunction with infrastructure supplier and engine manufacturers, exploring the future option of CNG heavy-duty refuse vehicles.

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[5] Diesel Technology Forum, *Clean Air, Better Performance*, 2003.
[6] *Ibid.*
[7] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[8] *Ibid.*

WASTE VEHICLE TECHNOLOGY ASSESSMENT

1.0 INTRODUCTION

1.1 The Growing Need For Clean Fuel Technologies

After the Second World War, petroleum began to replace coal as the primary energy source in the United States. Engineering developments and increased availability of petroleum resulted in a greater supply and lower cost of gas and oil. This fact, coupled with a post-war economic boom and increased U.S. investment in roads and highways, including the development of an interstate highway system, helped to spur greater automobile usage in this country. U.S. dependence on petroleum-based fuels grew as the automobile helped families migrate from cities to the suburbs, municipalities replaced trolley-car public transportation systems with buses, and trucks supplanted trains as the main transporter of goods.

The increased usage of petroleum-fueled vehicles did not come without a cost. Pollution levels began to rise, particularly in and around American cities, leading to heightened public concern about the relationship between emissions from petroleum fuel combustion and degraded air quality, acid rain and global warming. A by-product of petroleum fuel combustion is the release of gases and minute particles that pollute the atmosphere and create a public health concern. These health and pollution concerns are the primary reason for the push to convert fleets to alternative and clean low emissions fuels in the United States and much of the world.

1.1.1 Pollutants from Fossil Fuel Combustion

Among the gases emitted from fossil fuel combustion is carbon dioxide (CO_2). CO_2 is a naturally prevalent gas in the atmosphere and is as important to plant growth as oxygen is to animal growth. However, CO_2 is also responsible for absorbing radiation and helping to keep the planet warm. The release of CO_2 from fossil fuel combustion in recent decades has caused increased concentrations of CO_2 in the earth's atmosphere. Because CO_2 is an absorber of infrared radiation, it tends to restrict heat loss to space, and this has raised concerns about possible global warming, known as the "greenhouse effect."

Another gas emitted from petroleum fuel combustion is nitrogen oxide (NO_X). The release of NO_X is of particular concern to residents of large cities because it reacts with hydrocarbons (HC) in the presence of sunlight to create ground level ozone (O_3), more commonly referred to as smog. High levels of smog can cause lung and respiratory disorders; even short-term exposure can cause health problems, particularly in children and the elderly.

Particulate matter (PM) is released in the emission of petroleum fuel combustion. PM is the term for particles found in the air, including dust, dirt, soot, smoke and liquid droplets. PM can be large enough to be seen, as is the case with soot, or so fine that it is invisible to the naked eye. High levels of PM in the air can cause respiratory ailments, damage buildings and structures, and pollute water and soil. PM emitted from heavy-duty vehicles' diesel fuel combustion, such as trucks and buses, is of particular concern in dense metropolitan areas. Studies have shown that associations exist between airborne pollutants generated by diesel-powered vehicles and health risks, such as reduced lung function, lung damage, increased asthma attacks and premature mortality.

Other pollutants emitted from fossil fuel combustion are sulfur dioxide (SO_2) and carbon monoxide (CO). SO_2 escapes into the atmosphere where complex chemical reactions take place, converting the SO_2 into sulfuric acid. The sulfuric acid returns to the earth in the form of acid rain. Acid rain can adversely affect certain water bodies and forests, especially those with limited natural acid buffering capacity. CO, the by-product of the incomplete combustion of petroleum fuel, is emitted directly from vehicle tailpipes. CO is a poisonous gas that can affect the cardiovascular and central nervous system by limiting the ability of hemoglobin to carry oxygen.

1.1.2 Dependence on Foreign Oil Supplies

In addition to pollution, the limited supply of crude oil worldwide and the United States dependence on foreign oil sources are additional concerns related to fossil fuel use by transportation vehicles and fleets. Worldwide crude oil production is approaching its peak. Conservative estimates, made by experts associated with oil companies, indicate that the world's

crude oil supply will peak around the year 2025.[1] After peaking, petroleum production will begin to decline, causing the price of petroleum to increase. Serious implications for the U.S. economy are likely to result, as currently over 97% of the fuel used for transportation is petroleum-based. Over the past 20 to 30 years, the United States has become more and more dependent on foreign sources of oil. Domestic petroleum production peaked in the early 1970s and as a result the U.S. economy has become increasingly reliant on foreign sources of oil, particularly from the politically volatile Middle East.[2] World oil reserves nearing their peak and increased U.S. dependence on foreign oil supplies have underscored the need for a transition from petroleum-based fuels to alternative and more efficient fuels or sources of energy.

1.2 Efforts To Promote Clean Fuel Technologies

In order to spur use of clean fuel technologies, federal, state and local governments have passed legislation and set requirements that mandate the use of clean alternative fuels in public and private vehicle fleets. In some cases, government agencies have also subsidized purchases of alternative fuel vehicles (AFVs). The purpose of these efforts is to create a greater market for clean and alternative fuel technologies and foster a wider use of clean and alternative fuels throughout the country.

1.2.1 Federal Mandates That Promote Clean Fuel Technologies

The Clean Air Act (CAA) was first passed in 1970, with significant amendments occurring in 1977 and 1990. The CAA and its implementing regulations are intended to reduce stationary and mobile source air pollution nationwide. CAA regulations set emissions and air quality standards to reduce human and environmental exposure to pollutants. Among the requirements of the CAA are stipulations for certain centrally-fueled vehicle fleets in cities that are in non-attainment areas for CO or O_3 (as defined by the CAA), and to phase in a percentage of new vehicles that meet CAA emission standards.[3]

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[1] National Conference of State Legislatures, *Ground Transportation for the 21st Century*, August 1999.
[2] *Ibid.*
[3] Section 246 of the Clean Air Act as amended 1990, http://www.epa.gov/air/caa/caa246.txt.

1.2.2 Federal Agencies' Role in Promoting Clean Fuel Technologies

The United States Environmental Protection Agency (USEPA) sets the standards for the amount of pollution vehicles can emit and tests heavy-duty engines for emissions certification. The USEPA has recently established a national program to further regulate heavy-duty vehicle emissions, with new standards to become effective in 2007. To comply with the new standards, the USEPA is requiring diesel fuel to have reduced sulfur amounts by 2006.[4] Table 1.2.2-1 summarizes some of the USEPA standards for newly manufactured heavy-duty trucks with a gross vehicle weight rating (GVWR) over 33,000 pounds.

Table 1.2.2-1
Select USEPA Emission Certification Standards (grams/brake hp-hr) for Newly Manufactured Heavy-Duty Trucks over 33,000 pounds

Pollutant	1998-2003	2004-2007	2007+
Non-Methane Hydrocarbons	1.3	*	0.14
NO_X	4.0	*	0.2
Carbon Monoxide	15.5	15.5	15.5
Particulates	0.10	0.10	0.01

Source: INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
*2004 Standards set total NO_X + non-methane hydrocarbons limit of 2.4 grams/brake hp-hr.

The Department of Energy (DOE) is responsible for providing federal leadership on clean fuels technologies by encouraging the purchase and use of AFVs. The DOE provides, through its voluntary Clean Cities program, information and funding for the purchase of alternative fuels. The DOE also manages the State and Alternative Fuel Provider Fleets Credits Program. This program allows credits to be taken for AFV purchases to prove AFV acquisition requirements.

The Federal Department of Transportation provides funding for the acquisition and use of AFVs. Through the Congestion Mitigation and Air Quality Improvement Program (CMAQ), it provides funding to states and cities in non-attainment areas for projects or programs that aim to reduce vehicle emissions and improve air quality. CMAQ funding is authorized through the Transportation Equity Act for the 21st Century (TEA-21).[5]

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[4] U.S. Environmental Protection Agency, Office of Transportation and Air Quality, Heavy Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (EPAA420-F-00-057), December 2000.
[5] U.S. Federal Highway Administration, Office of Environment, *CMAQ Congestion Brochure*, http://www.fhwa.dot.gov.environment/cmaq/funding.htm.

1.2.3 State and Local Initiatives and Mandates

New York City (City) and New York State also have initiatives aimed at stimulating the use of alternative fuels. New York City Local Law 6, passed in 1991, requires the City to purchase AFVs. After passage of this law, the City implemented a multi-agency program with New York City Department of Environmental Protection (NYCDEP), New York City Department of Transportation (NYCDOT), and New York City Administrative Services to buy alternative vehicles and help to develop necessary fueling infrastructure. However, Local Law 6, as with the case of the federal Energy Policy Act of 1992 (EPACT), does not mandate the actual use of alternative fuels but rather the purchase of AFVs. EPACT has mandated the purchases of AFVs for federal government and state government agencies.[6]

The NYCDOT and the New York State Energy Research and Development Authority (NYSERDA) provide grant funding that seeks to offset the incremental costs associated with the purchase of new or converted AFVs. This program is known as the New York City Private Fleet Alternative Fuel Program. Covered under this program are incremental costs (above diesel costs) of vehicle acquisition, conversions and fueling infrastructure, and medium- and heavy-duty natural gas, electric and hybrid electric vehicles (HEVs). However, funding is not available for any additional fuel costs. The City and NYSERDA use federal CMAQ funds for this program.[7] Manhattan Beer, the first private company in the Bronx to use heavy-duty compressed natural gas (CNG) vehicles, received funding under the City's Alternative Fuel Program in 2002.[8]

Funds to purchase AFVs, such as alternative fuel garbage trucks, are also available through the Clean Air Communities program. This program was established in 1999 by the New York State Department of Environmental Conservation (NYSDEC), Northeast States Clean Air Foundation, Northeast States Coordinated Air Use Management and members of the private and non-profit sectors. The program funds clean air transportation programs in the City.[9]

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[6] Alternative Fuel Vehicles Summit, Outcomes & Recommendations, April 11, 2002.
[7] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[8] Alternative Fuel Vehicles Summit, *Outcomes & Recommendations*, April 11, 2002.
[9] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*

The New York City Department of Sanitation (DSNY) has also been successful at obtaining funding for its use of alternative fuel programs. DSNY has been able to acquire CMAQ funding to help purchase CNG refuse trucks; there are currently 26 CNG refuse trucks in its fleet.[10]

Federal tax code allows federal income tax deductions for businesses that purchase AFVs or build a refueling facility that utilizes alternative fuels. These tax deductions are only for the incremental costs compared with diesel vehicles and diesel fueling facilities. The deductions are for converted or retrofitted vehicles and vehicles purchased from original equipment manufacturers (OEMs). The fueling deduction is applicable to each fueling station installed by a business at a single location.

Along with federal tax deductions that target the incremental costs associated with clean fuel vehicles and clean fuel facilities, New York State provides tax credits for AFVs and infrastructure. In addition, New York State has a sales tax exemption for AFVs.[11]

[10] Based on meeting with Spiro Kattan, Supervisor of Mechanics, Bureau of Motor Equipment, DSNY, July 9, 2003.
[11] *Ibid.*

2.0 CLEAN FUEL TECHNOLOGIES BEST SUITED FOR NEW YORK CITY REFUSE HAULERS

2.1 Clean Diesel Technologies

Due to more stringent USEPA regulations concerning diesel engine tailpipe emissions, since the 1970s the diesel engine industry has produced technology innovations that have reduced the emissions produced by heavy-duty diesel engines. Diesel engines produced today emit 83% less PM and 63% less NO_X than comparable engines did in 1988. Furthermore, for on-highway heavy-duty diesel engines built in model year 2007 and beyond, USEPA regulations require reductions of 98% from 1988 levels in both PM and NO_X. Reductions in these emissions are important because diesel engines emit significantly higher levels than gasoline engines. However, diesel engines emit less CO, HC and CO_2 than gasoline engines.[12]

USEPA estimates indicate that the incremental costs of retrofitting a diesel heavy-duty truck to meet 2004 standards will include an average hardware cost of $8,000. This increase in cost will likely add 3% to 8% to the cost of a new garbage truck. Table 2.1-1 indicates that the 2007 standards will also result in new hardware and life-cycle operating cost increases.[13]

Table 2.1-1
USEPA Cost Projections for Heavy-Duty Diesel
2004 & 2007 Emissions Standards (1991 dollars)

Standards (Year)	Hardware Costs	Life-Cycle Operation Costs	Total Incremental Costs
2004 Standards	$5,200-$16,500	$0	$5,200-$16,500
2007 Standards	$2,020-$3,230	$4,180-$4,630	$6,200-$7,860

Source: INFORM, Inc., Greening Garbage Trucks: New Technologies for Cleaner Air.[14]

[12] Diesel Technology Forum, *Cleaner Air, Better Performance Strategies for Upgrading and Modernizing Diesel Engines*, 2003.
[13] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[14] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air*; See also U.S. Environmental Protection Agency, Nonconformance Penalties for Heavy-Duty Diesel Engines, Environmental Fact Sheet, EPA420-F-01-034, December 2001, http://www.epa.gov/otaq/regs/hd-hwy/ncp/f01034.htm; Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements, Regulatory Announcement, EPA420-F-00-57, December 2000, http://www.epa.gov/otaq/regs/hd2007/frm/f00057.htm; U.S. Environmental Protection Agency, *Regulatory Impact Analysis: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*, EPA-420-R-00-026, December 2000, http://www.epa.gov/otaq/regs/hd2007/frm/exec-sum/pdf.

Because well-maintained diesel engines can be operated for 20 to 30 years, this section outlines clean diesel technologies that can be applied to the engines comprising the nation's existing fleet of more than five million diesel trucks not covered under the 2004 and 2007 USEPA emission regulations. Engines built prior to 2007 will still be used up until 2035. Furthermore, 41% of the waste collection vehicles currently in service are more than 10 years old. These vehicles become more polluting as they age and can generate tens or hundreds of times more pollution than their newer engines. Clean fuel technology is a cost-effective way of meeting future regulatory mandates and reducing emissions from older and existing engines that are not covered under the new 2004 and 2007 USEPA emissions standards.[15]

The clean diesel options discussed in this section include advanced exhaust after-treatment, engine modification technologies and ultra-low-sulfur diesel (ULSD) fuel. These technologies can cut vehicle emissions by 90% or more. The remainder of this section will discuss the options and enhancements available to reduce emissions produced from diesel engines. These options and emission reductions are summarized in Table 2.1-2.

2.1.1 Engine Tune-Ups

Proper diesel engine maintenance helps ensure fuel is completely burned during combustion. Fuel that is incompletely burned is emitted as exhaust PM. Proper maintenance and tuning is the least expensive way to reduce PM emissions. This emission reduction strategy can also lower operating costs, extend engine life and improve fuel economy. Common maintenance problems that when fixed improve emissions include improper fuel injection timing, problems with fuel injectors and injection pumps, clogged air filters, poor fuel quality, low air box pressure and malfunctioning turbochargers and after-coolers. Studies looking at the results of repair and maintenance of diesel engines indicate that HC emissions can be reduced 78%, CO 17%, and PM 40%.[16]

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[15] Diesel Report Outlines five R's for Cleaner Air, *Mass Transit*, July/August 2003; Diesel Technology Forum, *Cleaner Air, Better Performance: Strategies for Upgrading and Modernizing Diesel Engines*, 2003.
[16] *Ibid.*

Table 2.1-2
Clean Diesel Enhancement Options and Projected Emission Reductions

Enhancement Option	Particulate Matter	NO_X	Hydro-carbons	Carbon Monoxide	Unit Cost
Basic Emissions Tune-Up[17]	40%	Return to Certification Levels	78%	17%	$500-$2,500
Low-Sulfur Diesel Fuel[18]	17%	---	---	---	$0.01-$0.02/gal[19]
Diesel Oxidation Catalysts (DOCs)[20]	20%-50%	---	60%-90%+	90%+	$465-$1,750
Diesel Particulate Filters (DPFs)[21]	50%-90%	---	90%	90%	$7,500
Exhaust Gas Recirculation (EGR)[22]	---	40%	---	---	$13,000-$15,000
Selective Catalytic Reduction (SCR)[23]	20%-30%	75%-90%	80%	---	$10,000-$15,000
NO_X Catalysts	---	10%-70%	---	---	Under Development
2002 Model Year Engine[24]	83%	63%	---	---	$30,000-$40,000[25]
2004 Model Year Engine[26]	83%	81%	---	---	---
2007 Model Year Engine[27]	98%	98%	---	---	---

Source: Diesel Technology Forum, *Cleaner Air, Better Performance Strategies for Upgrading and Modernizing Diesel Engines*, 2003.

[17] Colorado Institute for Fuels and Engine Research, Colorado School of Mines and Energy and Environmental Analysis, Inc, *Quantifying the Emissions Benefit of Opacity Testing and Repair of Heavy-Duty Diesel Vehicles*, June 2000.
[18] Estimate for switching from off-road diesel, which averages around 3,000 ppm sulfur to today's federal highway diesel, which averages around 300 ppm sulfur. This percentage is based on data from emission test data from a study conducted by the USEPA. USEPA Office of Mobile Sources, *Exhaust Emission Factors for Non-Road Emission Modeling-Compression Ignition*, June 1998.
[19] The marginal costs increase will vary according to supplier, delivery location, market price, and any pre-negotiated pricing contracts. *Hart's Diesel Fuel News*, May 27, 2002.
[20] Manufacturers of Emission Controls Association, *Retrofitting Emissions Controls on Diesel-Powered Vehicles*, March 2002; MECA Retrofit Fact Sheet, http://www.meca.org/retrofitFAQ.PDF.
[21] *Ibid*.
[22] *Ibid*.
[23] *Ibid*.
[24] Reductions are based on USEPA heavy-duty diesel engine certification standards for new on-highway engines. Percent reductions compared to new engine standards for base model year of 1988. Diesel Technology Forum, *Cleaner Air, Better Performance: Strategies for Upgrading and Modernizing Diesel Engines*, 2003.
[25] Diesel Technology Forum, *Cleaner Air, Better Performance: Strategies for Upgrading and Modernizing Diesel Engines*, 2003; Michael D. Jackson and Fanta Kamakate, NOx Emissions Reduction Technology Status and Solutions, October 2002.
[26] Reductions are based on USEPA heavy-duty diesel engine certification standards for new on-highway engines. Percent reductions compared to new engine standards for base model year of 1988. Diesel Technology Forum, *Cleaner Air, Better Performance: Strategies for Upgrading and Modernizing Diesel Engines*, 2003.
[27] Ibid.

It should be noted that repairs and maintenance of diesel engines tend to increase NO_X emissions. This is expected because engine strategies and repairs that lower PM by increasing combustion efficiency and temperatures increase NO_X emissions. Deterioration of engine equipment that lowers combustion temperature and reduces engine efficiency tends to increase PM emissions and lowers NO_X emissions.

According to a study co-sponsored by the USEPA, repair costs and tune-ups can range from $500 to $2,500, with the average repair cost of $1,088 per vehicle.[28]

2.1.2 Ultra-Low-Sulfur Diesel Fuel and Low-Sulfur Diesel Fuel

Sulfur found in fuel degrades the effectiveness and life of after-treatment devices by inhibiting the function of filters and catalysts found in these devices. Diesel fuel with reduced sulfur content is known as ULSD (sulfur content of 15 parts per million [ppm] or less); low-sulfur diesel fuel contains sulfur content between 30 ppm and 15 ppm. The main purpose of lower sulfur content in diesel fuel is to improve the performance of after-treatment technologies that seek to reduce emission levels. USEPA regulations call for reducing the maximum allowable sulfur in on-road diesel fuel from the current level of 500 ppm to the ultra-low level of 15 ppm by 2006 – a 97% reduction.[29]

It should be noted that ULSD only reduces PM and SO_2 emissions. Used alone without after-treatment devices it does not reduce emissions such as HC, CO or NO_X emissions.

Some operating and maintenance concerns associated with ULSD include a slightly lower fuel economy and concerns regarding the lubrication properties of the fuel. ULSD can result in a slightly lower fuel economy when compared with regular diesel. When sulfur is removed from diesel, the fuel has a slightly lower energy content. Precise measurements of the ULSD fuel economy impacts are challenging because fuel energy content can vary depending on the

[28] Diesel Technology Forum, *Cleaner Air, Better Performance: Strategies for Upgrading and Modernizing Diesel Engines*, 2003.
[29] New York City Department of Sanitation, *Alternative Fuels/Emissions Reduction Program*; Diesel Technology Forum, *Cleaner Air, Better Performance: Strategies for Upgrading and Modernizing Diesel Engines*, 2003.

refinery and exact diesel blend used. In addition, operation conditions need to be taken into account when comparing fuel economies. Studies indicate that the energy content of ULSD can be from 2.4% to 2.8% lower than ordinary highway diesel. Correspondingly the fuel economy of trucks using ULSD is roughly 3% lower than trucks running on regular diesel.[30]

The lubricating properties of diesel degrade when sulfur is removed from the fuel. To address this issue, oil refiners add lubricity additives. Industry lubricity standards are currently being developed for ultra-low diesel fuels. In general, in order to determine if the ULSD fuel is compatible with engine part components, operators should contact their OEMs before using ULSD in pre-1994 engines. In the past, ULSD fuel was causing problems with certain fuel injection devices; these problems have been eliminated for engines built since 1993.[31]

USEPA estimates indicate that new sulfur standards will increase the cost of producing and distributing diesel fuel by $0.045 to $0.05 cents per gallon. Low-sulfur diesel is currently used and being tested in locations in the United States that have significant air quality problems, such as California and the City. DSNY currently uses low-sulfur fuel in approximately 30% of its refuse truck fleet and pays slightly more per gallon (approximately $0.15 on average) for the low-sulfur fuel than for conventional diesel fuel. In 2001, the Metropolitan Transportation Authority (MTA) paid an extra $0.12 cents per gallon for low-sulfur diesel fuel and the Massachusetts Bay Transportation Authority (Boston) paid an additional $0.17 cents per gallon.[32]

2.1.3 Diesel Oxidation Catalysts

Diesel oxidation catalysts (DOCs) have been used for over 30 years; more than 1.5 million units have been installed on heavy-duty trucks built since 1994. They've also been used extensively on urban buses in the United States. These devices are considered the most proven of after-treatment options and can be used with existing or used engines to pollute less by retrofitting them.[33]

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[30] Puget Sound Clean Air Agency, *Facts About Ultra-Low Sulfur Diesel Fuel, Diesel Solutions: Cleaner Air For Tomorrow, Today*; INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[31] *Ibid.*
[32] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[33] Diesel Technology Forum, *Clean Air, Better Performance*, 2003.

According to the Diesel Technology Forum, emissions benefits include reductions of total PM by 20% to 50% and CO and HC by 60% to 90%.[34] (Oxidation catalysts do not reduce NO_X emissions.) However, the USEPA states that DOC reduces emissions by a smaller amount. They contend that DOC reduces emissions of PM by at least 20%, CO by 40% and HC by 50%.[35]

Oxidation catalysts interact with the exhaust stream by oxidizing pollutants into water vapor and gases such as CO_2 and SO_2. Most oxidation catalysts are stainless steel canisters with a honeycomb-like structure inside, called a substrate. Precious metals, such as platinum and palladium, coat the interior surface of the substrate, helping to produce a chemical reaction that oxidizes the pollutants found in the exhaust stream. Oxidation catalysts can be used with regular diesel fuel, but the effectiveness may be increased with the use of ULSD fuel (15 ppm sulfur).

Costs for these devices range from $465 to $1,750, and may take from one to three hours to install. Like a catalytic converter on a car, once a DOC is installed it rarely requires maintenance. They last from 7 to 15 years and usually have a 100,000 to 150,000 mile warranty.

Figure 2.1.3-1
Diesel Oxidation Catalyst

[34] *Ibid.*
[35] U.S. Environmental Protection Agency, Office of Transportation and Air Quality, *Questions and Answers on Using Diesel Oxidation Catalysts in Heavy-Duty Trucks and Buses*, June 2003.

2.1.4 Diesel Particulate Filters

Diesel particulate filters (DPFs), when used with ULSD, can reduce PM emissions by 50% to 90%, and HC and CO emissions by as much as 90%. However, like oxidation catalysts, these devices do not reduce NO_X emissions. Particulate filters cost roughly $7,500.[36]

DSNY filters cost $6,000 each. Testing by DSNY and West Virginia University of DPFs on heavy-duty sanitation vehicles has shown that particulate filters have the ability to reduce PM emissions by 81% to 97%. These tests compared diesel sanitation trucks that were equipped with DPFs against vehicles that were not equipped with the same filters.[37]

Particulate filters consist of a filter placed in the exhaust stream to collect particulate emissions as the pollutants pass through the filter. One main problem with these devices is that the filters become clogged over time and trap less and less particulate. Current research is focused on developing methods to dispose of this particulate by oxidizing it within the filter (filter regeneration). Like DOCs, particulate filters can be used with retrofitted engines. Tests are ongoing that are assessing the use of DOCs and DPFs in waste collection trucks. These after-treatment options are not yet widely available for waste collection trucks. DSNY is taking the lead in testing these technologies.

Figure 2.1.4-1
Particulate Filter

[36] Diesel Technology Forum, *Cleaner Air, Better Performance: Strategies for Upgrading and Modernizing Diesel Engines*, 2003.
[37] West Virginia University, Transportable Heavy Vehicle Emissions Testing Laboratory, *DPF Demonstration Program: Final Data Report,* November 2002.

2.1.5 Exhaust Gas Recirculation

Using exhaust gas recirculation can reduce NO_X emissions. It lowers NO_X by reducing the oxygen content in the combustion chamber. A share of the engine exhaust is recycled back to the engine air intake. The exhaust gas is then mixed into the fresh air that enters the combustion chamber. Because the exhaust gas is oxygen-depleted, this gas then reduces the oxygen content within the combustion chamber, resulting in a lower temperature burn and lower NO_X emission levels.

Due to the formation of sulfuric acid from the sulfur present in the fuel and lubricating oil, exhaust gas recirculation tends to reduce engine durability. However, with the new, lower-sulfur diesel fuels, production of sulfuric acid will be minimized. Exhaust gas recirculation can reduce NO_X emissions by as much as 40%, and can be used with engines that are being retrofitted.

Solid waste vehicles and buses in the United States are currently experimenting with exhaust gas recirculation. This engine modification system costs between $13,000 and $15,000.[38]

2.1.6 Selective Catalytic Reduction Devices

Selective catalytic reduction (SCR) has been used for over 15 years to reduce NO_X emissions from stationary sources. In the United States, SCR has been used in electrical utility boilers that burn coal and natural gas and in combustion turbines burning natural gas. SCR is now being developed in retrofit projects on mobile sources, including trucks and marine vessels. Emission reductions include NO_X by 75% to 90%, HC reductions up to 80% and PM reductions of 20% to 30%.

SCR operates like an oxidation catalyst by using chemical reactions that change pollution compounds. In addition to the catalytic activity, a reducing agent – usually ammonia or urea – is added to the exhaust stream. The reducing agent converts NO_X to nitrogen and oxygen. The exhaust gas and the reducing agent pass over the catalyst-coated substrate, where NO_X, PM and HC are converted to nontoxic emissions, such as molecular nitrogen and water. SCR devices cost between $10,000 and $50,000 per vehicle.[39]

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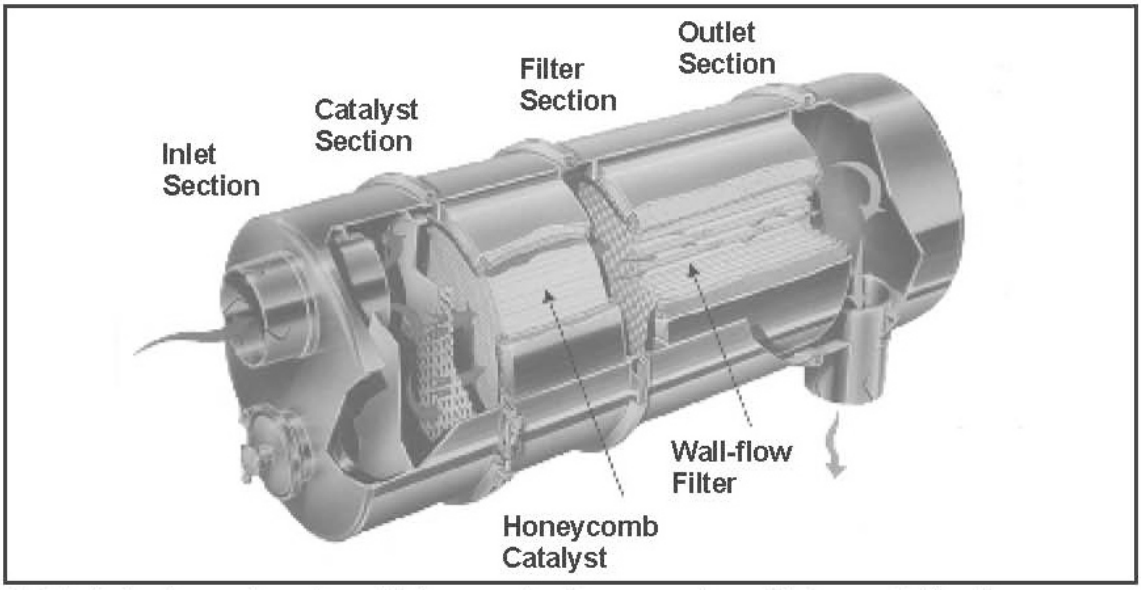
[38] *Ibid.*
[39] *Ibid.*

Figure 2.1.6-1
Cutaway View of a Catalytic Converter



2.1.7 NO_X Catalysts

Currently, NO_X catalysts are being experimented with in the United States on retrofitted vehicles. Two NOx catalyst technologies are currently being developed that can reduce NO_X emissions up to 70%.

The first technology is called "lean NO_X catalyst." It works in the same manner as SCR by adding a reducing agent to the exhaust stream in order to speed up catalytic conversion. Diesel fuel is injected into the exhaust gas to add HC, which acts as a reducing agent. The NO_X gas is then converted into nitrogen and water vapor.

The second technology is called "NO_X absorber." This technology operates in two stages. The NO_X is converted and absorbed into a chemical storage site within the system. When the absorber becomes saturated, it is regenerated by adding extra diesel fuel to the exhaust stream. The added fuel causes the NO_X to transform into nitrogen and oxygen that is then released from the system. These devices are still under development and unit costs are unavailable.[40]

[40] *Ibid.*

2.1.8 New Engine Technology

In certain circumstances the replacement of older diesel engines and equipment may represent for the operator and fleet manager the most sensible and cost-effective emissions improvement options. When old vehicles are replaced, fleet managers can substitute their oldest and worst emissions performers with new technology present in new diesel engines. PM emissions from new on-highway diesel engines have been reduced by 83% and emissions of NO_X by 63% since 1983. New engines will continue to get cleaner as tougher emission standards take effect in 2004 and 2007; by 2007, new engines will provide 98% reductions in both PM and NO_X over 1988 engines. These reductions can be attributed to improvements in fuel delivery, the design of combustion chambers and turbo-charging. For example, current engines provide for a more complete burn by enabling the fuel to be injected at high pressures, and the timing of the fuel injection can be varied to allow for different emissions goals when vehicles operate under various vehicle-operating conditions.[41]

2.1.9 Implementation Issues

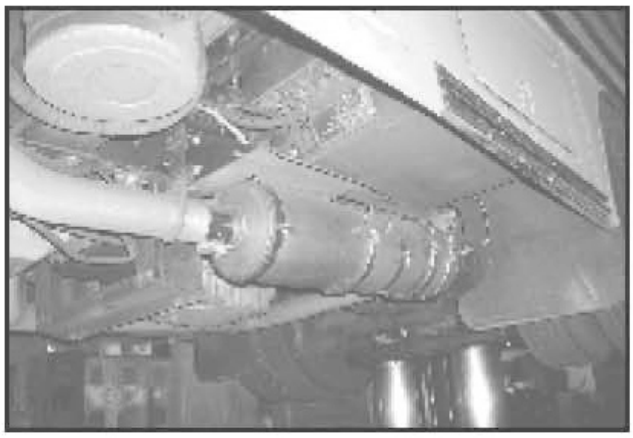
Many of the clean fuel enhancement technologies discussed above have certain requirements, such as ULSD, specific maintenance and monitoring requirements. In order to guarantee successful emission reductions, fleet managers must consult with engine manufacturers and technology vendors to address implementation issues. If engine retrofitting is desired, the selection of appropriate engines and corresponding appropriate after-treatment technologies must take place. Some engines make better retrofit candidates than others; some engines and vehicles may be inappropriate for upgraded investment. This section will briefly address some implementation issues regarding ULSD, engine enhancement technologies and exhaust after-treatment devices.

[41] *Ibid.*

Proper installation of after-treatment devices is an issue of prime importance. Many such devices replace the original exhaust muffler but are larger and heavier than the original. For certain truck models, specific engineering may be required for proper installation and filter support, and customized installation hardware may be required. Clearance between the filter and the cab may also be an issue. It should be noted that improper servicing or sizing of the filters would generally not be covered by the filter warranty or engine maker.[42]

When ULSD is required with an after-treatment device, it is important to make sure that only ULSD is used with that particular device. The most effective way to avoid misfueling vehicles that require ULSD is to convert the entire fleet and fueling facility to USLD. If this cannot be done or is not feasible, lockable fuel caps and segregated fuel storage tanks should be used. If fleet vehicles are not centrally fueled and there might be a risk of fueling with higher sulfur diesel off site, detailed planning should be undertaken. Educating fuelers and drivers of this issue is of prime importance. Other important implementation issues include understanding the duty-cycle that the filter will be exposed to, determining the service intervals, and filter maintenance procedures. Service intervals are typically determined by looking at the service environment, engine duty cycle and engine oil consumption.[43]

Figure 2.1.9-1
School Bus Retrofitted with a Particulate Trap



[42] *Ibid.*
[43] Puget Sound Clean Air Agency, *Facts About Ultra-Low Sulfur Diesel Fuel, Diesel Solutions: Cleaner Air For Tomorrow, Today*; INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*

2.1.10 Clean Diesel Case Studies

2.1.10.1 New York City - Department of Sanitation[44]

DSNY currently has 600 of its 2,040 garbage trucks using low-sulfur diesel fuel, which contains sulfur up to 30 ppm by weight. DSNY is currently testing the effectiveness of a particulate trap used in combination with this fuel. (A study from the California Air Resources Board found the use of ULSD [sulfur content of 15 ppm] with a particulate trap has cleaner emissions than CNG.) If it proves worthwhile, they will outfit all trucks with particulate traps. So far, DSNY is quite pleased with the emission results of low-sulfur diesel fuel and particulate traps; they've been a leader in experimenting with use for heavy-duty refuse vehicles. By the end of this year DSNY is scheduled to complete construction on a heavy-duty vehicle emissions testing facility that will allow them to test diesel and alternative fuel exhaust emissions.

2.1.10.2 City of Los Angeles - Bureau of Sanitation[45]

In response to the Clean Fuel Policy adopted by the Los Angeles City Council in June of 2000, the Bureau of Sanitation has implemented an Alternative Fuel Program. The Bureau is committed to retrofitting the existing diesel-only sanitation trucks in its fleet with clean diesel technology, such as particulate traps and low-sulfur diesel. The fleet consists of 660 diesel fuel and dual fuel heavy-duty vehicles, including side loaders, front loaders, rear loaders, transfers and rolloffs.

Use of ultra-low-sulfur fuel began in November 2001 and particulate trap utilization started in July of 2002. All of the Bureau's vehicles that have particulate filters (except for two) use Englehard DPX DPFs. These particular traps are passive systems that use a catalyst (a combination of platinum and a base metal oxide) that is found in the porous walls of the filter. The catalyst helps to oxidize the collected PM by lowering the exhaust temperature.

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[44] Based on meeting with Spiro Kattan, Supervisor of Mechanics, Bureau of Motor Equipment, DSNY, July 9, 2003.
[45] Based on e-mail correspondence with Alex H. Helou, Director, City of Los Angles, Sanitation Bureau, August and September, 2003.

The cost for each DPF (including the device and its installation) is between $6,300 and $6,500. The Bureau did not have any particulate filter maintenance or operating cost data. Vendors originally stated that the filters would not have to be serviced unless signaled by the back-pressure monitoring system lights. However, they have recently started to suggest that the traps be serviced once a year or every 12,000 miles.

Prior to implementation, Los Angeles conducted testing for a year in order to determine the effectiveness of particulate traps. A study conducted by the City of Los Angeles and the National Renewable Energy Laboratory found that PM emissions were reduced by 90% in the diesel-only refuse collection vehicles equipped with DPFs and operated on ULSD, compared to diesel-only refuse collection vehicles that were not equipped with particulate traps and were operated using regular California Air Resources Control Board diesel. The study stated that vehicles retrofitted with DPFs had lower levels of HC and CO emissions. The pollution reductions of refuse vehicles currently in operation have met the Bureau's expectations and have been found to be similar to tests and studies completed prior to implementation.

2.2 Natural Gas

Natural gas is a mixture of HC, with methane gas (CH_4) as the primary component. The gas is an abundant domestic resource that can be extracted from underground reserves or produced as a by-product of landfill operations. After extraction, natural gas requires only a purification (from sulfur compounds) and separation (from heavier hydrocarbons) process before being ready for use, thereby avoiding the expensive refining process needed for petroleum fuels. Natural gas is used extensively in the home heating market and a vast natural gas pipeline delivery system of 1.3 million miles is in place in the continental United States.[46]

2.2.1 Fuel Characteristics

Natural gas can be used as an alternative fuel source to power vehicles in either a gaseous or liquid state. In the gas form, natural gas is compressed to 3,000 pounds per square inch to 3,600 pounds per square inch and is stored on the vehicle in high-pressure tanks. The compressed form of the gas, referred to as CNG, is transferred to the vehicle at the fueling

[46] Helen Cothran, ed., *Energy Alternatives,* November 2002.

station. To create liquefied natural gas (LNG), natural gas is cooled to minus 260 degrees Fahrenheit. The liquefaction process occurs either at the refueling site or off site and delivered by truck.[47]

There are different processes for the combustion of natural gas in an engine, including stoichimetric, lean-burn and dual-fuel diesel. Stoichimetric is a spark-ignited internal combustion that uses equal parts of fuel and air. Lean-burn is also spark-ignited but uses more air to minimize NO_X emissions. Dual-fuel diesel natural gas engines run on both diesel and natural gas. They utilize a compression ignition system (such a system is required for diesel ignition) in which a small amount of diesel is used to ignite the natural gas. At low speeds or when idling, dual-fuel engines run on diesel, but at higher speeds the amount of natural gas used can increase to 80% to 85% of the fuel being consumed by the vehicle. The majority of CNG vehicles use the lean-burn technology, due to the NO_X reduction benefits.[48]

CNG and LNG refuse trucks are in waste collection truck fleets in municipalities throughout the United States, including the City. DSNY began using CNG trucks in their refuse hauler fleet in 1989, with 16 such trucks. They were the first municipal sanitation agency in the United States to begin testing natural gas refuse vehicles.[49] Currently DSNY has 26 CNG garbage trucks in their refuse hauler fleet and nine CNG street sweepers. They also have about 350 CNG light-duty vehicles that have dual fueling capabilities (gasoline or CNG).

2.2.2 CNG vs. LNG

When compared, CNG and LNG each have advantages and disadvantages. The advantage of LNG over CNG is that it offers a greater range for the vehicle; in the liquid state more natural gas can be stored. The liquefied state also allows for faster fueling of LNG vehicles. CNG fueling can take a few minutes or several hours, depending on the type of fueling system. The quick-fill fueling system uses a high-pressure tank compressor to fill the vehicle's tank within a few minutes. The slow-fill fueling system does not require the high-pressure compressor system, but can take six to eight hours to fill the tank of a CNG vehicle.[50]

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[47] Energy Information Administration, *Developments in U.S. Alternative Fuel Markets,* 1999.
[48] The World Bank, *Breathing Clean: Considering the Switch to Natural Gas Buses*, 2001.
[49] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[50] *Ibid.*

The advantages of CNG over LNG are mostly safety related. If LNG is accidentally spilled, it will pool on the ground, creating a potential fire hazard if an ignition source is nearby. CNG is lighter than air and if spilled will rise, lessening the chance of ignition. Odorants can also be added to CNG, which will help in the detection of a spill. In addition, methane detectors are often utilized with CNG for added safety protection. (Methane is the largest component of natural gas.) LNG is odorless and odorants cannot be added in order to facilitate easy detection - leak detection is based solely on a methane detection system.[51]

There is currently a moratorium in the City on the establishment of LNG fueling facilities.[52] CNG is the only natural gas option available in the short and near term for the private and public refuse haulers due to this moratorium. Therefore, LNG will not be discussed further in this report.

2.2.3 Safety

Like petroleum fuels, CNG is stable but flammable. The danger of CNG is from leakage coming from the tanks or during the fueling process. However, unlike other fuels, CNG is a gas under pressure and requires a different facility and personnel-training procedures than conventional fuels.[53]

There are several essential elements that need to be in place in order to have a safe CNG facility. Facilities need high ceilings with ventilation systems to dissipate any escaped natural gas that will rise and collect in the ceiling of a facility; methane gas sensors are also usually installed to detect gas build-up. CNG buses and tanks should not be stored near strong ignition sources that could ignite leaked gas. (Possible ignition sources include open-flame gas heaters or spark-producing electrical equipment.) Finally, personnel training on the unique properties of CNG fuel and proper procedures to follow is necessary to ensure a safe CNG operation.[54]

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[51] *Ibid.*
[52] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[53] U.S. Department of Energy, *Running Refuse Haulers on Compressed Natural Gas*, November 1997.
[54] *Ibid.*

2.2.4 Costs

The cost of acquiring CNG vehicles and the infrastructure needed is one of the main drawbacks for fleet operators seeking to use CNG as an alternative fuel. The incremental cost of a CNG refuse truck ranges from $38,000 to $70,000 over a standard diesel refuse hauler. However, this price differential may decrease in the future as the prices of diesel engines increase in response to stricter USEPA diesel engine requirements that will be in place in 2007.[55]

In addition to requiring a more expensive truck, CNG requires a capital investment in fueling infrastructure. The cost of a CNG infrastructure can range between $500,000 and $1,250,000. These costs cover the compressor needed for the natural gas and ventilation and alarm systems.[56]

Another cost to consider for CNG garbage trucks is the cost of fuel. In the City the cost of a natural gas gallon equivalent is more than the cost of a gallon of conventional diesel fuel.[57] In addition, the natural gas market is subject to price volatility that is more extreme than for the price of oil. The demand for natural gas has increased in past years and the production has not been able to keep up. Increasing the supply of natural gas faces many obstacles; increased drilling for natural gas in North America raises environmental concerns, and access to foreign supplies is hampered by an insufficient number of tankers and terminals in the U.S. that are needed to import natural gas.[58]

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[55] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[56] *Ibid.*
[57] *Ibid.*
[58] Simon Romero, Short Supply of Natural Gas Raises Economic Worries, New York Times, June 17, 2003.

2.2.5 Fuel Emissions

The principal benefit of CNG over conventional diesel fuel is the reduction of tailpipe emissions. Experiences of CNG operators and several studies on the subject have documented the reduction of pollutant emissions of CNG over standard diesel. One such study completed by the Northeast Advanced Vehicle Consortium found that CNG engines had 50% to 60% lower NO_X emissions than conventional diesel. It also showed that PM emissions were 80% to 90% lower for CNG engines than for diesel engines.[59]

These reductions in NO_X and PM are corroborated by a report completed by INFORM, an independent environmental research group. After surveying several refuse haulers using CNG, INFORM reports that PM emissions were reduced anywhere from 67% to 94%, and NO_X emissions were reduced 32% to 73%. Additionally, INFORM results show CNG refuse fleets reporting non-methane HC emissions reductions of 69% to 83%.[60]

One drawback of CNG emissions is related to the release of greenhouse gases, particularly CO_2 and CH_4. Intuitively, CNG should have lower carbon emissions, since it is comprised mainly of CH_4 (which has a high hydrogen to carbon ratio). Theoretically, this should translate into low CO_2 emissions relative to diesel fuel (which has a lower hydrogen to carbon ratio). However, according to the aforementioned report completed by the Northeast Advanced Vehicle Consortium, the extra weight and throttle loss of CNG vehicles relative to conventional diesel vehicles results in a lower fuel economy for CNG trucks and cancels out the potential CO_2 emission benefits of CNG. Moreover, CNG vehicles release unburned fuel in the form of CH_4, which is classified as a greenhouse gas. The factors lead to CNG actually emitting more greenhouse gases than conventional diesel fuel vehicles.[61]

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[59] Northeast Advanced Vehicle Consortium, *Hybrid-Electric Drive Heavy Duty Vehicle Testing Project*, February 2000.
[60] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[61] Northeast Advanced Consortium, *Hybrid-Electric Drive Heavy-Duty Vehicle Testing Project*, February 2000.

2.2.6 Incentives and Disincentives

The main incentive for choosing natural gas as an alternative fuel for heavy-duty refuse trucks is the emissions benefits. Studies of heavy-duty engines running on CNG and diesel have shown that engines fueled with CNG emit significantly less PM (80% to 90% less) and NO_X (50% to 60% less) emissions than diesel engines. However, CNG engines emit higher total HC than diesel engines, which is mostly due to higher CH_4 release.[62]

Another benefit of using a CNG engine is the reduction of engine noise. CNG engines are significantly quieter than diesel engines. Some studies have reported a 50% to 98% reduction in noise with CNG trucks, depending on the position of sanitation personnel relative to the engine. Much of the engine noise reduction is gained during idling and slow speeds.[63]

CNG use as an alternative fuel is seen as a bridge to the eventual use of hydrogen as a fuel for vehicles. Though still far off, hydrogen fuel cell technology is advancing and one day its use as a fuel could be as prevalent as diesel and gasoline are today. Natural gas is a source of hydrogen for fuel cells and investing in CNG facilities now will ease future transitions to hydrogen fuel cells as a vehicle fueling source.[64] (Fuel Cells will be discussed later in this report.)

One of the major disincentives to creating a CNG refuse truck fleet is the cost related to purchasing the trucks and the infrastructure needed for a CNG facility. Trash haulers, either private companies or public agencies, have limited budgets and are concerned about their financial bottom line. A CNG trash hauler can cost up to $70,000 more than a conventional diesel truck. In addition, the cost of a CNG facility with fueling, proper ventilation and leakage alarms can cost $500,000 to $1,250,000 to construct.[65]

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[62] *Ibid.*
[63] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[64] *Ibid.*
[65] *Ibid.*

Another disadvantage of CNG is that most of the natural gas used in CNG engines comes from reserves in North America. Demand for natural gas has increased in the past few years and the supply has not been able to keep pace. This has caused extreme price fluctuations. Attempts to increase supply by drilling for additional natural gas reserves has met resistance from environmental groups and the importation of natural gas (in a liquid form) requires an investment in proper docking facilities and a transport infrastructure necessary to handle natural gas.[66]

In addition to the cost implications of CNG, there are logistical issues that could be disincentives to using CNG with refuse haulers. CNG vehicles have limited range and the expense of constructing fueling stations prohibits a network of fueling stations from being constructed. This does not offer operators much flexibility to use CNG trucks on various routes, as distance from the fueling station must always be considered. The CNG refuse trucks are also heavier and longer than conventional diesel garbage trucks, leading to the CNG trucks having lower fuel efficiency than diesel engines and making it harder for CNG trucks to maneuver through narrow city streets.[67]

Finally, there are some environmental drawbacks from the emissions associated with CNG combustion. CNG engines have been found to emit noticeable levels of CH_4 and CO_2, both of which are greenhouse gases. The emission of formaldehydes is also a concern with CNG emissions.[68]

2.2.7 CNG Case Studies

2.2.7.1 New York City Department of Sanitation[69]

DSNY has been a leader in using CNG engines in its collection fleet. They began their CNG program in 1989 with 16 CNG garbage trucks. The CNG program has grown to include 26 CNG garbage trucks in the DSNY hauler fleet and nine CNG street sweepers that are considered part of their heavy-duty fleet. DSNY also has about 350 CNG light-duty vehicles that have dual fueling capabilities (gasoline or CNG).

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[66] Simon Romero, Short Supply of Natural Gas Raises Economic Worries, New York Times, June 17, 2003.
[67] Based on meeting with Spiro Kattan, Supervisor of Mechanics, Bureau of Motor Equipment, DSNY, July 9, 2003.
[68] *Ibid.*
[69] *Ibid.*

The major problem with DSNY's CNG truck program is the lack of fueling infrastructure. Currently, DSNY's CNG trucks refuel at Keyspan and Con Edison CNG fueling facilities, which have capacity issues. These facilities have a hard time supporting both the DSNY fleet and their own CNG fleet. The result is that DSNY CNG trucks have fueling times that are significantly longer than their diesel counterparts.

DSNY is planning to build a CNG facility in Woodside, Queens. This will help address the fueling-time issue, but there are other factors related to CNG that are still a concern. One is that the centralized nature of the new CNG facility would run counter to DSNY's somewhat decentralized operations. Having one central CNG facility doesn't let DSNY have the flexibility of fueling at different facilities. This is troubling because CNG trucks have limited range, which is one of the main complaints of the operators using CNG trucks. Diesel trucks are refueled every two to three days -- CNG trucks need to be refueled every day. Construction of additional CNG fueling facilities is difficult as there is community opposition; the facilities are perceived as unsafe and require a great deal of real estate to accommodate the large garbage trucks.

Some of the range issues DSNY has encountered with CNG could be solved if LNG could be used. Since LNG is in liquid form, a truck can hold more fuel, thereby increasing the range of the truck. (Increasing the range of CNG is important as CNG trucks cannot be used for waste export out of the City because of this limitation.) However, there is a moratorium on LNG in the City and there are no current initiatives to lift it.

Another issue related to CNG is that DSNY maintenance and fueling facilities need to be upgraded. Escaping gas is a major concern; air monitors and circulation devices need to be installed and training of DSNY personnel has to occur. A CNG truck is two feet longer than a standard garbage truck. This creates a storage problem, as well as problems navigating the truck through narrow streets. The CNG vehicle is also a heavier vehicle and has less refuse capacity. In addition, the CNG trucks experience a degradation of engine performance as the pressure in the tank decreases.

The price difference of CNG and standard refuse trucks is more than $70,000. CNG trucks cost $212,000 versus $133,000 for standard diesel refuse trucks. Also, CNG costs more per gallon equivalent than diesel. DSNY pays just under $1.00 per gallon for diesel and over

$1.00 per gallon equivalent for CNG (price can vary due to natural gas market conditions). Since CNG has a lower density per gallon compared to diesel, CNG trucks are also not as fuel efficient as diesel trucks, which further increases the cost differential between the two fuels.

2.2.7.2 New York City Transit Gleason Depot CNG Facility[70]

The Jackie Gleason Depot has roughly 250 CNG buses and in the future will hold an additional 250 CNG buses. Located in Sunset Park, Brooklyn, the depot functions as a storage, fueling and maintenance facility (except major overhauls) for CNG buses. The CNG program first started in 1994.

Several drawbacks have been noted with CNG use at the facility. CNG has longer fueling times than conventional buses and higher operational costs (the depot was unable to quantify the higher costs). The CNG buses weigh more, due to the added weight of the tanks, and use 20% to 30% more fuel than diesel buses. However, it was noted that highway driving uses less fuel.

Safety is also a big concern with CNG used at the depot. There is emergency ventilation throughout the facility, emergency doors and alarms, and methane detectors, and special measures are taken to seal electrical equipment and wires, adding to the cost of using CNG. Plus, a one- to two-day CNG training seminar is necessary for drivers and maintenance workers. CNG is not necessarily more dangerous, but it requires different precautions than those for diesel fuel.

In order to have the CNG facility at the depot, a new fueling infrastructure was built and an outside contractor hired to maintain and monitor fueling and CNG on-site infrastructure. A CNG vehicle costs roughly $70,000 more than a diesel bus (a diesel bus is approximately $270,000) and the facility upgrades were a huge cost. In addition, CNG buses have lower reliability and more maintenance requirements than diesel buses, requiring more spark plugs and increased replacement of ignition components.

[70] Based on meeting with Gordon Coor, Superintendent Research and Development, MTA-NYCT, July 2003.

Although the depot does not have exact emissions data, CNG were noted as having higher greenhouse gas emissions than diesel buses. There is an increase in CO_2 and CH_4. However, CNG PM and NO_X emissions are lower than conventional diesel emissions.

2.3 CNG vs. Clean Diesel (Cost Comparison)

In order to compare compressed natural gas refuse vehicles with vehicles operating on clean diesel technology, the costs associated with both options need to be analyzed. These costs include capital costs, such as vehicle and infrastructure costs. (Infrastructure costs include vehicle storage, maintenance and refueling facilities.) Operating costs (fuel and maintenance) will also need to be evaluated, as well as economic incentives such as government grant programs used to purchase AFVs.

2.3.1 Capital Costs

Major new capital outlays are required before the conversion of a diesel garbage truck fleet to one that operates with natural gas can take place. Capital costs needed may include the purchase of more expensive natural gas refuse vehicles, the modification of existing storage and maintenance facilities, the construction of new storage and maintenance facilities, and the provision of refueling infrastructure.

2.3.1.1 Vehicle Costs

Natural gas garbage trucks are more expensive than conventional, diesel refuse vehicles. Natural gas garbage trucks have more expensive engine and fuel storage systems; manufacturers charge more for CNG vehicles in order to cover the costs of development, certification and warranty service; and the smaller number of CNG vehicle orders contribute to their higher prices.[71]

[71] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*

DSNY reports that the price difference between CNG refuse vehicles and standard refuse trucks is more than $70,000. DSNY states that CNG trucks cost $212,000 vs. $133,000 for standard diesel refuse trucks -- 60% more. The DSNY cost differential is much higher when compared to other required costs. Waste Management, for example, cites an average cost of $234,000 for a new natural gas truck vs. $200,000 for comparable diesel models -- 17% more. The public interest group INFORM attests that natural gas refuse trucks cost an additional $40,000 over the median $170,000 price of a conventional diesel refuse truck -- a 24% cost differential. None of these sources specified if the diesel trucks utilized after-treatment technology or engine modification technology to reduce emissions. It is assumed that the cost figures reported do not include such clean diesel technologies. See Table 2.3.1.1-1 for a comparison of these figures.

Table 2.3.1.1-1
Vehicle Comparison (CNG vs. Conventional Diesel)

Source	CNG	Diesel	Incremental Cost of CNG
DSNY	$212,000	$133,000	$79,000 (60%+)
INFORM	$210,000	$170,000	$40,000 (24%+)
Waste Management	$234,000	$200,000	$34,000 (17%+)

The vehicle costs differences for CNG and diesel refuse vehicles are similar to those found with transit bus vehicle costs. The Natural Resource Defense Council indicates the CNG buses cost 20% to 30% more than diesel buses. Moreover, a U.S. General Accounting Office study, "Mass Transit: Use of Alternative Fuels in Transit Buses," states the transit operators who operate CNG buses pay approximately 15% to 25% more on average for full-sized CNG buses than for similar diesel buses. CNG buses cost between $290,000 and $318,000, while typical standard diesel buses cost between $250,000 and $275,000.[72]

In order to accurately compare vehicles that use clean diesel technology with CNG vehicles, the costs of exhaust after-treatment and engine modification technology need to be taken into account. (See Tables 2.3.1.1-2, 2.3.1.1-3 and 2.3.1.1-4.) Based on data gathered from a Diesel

[72] Natural Resources Defense Council, *The Role of Clean-Fuel Buses in New York City's Transit Future*, September 4, 1997; U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

Technology Forum report published in May of 2003 entitled "Cleaner Air, Better Performance: Strategies for Upgrading and Modernizing Diesel Engines," unit cost figures for the different clean diesel technologies will be applied to the three different baseline diesel truck cost figures listed in Table 2.3.1.1-1.

NO_X catalysts were not included in the clean diesel and CNG vehicle cost comparison because the technology is still under development and unit costs were not available. In addition, each clean diesel technology is applied by itself to the baseline conventional diesel costs and not in conjunction with other clean diesel technologies. In actuality, a combination of clean diesel technologies may be utilized, further reducing the CNG vehicle cost/conventional diesel vehicle cost differential.

Table 2.3.1.1-2
DSNY Vehicle Cost Comparison (CNG vs. Clean Diesel)

Clean Diesel Technology	CNG Cost	Clean Diesel Cost	Incremental Cost of CNG
Oxidation Catalyst	$212,000	$134,108	$77,892 (58%+)
Particulate Filters	$212,000	$140,500	$71,500 (51%+)
Exhaust Gas Recirculation	$212,000	$147,000	$65,000 (44%)
Selective Catalytic Reduction	$212,000	$163,000	$49,000 (30%)

Table 2.3.1.1-3
INFORM Vehicle Cost Comparison (CNG vs. Clean Diesel)

Clean Diesel Technology	CNG Cost	Clean Diesel Cost	Incremental Cost of CNG
Oxidation Catalyst	$210,000	$171,108	$38,892 (23%+)
Particulate Filters	$210,000	$177,500	$32,500 (18%+)
Exhaust Gas Recirculation	$210,000	$184,000	$26,000 (14%+)
Selective Catalytic Reduction	$210,000	$200,000	$10,000 (5%+)

Table 2.3.1.1-4
Waste Management Vehicle Cost Comparison (CNG vs. Clean Diesel)

Clean Diesel Technology	CNG	Clean Diesel Cost	Incremental Cost of CNG
Oxidation Catalyst	$234,000	$201,108	$32,892 (16%+)
Particulate Filters	$234,000	$207,500	$26,500 (13%+)
Exhaust Gas Recirculation	$234,000	$214,000	$20,000 (9%+)
Selective Catalytic Reduction	$234,000	$230,000	$4,000 (2%+)

It should be noted that the price differential between CNG and diesel vehicles will likely decrease in the future. Stricter USEPA diesel emission requirements are going to take effect in 2007, essentially requiring that diesel engines be equipped with oxidation catalysts and DPFs, thereby increasing a diesel vehicle's overall capital cost. Some economists indicate that demand for CNG vehicles will increase, causing production of these vehicles to rise. The higher demand and likely higher production levels of CNG vehicles will drive down the production costs per vehicle and the overall price per vehicle.[73]

Due to the large capital costs, fleet operators may not want to purchase new CNG trucks. Instead, they may consider retrofitting older diesel engines into CNG vehicles, a process called repowering. During this process, the entire engine and fuel system is replaced. Repowers that convert a diesel vehicle into a CNG vehicle range from $30,000 per truck to $100,000 per truck. This option has lower capital costs than purchasing new CNG or clean diesel vehicles and may be utilized by fleet managers who want avoid the high capital costs of replacing entire vehicles.[74]

2.3.1.2 Infrastructure Costs

The operation of CNG refuse vehicles usually requires building a new refueling infrastructure or the existing fueling facilities undergoing extensive and costly modification. This capital investment is not necessary in order operate clean fuel technology vehicles, as it is assumed that refuse fleet operators already have diesel-bus refueling facilities in place. Clean fuel technology

[73] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[74] *Ibid.*

refuse vehicles operate using ULSD fuel, and this fuel can be used with existing diesel fueling facilities with no modifications or capital costs required. Therefore the fixed capital costs for CNG refueling facilities are incremental to diesel facility fixed capital costs. This assumption may favor clean fuel technology in any cost comparison. Nevertheless, it is realistic given the current widespread use of diesel fleets within the refuse hauling industry. This same assumption also applies to maintenance facilities.[75]

The equipment needed to operate a CNG fueling facility includes gas supply equipment, compressors, control valves, piping, gas conditioners, dispensers and safety equipment. The cost to construct a CNG fast fueling station for refuse fleets generally ranges from $500,000 to $1,250,000.

Due to these high fueling facility costs, many CNG operators choose to share these capital costs by partnering with public or private entities. Local utilities, transit agencies, private refuse companies, delivery truck operators, taxicab companies and municipal governments are all entities that could share in the cost of developing CNG fueling infrastructure. Further, if an existing natural gas refueling facility is already built and it could be shared with a municipal refuse operator or among private waste haulers, significant reductions in infrastructure costs could result. Currently more than 50 U.S. cities are equipped with the infrastructure to refuel natural gas fleets.[76]

Additional infrastructure costs associated with CNG conversion include truck storage and maintenance facility improvements. Operators that switch to CNG must modify indoor storage facilities and maintenance facilities to include proper ventilation and leak detection monitoring systems. Although new CNG maintenance and storage facilities do not cost significantly more than new conventional or clean diesel facilities, retrofitting an existing diesel facility for use with CNG vehicles can be expensive.

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[75] U.S. Department of Agriculture, *Life-Cycle Costs of Alternative Fuels: Is Biodiesel Cost Competitive For Urban Buses*, 1995.

[76] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999; INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air*; U.S. Department of Agriculture, Life-*Cycle Costs of Alternative Fuels: Is Biodiesel Cost Competitive For Urban Buses*, 1995.

Data for CNG refuse vehicles storage and maintenance facilities were not available. However, comparable data was found for CNG transit buses. Typical cost for one maintenance garage is $600,000. Tacoma, Washington's Pierce Transit Authority spent $645,000 to modify their diesel maintenance facility. Larger transit systems such as the Greater Cleveland Regional Transit Authority and Los Angeles County Metropolitan Authority have spent $750,000 and $1,000,000 respectively.[77] (See Table 2.3.1.2-1.)

Table 2.3.1.2-1
Cost of Natural Gas Garbage Trucks and Refueling Infrastructure

Location	Operator	Incremental Cost of New Truck	Cost of Fuel Infrastructure
Irvine, CA	Waste Management	$40,000	$600,000
Moreno Valley, CA	Waste Management	$35,000	$600,000
New York City	Department of Sanitation	$70,000	$1,250,000
Yucca Valley, CA	Waste Management of the Desert	$100,000*	$500,000
Palm Desert, CA	Waste Management	$45,000	$550,000

*Cost of natural gas truck repower

CNG vehicles have significantly higher capital (vehicle and infrastructure) costs than clean diesel vehicles. Comparing diesel/biodiesel vs. CNG, total infrastructure costs per bus (per vehicle) are $1,461 for diesel and biodiesel compared with $10,000 per bus for CNG.[78] (Biodiesel will be discussed in detail in Section 3.1.)

2.3.2 Operating Costs

2.3.2.1 Fuel Costs

Fuel cost is one variable that determines total operating costs. Total fuel cost per vehicle is based on the price per gallon of the fuel and the fuel efficiency of the CNG vehicles in operation. Since CNG vehicles are heavier than conventional diesel counterparts, they are 20% to 40% less fuel-efficient than diesel vehicles.

[77] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1995.
[78] U.S. Department of Agriculture, *Life-Cycle Costs of Alternative Fuels: Is Biodiesel Cost Competitive For Urban Buses*, 1995.

CNG fuel costs vary depending on what part of the country operators are located in. The overall market for natural gas is more volatile than for diesel fuel. During the past few years the demand for natural gas has increased, but production levels have not been able to keep up. This is a major issue influencing price. Currently, due to environmental concerns, there are barriers to new natural gas drilling in North America. Moreover, access to foreign supplies is currently hampered due to a lack of sufficient tankers and terminals capable of importing the needed quantities of natural gas. The transport of enough natural gas in liquid form to meet future demand will necessitate additional investment in tanker and new terminal facilities nationwide.

Other factors that influence CNG price include the cost to compress the natural gas and the nature or extent of any special contracts refuse haulers have with the local gas company or local gas distributors. Some operators can see fuel cost savings by signing contracts with local gas distributors at decreased prices.

In the City, the cost of CNG (dollars per gallon diesel-equivalent) is more than the cost of a gallon of conventional diesel fuel. (See Table 2.3.2.1-1.) DSNY currently pays just under $1.00 per gallon for diesel and over $1.00 per gallon equivalent for CNG (price may vary due to natural gas market conditions). In comparison, ULSD represents a minimal cost increase over regular diesel fuel -- $0.05 to $0.10 cents per gallon more. The USEPA estimates that ULSD will be $0.045 to $0.05 cents more per gallon in 2006 when more stringent sulfur regulations are in place.[79]

Table 2.3.2.1-1
Regional Fuel Prices (2002)

Region	CNG ($ per gallon diesel-equivalent)	Diesel ($ per gallon)	Biodiesel* ($ per gallon)
New England	1.59	1.29	1.77
Central Atlantic	1.52	1.27	1.80
Lower Atlantic	1.05	1.13	1.06
Midwest	1.21	1.13	1.27
Gulf Coast	1.20	1.12	1.40
Rocky Mountain	1.11	1.13	1.29
West Coast	1.31	1.23	1.40

* B20 - 20% biodiesel & 80% conventional diesel; will be discussed more fully in Section 3.1.
Source: INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air*.

[79] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*

2.3.2.2 Maintenance Costs

Maintenance costs include engine and fuel system repairs and parts replacement. Overall maintenance CNG costs are higher than for conventional diesel engines. Factors that contribute to this include increased fuel system inspection, more expensive parts and higher tune-up costs. Data gathered from operators of CNG refuse vehicles and operators of CNG transit buses indicate that maintenance for CNG vehicles is 10% to 20% higher than for conventional diesel vehicles.[80]

Another factor that can contribute to higher maintenance costs for CNG and natural gas vehicles is that when a fleet is largely composed of diesel trucks, the natural gas trucks in the fleet require separate maintenance, storage and fueling facilities (with separate safety protocols). This tends to increase CNG maintenance costs. Conversion of an entire fleet to natural gas with equipment, labor and facilities dedicated to just one fuel type will lower CNG maintenance costs.

Over time, engine improvements have increased the maintenance intervals required for new natural gas trucks relative to earlier models, thus reducing maintenance costs. Manufacturers of natural gas engines contend that extending the maintenance interval between oil changes would provide savings of thousands of dollars over a garbage truck's lifetime. In addition, the after-treatment and emission control technologies present on clean fuel vehicles that will need to meet USEPA 2007 emission standards are likely to raise the maintenance and operating costs of diesel-fueled trucks, thus reducing the maintenance cost differential between clean diesel vehicles and CNG trucks.[81]

Data based on the U.S. Department of Agriculture report entitled "Life-Cycle Costs of Alternative Fuels" indicates that CNG vehicles are approximately 1.7 times more expensive than diesel vehicles. This paper used a 5% discount rate to calculate the present value per bus mile for the total cost of a transit fleet over the 30-year life-cycle of a refueling infrastructure. Diesel buses had the lowest cost at $0.247 cents per mile. The cost of CNG ranged from $0.375 to $0.42 cents per mile. Although this report did not compare CNG vehicles with clean fuel

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[80] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999; INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[81] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*

technology vehicles, the minimal fuel cost increases (due to the use of more expensive ULSD) and higher maintenance costs (due to the use of emission control devices) in clean diesel vehicles will likely not offset the higher CNG cost per mile presented in this report. Total costs evaluated in this report include infrastructure costs, and operating costs such as fuel and maintenance. (Vehicle capital costs were not included.) The author cites that the difference in infrastructure costs between diesel and CNG is the main reason for the lower diesel per mile cost.[82]

2.3.3 Programs and Incentives

Tax incentives and grant programs that give economic and financial preference to companies and agencies that operate natural gas vehicles can make CNG vehicles more economically feasible for waste haulers. Grant money is available from both state and federal sources to help fleets defray the higher capital costs associated with CNG vehicles. These grant programs are not available with diesel and clean diesel vehicles.

The NYCDOT, in conjunction with NYSERDA, authorizes the use of federal CMAQ funding available in order to reduce the out-of-pocket costs associated with the purchase of AFVs. Called the Private Fleet Program, the funds can be used to offset the incremental costs of vehicle acquisition. Up to 70% of the incremental costs of new or converted medium- and heavy-duty CNG vehicles are eligible for funding. New York City Clean Air Communities also has funds available for the implementation of clean air transportation programs in the City -- vehicle and infrastructure costs are eligible.[83]

Most large transit fleets that operate natural gas buses utilize federal funding to offset the higher vehicle costs of these vehicles. For example, Long Island Bus has used federal funds such as CMAQ for its purchase of natural gas buses in Nassau County, and the NYCDOT has also used federal funds for its natural gas purchases.

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[82] U.S. Department of Agriculture, *Life-Cycle Costs of Alternative Fuels: Is Biodiesel Cost Competitive For Urban Buses*, 1995.
[83] U.S. Department of Transportation, Federal Highway Administration, The Congestion Mitigation and Air Quality Improvement Program, http://www.fhwa.dot.gov/environement/cmaq/funding.htm.

Federal and state tax incentives are also available to help lower the capital costs of CNG vehicles. The federal tax code allows businesses that purchase AFVs or build an alternative fuel refueling facility to take tax deductions. The deductions are allowed for the incremental cost of the AFV or facility compared to the diesel counterpart. In addition, New York State offers a tax credit of up to $10,000 for the purchase of a heavy-duty AFV.[84]

[84] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*

3.0 OTHER CLEAN FUEL TECHNOLOGIES AVAILABLE

3.1 Biodiesel

Biodiesel fuel is a fuel produced from biological sources such as vegetable oils and animal fats. It is biodegradable, nontoxic and nonvolatile. The main benefits of biodiesel include lower exhaust emissions and production from renewable energy sources. The major negative is cost. According to the DOE, biodiesel costs roughly $0.30 to $0.40 cents more per gallon than pure petroleum diesel. However, unlike other alternative fuels, biodiesel does not require expensive equipment modifications to vehicles, fueling infrastructure or storage tanks. Another drawback of biodiesel is that in spite of its reduced CO, HC and PM relative to conventional diesel, it emits more NO_X than diesel. NO_X is a precursor to smog and an issue for major cities in non-attainment areas.[85]

3.1.1 Fuel Characteristics

In order to create biodiesel fuel, an oil source is mixed with an alcohol. (A chemical catalyst is used to speed up the process.) The most common alcohol used is methanol, although ethanol is also sometimes used. After the alcohol is mixed with the oil -- typically soybean oil -- a methyl ester (methanol) or an ethyl ester (ethanol) is produced. Both can be used as fuel for diesel engines. The most common biodiesel fuel is the 80/20 blend (80% petroleum diesel/20% biodiesel) called B20. Blending usually reduces the cost of biodiesel and extends the fuel's storage life. Industry experts recommend that biodiesel be used within six months of purchase. In addition, the use of biodiesel poses a problem during the winter months, as the fuel will begin to gel during cold weather.[86]

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[85] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001.
[86] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

3.1.2 Use and Development

Biodiesel was first developed in South Africa before World War II in order to power heavy-duty vehicles. Currently in Europe there is a much larger base of experience and use with biodiesel than in the United States, and in most European countries, there is a total or near-total exemption from fuel taxes on this fuel. In 1992 the National Biodiesel Board started its efforts to commercialize and promote the use of biodiesel fuel in the United States. This trade group places emphasis on the use of soybean oil methyl ester blended with petroleum-based diesel at various percentages. Blends, specifically the B20 blend, display the best combination of cost efficiency and engine emissions benefits, according to the National Biodiesel Board. B20 is widely used as the biodiesel blend among heavy-duty diesel engine operators in the United States.[87]

There is a sufficient supply of biodiesel currently available in the United States. And, there are currently three billion gallons of excess vegetable oil on the market that can be used to make biodiesel. Most biodiesel fuels are made from soybean, rapeseed or canola oil, which are secondary products of the manufacturing process that makes animal protein supplements and animal feed for livestock. Nutritional awareness has led to the increased use of lighter and unsaturated vegetable oils and is lowering demand in the United States for saturated oils and fats. This development is increasing the availability of animal fats and certain vegetable oils for conversion into biodiesel fuel.

3.1.3 Costs

No major modifications are necessary to maintenance garages and fueling facilities when using biodiesel fuel. There is no increased capital cost associated with biodiesel above the capital cost associated with the use of diesel fuel (pure petroleum diesel). According to the National Biodiesel Board, the B20 blend will generally cost $0.15 to $0.30 cents per gallon more than diesel fuel. The DOE's figures have biodiesel (B20) costing approximately $0.30 to $0.40 cents more per gallon than diesel fuel.[88] No explanation could be found to describe the discrepancy in costs between the DOE and the Biodiesel Board.

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[87] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001; U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

[88] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001.

3.1.4 Fuel Emissions

The National Biodiesel Board asserts that, compared to conventional diesel fuel, B100 (pure biodiesel, with no petroleum diesel fuel added) can reduce total unburned HC by 67%, CO by 48% and PM by 47%. In addition, the Board states that B100 will increase NO_X emissions by 10%.[89] The May 2003 edition of BioCycle Energy magazine confirms this by stating that B100 fuel can reduce unburned HC that contribute to smog and O_3 formation by 68% and CO by 44% over conventional diesel fuel.[90]

The data on B20 is more relevant because it is more widespread in use and is used more frequently with heavy-duty vehicles such as refuse trucks. The National Biodiesel Board states that average B20 emissions compared to conventional diesel can reduce total unburned HC by 20%, CO by 12%, and PM by 12%.[91] The NO_X increase is 2%. The increase in NO_X emissions from biodiesel is largely due to the organic portion of the fuel, which, when burned in the engine, releases more NO_X than conventional diesel.

The data reported by public agencies (see Section 3.1.6 Biodiesel Case Studies) that utilize B20 generally corroborates the National Biodiesel Board's data and findings regarding B20 emissions. For example, Arlington County, Virginia reports that using B20 in diesel-powered vehicles has reduced HC emissions for the entire fleet by 30%, CO levels by 20% and PM emissions by 22%. However, emissions of NO_X have increased by 2%. Also, the City of Tacoma, Washington has seen a 20% reduction in CO and PM emissions, with a slight increase in NO_X emissions.

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[89] National Biodiesel Board, http://www.biodiesel.org/pdf_files/emissions.PDF.
[90] Biosolids and Biodiesel Team Up for Sustainable Economics, *BioCycle Energy*, May 2003.
[91] National Biodiesel Board, http://www.biodiesel.org/pdf_files/emissions.PDF.

3.1.5 Incentives and Disincentives

An important incentive for biodiesel use is that operators can use conventional diesel fueling equipment, as biodiesel fuel has mechanical and ignition properties that are comparable to conventional diesel fuel. Since biodiesel is less volatile than diesel fuel, there are no modifications regarding safety procedures. And, using biodiesel in pure or blended form does not require engine or storage modifications as with other alternative fuels, such as compressed natural gas. In short, the capital costs associated with diesel and biodiesel are the same.[92]

In addition, biodiesel compared with conventional petroleum diesel has similar heavy-duty diesel engine performance. There is no difference in terms of power, acceleration or fuel consumption between the two types of fuel. However, some engine manufacturers do not guarantee their warranties on biodiesel blends greater than B20. One benefit of biodiesel over petroleum-based diesel is that it provides better lubricity -- it acts as an engine cleaner and can lubricate the engine more thoroughly, which can contribute to longer engine life.[93]

The major disincentive to using biodiesel is cost; as previously mentioned, biodiesel is more costly than regular diesel fuel. Minor disincentives include the potential for fire hazards, biodiesel's cold weather properties and its properties as a solvent. A physical characteristic of biodiesel is the possibility of spontaneous combustion, as some vegetable oils and methyl ester oxidize in the air. This is not considered a serious issue and can be simply resolved by using closed metal cans for storage. There are no fire hazards during transport. Due to its low volatility during a leak or spill, biodiesel is less likely to ignite than diesel. In addition, there are no specific fire hazards during storage or unloading from storage.[94]

There is a greater probability for biodiesel to gel in colder temperatures than conventional diesel. An additive may be needed to prevent this. Other solutions include using a pour point depressant and storing the vehicles near or in a building. Usually, this cold-weather property of biodiesel is not a problem. B20 blends have been used in Iowa and the upper Wisconsin areas without issues.

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[92] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[93] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001.
[94] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

Because of the excellent solvent properties of biodiesel, the use of fuel filters may increase when first using this fuel. Petroleum diesel can leave deposits in fuel tanks, fuel lines and delivery systems over time. Biodiesel dissolves these deposits and may initially clog filters, necessitating the increased replacement of such filters.[95]

3.1.6 Biodiesel Case Studies

3.1.6.1 New York City Department of Sanitation[96]

DSNY has explored the use of biodiesel as a fuel source for their diesel refuse truck fleet, including meeting with representatives of World Energy, a group that promotes biodiesel. DSNY has identified some barriers that would have to be overcome before considering its use. Beginning in 2004, Mack engines will power all DSNY garbage trucks. Mack voids warranties if a biodiesel blend of more than 5% biodiesel (B5) is used; however, the environmental benefits from using biodiesel can only be derived from blend that is at least 20% biodiesel (B20). DSNY is also concerned by the increase in NO_X emissions associated with biodiesel compared to conventional diesel fuels, which makes it less than ideal for USEPA non-attainment areas, such as the City. (NO_X contributes to the creation of smog.) Another issue identified by DSNY with the use of biodiesel as a fuel source is that it has limited shelf life and could not be used with seasonal DSNY heavy-duty equipment.

3.1.6.2 Arlington County, Virginia[97]

In September of 2002 Arlington County, located just south of Washington D.C., switched to using biodiesel (B20) for use with refuse vehicles. The county also decided to use biodiesel with other vehicles such as fire trucks, school buses and street sweepers that operate using diesel engines. Arlington County's refuse fleet includes 39 cubic-yard side loaders, 31 cubic-yard rear loaders, 25 cubic-yard rear loaders and 3 to 4 small side loaders.

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[95] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001; Rick Markley, Friendly Fuel, *Construction and Mining Trucks;* Tom Moore, Looking for Alternatives, *Fleet Owner*, June 1998.
[96] Based on meeting with Spiro Kattan, Supervisor of Mechanics, Bureau of Motor Equipment, DSNY, July 9, 2003.
[97] Based on phone conversation with Frederic I. Hiller, Chief of Equipment Division, Office of Support Services, Arlington County, Virginia, July 30, 2003.

The main reason the county made the switch was for the reduction in emissions that the use of biodiesel provides. Arlington County is in a non-attainment area for O_3, and HC emissions are an important contributor to O_3 production; the use of biodiesel can reduce these emissions. The reduction in fossil fuel use and the reduction in dependence on foreign oil were other important considerations cited by Arlington County.

The speed it took to implement biodiesel as a fuel for Arlington County's fleet was extremely important in making the decision to use biodiesel. Unlike other alternative fuel options, once the decision was made to switch to biodiesel, it was implemented very quickly. There was no need to modify storage, maintenance or fueling facilities.

Another important factor was cost. Arlington County compared the costs of utilizing CNG and biodiesel, and found there is a large cost difference. The fueling, safety, maintenance and vehicle costs associated with CNG technology are much larger than those for biodiesel. Biodiesel was selected because it is a low-cost alternative.

It should be noted, however, that despite lower biodiesel costs when compared to CNG, Arlington County has seen an increase in fuel costs with the use of biodiesel over what it pays for diesel fuel. It costs the county $1.23 per gallon for biodiesel vs. $0.97 per gallon for diesel fuel.

Arlington County provides extra money for the use of alternative fuel in its vehicle fleet. Hybrid, ethanol and biodiesel vehicles are all currently used. The county sees itself as being proactive in terms of support and funding for the use of alternative fuels. No public sector grants, incentives or mandates were identified as influencing the decision to use biodiesel.

There have been no supply issues. The county contracts out for its fueling needs despite utilizing county-owned fueling facilities. Nationally, engine manufacturers generally honor all warranties with blends of B20 or lower (although Mack does void warranties if blends higher than B5 are used), and there have been no problems regarding warranties for the Ford and Cummings diesel engines Arlington County uses. Overall, there has been no degradation in performance with the use of biodiesel in the county's refuse vehicles. Range and fuel economy are reported to be equal when the county compared both biodiesel and conventional diesel.

As expected, Arlington County has seen overall emissions reductions, with a slight increase in NO_X emissions. Also, two minor maintenance issues have arisen with the use of biodiesel: gelling in cold weather and the excellent solvent and detergent-like qualities of biodiesel. To address the cold weather properties of biodiesel, an additive is used to prevent the fuel from gelling up. In addition, because biodiesel is a good solvent, the vehicle fuel tanks were cleaned when the switch to biodiesel was made, and fuel filters at the fueling pumps were used to remove the deposits left from the use of conventional diesel. Nonetheless, the county reported it has increased its use of primary fuel filters because of biodiesel's solvent-like qualities.

3.1.6.3 Tacoma, Washington[98]

The city of Tacoma, Washington switched to B20 in November of 2001 for use with all of its 85 refuse vehicles. The vehicles include rear, side and front loaders. The city's use of biodiesel has seen a reduction in emissions without compromising the performance of the vehicles or an increase in the city's budget.

In November of 2001, Tacoma contracted out with Kent, Washington-based Petro Card to provide B20 biodiesel and mobile fueling. Mobile fueling is the process in which the contractor delivers the fuel to the city's refuse vehicle storage site in a tanker truck each evening, and is responsible for refueling the refuse trucks. In the contract, Tacoma committed to using 200,000 gallons of fuel per year. Because of such a large commitment, the biodiesel only costs Tacoma $0.20 cents more per gallon than regular diesel. The city states that this increase in fuel costs is completely offset by the savings in wages, fuel and time that results with the use of Petro Card's on-site fueling service. (Previously, drivers of the refuse vehicles would have to drive and fuel their trucks off-site each day.)

Biodiesel has not compromised the performance of the refuse trucks, nor has there been any additional maintenance needed. Maintenance crews originally thought they might have to change the fuel filters more frequently, but they've found this unnecessary. And, there was no special training for operators or mechanics. Additionally, Tacoma has seen a 20% reduction in CO and PM emissions, and a slight increase in NO_X emissions.

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[98] Based on phone conversation with Steve Hennessey, Fleet Division Manager, City of Tacoma, Washington, July 30, 2003.

The city made its decision to use biodiesel without any incentives such as grants or regulatory mandates. They also did not look into other alternative fuels regarding its refuse fleet; the costs of natural gas were prohibitive and the natural gas infrastructure was deemed not to be available. Tacoma is currently looking into increasing the number of trucks that use biodiesel.

For its use of biodiesel with all of the city's refuse fleet and reduction in refuse truck emissions, in May 2002 the U.S. DOE inducted Tacoma into the Clean Cities Hall of Fame and awarded them its National Partner Award.

3.2 Fuel Cells

A fuel cell generates electricity from the chemical reaction of combining hydrogen and oxygen into water, without the need for combustion as an intermediate step. Fuel cells can either be directly fueled by hydrogen stored on board the vehicle, or by reformers that generate hydrogen from sources such as natural gas or methanol.

The combination of very high energy efficiency and low emissions makes the concept of fuel cells extremely attractive as an alternative fuel source.[99] However, they are currently only in the development stage for heavy-duty vehicles and buses.[100] They are not expected to be a viable option for at least ten years.[101]

To determine the total net environmental benefit of fuel cells, the energy expended and pollutants released from the process to liberate the hydrogen needed for fuel cells should be considered. If, for example, the burning of coal is involved in the process of making hydrogen, the emissions associated with coal would potentially need to be included in the determination of emissions from the total fuel cell process.[102]

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[99] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[100] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air*; U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[101] *Ibid.*
[102] Matthew L. Wald, *Turning to Hydrogen for Energy is Harder than it Seems*, International Herald Tribune, November 13, 2003.

3.2.1 Fuel Characteristics

Hydrogen is the most abundant element in the universe. It has the highest energy per unit of weight of any chemical fuel and is non-polluting when used to generate power. However, in order to be used as a primary fuel with fuel cells, hydrogen needs to be transformed from water, fossil fuels, biomass or other materials that are rich in hydrogen. Natural gas, petroleum, coal, ethanol, methanol and landfill waste are all potential sources.[103]

Fuel cells are actually not alternative fuels, but fuel conversion systems. They can be conceptualized as being batteries that operate with hydrogen and oxygen. Water and electricity are the by-products of the hydrogen reacting with the oxygen. Chemical energy is transformed into electrical energy with little or no noise or pollution, and energy conversion efficiencies of approximately 80% are theoretically possible -- burning fuels in heat engines produce efficiencies around 40%.[104]

3.2.2 Use and Development

Currently, there are no fuel cells that power heavy-duty vehicles being produced – use of hydrogen in vehicles is primarily limited to experimental and prototype vehicles. In the future, with increased research and development, hydrogen as a transportation fuel will likely occur.

3.2.3 Costs

Since there are no heavy-duty vehicles powered by fuel cells in production, firm cost data is hard to ascertain or estimate. With any new technology, unit costs will fall as production rates and manufacturing experience increase. One fuel cell engine manufacturer, Ballard, has estimated that, with large commercial production, transit buses using fuel cells could be priced competitively with CNG buses.[105]

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[103] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001.
[104] National Conference of State Legislatures *Ground Transportation for the 21st Century*, August, 1999.
[105] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

In addition to vehicle costs, the actual costs of the hydrogen or other fuels in which the hydrogen is generated need to be taken into account. Hydrogen can be stored on board or generated from other fuels by an on-board reformer. Reformers can be used with methanol or natural gas; it may also be possible to use diesel or gasoline. Utilizing reformers increases the cost and complexity of the fuel cell system. Vehicles that do not use reformers are fueled using hydrogen directly. The hydrogen is stored as a liquid, vaporized to a gas, and dispensed into on-board storage tanks on the vehicles. Depending on whether a vehicle uses an on-board reformer or hydrogen directly, the fueling facilities for fuel cell vehicles will differ considerably.[106]

3.2.4 Fuel Emissions

Fuel cells effectively emit zero emissions with the use of hydrogen.[107]

3.2.5 Incentives and Disincentives

The primary benefit and incentive for utilization of fuel cells is zero emissions. Other advantages include high operating efficiency, quick start-up, and operation over a wide range of temperatures. Currently, fuel cells are in the very early stages of development for heavy-duty vehicles. There are currently issues and problems with hydrogen fueling that have to be addressed and resolved. These include high costs, poorly developed hydrogen fuel supply infrastructure, very large storage volume, and safety concerns associated with compressed hydrogen, especially when stored on a vehicle -- compressed hydrogen systems have a tendency to leak and present fire safety hazards.[108]

If hydrogen fuel is produced off board the vehicle, electrical power is required. However, there are transmission costs associated with off-board production and the use of electrical power, as well as production inefficiencies (compared to on-board production).

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[106] National Conference of State Legislatures *Ground Transportation for the 21st Century*, August, 1999.
[107] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, General, 1999.
[108] *Ibid.*

There are tradeoffs between on-board and off-board hydrogen production. With on-board production, the technology used to produce the hydrogen is complex, whereas with off-board production, the technology is simple but to generate the hydrogen there are transmission costs and larger electrical production inefficiencies.

3.3 Battery Electric

Vehicles that operate on electricity alone utilize batteries to store the electricity, which then transfer the power to an electric motor. These vehicles do not produce any emissions. However, the production of the electricity used to power these vehicles does produce remote-source emissions, which are emissions from power plants.[109]

The widespread use of battery electric in refuse vehicles requires the advancement of battery electric propulsion systems, which are needed for the battery electric engines to be able to deliver the power that garbage trucks require.[110]

3.3.1 Fuel Characteristics

Electricity is an alternative source of propulsion. The majority of the electricity used in battery electric vehicles comes from the nation's electric power distribution infrastructure, with batteries used as the electricity storage medium. Battery electric vehicles have characteristics, such as low energy density and weight, which usually limit vehicle performance and driving range. Electric vehicles are recharged overnight, with typical battery recharging time taking six to eight hours.[111]

Battery electric vehicles are operationally much simpler than vehicles powered by internal combustion engines (which can have hundreds of moving parts). The three main mechanisms that power a battery electric vehicle are the battery pack, the inverter and rotor, and the regenerative braking system. Regenerative braking allows the vehicle to reclaim a portion of the

[109] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*
[110] *Ibid.*
[111] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

energy that is usually lost in conventional friction braking (which is used in diesel vehicles). Battery electric vehicles, as well as HEVs (discussed in Section 3.7), use both braking systems. The braking systems are controlled electronically in order to maximize stopping ability and make the dual system transparent to the driver.[112]

3.3.2 Use and Development

At the turn of the 20th century, electric vehicles outnumbered gasoline vehicles, with approximately 50,000 electric vehicles operating in the United States. Use decreased when less-expensive methods of producing gasoline were introduced and the electric starter replaced the crank in gasoline vehicles. The current research focus for electric propulsion vehicles is in the area of battery development, with the goal of developing batteries that have low initial cost, high specific energy and high power density. Further advancement of battery electric propulsion systems is needed before the power that garbage trucks need is delivered.[113]

3.3.3 Costs

The vehicle costs of battery electric vehicles are significantly higher than those of diesel vehicles of comparable size. (Because no cost data was available for heavy-duty vehicles, transit bus comparisons will be made.) When a lead-acid battery pack is used, a battery electric shuttle bus is slightly more than twice as costly as a comparable diesel model. For larger transit buses, the cost differential is approximately 33% higher for battery electric vehicles than comparable diesel models. A nickel cadmium battery option will add roughly $40,000 to $50,000 dollars to the cost of a battery electric bus. However, nickel cadmium batteries yield greater range per battery charge and provide an increased battery life of three to seven years more than a typical lead-acid battery.[114]

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[112] National Conference of State Legislatures, *Ground Transportation for the 21st Century*, August, 1999.
[113] *Ibid.*
[114] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

The operating costs that are used to compare diesel vehicles with battery electric are energy costs and maintenance costs (which includes replacement of the battery packs and the individual battery units used in the pack). The energy costs per mile are similar for diesel vehicles and battery electric. General maintenance for battery electric vehicles includes checking the condition of the motor, brakes, batteries and electrical connections, battery pack integrity and battery pack mounting.[115] Battery packs may need to be replaced every 25,000 miles and individual units every 10,000 miles. No data could be found comparing the maintenance costs for battery electric and diesel vehicles.

3.3.4 Fuel Emissions

Battery electric vehicles did not produce any emissions, smoke or exhaust odor.[116]

3.3.5 Incentives and Disincentives

The main benefit and incentive for using battery electric systems is emissions reductions. Battery electric vehicles have no tailpipe emissions, low noise levels and effortless cold starts.[117] The main disincentives associated with battery electric vehicles include the reduced range and performance and the substantially higher purchase price. Also, batteries tend to diminish in power output in cold weather.

The main safety issue with battery electric is the exposure of personnel to electrical hazards when using the recharging system and when connecting vehicles to the recharging system. However, this is not a major concern as safeguards can be put in place to ensure personnel are protected from direct exposure to electrical hazards. In addition, there are no specific health or environmental hazards associated with the transmission and use of electricity at a fleet facility.[118]

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[115] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001; National Conference of State Legislatures *Ground Transportation for the 21st Century*, August, 1999.
[116] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001.
[117] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air*; U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[118] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

3.4 Propane

Propane, also known as liquefied petroleum gas, is the most commonly used alternative fuel in the U.S., with an estimated 350,000 propane vehicles currently in operation.[119] However, it is not widely used in the private or public refuse hauling sector. The main obstacle associated with the use of propane with refuse fleets is that major garbage truck manufacturers do not make or offer models that burn propane; the development of heavy-duty propane engines is needed for propane to expand in use as an alternative fuel in the refuse hauling vehicle sector.[120]

3.4.1 Fuel Characteristics

Propane is a by-product of both natural gas processing and petroleum refining. At room temperature, propane is a gas, and liquifies at relatively low pressures (about 200 pounds per square inch [psi]). Liquefied petroleum is a liquid mixture containing 90% propane and 2.5% butane (and other higher hydrocarbons), as well as ethane and propylene. Special tanks are utilized to force propane to remain under pressure and in a liquid state. Propane is stored on board vehicles as a liquid. Before being burned in engines, propane is easily converted to a gas before combustion takes place.[121]

3.4.2 Use and Development

Propane was first experimented with as a motor fuel as early as 1910. During the 1950s, it became more widespread and popular. Currently, most of the propane produced in North America is generated from natural gas processing.

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[119] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air*; National Conference of State Legislatures, *Ground Transportation for the 21st Century*, August, 1999.
[120] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air*; U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[121] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001.

Propane can be purchased in two ways: wholesale from distribution centers, which may be the best option for fleet managers and operators that have their own refueling stations; or at public-access stations, where low and discounted prices may be available for large purchases.[122]

Propane has the largest use among all alternative fuel types in the United States. Nevertheless, vehicles that utilize propane experienced the slowest growth during the 1990s. Propane vehicles are most prevalent in the South, where large numbers are operated in Texas and Oklahoma, two large oil-producing states.[123]

The propane industry has been criticized for not promoting and generating interest for its use as an alternative transportation fuel. Comparisons have been made with the natural gas industry, which actively promotes the use of its fuel for vehicle use. The propane industry is dominated by small-scale suppliers who primarily serve residential consumers. Possible reasons for little promotion include the lack of internal cohesion within the industry, concern among propane customers that the increase in propane use as a vehicle fuel will cause an increase in price, and fear that the many small propane suppliers would see their businesses suffer if propane was used as a vehicle fuel in large transportation fleets.[124]

The major problem associated with using propane as an alternative fuel in refuse vehicles is that propane engine technology has not been used in large engines that can power and are suitable for refuse vehicles. Major garbage truck manufacturers currently do not offer models capable of burning propane.[125] However, propane does have extensive use in vehicles such as school buses, small transit buses, light- and medium-duty vehicles and heavy-duty trucks and buses.

Another problem associated with propane is the special handling it requires. For propane use, new facilities need to be constructed or old facilities redesigned. Various design specifications for a propane maintenance facility include explosion-proof wiring and flammable gas detectors. In addition, propane storage and dispensing areas must be located at a certain minimum distance from buildings, adjacent property, underground tanks and adjacent streets due to flammability concerns.

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[122] Energy Information Administration, *Developments in U.S. Alternative Fuel Markets,* 1999.
[123] *Ibid.*
[124] *Ibid.*
[125] *Ibid.*

3.4.3 Costs

It is presently hard to determine the incremental cost of a propane garbage truck with a comparable diesel refuse vehicle due to a lack of data and a lack of propane-powered refuse vehicles being produced. With transit vehicles, the incremental vehicle cost of a propane bus over a standard diesel bus was $35,000 to $45,000 in 1998.[126]

As noted in Section 3.4.2, the use of propane brings increased capital costs associated with the design of propane maintenance, storage and fueling facilities. It is assumed that most sanitation fleets are currently already utilizing diesel refuse vehicles and diesel refueling and maintenance facilities. For propane use, new facilities need to be constructed or old facilities redesigned, resulting in additional, higher capital costs.

The increased operating costs (higher than comparable diesel operating costs) associated with propane use are attributed to two main factors: high propane fuel cost and lower fuel efficiency. More propane is needed than an equivalent amount of diesel, which contributes to higher operating costs.

Since the early 1990s, propane prices have been increasing relative to gasoline and diesel fuel. It is difficult to quantify the price of propane because its purchase price depends on a number of factors, including the quantity being purchased, the location of purchase in the United States, the particular state's tax on propane and the season the fuel was purchased. It should be noted that experience with propane vehicles indicates that although initial capital costs are high, significant savings in lower maintenance costs may outweigh the short-term, higher capital costs. This is due to the fact that propane engines are reported to last two to three times longer than gasoline or diesel engines.

[126] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

3.4.3 Fuel Emissions

Propane buses have lower emissions than diesel engines, but not as low as natural gas or methanol engines. Low levels of NO_X and PM emissions are a characteristic of propane combustion.[127]

3.4.4 Incentives and Disincentives

The main benefit or incentive realized with the use of propane is the emissions benefits. Disincentives include the lack of suitable heavy-duty engines and increased capital costs. Further, there are safety concerns associated with use of propane, including the potential fire hazards associated with its transport, and storage concerns when the fuel is stored as a pressurized liquid. Finally, propane supply is limited by the supply of liquid and gaseous fossil fuels from which propane is produced.[128]

3.5 Ethanol

Ethanol, despite having similar physical and combustion properties to diesel fuel, is not a satisfactory alternative fuel for use with medium- and heavy-duty vehicles, as previous ethanol experience has resulted in high rates of engine failure and low rates of engine reliability. Ethanol is generally not used for heavy-duty vehicles such as refuse trucks; there are few if any OEMs producing ethanol garbage trucks and few if any ethanol-powered refuse vehicles currently in operation.[129]

3.5.1 Fuel Characteristics

Ethanol is produced by the fermentation of plant sugars derived from corn or sugar cane. When used for commercial or industrial applications, ethanol is denatured -- denaturing the fuel involves the addition of a small amount of a toxic substance (typically gasoline) in order for producers to avoid the federal alcoholic beverage tax.

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[127] *Ibid.*
[128] National Conference of State Legislatures, *Ground Transportation for the 21st Century*, August, 1999; U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[129] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air.*

Ethanol, when used as an alternative fuel, is most commonly used as a blend of 85% ethanol and 15% gasoline (E85), or a blend composed of 95% ethanol and 5% gasoline (E95). These are the only ethanol forms that are considered to be alternative fuels, and are mainly used with light-duty vehicles. However, the most common application of ethanol is as a blend with gasoline that contains 10% ethanol and 90% gasoline. This fuel, known as gasohol or E10, is not considered an alternative fuel.

Ethanol can be blended with gasoline at lower concentrations to produce oxygenated gasoline. Ethanol is also a chemical component of ethyl tertiary butyl ether (ETBE), a type of oxygenate. Oxygenated gasoline (containing ethanol or ETBE) is also not considered an alternative fuel, but is mandated in certain CO non-attainment areas to reduce exhaust CO emissions.[130]

3.5.2 Use and Development

Alcohols were used as fuel in several of the earliest vehicles ever designed. In fact, Henry Ford's very first car used an alcohol-based fuel. During the oil crisis of the 1970s, ethanol use increased.

Since the largest supply of corn is grown in the Midwest, most ethanol production facilities in the United States are located there. It follows that use of ethanol (E85 and E95) has also been mostly limited to this section of the country. There are roughly only 50 E85 refueling sites currently operating in the United States.[131] The lack of an adequate refueling infrastructure is a barrier that impedes more widespread use of ethanol.

There are no ethanol garbage trucks in operation and no ethanol refuse vehicles available from OEMs. In addition, experience with ethanol transit buses in the mid- and late-1990s has shown that ethanol engines failed at a much higher rate than methanol-fueled engines, and their operational life was only half that. The use of ethanol is more successful with light-duty

[130] U.S. Department if Energy, T*aking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001.
[131] Energy Information Administration, *Developments in U.S. Alternative Fuel Markets*, U.S. Department of Energy, 1999.

vehicles. DSNY uses approximately 350 light-duty vehicles that run on E85 in the non-collection operations. These vehicles are well suited for DSNY's non-collection operational needs and the agency is in the process of developing seven ethanol filling stations.[132]

3.5.3 Costs

Data suggests that ethanol-powered vehicles are characterized by higher operating and capital costs than diesel-powered vehicles. A 1999 DOE study states that the maintenance costs associated with ethanol-powered vehicles were significantly higher than for those vehicles with diesel engines.[133] Ethanol also suffers a fuel economy penalty compared to vehicles using diesel fuel, which may result in higher operating costs. More ethanol is needed than an equivalent amount of diesel fuel used in diesel-powered engines.

Capital costs are also likely to be greater if heavy-duty ethanol vehicles were used and produced. These costs include a higher purchase price for vehicles and modifications to maintenance and fueling facilities. For example, in the late 1990s, if a 200-bus transit fleet is considered, modifications to one maintenance garage would be between $300,000 and $400,000. In addition, the incremental cost for a standard ethanol bus, if available, is higher than the purchase of an equivalent diesel bus. An ethanol bus would likely cost $25,000 to $35,000 more than an equivalent diesel bus.[134]

3.5.4 Fuel Emissions

The main emissions advantage of ethanol and ethanol blends is that the oxygen content present in the ethanol lowers emissions of CO. When combusted, alcohol fuels do not produce any soot or PM and their emissions are less reactive in the atmosphere, thus producing smaller amounts of O_3, the harmful component of smog. However, ethanol usually produces slightly higher NO_X emissions.[135]

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[132] Based on meeting with Spiro Kattan, Supervisor of Mechanics, Bureau of Motor Equipment, DSNY, July 9, 2003.
[133] Energy Information Administration, *Developments in U.S. Alternative Fuel Markets*, U.S. Department of Energy, 1999.
[134] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[135] *Ibid.*

3.5.5 Incentives and Disincentives

The primary benefit of using ethanol and alcohol fuels is lower emissions of CO. However, emissions of NO_X and HC can increase somewhat with ethanol use.[136]

The main disincentive is that heavy-duty engine manufacturers do not currently produce alcohol fueled engines. Two main reasons for this are the high rate of engine failure and low engine reliability.

3.6 Methanol

Methyl alcohol, or methanol, is a liquid fuel that, like ethanol, displays similar physical and combustion properties to diesel fuel. Basic engine and fuel system technologies can be used both with methanol and diesel fuel. However, similar to ethanol, methanol use has shown high engine unreliability. There appears to be no heavy-duty engine manufacturer currently producing methanol engines for refuse vehicles.[137]

3.6.1 Fuel Characteristics

Methanol is produced in a variety of ways. The most common method is via the reformation of natural gas, but it can also be produced from coal and municipal waste. Methanol is primarily produced in the Gulf Coast states.

When used as an alternative transportation fuel, methanol is typically blended with gasoline -- 85% methanol and 15% gasoline (M85) -- or left unblended, which is pure methanol (M100). Methanol is also being tested as a source of hydrogen to power fuel cells for use in vehicles.[138] In addition to use as an alternative fuel, methanol is used as a solvent and in a variety of ways in many industrial manufacturing processes.

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[136] Living Without Oil, *U.S. News & World Report*, February 17, 2003.
[137] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air*; U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[138] U.S. Department of Agriculture, *Life-Cycle Costs of Alternative Fuels: Is Biodiesel Cost Competitive For Urban Buses*, 1995.

3.6.2 Use and Development

Because of poor engine reliability and high engine failure, there is currently very little effort to develop heavy-duty methanol engines.[139]

Currently, methanol is principally used in light-duty flexible fuel vehicles that operate on methanol, gasoline, or a combination of the two. Seventy-five percent (75%) of all methanol vehicles in the United States are operated in California; only around 15 methanol refueling sties are located outside of California.[140]

3.6.3 Costs

Methanol has a similar capital cost structure to ethanol, with higher capital costs than diesel-powered vehicles. These higher costs include higher purchase prices for vehicles and modifications to maintenance and fueling facilities. The modifications consist of alcohol-compatible fuel tanks, new fuel dispensers and special safety equipment. Because they have a higher fuel consumption rate than diesel-powered engines, methanol vehicles need more on-board fuel than diesel vehicles and require additional fuel storage capacity. For example, methanol buses require on average 2.5 times as much fuel as diesel buses. A United States Department of Agriculture (USDA) 1995 study titled "Life-Cycle Costs of Alternative Fuels" found that for urban buses, total infrastructure cost per bus is $10,000 for methanol vs. only $1,646 for diesel- and biodiesel-powered buses.[141]

Operating costs associated with methanol are higher than those for diesel. Fuel costs are substantially higher because of higher methanol fuel prices and lower fuel economy mileage. Higher maintenance costs are present as well because of the need for frequent engine rebuilds.[142]

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[139] U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001; U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[140] Energy Information Administration, *Developments in U.S. Alternative Fuel Markets,* 1999.
[141] U.S. Department of Agriculture, *Life-Cycle Costs of Alternative Fuels: Is Biodiesel Cost Competitive For Urban Buses*, 1995.
[142] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

The 1995 USDA study referenced above indicates that annual refueling costs are $21,102 per methanol-fueled bus -- twice the amount of the cost for diesel buses. The higher refueling labor costs are due to the 2.5-times higher fuel consumption rate present in methanol buses over those fueled with diesel, requiring 4.5 times more labor for refueling purposes. This study also indicates that methanol buses have higher maintenance costs than diesel buses, including engine rebuilds ($9,500 per engine for methanol vs. $6,500 for diesel) and general maintenance and repair. Overall, the maintenance cost per month per bus for diesel is $4.34, compared with the $31.84 for methanol buses.[143]

3.6.4 Fuel Emissions

Methanol combustion produces negligible amounts of PM and low levels of NO_X. Since methanol emissions are less reactive in the atmosphere than diesel fuel, smaller amounts of O_3 are produced.

3.6.5 Incentives and Disincentives

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The main benefit of using methanol is a reduction in PM, NO_X and O_3 emissions.

Major disincentives of using methanol are the lack of heavy-duty engine production, high rate of engine failure and poor engine durability. The poor durability is due to mechanical wear and accumulation of combustion deposits in the injector tips, which cause fuel injectors to leak. In addition, methanol vehicles experience lower fuel economy compared to diesel vehicles, likely due to the additional fuel storage weight carried by methanol buses. There are also higher operating and capital costs associated with methanol, and special safety concerns -- it can cause toxic effects through skin contact, ingestion or inhalation. Special training programs are needed for those personnel who work with methanol. Finally, due to its inhalation toxicity, methanol is regulated as a hazardous air pollutant (HAP) under 1990 CAA Amendments.[144]

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[143] U.S. Department of Agriculture, *Life-Cycle Costs of Alternative Fuels: Is Biodiesel Cost Competitive For Urban Buses*, 1995.
[144] National Conference of State Legislatures, *Ground Transportation for the 21st Century*, August 1999.

3.7 Hybrid Electric Vehicles

Hybrid electric vehicles (HEVs) are powered by two energy sources: an energy conversion unit such as an internal combustion engine or fuel cell, and an energy storage device such as a battery. Fuels used in HEVs to power the energy conversion unit include gasoline, diesel, methanol, CNG and hydrogen. The main benefits of HEV use are reduction in emissions and increased fuel economy and efficiency. Nevertheless, there is currently a lack of commercially manufactured hybrid engines that can be used with heavy-duty vehicles such as refuse trucks.[145]

3.7.1 Fuel Characteristics

HEVs can be configured in a parallel or series design. In a parallel design, the HEV is powered by the power generation unit (such as an internal combustion engine) and the electric motor, either at the same time or separately. In a series design, the power generation unit is used to generate electricity, which recharges the HEV's battery pack and powers the vehicle with use of an electric motor. Both designs enable the battery pack and internal combustion engine to be smaller than those found in a battery electric vehicle or diesel engine.[146]

In a parallel design, the power generation unit and electric propulsion system are connected directly to the vehicle's mechanical drive train. The primary engine is typically used for highway driving, while the electric motor provides added power during hill climbs, acceleration and other periods of high demand.

In a series design, the primary engine (internal combustion engine) or power generation unit is connected to a generator that produces electricity. The electricity charges the batteries that are then used as a power source for the electric motor that drives the vehicle. Series configuration is thought to be more suited for city and stop-and-go driving. However, the need for a larger battery pack (relative to parallel design) associated with series design increases the costs of these vehicles.[147]

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[145] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air*. U.S. Department of Energy, *Taking an Alternative Route: A Guide for Fleet Operators and Individual Owners Using Alternative Fuels in Cars and Trucks*, April 2001.
[146] National Conference of State Legislatures, *Ground Transportation for the 21st Century*, August 1999.
[147] *Ibid.*

3.7.2 Use and Development

Currently, HEVs are not in widespread use in the refuse vehicle sector. However, refuse vehicles operate under conditions that would make the development of hybrid refuse vehicles feasible and practical; refuse vehicles demonstrate intense stop-and-go driving cycles, a characteristic well-suited for hybrid electric technology.

DSNY is exploring the future use of HEVs in their refuse collection fleet. However, before the widespread commercialization of hybrid heavy-duty refuse vehicles takes place, the cost of batteries will have to be addressed with new engineering and technology. DSNY, in their non-collection operations, is currently using some HEVs.[148]

Hybrid electric technology is being developed and experimented with for use with transit buses, as most major bus manufacturers are currently producing or involved with hybrid-electric demonstration projects.[149]

3.7.3 Costs

Heavy-duty HEVs are still in the developmental stage, so it is difficult to project and estimate the capital and operating costs. With transit buses, HEVs are currently more expensive than regular diesel vehicles. For example, in 1997 New York City Transit (NYCT) purchased diesel hybrid electric buses at an average price per bus of $465,000, compared to the cost of a comparable diesel bus at $290,000.[150] It is anticipated that commercialized diesel hybrid electric buses will eventually have prices similarly to CNG motor buses.[151]

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[148] Based on meeting with Spiro Kattan, Supervisor of Mechanics, Bureau of Motor Equipment, DSNY, July 9, 2003.
[149] INFORM, Inc., *Greening Garbage Trucks: New Technologies for Cleaner Air;* U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.
[150] Jason Penshorn, Lessons Learned from NYCT's Hybrid-Electric Fleet, *Mass Transit,* July/August 2003.
[151] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

The maintenance facilities used for HEVs require new equipment. Space for storing and replacing propulsion batteries will be needed, and, as hybrids usually require less transmission and brake maintenance, the number of service bays and maintenance spares may need to be decreased. It should be noted that diesel HEVs do not require new fueling infrastructure and fueling facilities.[152]

NYCT has seen higher maintenance costs and lower reliability and availability with its diesel hybrid electric buses. The new technology and the learning curve of the mechanics are the likely causes of the lower reliability of the buses. Over time, as mechanics become more experienced with these new vehicles, they will likely approach the reliability of diesel vehicles. Subsequently, the operating costs for HEVs will be lower than diesel vehicles and reliability and durability will likely not be an issue after the initial implementation. Furthermore, the reduction in fuel consumption and the extended repair intervals used to service the brakes (lower wear rates) will likely result in a reduction in operating costs.[153]

3.7.4 Emissions

There appears to be significant emission reductions with the use of HEVs. HEVs use diesel fuel more efficiently than conventional vehicles, resulting in reduced emissions.[154]

NYCT is currently utilizing diesel hybrid electric buses. A report sponsored by the U.S. Defense Department's Defense Advanced Research Projects Agency titled "Hybrid-Electric Drive Heavy-Duty Vehicle Testing Project" (2000) found that PM emissions from diesel hybrid electric NYCT buses are generally found to be 50% to 70% lower than conventional diesel-fueled vehicles. (Note that when tested these hybrid vehicles used low-sulfur diesel fuel as well as after-treatment technologies such as particulate filters.) Several systems are responsible for these PM reductions, such as the after-treatment technologies and the ability of these vehicles to utilize regenerative braking.

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[152] *Ibid.*
[153] Jason Penshorn, Lessons Learned from NYCT's Hybrid-Electric Fleet, *Mass Transit,* July/August 2003.
[154] U.S. General Accounting Office, *Mass Transit: Use of Alternative Fuels in Transit Buses*, 1999.

NO_X emissions from NYCT diesel hybrid electric buses are 30% to 40% less than from conventional diesel buses. Engine operation and performance is a prime reason for this difference. Even when the regenerative braking system is turned off during emissions testing, the hybrid vehicles still exhibit 20% to 30% lower NO_X emissions than conventional diesel buses.

Diesel hybrid electric buses also have lower emission levels of CO_2 and CO than diesel buses. Reductions of CO_2 emissions are 10% to 40% lower than conventional diesel bus engines, and CO is 70% lower.[155]

3.7.5 Incentives and Disincentives

The combination of improved fuel economy and emissions reductions is an extremely attractive combination of benefits. Diesel hybrid buses operated by NYCT demonstrate 10% higher fuel economy over conventional diesel buses.[156] The components of a hybrid vehicle that result in improved fuel performance include regenerative braking, an efficient electric-drive system, and on-board energy storage (battery pack).[157] The concept behind regenerative braking is that the forward inertial energy of the vehicle is captured and stored on board the vehicle for later use. When the driver brakes, the motor becomes a generator and uses the kinetic energy of the vehicle to generate electricity that can be stored in the battery and used at a later time. With friction braking, energy is wasted when the energy of the motion of the vehicle is turned to heat as the brakes are applied.

The main disincentive associated with hybrid electric technology is the current lack of commercially manufactured hybrid engines that can be utilized with heavy-duty trucks such as refuse vehicles. The development of heavy-duty hybrid electric propulsion systems has to advance before hybrid technology is used and available with refuse vehicles. In addition, the high cost of batteries used with heavy-duty HEVs will have to be addressed before the

[155] Northeast Advanced Vehicle Consortium, *Hybrid-Electric Drive Heavy-Duty Vehicle Testing Project*, 2000.
[156] Jason Penshorn, Lessons Learned from NYCT's Hybrid-Electric Fleet, *Mass Transit*, July/August 2003.
[157] National Conference of State Legislatures, *Ground Transportation for the 21st Century*, August 1999.

large-scale production by major refuse vehicle manufacturers takes place. Other disincentives include high capital costs and necessary modifications to maintenance and storage facilities. In addition, higher maintenance costs and lower reliability (due to the new technology and learning curve of mechanics) are disincentives associated with initial use of these vehicles.

4.0 SUMMARY OF FINDINGS AND OPTIONS

4.1 Need to Promote Clean Fuels

Two main factors currently drive the switch to alternative fuels with refuse vehicles and heavy-duty diesel vehicles.

- Environmental concerns related to heavy-duty diesel truck utilization in the City.
- New stricter government emission standards for heavy-duty vehicles.

4.2 Types of Clean Fuels

4.2.1 Clean Diesel

- Can cut certain emissions by 90%.
- Ultra-low-sulfur diesel fuel needs to be utilized in conjunction with after-treatment devices in order to maximize the emissions reductions.
- Diesel oxidation catalysts and particulate filters are two promising after-treatment technologies.
- By 2007, new heavy-duty diesel engines, in conjunction with clean diesel after-treatment technologies, will provide up to 98% reductions (from 1998 model year engines) in PM and NO_X emissions.

4.2.2 Natural Gas

- Drilled from underground supplies in the U.S.
- Two forms -- CNG and LNG.
- The City has a moratorium on establishing LNG facilities.
- More expensive to purchase, maintain and operate than diesel.
- On average cost about 25% more per vehicle.
- Retrofitting diesel vehicle for natural gas use can cost $30,000 to $100,000.
- Incentives from public sector can help offset costs.
- Cleaner and quieter than diesel.
- Loss of torque and power compared to diesel engines.
- CNG can be a transitional fuel used as a hydrogen source for fuel cells.

4.2.3 Biodiesel

- More expensive than regular diesel.
- Does not require mechanical modifications or conversions.
- Works best in diesel engines as B20 (80% petroleum diesel).
- B100 eliminates sulfur emissions and cuts PM by approximately 50%, but NOX emissions increase when biodiesel is used.

4.2.4 Fuel Cells

- Not a viable option for heavy-duty vehicles for at least 10-15 years.
- High energy-efficiency and zero emissions.
- Infrastructure of hydrogen fueling stations needs to be built.

4.2.5 Battery Electric

- Despite advances in power production, battery electric vehicles cannot currently provide the power or torque needed for heavy-duty vehicles such as refuse vehicles.
- Battery needs a long time to recharge and vehicles that use battery power have a limited range.
- Vehicles have zero tailpipe emissions.

4.2.6 Propane

- The most commonly used alternative fuel in the U.S.
- Major garbage truck manufacturers currently do not offer models capable of burning propane.
- Low levels of NO_X and PM emissions are a characteristic of propane combustion.

4.2.7 Ethanol

- High operating and capital costs.
- High rate of engine failure and low engine durability.
- Lack of heavy-duty engine production.
- Like methanol, emission reductions in CO and PM, but higher NO_X emissions than diesel engines.

4.2.8 Methanol

- M85 is primarily an alternative fuel used in light-duty vehicles.
- High operating and capital costs.
- High rate of engine failure and low engine durability.
- Lack of heavy-duty engine production.

4.2.9 Hybrid Electric

- Vehicles are powered by two energy sources: an energy conversion unit such as an internal combustion engine and an energy storage device such as a battery.
- Lack of commercial hybrid engines and propulsion systems that can be used with refuse trucks.
- Combination of improved fuel economy and emissions benefits makes these vehicles an attractive future option.

4.3 Options

4.3.1 New York City Department of Sanitation

- Continue to utilize and experiment with ULSD and clean diesel technology with use in existing vehicles with the goal being that all diesel vehicles currently in operation should utilize clean diesel technology in order to meet the USEPA 2004 and 2007 emissions standards applicable to new diesel vehicle engines.
- Continue to make clean diesel technology the preferred vehicle standard for new heavy-duty refuse vehicle purchases.
- Continue to test and compare alternative fuel exhaust emissions in order to evaluate hybrid electric refuse vehicles.
- Continue to pursue its CNG heavy-duty program, so that DSNY will be able to take advantage of potential advancements in CNG technology and fuel cell technology.
- Continue to develop partnerships with fuel suppliers, OEMs and infrastructure providers in order to help reduce the cost of clean fuel implementation.
- For light-duty vehicles, continue with ethanol purchase and plans for ethanol fueling facilities.
- Utilize government grants and economic incentives to offset the higher costs associated with natural gas, hybrid electric and ethanol vehicles.

4.3.2 Private Waste Haulers

- Retrofit old diesel vehicles with clean diesel technology.
- Begin using ULSD ahead of June 2006 mandate.
- Deploy and purchase clean diesel vehicles now in order to avoid future expenses that will be needed to meet new strict USEPA emission standards.
- Utilize government grants and economic incentives to help offset the incremental capital costs associated with natural gas refuse vehicles.
- In conjunction with infrastructure supplier and engine manufacturers, explore the future option of CNG heavy-duty refuse vehicles

APPENDIX J

COLLECTION VEHICLE ODOR SAMPLING REPORT

MARCH 2005

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EXECUTIVE SUMMARY

Sampling of odors from Manhattan District 8 collection vehicles, which would be serviced by the East 91st Street Converted MTS, was performed on July 20, 2004. Odor generation from waste decomposition is expected to be at its peak during the months of July and August when daily temperatures are at their highest annual level. A total of six vent samples and two quality assurance/quality control (QA/QC) samples were collected. Of the eight samples, three vent samples were used to calculate the odor emission factor used to establish odor emission rates for DSNY collection vehicles queuing at the Proposed Plan Facilities and Alternative Facilities, as applicable.

In accordance with guidance documents published by USEPA and AWMA, whole air odor samples were collected from the exhaust vent intake located on the east wall of the maintenance alley at the Manhattan District 8 garage facility using a vacuum chamber sampling system that consisted of a rigid, airtight container with an inlet port connected to an internal Tedlar® bag and an outlet port connected to a portable pump (see Section 2.1.2.3 for a more detailed description of the sampling methodology).

The analytical technique used on the odor samples is referred to as an odor panel evaluation in which a group of people, the "odor panel," quantifies the following:

- Detection and recognition thresholds ("odor concentration");
- Odor intensity; and
- Odor persistence ("dose response").

The odor panel members were selected and odor analysis conducted by the laboratory in accordance with the following established protocols and standards set by the American Society of Testing Materials (ASTM):

- Selection and Training of Sensory Panel Members (Standard Practice 758);
- Determination of Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits (Standard Practice E679-91); and
- Referencing Suprathreshold Odor Intensity (Standard Practice E544-99).

Based on the results of the sampling study, emission factors were conservatively estimated for the DSNY collection vehicles by: (1) using the detection threshold (DT) value provided by the laboratory (the DT value is that recorded when the odor is first detected); and (2) using only the maximum emission rate for the three vent samples (3.2 odor units [OU/s]/collection vehicle); and (3) applying a 2.5 peak-to-mean factor to the maximum emission rate and associated effects.

1.0 BACKGROUND AND OBJECTIVES

This Collection Vehicle odor sampling report outlines the procedures, results and conclusions that were used to develop representative odor emission factors for use in estimating the potential odor effects associated with queuing of DSNY collection vehicles on facility access ramps in the DEIS and this FEIS.

The purpose of odor sampling was to develop DSNY collection vehicle odor emission estimates for a standard DSNY 25 cubic yard compactor collection vehicle. A description of how the collection vehicle odor emissions rates were modeled and impacts analyzed is described further in Section 3.18.6 of this FEIS.

2.0 SAMPLING, ODOR PANEL AND DATA REDUCTION METHODOLOGIES

2.1 Sampling Methodology

2.1.1 Sampling Site and Location Selection

2.1.1.1 Sampling Site Selection

The total enclosure approach to sampling full DSNY collection vehicles was applied to measure refuse-related odor emissions and develop a representative odor emission factor for estimating odor impacts from collection vehicles queuing on an MTS access ramp. This approach involved placing several full collection vehicles inside a ventilated room, allowing inside air to "sweep over" the collection vehicles and exit through an active ventilation system at an assumed 100% capture rate (in accordance with USEPA Method 204 total enclosure criteria).

DSNY identified the Manhattan District 8 waste garage facility located at 423 West 215th Street, as the most favorable location to sample odors from collection vehicles. This facility does not have vehicle refueling operations (and associated odors or the type of on-site maintenance activities that can significantly interfere with odor sampling.), and has a complete building enclosure within which the collection vehicles can be staged and sampled.

The maintenance alley (former ash transfer alley) section of the garage facility was chosen to stage 12 full collection vehicles for sampling. The maintenance alley interior measures 218 feet long, 33 feet wide and 19 feet high. It has a vehicle access door at both its east and west ends and a single wall exhaust vent adjacent to the western vehicle access door. A small access door in the east vehicle-access door was left open during odor sampling to supply "sweep air" across the staged collection vehicles, which was sampled and exhausted at the west end wall vent. Facial velocities through the small access door were maintained in excess of 200 feet per minute, in accordance with USEPA Method 204 total enclosure criteria. The facial velocity is the velocity of air through a building opening (i.e., measured within the frame of an open door).

2.1.1.2 Sampling Location Selection

To capture odors from the collection vehicles at the Manhattan 8 waste district garage, vent samples were collected from the single wall exhaust adjacent to the western garage door. Three samples were collected at various residence times after the maintenance alley was filled with 12 collection vehicles and USEPA Method 204 capture criteria (> 200 FPM facial velocity through building openings) was established.

A field duplicate was collected at the wall vent intake a background sample was collected at a location outside/upwind of the garage facility, not influenced by DSNY operations. A media blank Tedlar® bag sample was set aside for laboratory preparation and evaluation. Any measurable odor in the media blank sample would indicate possible odorant contribution by the Tedlar® bag material.

2.1.2 Sampling Program Procedures

2.1.2.1 Capture Assessment and Improvement

To most accurately determine the refuse-filled collection vehicle odor generation rate, fugitive emissions must be reasonably minimized. Minimization of fugitive emissions was accomplished by operating the building ventilation system, closing various building openings (e.g., doors), and collecting various flow and recording physical observations before and during the odor sampling program. Flow through some openings must be maintained in order for the ventilation system to operate properly and to produce a flow of "sweep air" across the collection vehicles. Therefore, the small access door built into the eastern vehicle access door to the maintenance alley was left open. All other access doors were closed during sampling.

To effectively comply with USEPA Method 204 Total Enclosure Capture criteria, the following measurements/observations were made:

- The direction and facial velocity of the air through the various building openings. All facial velocities were measured with a hot-wire anemometer. The direction of the airflow must be and was into the building. The average facial velocity of air through all building openings was approximately 200 feet per minute or higher.

- Distance of the vehicles' waste loading apparatus (expected location of odor generation) from building openings. Under ideal circumstances these sources of odors should be at least four equivalent diameters (actual equivalent diameter of each building opening) from each exposed vehicle waste loading area opening. This was achieved by keeping all access doors closed with the exception of the small access door through the eastern vehicle access door during each sample collection period. By closing various building openings, the equivalent diameter of the opening is reduced to zero, thereby reducing the required separation distance (four equivalent diameters) between the waste operations and the building opening, making it easier to comply with this USEPA Method 204 criteria. In addition, no vehicle's waste loading apparatus was staged closer than 1.5 vehicle lengths from the east and west vehicle access doors.

- The total area of all openings should not exceed 5% of the surface area of the building's four walls, floor and ceiling. This was achieved by keeping all but the one small access door closed during each sample collection period.

By following these criteria, greater than 99% odor capture and odor emission discharge through the building ventilation system was assumed. In addition to evaluating the maintenance alley area for the above criteria, odor sampling staff made qualitative observations just prior to any sampling at locations immediately outside of building openings to assess whether significant fugitive odor was escaping. Because no odor was detected at such openings, fugitive odor emissions were assumed to be negligible.

2.1.2.2 Building Ventilation Measurements

Design fan exhaust rates for the ventilation system were measured during both the collection of indoor background odor samples and collection vehicle odor samples and applied in all odor emission calculations and factors.

2.1.2.3 Odor Sampling

In accordance with guidance documents published by the USEPA and the AWMA, whole air odor samples were collected from the single wall exhaust intake in the maintenance alley using a vacuum chamber sampling system. The vacuum chamber sampling system consists of a rigid, airtight

container with an inlet port connected to an internal Tedlar® bag, and an outlet port connected to a portable pump (see Figure 2.1.2.3-1). The sampling location was connected to the inlet port of the vacuum chamber with a short length of Teflon® tubing. The Teflon® tubing was inserted well into the exhaust stream to avoid interference from outside ambient air. The air inside the vacuum chamber, but outside the Tedlar® bag, was withdrawn over an approximate five-minute sample duration at 1 to 5 liters per minute (l/min). This air was drawn through the outlet port with the portable pump to effectuate the flow of vent air (and odors) through the Teflon® line and inlet port and into the Tedlar® bag. This design ensures that the vent air never comes into contact with the sampling pump. The Teflon® tubing was replaced between samples, or flushed with ambient air at a rate of 5 l/min for several minutes between samples. As recommended by the AWMA Subcommittee on the Standardization of Odor Measurement (AWMA Odor Subcommittee), Tedlar® bags were used because they have a low permeability that results in minimal sample loss or outside infiltration (thus maintaining sample integrity) and have the lowest background (material-related) odor.

In keeping with practices recommended by the AWMA Odor Subcommittee, the sampling line and each sample bag were pre-conditioned (filled) with a sample of the odorous air being evaluated, and then the air was evacuated from the bag prior to collecting the actual sample. The Tedlar® bags were filled/reduced to approximately 75% of capacity to prevent decompression during shipping. All samples were delivered to the odor panel for evaluation within 24 hours following sample collection.

The firm performing the odor panel evaluations, St. Croix Sensory, was limited to approximately 75 samples per day. Sample delivery totals were identified with the odor laboratory at least 24 hours in advance and were scheduled one to three days in advance.

Photographs of sampling activities are included in Attachment A (Photographic Log) to this report.

Figure 2.1.2.3-1

Vacuum Chamber Sampling System

2.1.3 Process Operations

The following data were collected during odor sampling:

- Collection Vehicle Identification Numbers (waste amount contained in each vehicle was received by DSNY personnel the day after the sampling effort);
- The physical dimensions of the maintenance alley;
- The volumetric flow rate of the wall exhaust; and
- Facial velocities through building opening(s).

2.1.4 Documentation

Field notes (including capture assessment), vent drawings, odor sampling (location, date, time duration, sample identification number) and processing operation observations were completed and obtained for each sample. Copies of field documentation and supporting information are included in Attachment B to this report.

2.1.5 Sample Handling

Each sample was assigned a unique sample identification number to allow for proper data management. These sample numbers were included on the sample label, the sampling notes and the Chain of Custody (COC) records. Samples were labeled immediately upon collection. Other information included on the sample label is sample location, date and time of collection, initials of sampler(s) and requested analyses. The information on the labels was printed with indelible ink.

The following steps were followed for packing and shipping samples to the analytical laboratory:

- Air samples were placed in a sturdy container (corrugated box) to protect the integrity of the sample.
- The Primary Sampler signed the COC record relinquishing custody of the samples.
- The Primary Sampler retained a copy of the COC record.

- The Primary Sampler placed the remaining copies of the COC record in the shipping container.
- The shipping container was closed and sealed with shipping tape.
- When more than one shipping container was required, the containers were numbered (e.g., 1 of 5, 2 of 5, 3 of 5, etc.).
- The appropriate shipping label was affixed to the shipping container(s) and the label was covered with clear, waterproof shipping tape.
- The Primary Sampler contacted the analytical laboratory at the end of each day prior to sending the shipping container(s) to the laboratory.
- The Primary Sampler transported the shipping container to the shipper.
- The Primary Sampler retained an original copy of all shipping manifests.

2.1.6 Quality Assurance/Quality Control

As part of the Quality Assurance/Quality Control (QA/QC) program, Quality Assurance (QA) samples and analyses were prepared/performed. A Tedlar® bag media blank sample was sent to the laboratory for preparation with odorless "zero air" and analyzed. One set of duplicate field samples were collected and analyzed.

2.2 Odor Panel Methodology

An Illinois Institute of Technology Research Institute (IITRI) dynamic dilution triangle olfactometer with a sample presentation flow rate of 0.5 l/min, a method detection limit for detection threshold (DT), and recognition threshold (RT) of 4, was used to determine the thresholds for each odor evaluation. The method detection limit of 4 means that an odor with a full strength dilution to threshold "concentration" of 4 cannot be, within standard method accuracy, distinguished from diluted aliquots of the same odor. In other words, although an odor concentration of 1 DT can be detected under laboratory condition (using filtered clean air), low odor concentrations less than 4 DT cannot be distinguished within the method's standard level of confidence.

The analytical technique used on the odor samples is referred to as an odor panel evaluation in which a group of people, the "odor panel," quantifies the following:

- Detection and recognition thresholds ("odor concentration")

- Odor intensity
- Odor persistence (dose response)

The odor panel members were selected and odor analysis conducted by the laboratory in accordance with the following established protocols and standards set by the American Society of Testing Materials (ASTM):

- Selection and Training of Sensory Panel Members (Standard Practice 758);
- Determination of Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits (Standard Practice E679-91); and
- Referencing Suprathreshold Odor Intensity (Standard Practice E544-99).

Copies of the above ASTM methods are provided in Attachment C to this report.

The odor panel evaluation used 6 to 12 trained and experienced assessors who together possess odor sensitivity representative of the general population.

2.2.1 Detection and Recognition Thresholds

Odor thresholds are determined using a presentation method called the "three-alternative forced-choice" method or the "triangular forced-choice" method. Each odor panel assessor performs the odor evaluation task by sniffing the diluted odor from an olfactometer. The assessor sniffs three sample presentations; one contains the odor while the other two are "blanks" (odor free). He/she must then select the one of the three that is "different" from the other two. The assessor is required to choose one of the three and acknowledges his/her response as a "guess," "detection," or "recognition," as defined by ASTM Standard Practice E679-91.

After the first set of three presentations, the assessor is then presented with the next dilution level. The assessor is again presented with three sample choices, one of which is the diluted odor sample. However, this next dilution level presents the odor at a higher concentration (e.g., two times higher). This is one-half the dilution ratio (fewer number of dilutions = higher concentration). The first dilution level presented to the assessor is below the odor thresholds (subthreshold). The assessor proceeds to higher levels of sample presentation following these methods. This statistical approach is called "ascending concentration series."

Results are computed for each assessor based on the dilution levels where correct "detection" or "recognition" responses are recorded. The responses of all assessors are averaged to determine the sample's detection and recognition thresholds.

The dynamic dilution of an odorous emission is the physical process that occurs in the atmosphere downwind of the odor source. The dilution ratio is an estimate of the number of dilutions needed to make the actual odor sample just detectable to an average nose. Under laboratory conditions, the concentration of an odor that is just detectable (i.e., at the detection threshold) is described as having a DT concentration of 1. The recognition threshold (RT) is the concentration at which the assessor first detects, or recognizes, the odor's character (smells like ..."), and is typically several times higher in concentration than the DT value.

For comparison purposes, an average person in a laboratory setting could just barely detect that there was something different about a sample that contained a concentration of 1 odor unit (OU) (1 DT), in comparison to clean, filtered background air. However, an odor concentration impact at 1 OU would not likely be detected in outdoor air within the City which, based on background measurements taken during this Study, had on the order of a 5 DT, or 5 OU concentration even without local source impacts. Adding a concentration of 1 OU to such air would probably not make a detectable difference to an average observer. It is expected that an added impact of 5 OU from a Proposed Plan Facility or Alternative Facility, as applicable, would be a more likely level of odor impact that would begin to be detected by an average observer. Also, it is expected that an added impact of 10 OU from a Proposed Plan Facility or Alternative Facility, as applicable, would be a more likely odor impact that would be recognized and found objectionable by an average observer.

Odor impact analyses frequently use the RT value because it represents the concentration of the odor in the air that would be first recognized by an individual downwind of the odor source. For the purpose of this Study, the more conservative DT value has been used as the basic measure of odor concentration because it is expected that the DT value can be determined more consistently and accurately by an odor panel.

The DT value is dimensionless; however, it is "assigned" dimensions of odor units per cubic meter (OU/m^3) for the purpose of calculating effective odor emission rates. One odor unit is defined for the purposes of this Study as the amount of odor in a cubic meter of air that will

provide an odor concentration of DT = 1, or in other words, an odor that is just detectable in the laboratory.

2.2.2 Odor Intensity

The odor intensity is the relative strength of the odor above the recognition threshold (suprathreshold). The intensity of an odor is referenced on the ASTM Odor Referencing Scale described in ASTM Standard Practice E544-99, Referencing Suprathreshold Odor Intensity. The IITRI dynamic dilution binary olfactometer (butanol wheel) is the method St. Croix Sensory uses for the procedure of odor intensity referencing.

The odor referencing was accomplished by a comparison of the odor intensity of the odor sample to the odor intensity of a series of concentrations of the reference odorant (butanol). The olfactometer delivered the butanol in air to glass sniffing ports. The olfactometer had eight sniffing ports with a series of increasing concentrations of butanol (12, 24, 48, 96, 192, 384, 768 and 1,536 ppm butanol).

A larger value of butanol means a stronger odor, but not in the same numerical proportion as the increase in concentration. The average value (of all assessors' observations) of the odor evaluation was the reported intensity for the odor sample.

2.2.3 Odor Persistence (Dose Response)

"Odor persistence" is a term used in conjunction with odor intensity. The perceived intensity of an odor will change in relation to its concentration. However, the rate of change in intensity versus concentration is not the same for all odors. This rate of change of intensity is termed the persistence of the odor. The persistence of an odor is represented as a dose-response function. The dose-response function is determined from intensity measurements of an odor at full strength and at several dilution levels above the threshold level, and from a dose-response curve prepared by St. Croix Sensory that is a logarithmic plot of the equivalent butanol intensity dilutions (x-axis) versus the equivalent butanol intensity concentrations (y-axis). The slope of this line defines the odor's persistence. A steeper slope (approaching -1) means that the odor intensity decreases rapidly as dilutions occur. A flatter slope (closer to 0) means that the odor intensity tends to persist even as dilutions occur.

2.3 Data Reduction Methodology

The same odor panel protocol used for the February 2001 Final Comprehensive Solid Waste Management Plan Modification and Final Environmental Impact Statement (2001 Plan) was applied for this Study to provide a comparable measure of results from the 2001 Plan and this Study. However, since the 2001 Plan analysis, which used "butanol-equivalent" emissions rates for the modeling analysis, the odor evaluation industry has changed its direction in projecting odor. Rather than estimating and modeling dispersion of butanol-equivalent emissions, the currently preferred method involves applying a dispersion model to the odor emissions from individual sources to calculate the degree of odor dilution in the ambient air, in comparison to the DT level. Therefore, for the purpose of calculating odor emissions from the Proposed Plan Facilities and Alternative Facilities, as applicable, odor emission factors, and odor control equipment efficiency, only the DT values determined from the laboratory data were applied in the following calculations.

2.3.1 Pretest Room Air Exchanges

After the maintenance alley doors are closed, odors within the room must come to equilibrium before they are sampled. Using USEPA Isolation Chamber sampling guidance, concentration equilibrium should be established after 4 to 5 room air exchanges. All indoor odor samples were collected after approximately 4 to 9 room air exchanges were accomplished. Room air exchanges are calculated from the time all the doors are closed (except the small access door which was left open during the entire sampling effort in order to provide "sweep air") by multiplying the time (minutes) since the doors were closed by the room ventilation rate (cfm) and dividing this product by the volume of the room. This calculation is expressed as follows:

Pretest Room Air Exchanges = (minutes since last door closed (minutes) x vent rate (cfm)/)Maintenance area room volume (ft^3)

2.3.2 Total Emission Rate (OU/sec)

An odor emission rate in odor units per second (OU/sec) for the single wall vent was calculated by multiplying the vent's design air flow rate in cubic meters per second (m^3/sec) by the vent's odor concentration measured and reported by the odor panel as a multiple of the detection threshold (DT), applied as "odor units per cubic meter" (OU/m^3). This product is the total emission rate (OU/sec) for all 12 collection vehicles staged in the maintenance alley during odor sampling. For the indoor background odor sample, this value is the total emission rate for the maintenance alley without the collection vehicles staged inside. This calculation is expressed as follows:

Total Emission Rate (OU/sec) = measured flow rate (m^3/sec) x DT (OU/m^3)

2.3.2 Emission Factor ([OU/sec]/collection vehicle)

Average collection vehicle emission factors were calculated for each sample by dividing the total emission rate by the number of collection vehicles in the maintenance alley at the time of sampling. This provided emission factors in odor units per second per collection vehicle

([OU/sec]/collection vehicle) for each sample. Separate samples were obtained for different room air exchanges. Thus, a Proposed Plan Facility or Alternative Facility, as applicable, sample set emission factor was calculated as follows:

$$\text{Emission Factor (OU/sec/collection vehicle)} = \frac{\text{Total Emission Rate (OU/sec)}}{\text{Number of collection. vehicles sampled}}$$

3.0 SUMMARY OF ODOR SAMPLING, RESULTS AND STUDY EMISSION FACTORS

3.1 Summary of Results

Table 3.1-1 provides a summary of results from the one-day sampling event. DT values ranged from 5 to 7. Collection vehicle emission factors ([OU/sec]/col. veh.) ranged from 2.7 to 3.2.

The program's QA samples suggest no significant contamination in the sample media blank, with a 5 DT result that is slightly higher than the method detection limit of 4. The 6 DT outside/upwind sample value is typical and suggests little or no significant background source interference with the sampling program. Finally, the deviation about the average of the field duplicate sample was 0%, as compared to the typical range of +25%/-20%.

Attachment D of this report contains a summary of general field observations and laboratory and sampling results for the sampling effort performed at the Manhattan District 8 garage.

Table 3.1-1
DSNY Collection Vehicle Odor Study at the Manhattan 8 Garage Facility
Sampling Summary and Results
July 20, 2004

Sample #	Start Time	Stop Time	Sample Description	Pretest Room Air Exchanges (~ #)	Collection Vehicles (# of Veh.)	Average Facial Velocity (FPM)	Measured Flow Rate (m3/s)	DT (o.u./m3)	Total Emission Rate (o.u./s)	Average Emission Factor ([o.u./s]/Col. Veh.)
TRUCK ODORS INCLUDING INDOOR BACKGROUND										
072004-M8-03	13:44	13:47	Test #1	4	12	220	5.5	7	38	3.2
072004-M8-04	14:10	14:13	Test #2	6	12	220	5.5	6	33	2.7
072004-M8-05	14:40	14:46	Test #3	9	12	220	5.5	6	33	2.7
doors closed @	13:00									
BACKROUND, DUPLICATE AND BLANK SAMPLES										
072004-M8-01	12:12	12:15	indoor background	5	0	250	5.5	5	27	----
072004-M8-02	12:12	12:15	outdoor background	----	----	----	----	6	---	----
072004-M8-06	14:40	14:46	Test #3 duplicate	9	12	220	5.5	6	33	---
072004-M8-07	12:15	12:18	indoor background	5	0	250	5.5	6	33	----
Tedlar bag blank	----	----	sample media blank	----	----	----	----	5	----	----
doors closed @	11:15	(for indoor background samples only)								

Notes:
Maintenace Area Room Volume (ft^3) = 136,686
Average Room Ventilation Rate (cfm) = 11,610

3.2 Emission Factors

Table 3.1-1 provides a summary of the estimated odor emission factors based on all odor samples analyzed for this Study. These data show that the emission factors ranged from 2.7 ([OU/sec]/collection vehicle) to 3.2 ([OU/sec]/collection vehicle), with a mean value of 2.9 ([OU/sec]/collection vehicle).

To be conservative, the 3.2 ([OU/sec]/collection vehicle) maximum emission factor was applied to establish a maximum odor emission rate (OU/sec) for each queuing collection vehicle to estimate the potential off-site impacts from on-site operations.

3.3 Comparison to the 2001 Final Comprehensive Solid Waste Management Plan

In cases where individual sources at a facility have the same odor characteristics, the modeled odor impacts from individual sources can be assumed to be additive. Therefore, for the purpose of calculating odor impacts in this study, a single model run was made for each facility evaluated, with appropriate emission factors for each of the individual odor sources (e.g., MTS exhaust vent, trucks queuing on entrance ramp).

3.4 Conclusions

Sampling was performed during the high heat of the summer months (July and August), when waste decomposition and odor generation is expected to be at its peak. Therefore, sampling results should conservatively represent odor emissions for the year. Of the 6 vent samples, the data seemed to correlate well. Field duplicate sample differences were well within acceptable tolerances. Vent sample odor levels were found to be low and within range of indoor and outdoor background levels as well as the method detection limit of 4 DT.

These results are supported by sampling staff observations that most of the 12 collection vehicles sampled had very little or no perceivable odors when walking by the vehicles. The odors from the one truck that smelled the worst could only be detected within 4 to 5 feet of the vehicle's

waste loading area (where waste had accumulated, and was visible and exposed to ambient air). Many of the other vehicles sampled also had exposed waste inside the waste loading area.

Emission factors were conservatively estimated. Odor impact analyses frequently use the RT value because it represents the concentration of the odor in the air that would be first recognized by an individual downwind of the odor source. For the purpose of this Study, the more conservative DT value (when the odor is first detected) has been used as the basic measure of odor concentration and because it is expected that the DT value can be determined more consistently and accurately by an odor panel.

Emission factors were also conservatively applied by using only the maximum emission rate from the three vent tests.

A total of 6 vent samples and 2 field QA samples were collected for the Study odor sampling effort. Of the 6 vent samples, 3 vent samples were used to conservatively calculate the collection vehicle odor emission factors that were then applied in establishing odor emission rates for modeling impacts

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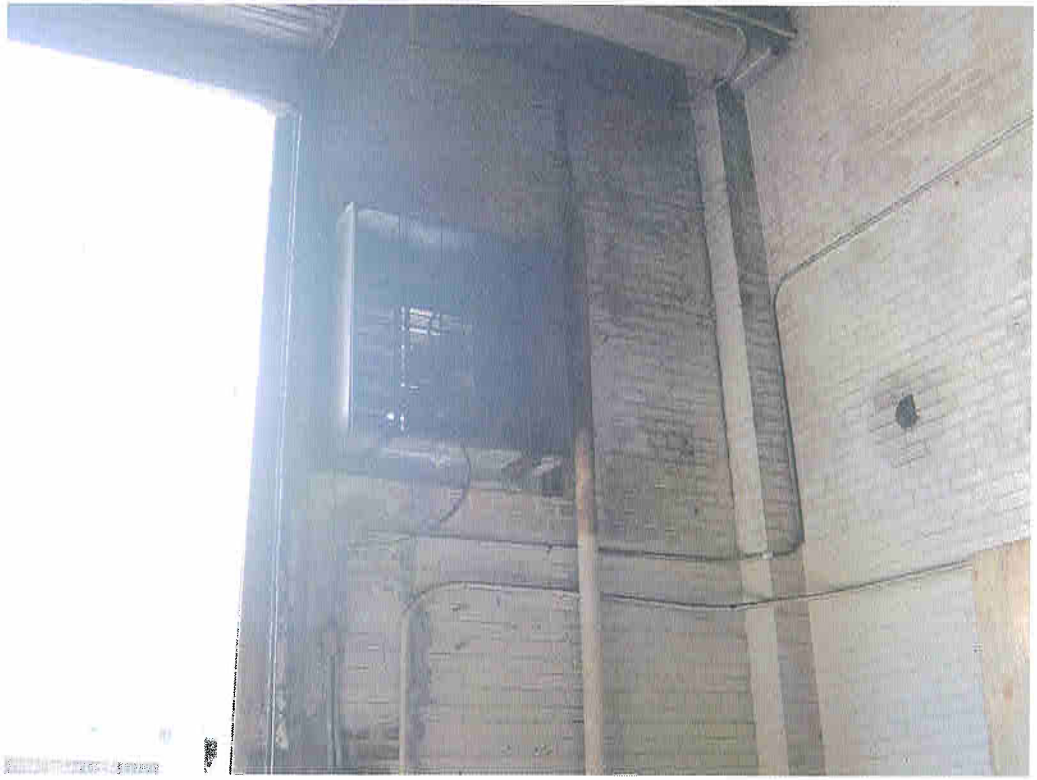
COLLECTION VEHICLE ODOR SAMPLING REPORT

ATTACHMENT A

Photographic Log



Exhaust fan and vent.

Outside view of exhaust vent

Manhattan 8 Garage where odor samples were collected

Collection Vehilcle lined up for odor sampling

Manhattan 8 Garage where odor samples were collected

Collection Vehilcle lined up for odor sampling

Collection Vehilcle lined up for odor sampling

Collection Vehilcle lined up for odor sampling

Collection Vehilcle lined up for odor sampling

Collection Vehilcle lined up for odor sampling

The back of one of the collection vehicles

Collection Vehicles outside Manhattan 8 Garage

Collection Vehicles outside Manhattan 8 Garage

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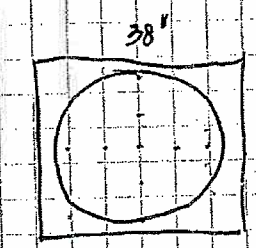
ATTACHMENT B

Field Data Sheets, Sampling Notes and Collection Vehicle Waste Load Data Summaries

7/20/04 Odor Sampling M8 Garage

1. ~~hmill~~
2. ~~camera~~
3.

Fan



10 ft²

Room

33' x 218' x 19' H = 136686 ft³

1 Air change

$$\frac{136686\ ft^3}{10\ ft^2\ fan\ 1150\ ft/min} = 11.9 \approx 12\ min$$

Facial velocity @ 9" open ~ 210 ft/min

facial velocity @ 6" open ~ 330 ft/min

1' 10" x 4' 9" door ~ 250 ft/min
22" x 57"

door closed @ ~ 11:15 a.m.

Insiol

fm

5	10	15	20	25
4	9	14	19	24
3	8	13	18	23
2	7	12	17	22
1	6	11	16	21

	Temp	Flow
1.	80.4	1070
2.	80.3	930
3.	80	~~280~~ 1100
4.	80	~~310~~ 1200
5.	8.1	1140
6.	81	1270
7.	81	1140
8.	81	1080
9.	81	1090
10.	81	1240
11.	81	950
12.	81	970
13.	81	860
14.	81	1060
15.	81	1200
16.	81	1140
17.	81	1200
18.	81	1270

Point.	Temp	Flow
19.	81	1140
20.	81	1250
21.	81	1430
22.	81	1350
23.	81	1450
24.	81	1570
25	81	1450
Avg		1182 ft/min
		118.20 ft^3/min

12 K ft^3/min

Trucks collect from E 59th & 96th

Flow taken @ 1:10 pm w/ 12 Filled Garbage truck

	Temp	Flow	
1.	87	1170	doors
2.	87	1210	closed
3.	88	1120	w/ 1
4	89	1120	opening
5.	89	1000	
6.	88	1120	
7.	88	1100	
8.	89	1030	
9.	89	1050	
10.	89	1070	
11.	87	1030	
12.	88	980	
13.	88	880	
14.	88	1040	
15.	89	1140	
16.	88	1050	
17.	88	1060	
18.	88	1090	
19.	89	1230	
20.	89	1200	
21.	88	1210	
22.	88	1200	

	Temp	Flow
23.	88	1500
24.	89	1410
25.	89	1270

Avg 1137 ft/min

11370 ft^3/min

Facial Velocity through escape door

85 F 220 ft/min

Samples

072004 M8 -01 Indoor Background
072004 M8 - 02 Outdoor Background

072004M8 - 02
purge bag @ 12:00pm

	Start	End
072004 M8 -01	12:12	12:15
072004 M8 -02	12:12	12:15
Contingency Sample door closed @ 1 pm.	12:15	12:18
072004 M8 - 03 ~ 3 air changes	1:44	1:47
072004M8 - 04 ~ 5 air changes	2:10	2:13
072004 M8 - 05 ~ 7 air changes	2:40	2:46
072004 M8 - 06	2:40	2:46 Dup

072004M8 - 07 = contingency

Outside Condition
2 refuse trucks off
8 cars off

Inside Condition
one truck w/ no waste
truck # 25CU-152 M8
25 CY

25CW163 25CN499 25CN498
25CU279 25CN477 25CN934
25CW180 25CW183 25CN894
25CN049 25CU-152 empty
25CN052 25CN519

N

St. Croix Sensory, Inc.

CHAIN OF CUSTODY RECORD FOR ODOR SAMPLES

Page 1 of 1

Client: HDR – M8 DOS Garage	Sampled By: [illegible]
Project Name: Truck Odor	Sampling Date: 7/20/04
Comments: [illegible]	

Odor Evaluations Requested: (X)

Line No.	Field No.	Sample Description	Sample Time	Field H_2S (ppm)	Odor Concentration (DT, RT)	Odor Intensity (PPM)	Odor Characterization (Hedonic Tone & Descriptors)	Odor Persistency ("Dose-Response")	For Laboratory use Only: Odor Evaluation Report No. / Laboratory Sample No. LN	FN
1	07 2004 M8-01	[illegible]	[illegible]	NA	✓	✓	✓	✓		
2	07 2004 M8-02	[illegible]	[illegible]		✓	✓	✓	✓		
3	07 2004 M8-03		[illegible]		✓	✓	✓	✓		
4	07 2004 M8-04		[illegible]		✓	✓	✓	✓		
5	07 2004 M8-[illegible]		[illegible]		✓	✓	✓	✓		
6	[illegible]		[illegible]		✓	✓	✓	✓		
7	[illegible]		[illegible]		✓	✓	✓	✓		
8	~~[illegible]~~	blank	[illegible]		✓	✓	✓	✓		
9	~~[illegible]~~	blank (field)	[illegible]		✓	✓	✓	✓		
10										

Transfer & Shipping Information

Number of "Air-Pacs"/ Shipping Boxes 2

Relinquished By	Date	Time	Accepted By	Date	Time	Comments & Exceptions Noted
[illegible]	[illegible]	[illegible]				
Received at St. Croix Sensory Laboratory						

St. Croix Sensory, Inc. ◆ 3549 Lake Elmo Avenue North ◆ Lake Elmo, MN 55042 U.S.A. ◆ Tel:800-879-9231 ◆ Fax:651-439-1065 ◆ Email:stcroix@fivesenses.com ◆ Web:www.fivesenses.com

LAB COPIES WHITE & YELLOW

CLIENT COPY PINK

TABLE 1

DSNY Collection Vehicle Odor Study
at the Manhattan 8 Garage Facility

Collection Vehicle Waste Load Data
July 20, 2004

Collection Vehicle Number	Waste (ton)
25CW- 163	13.00
25CN- 499	13.58
25CN- 498	13.00
15CU- 279	12.60
25CN- 422	13.97
25CN- 34	15.44
25CW- 180	13.14
25CW- 183	13.77
25CN- 94	14.71
25CN- 49	13.50
25CN- 32	14.67
25CN- 519	13.63
Average Load =	13.75
Maximum Load =	15.44

Notes:
- 7/20/04 waste load data received from Supervisor Hudgins by phone on 7/21/04.

City of New York
Department of Sanitation

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COLLECTION VEHICLE ODOR SAMPLING REPORT

ATTACHMENT C

American Society of Testing Materials (ASTM) Methods

Appendix 1: Determination of Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits (Standard Practice E679-91)

Appendix 2: Referencing Suprathreshold Odor Intensity (Standard Practice E544-99)

ATTACHMENT C

American Society of Testing Materials (ASTM) Methods

Appendix 1: Determination of Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits (Standard Practice E679-91)

Designation: E 679 – 91 (Reapproved 1997)

An American National Standard

Standard Practice for Determination of Odor and Taste Thresholds By a Forced-Choice Ascending Concentration Series Method of Limits[1]

This standard is issued under the fixed designation E 679; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

The obtaining of odor and taste thresholds requires the sensory responses of a selected group of individuals called panelists. These thresholds may be determined in order to note the effect of various added substances on the odor and taste of a medium. They may also be determined in order to characterize and compare the odor or taste sensitivity of individuals or groups.

It is recognized that precise threshold values for a given substance do not exist in the same sense that values of vapor pressure exist. The ability to detect a substance by odor or taste is influenced by physiological factors and criteria used in producing a response by the panelist. The parameters of sample presentation introduce further variations. Thus, the flowrate of a gaseous, odorous sample has an influence on the detectability of an odor. However, a concentration range exists below which the odor or taste of a substance will not be detectable under any practical circumstances, and above which individuals with a normal sense of smell or taste would readily detect the presence of the substance.

The threshold determined by this practice is not the conventional group threshold (the stimulus level detectable with a probabililty of 0.5 by 50 % of the population) as obtained by Practice E 1432, but rather a best estimate not far therefrom. The bias of the estimate depends on the concentration scale steps chosen and on the degree to which each panelist's threshold is centered within the range of concentrations he or she receives. The user also needs to keep in mind the very large degree of random error associated with estimating the probability of detection from only 50 to 100 3-AFC presentations.

1. Scope

1.1 This practice describes a rapid test for determining sensory thresholds of any substance in any medium.

1.2 It prescribes an overall design of sample preparation and a procedure for calculating the results.

1.3 The threshold may be characterized as being either (*a*) only *detection* (awareness) that a very small amount of added substance is present but not necessarily recognizable, or (*b*) *recognition* of the nature of the added substance.

1.4 The medium may be a gas, such as air, a liquid, such as water or some beverage, or a solid form of matter. The medium may be odorless or tasteless, or may exhibit a characteristic odor or taste per se.

1.5 This practice describes the use of a multiple forced-choice sample presentation method in an ascending concentration series, similar to the method of limits.

1.6 Physical methods of sample presentation for threshold determination are not a part of this practice, and will depend on the physical state, size, shape, availability, and other properties of the samples.

1.7 It is recognized that the degree of training received by a panel with a particular substance may have a profound influence on the threshold obtained with that substance **(1)**.[2]

1.8 Thresholds determined by using one physical method of presentation are not necessarily equivalent to values obtained by another method.

2. Referenced Documents

2.1 *ASTM Standards:*

D 1292 Test Method for Odor in Water[3]

E 544 Practice for Referencing Suprathreshold Odor Intensity[4]

E 1432 Practice for Defining and Calculating Individual and Group Sensory Thresholds from Forced-Choice Data Sets of Intermediate Size[4]

3. Terminology

3.1 *Definitions:*

[1] This practice is under the jurisdiction of ASTM Committee E-18 on Sensory Evaluation of Materials and Products and is the direct responsibility of Subcommittee E18.04 on Fundamentals of Sensory.

Current edition approved Aug. 15, 1991. Published October 1991. Originally published as E 679 – 79. Last previous edition E 679 – 79.

[2] The boldface numbers in parentheses refer to the list of references at the end of this practice.

[3] *Annual Book of ASTM Standards*, Vol 11.01.

[4] *Annual Book of ASTM Standards*, Vol 15.07.

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3.1.1 *sample*—a material in any form that may or may not exhibit an odor or taste, depending on the amount of odorous or sapid components that it may contain.

3.1.2 *medium*—any material used to dissolve, disperse, or sorb odorous or sapid material whose threshold is to be measured.

3.1.3 *blank sample*—a quantity of the medium containing no added odorous or sapid material.

3.1.4 *test sample*—the medium to which an odorous or sapid material has been added at a known concentration.

3.1.5 *detection threshold*—the lowest concentration of a substance in a medium relating to the lowest physical intensity at which a stimulus is *detected* as determined by the best-estimate criterion.

3.1.6 *recognition threshold*—the lowest concentration of a substance in a medium relating to the lowest physical intensity at which a stimulus is *recognized* as determined by the best-estimate criterion.

3.1.7 *best-estimate criterion*—an interpolated concentration value, but not necessarily the concentration value that was actually presented. In this practice it is the geometric mean of the last missed concentration and the next (adjacent) higher concentration.

3.1.8 *panelists*—individuals whose odor or taste thresholds are being evaluated, or who are utilized to determine the odor or taste threshold of the substance of interest.

3.1.9 *ascending scale of concentrations*—a series of increasing concentrations of an odorous or sapid substance in a chosen medium.

3.1.10 *scale steps*—discrete concentration levels of a substance in a medium, with concentrations increased by the same factor per step throughout the scale.

3.1.11 *3-alternative forced choice (3-AFC) presentation*—a set consisting of one test sample and two blank samples (as applied to this practice).

3.1.12 *geometric mean*—the *n*th root of the product of terms. In this method, the terms are concentration values.

4. Summary of Practice

4.1 A series of test samples is prepared by dispersing the substance whose threshold is to be determined in the medium of interest. This concentration scale should increase in geometric increments so that any two adjacent concentration steps are separated by a constant factor. At each concentration step, two blank samples consisting of the medium only are made available to the panelist. The blank and test samples are encoded so that there is no visual, audible, tactile, or thermal difference between the samples other than code designators **(2)**.

4.2 The panelist starts at the lowest concentration step, which should be two or three concentration steps below the estimated threshold. Each sample within the set of three is compared with the other two.

4.3 The panelist indicates which of the three samples is different from the other two. A choice must be made, even if no difference is noted, so that all data can be utilized.

4.4 Individual best-estimate values of threshold are derived from the pattern of correct/incorrect responses produced separately by each panelist. Group thresholds are derived by geometrical averaging of the individual best-estimate thresholds.

5. Significance and Use

5.1 Sensory thresholds are used to determine the potential of substances at low concentrations to impart odor, taste, skinfeel, etc. to some form of matter.

5.2 Thresholds are used, for example, in setting limits for air pollution, in noise abatement, in water treatment, and in food science and technology.

5.3 Thresholds are used to characterize and compare the sensitivity of individual or groups to given stimuli, for example, in medicine, in ethnic studies, and in the study of animal species.

6. Preparation of Concentration Scale

6.1 The concentration levels of the test substance in a medium should begin well below the level at which the most sensitive panelist is able to detect or recognize the added substance, and end at (or above) the concentration at which all panelists give a correct response.

6.2 The increase in concentration of the test substance per scale step should be by a constant factor. It is desirable to obtain a scale step factor that will allow the correct responses of a group of nine panelists to distribute over three to four concentration steps (see Appendix X1). This will allow more accuracy in determining the threshold value based on the geometric mean of the individual panelists.

6.3 Good judgment is required by the person in charge in order to determine the appropriate scale step range for a particular substance. This might involve the preparation of an approximate threshold concentration of the odorous or sapid substance in the medium of choice. The concentration of the substance may be increased two to three times for odorants or 1.5 to 2.5 times for sapid substances depending on how the perceived intensity of odor or taste varies with the concentration of the substance providing the sensory response. Thus, if x represents an approximate odor threshold concentration, then a series of concentration steps would appear as follows if a step factor of "3" were used:

$$\ldots x/27, x/9, x/3, x, 3x, 9x, 27x \ldots$$

6.4 In actual practice, the various concentrations are obtained by starting at the highest concentration and diluting three times per step, thus providing a series of dilution factors, "V_i" being the initial volume:

$$\ldots 729V_i, 243V_i, 81V_i, 27V_i, 9V_i, 3V_i, V_i, \ldots$$

6.5 At each selected concentration or dilution, a 3-AFC sample set consisting of one test and two blank samples is presented to panelists in indistinguishable fashion **(3)**. It is desirable to have all samples prepared and ready for judging before the evaluation session begins. (Reference **(2)** contains sound practices for coding the samples, rotating the positions of these test and blank samples as the test proceeds, etc.)

6.6 If the samples are arranged in a left-center-right, or an above-center-below order, care must be taken that the test sample is presented in one third of the presentations in the left (top) position, one third in the center position, and one third in the right (bottom) position to eliminate positional bias.

6.7 If only one sample at a time is available, the test and blank samples may be presented one after another in units of three presentations, with the test sample being randomized to be the first, the second, and the third, and requesting the response after all three samples in the set have been presented. Better results, however, are obtained if the test and the two blank samples are available for a direct comparison, so that the panelist may sniff or taste back and forth at ease until a decision is reached.

7. Judgment Procedure

7.1 The panelist begins judging with that set which contains the test sample with the lowest concentration (highest dilution) of the odorous or sapid substance, takes the time needed to make a selection, and proceeds systematically toward the higher concentrations.

7.2 Within each set, the panelist indicates that sample which is different from the two others (detection threshold) or which exhibits a recognizable odor or taste of the substance (recognition threshold). If the panelist cannot readily discriminate, a guess must be made so that all data may be utilized.

7.3 The judgments are completed when the panelist either (*1*) completes the evaluation of all sets of the scale, or (*2*) reaches a set wherein the test sample is correctly identified, then continues to choose correctly in higher concentration test sample sets.

8. Data Evaluation

8.1 The series of each panelist's judgments may be expressed by writing a sequence containing (0) for an incorrect choice or (+) for a correct choice arranged in the order of judgments of ascending concentrations of the added substance.

8.2 If the concentration range has been correctly selected, all panelists should judge correctly within the range of concentration steps provided. Thus, the representation of the panelists' judgments as in 8.1 should terminate with two or more consecutive plusses (+).

8.3 Because there is a finite probability that a correct answer will occur by chance alone, it is important that a panelist continues to take the test until there is no doubt by that person of the correctness of the choice.

8.4 The best-estimate threshold concentration for the panelist is then the geometric mean of that concentration at which the last miss (0) occurred and the next higher concentration designated by a (+).

8.5 The panel threshold is the geometric mean of the best-estimate thresholds of the individual panelists. If a more accurate threshold value of an individual panelist is desired, it may be obtained by calculating the geometric mean of the best-estimate threshold of all series administered to that person.

9. Report

9.1 Successful completion of the foregoing procedure provides either the detection or recognition threshold of the substance in the medium of interest in accordance with this practice.

9.2 The threshold value is in concentration or dilution units appropriate for the substance tested **(4)**.

9.3 For enhanced understanding of the threshold results, the following information is recommended:

Threshold of:
Procedure: ASTM Practice E 679 (Rapid Method)
Presentation:
Number of scale steps:
Dilution factor per step:
Temperature of samples:
Panelist selection:
Number of times test given:
Type of threshold (detection or recognition):
Best-estimate threshold:
  Individual:
  Panel:

9.4 Refer to Appendix X1 for an example of the calculation required and reporting.

10. Precision and Bias

10.1 Because sensory threshold values are functions of sample presentation variables and of individual sensitivities, interlaboratory tests cannot be interpreted statistically in the usual way, and a general statement regarding precision and bias of thresholds obtained by this practice cannot be made. However, certain comparisons made under particular circumstances are of interest and are detailed below.

10.2 When 4 panels of 23 to 35 members evaluated butanol in air **(5)**, the ratio of the highest to the lowest panel threshold was 2.7 to 1; when the same panel repeated the determination on 4 days, the ratio was 2.4 to 1. For 10 panels of 9 members evaluating hexylamine in air, the ratio was 2.1 to 1.

10.3 When 26 purified compounds were tested for threshold by addition to similar beers by 20 brewery laboratories (each compound was tested by 2 to 8 laboratories), the ratios of the highest to the lowest panel threshold varied from less than 2.0 to 1, to 7.0 to 1 or more **(6)**. The lowest variability was found with simple compounds of high threshold (sugar, salt, ethanol), and the highest with complex compounds of low threshold (eugenol, hop oil, geosmin).

10.4 When 14 laboratories determined the threshold of purified hydrogen sulfide in odorless air **(7)**, the ratio of the highest to the lowest laboratory threshold was 20 to 1. Interlaboratory tests with dibutylamine, isoamyl alcohol, methyl acrylate and a spray thinner for automobile paint gave somewhat lower ratios. Although the methods used vary somewhat from this practice, the results are comparable.

10.5 A discussion of the likely bias of results by this practice compared to a true threshold can be found in references **(5)**, **(8)** and **(9)**.

11. Keywords

11.1 air pollution; ascending method of limits; odor; panel; sensory evaluation; taste; threshold; water pollution

APPENDIX

(Nonmandatory Information)

X1. EXAMPLE

X1.1 The odor threshold of an odorous air sample was to be determined.

X1.2 Six different concentrations of the odorous sample in air were prepared. Each of these was presented in conjunction with two samples of nonodorous air. The concentrations were increased by a factor of three per concentration step. Nine randomly selected panelists participated. Each proceeded from the lower to higher concentrations. At each concentration level, panelists compared the three samples—two blanks and one diluted odorous sample—and indicated which sample was different from the other two.

X1.3 The following results were obtained (see Table X1.1):

X1.4 Details of calculation are as follows:

X1.4.1 For Panelist 1, the best-estimate threshold is $\sqrt{135 \times 45} = 78$, or at a dilution by a factor of 78 (one volume of the odorous air sample diluted with nonodorous air to occupy 78 volumes in total). For Panelist 2, the threshold is at $\sqrt{1215 \times 405} = 701$.

X1.4.2 Panelist 4 missed at the highest concentration, where the dilution is only by a factor of 15. It is assumed that he would have been correct at a higher concentration level, where the dilution would have been a factor 15/3 = 5.

X1.4.3 Consequently, an estimate of his threshold is $\sqrt{15 \times 5} = 9$. The underlying assumption is that since the thresholds of the other panelists were within the presented scale range, his threshold should not be far away from the range if he belongs to the same statistical population. If the test were to establish the sensitivity of the panelists, this panelist would have been retested, with a scale range extended to the right of the results in Table X1.1.

X1.4.4 Panelist 6 represents the opposite extreme. The estimate is based on the assumption that a miss would have occurred at a dilution of $3 \times 3645 = 10\ 935$; the best-estimate threshold is then $\sqrt{10\ 935 \times 3645} = 6313$.

X1.4.5 In Table X1.1, dilutions change exactly by a factor of three per scale step. Experimentally, small deviations from such equal spacing occur, and the actual dilutions or concentrations should be used in calculating the best-estimate thresholds from two adjacent values in the table.

TABLE X1.1 Example of Odor Threshold

NOTE 1—This example has been selected to represent both extremes. Panelist 4 missed even at the highest concentration. Panelist 6 was correct even at the lowest concentration and continued to be correct at all subsequent higher concentrations.

Panelists	Judgments[A]							
	Dilution Factors (concentrations increase →)						Best-Estimate Threshold (BET)	
	3645	1215	405	135	45	15	Value	$\log_{10}$ of Value
1	0	+	+	0	+	+	78	1.89
2	+	0	+	+	+	+	701	2.85
3	0	+	0	0	+	+	78	1.89
4	0	0	0	0	+	0	9	0.94
5	+	0	0	+	+	+	234	2.37
6	+	+	+	+	+	+	6313	3.80
7	0	+	+	0	+	+	78	1.89
8	+	0	0	+	+	+	234	2.37
9	+	0	+	+	+	+	701	2.85
Group BET geometric mean							$\Sigma\log_{10}$ →	20.85
							209 ←	2.32
Standard deviation								0.81

[A] "0" indicates that the panelist selected the wrong sample of the set of three. "+" indicates that the panelist selected the correct sample.

X1.5 *Report*—The report shall include the following information:

Odor threshold: Odorous Air Sample XX
Procedure: ASTM Practice E 679
Presentation: at 500 ml/min (dynamic dilution olfactometer)
Number of scale steps: 6
Dilution factor per step: 3
Temperature: 25°C (room and samples)
Panelist selection: random
Number of panelists: 9
Type of threshold: detection
Best-estimate threshold:

$$Z_{OL} = 209$$
$$\log_{10} Z_{OL} = 2.32$$
$$\text{Standard log deviation} = 0.81$$

NOTE X1.1— The symbol Z represents a dilution factor proposed to designate a dimensionless measure of sample dilution needed to reach some target effect **(10)**.[5] For threshold work, the subscript "OL" represents the dilution at which the odor reaches a limit that corresponds to the best-estimate threshold.

X1.6 *Additional examples*—References **(11-20)** contain examples of thresholds determined according to this practice or by equivalent methods.

[5] The dilution factor, Z, is used in modest honor of H. Zwaardemaker, a Dutch scientist and early investigator in olfactometry. Alternate terminology in use: Dilution-to-Threshold Ratio (D/T or D-T); Odor Unit (OU); Effective Dose (ED).

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(3) Baker, R. A., *Annals of New York Academy of Sciences*, Vol 116, p. 495, 1964.

(4) *Compilation of Odor and Taste Threshold Values Data, ASTM DS 48A*, Am. Soc. Testing Mats., 1978.

(5) Dravnieks, A., Schmidtsdorff, W., and Meilgaard, M., *Journal of the Air Pollution Control Association*, Vol 36, p. 900, 1986.

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ATTACHMENT C

American Society of Testing Materials (ASTM) Methods

Appendix 2: Referencing Suprathreshold Odor Intensity (Standard Practice E544-99)

Designation: E 544 – 99

AMERICAN SOCIETY FOR TESTING AND MATERIALS
100 Barr Harbor Dr., West Conshohocken, PA 19428
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Standard Practices for Referencing Suprathreshold Odor Intensity[1]

This standard is issued under the fixed designation E 544; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 These practices are designed to outline a preferred means for referencing the odor intensities of a material in the suprathreshold region.

1.2 The general objective is to reference the odor intensity rather than other odor properties of a sample.

1.3 These practices are designed to reference the odor intensity on the ASTM Odor Intensity Referencing Scale of any odorous material. This is done by a comparison of the odor intensity of the sample to the odor intensities of a series of concentrations of the reference odorant, which is 1-butanol (*n*-butanol).

1.4 The method by which the reference odorant vapors are to be presented for evaluation by the panelists is specified. The manner by which the test sample is presented will depend on the nature of the sample, and is not defined herein.

1.5 Test sample presentation should be consistent with good standard practice **(1)**[2] and should be explicitly documented in the test report.

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* See Annex A1 for specific safety data.

2. Referenced Documents

2.1 *ASTM Standards:*

D 1292 Test Method for Odor in Water[3]

3. Terminology

3.1 *ASTM odor intensity referencing scale*—a series of 1-butanol dilutions used to establish which concentration exhibits an odor intensity matching that of the sample.

3.2 *concentration*—a series of concentrations of 1-butanol in odorless air, nitrogen, or the water diluent, made to specific reference dilutions which serve as the reference scale, volume basis, of 1-butanol diluted air or in water. In the latter case, the temperature of the solution during the test should be reported.

3.3 *dynamic scale*—the reference scale in which vapor dilutions are prepared by continuous mixing of vapors of 1-butanol with an odorless gas, such as air, to yield constant dilutions of vapor in the gas.

3.4 *panelists*—the individuals who compare the odor intensity of the sample to the reference scale. These individuals should be able to do this with a consistency described in 5.5.

3.5 *perceived (sensory) odor intensity*—the intensity of an odor sensation which is independent of the knowledge of the odorant concentration.

3.6 *sample*—a material in any form exhibiting an odor that needs to be measured.

3.7 *static scale*—the reference scale in which dilutions of 1-butanol in water are prepared in flasks and presented for odor intensity comparison from the flasks.

3.8 *suprathreshold odor intensity*—perceived (sensory) intensity of the odor in that intensity region in which the odor is clearly experienced.

4. Summary of Practice

4.1 The reference odorant used to generate an odor intensity scale is 1-butanol (*n*-butanol). The reasons for its selection are summarized in Appendix X1. A geometric progression scale with a ratio of 2 is recommended, that is, a scale in which each reference dilution differs in its 1-butanol concentration from the preceding dilution by a factor of 2.

4.2 Two procedures, A and B, are described in these recommended practices. They differ in the method by which the diluted 1-butanol vapors are prepared.

NOTE 1—The relationships between the odor intensity of 1-butanol concentrations in air and in water have not been evaluated. Translation of Procedure B data to the numerical values of Procedure A is not possible at this time.

4.2.1 In Procedure A, hereafter referred to as the dynamic scale method, a dynamic-dilution apparatus is used. This is equipped with a series of sniffing ports from which constant concentrations of 1-butanol emerge at constant volumetric flow rates in air.

4.2.2 In Procedure B, hereafter referred to as the static-scale method, a series of Erlenmeyer flasks containing known concentrations of 1-butanol in water is used.

4.3 The odor of the sample is matched, ignoring differences in odor quality, against the odor intensity reference scale of 1-butanol by a panel yielding at least eight independent

[1] These practices are under the jurisdiction of ASTM Committee E-18 on Sensory Evaluation of Materials and Products and are the direct responsibility of Subcommittee E18.04 on Fundamentals of Sensory.

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[2] The boldface numbers in parentheses refer to the list of references at the end of these recommended practices.

[3] *Annual Book of ASTM Standards*, Vol 11.01.

judgments. Panelists report that point in the reference scale which, in their opinion, matches the odor intensity of the unknown.

4.4 The independent judgments of the panelists are averaged geometrically (see 7.4) with respect to the 1-butanol concentrations of the indicated matching points. Results are reported as an odor intensity, in parts per million, of 1-butanol in air (Procedure A) or water (Procedure B) on the ASTM Odor Intensity Referencing Scale. When water is used as a diluent, the temperature of the reference scale solutions during the test must be reported.

4.5 The odor intensity equivalent values which are obtained may then be used to compare the relative intensities of sample groups. These values are reference values and are not related to the odor intensities by a simple proportionality coefficient (see 8.2).

5. Procedure A—Dynamic-Scale Method

5.1 *Reagents*:

5.1.1 *1-butanol (n-butanol),*[4] the reference odorant, with required purity 99+ mol % by gas chromatography. Also shall be free of strong odorous impurities.

5.1.2 *Diluent*—Nonodorous room or cylinder air.

5.2 *Preparation of Dynamic Scale*:

5.2.1 Prepare the 1-butanol airflow mixtures in an olfactometer apparatus as follows: Pass air over an expanded surface of 1-butanol in order to produce a saturated vapor at a known ambient temperature. Temperatures should be ambient in order to avoid condensation in the airflow lines. Air becomes saturated (98+ %) at flow rates up to 60 mL/min when passed over a surface of 1-butanol that is 120 mm long by 10 mm wide in a 13-mm inside diameter glass tube which is held in a horizontal position. Saturated vapor prepared by bubbling air through 1-butanol is less desirable since the bubbles burst at the surface and produce droplets. In such methods of vapor generation, glass wool filter, operating at the same temperature as the 1-butanol liquid sample, must be used to remove the droplets. Obtain concentrations of vapor below saturation by diluting the saturated vapor with additional volumes of air.

5.2.2 If air, such as pumped ambient air which contains water vapor is used, replace the 1-butanol in the saturation tube every 2 to 3 h; otherwise it will become diluted by the absorption of water which will lower the vapor pressure of 1-butanol, and will result in a lower odorant concentration at the sniffing ports.

5.2.3 An adequate concentration range for most applications is between 5 and 2000 ppm of 1-butanol in air. Above 2000 ppm, the odor intensity is too strong for accurate judgment. Below 5 ppm, the odor is too close to the threshold limit for panelists to make accurate judgments.

5.2.4 The temperature of 1-butanol in the saturation tube should be noted at the start and kept constant during the test. It should be within the range of comfortable room temperatures.

5.2.5 The rate of dynamic delivery of air carrying diluted 1-butanol vapor from sniffing ports should be 160 ± 20 mL/min from a port with a cross-section of 400 to 500 mm^2, resulting in a nominal linear flow rate of 300 mm/min. A rate that is too slow allows the stimulus to be diluted with increasing amounts of room air. A rate that is too fast creates a mechanical sensation in the nose which complicates the odor intensity judgment.

5.2.6 An example of a dynamic dilution apparatus, called a dynamic olfactometer, is diagrammed in Fig. X1.1 and its operation is explained, in Appendix X4.

5.3 *Reference Concentrations*:

5.3.1 This practice is intended to establish, on a continuous ppm 1-butanol scale, that ppm value which best corresponds in its odor intensity to the odor intensity of the sample. Since such a scale is technically difficult, the one designed consists of a series of discrete concentration points at sniffing ports continuously delivering known concentrations of 1-butanol vapor in air.

5.3.2 A geometric progression scale of concentrations is used, in which each reference port differs in its 1-butanol concentration from the preceding port by a factor of 2. It would have been desirable to select and always use the same ppm values for the same ports, however, this would require very complex flow adjustment systems. Although the ppm values delivered by the scale ports change with temperature, they remain in the same ratio to each other, and thus still permit the intensity equivalence point to be easily found.

5.3.3 The scale points are arranged systematically, in the order of increasing concentrations, and are numbered in ascending integers, from 1 for the lowest concentration of 1-butanol.

5.3.4 The matching points normally used are the scale points, or positions between the scale points, but can also be those points beyond either end of the scale.

5.4 *Test Room*—The test room must be well-ventilated, essentially odor-free, and comfortable. In order to avoid bias, waiting panelists should not observe or learn the judgments of the panelist currently matching the odor intensity of the sample to the scale **(1,2).**

5.5 *Odor Panel*:

5.5.1 *Number*—The number of panelists should be eight or more, to permit elementary statistical tests on their judgments. A smaller number of panelists may be used with replicate judgments to increase the total to eight or more. It is important when obtaining replicate data that all bias is removed. Precautions such as separate sessions and recoding are recommended **(1).**

5.5.2 *Selection*—Special training is not needed but precautions must be taken in the selection of the panelists **(3).** An individual with insufficient sensitivity to detect the odor of 10 ppm of 1-butanol in air should not be a panelist. Also, some individuals have been observed to experience difficulty in matching odor intensities. Prospective panelists can be screened by having them repeatedly match the odor intensity of a known concentration of 1-butanol vapor to the 1-butanol reference scale. Those whose standard deviation in repeated testing exceeds 1.5 scale steps should not be used in the panel. Periodic retesting of panelists may be advisable.

5.6 *Judgment Procedure*:

[4] 1-Butanol (*n*-butanol), available from Allied Fisher Scientific Co., 2775 Pacific Drive, P.O. Box 4829, Noreross, GA 30091. Catalog 74 (1974), No. A-384 (p. 976), or equivalent.

5.6.1 Panelists are instructed on the nature of the 1-butanol odor intensity reference scale. They are told that the ports are numbered beginning with No. 1, which represents the weakest odor and that the odors increase systematically in intensity with increasing port identification numbers.

5.6.2 Panelists are instructed to smell the unknown sample and then to smell the scale, beginning with its weakest end, and match the unknown to the scale, ignoring differences in the odor quality. They are permitted to check and recheck the unknown against the scale any number of times and should not be hurried or biased by others in any manner.

5.6.3 Panelists are advised that they may report one of the scale points as the best match, or else may report that the best match occurs between two adjacent points, for example, the unknown is stronger than scale point No. 7, but weaker than scale point No. 8.

5.6.4 Panelists should be advised that the odor may also be weaker than the weakest point of the scale, or stronger than the strongest point of the scale.

5.6.5 When his judgment is within scale limits, the panelist should make sure that the selected position is a good match, that is, that the next lower concentration of 1-butanol indeed smells weaker than the unknown, and that the next higher concentration indeed smells stronger.

5.6.6 Panelists report the matching point in terms of the port identification number. When the best match is a position between the scale points, such as between port Nos. 7 and 8, the half-number, 7.5, is used.

5.6.7 During repeated smelling of one or more samples or scale points, olfactory adaptation (fatigue) occurs, rendering the sense of smell less sensitive. However, the relative position of the unknown with respect to the scale is not unduly influenced unless the rates of adaptation to 1-butanol and to the sample are very different. The adaptation rate to 1-butanol has been reported to be average when compared to other odorants **(4)**. Therefore, the complication that may result from differences in the adaptation rate to the unknown and to 1-butanol is minimized by selecting 1-butanol as the reference odorant.

5.6.8 Because of the olfactory adaptation discussed in 5.6.7, a panelist may find that after judging at higher odor intensity points on the scale, he may have difficulty in detecting odor at the lowest points of the scale. A rest of 2 to 5 min will usually correct this effect.

5.6.9 Panelists may differ in the amount of time required to render a judgment. The panelist should be allowed to proceed at a rate comfortable to him. As many as six test stimuli can be handled by a panel of nine in a 1-h session.

6. Procedure B—Static-Scale Method

6.1 The reference odorant is 1-butanol, (see 5.1.1). The diluent is distilled water that is odor-free.

NOTE 2—If diluent other than water is used, equivalent ppm (vol/vol) values will not exhibit matching odor intensities because of differences in molecular weights, densities, and the activity coefficients of 1-butanol in different solvents. Use of other solvents is therefore not recommended.

6.2 Follow the procedures outlined in Section 5, except for 5.2.

6.3 *Preparation of Static Scale*:

6.3.1 Prepare solutions of 1-butanol in water, using pipets and volumetric flasks, following the usual laboratory procedures for solution preparation.

6.3.2 *Procedure*—Place the reference sniffing solutions into standard 500-mL wide-mouth, conical Erlenmeyer flasks (see Test Method D 1292). The volume of solution should be 200 mL and should be replaced by new solutions after a maximum period of 2 h. Between sniffings, cover the top of each flask with aluminum foil in order to assure equilibration between the solution and the air head-space above it. The flasks should be gently shaken by each panelist prior to each sniffing in order to assure equilibrium.

6.3.3 The temperature of the reference solutions during the test should be ambient, and should be noted and kept constant during the test.

6.3.4 The odor threshold of 1-butanol in water is 2.5 ppm at 21°C **(5)**. The useful concentration range for the static scale is above this value but does not extend to the solubility limit of 7.08 % of 30°C (70 800 ppm) **(6)**. At concentrations close to the solubility limit, excess 1-butanol may separate from the solution with temperature change. If this occurs the odor becomes equivalent to that of pure 1-butanol.

6.3.5 Considerable latitude as to the selection of concentrations is allowed. To go from the saturation point to the threshold requires 16 flasks, assuming that each succeeding mix is one half of the preceding concentration (70 800, 35 400, 17 000, 8 850 ppm, etc.). Solutions stronger than 20 000 ppm of 1-butanol exhibit an odor that is too intense for most comparisons.

6.3.6 The most useful concentration range is approximately between 10 and 20 000 ppm, and may be covered by twelve flasks containing 10 ppm in flask No. 1, 20 ppm in flask No. 2, etc. These flasks constitute the static scale. The unknown sample is matched to the static scale in the same manner as in the dynamic method (see 5.6).

7. Calculation

7.1 *Procedure A*—Table 1 lists 1-butanol concentrations, in parts per million, by volume, in vapor at equilibrium with pure, liquid 1-butanol at different temperatures. Use this table to calculate the concentrations of 1-butanol in air (Procedure A).

7.1.1 *Example 1*—Assume that the temperature of 1-butanol was 20.3°C and the following linear interpolation of ppm values is used:

$$6513 + [(7000-6513)(0.3/1)] = 6659 \text{ ppm} \quad (1)$$

If air saturated with 1-butanol vapor at 20.3°C is further diluted with additional air to obtain a lower concentration, the value of 6659 ppm is divided by the corresponding dilution factors to obtain the values for 1-butanol vapor concentrations at the respective scale points.

7.1.2 For instance, if a 74-mL/min flow of air saturated with 1-butanol vapor is mixed with a 310-mL/min flow of nonodorous air, the resulting 1-butanol vapor concentration would be the following:

$$(6659)\,[74/(74 + 310)] = 1283 \text{ ppm by volume} \quad (2)$$

7.2 *Procedure B*—For the static-scale method, the values of parts-per-million concentrations of 1-butanol in water solutions are known from the method of preparation (see 6.3.1).

7.3 When a panelist indicates that a position between two

TABLE 1 Vapor Pressure and Concentration Data for the 1-Butanol Odor Intensity Scale[A]

Temperature, °C	Vapor Pressure, mm Hg[B]	Concentration[C]	$\log_{10}$, ppm
12	2.78	3 660	3.56
13	2.99	3 930	3.59
14	3.23	4 250	3.63
15	3.48	4 580	3.66
16	3.74	4 920	3.69
17	4.01	5 280	3.72
18	4.31	5 670	3.75
19	4.61	6 070	3.78
20	4.95	6 510	3.81
21	5.32	7 000	3.85
22	5.69	7 490	3.87
23	6.11	8 040	3.91
24	6.53	8 590	3.93
25	6.97	9 170	3.96
26	7.50	9 870	3.99
27	8.01	10 500	4.02
28	8.55	11 300	4.05
29	9.14	12 000	4.08
30	9.76	12 800	4.11
31	10.42	13 700	4.14
32	11.07	14 600	4.16
33	11.83	15 600	4.19
34	12.63	16 600	4.22
35	13.42	17 700	4.25
36	14.33	18 900	4.28
37	15.78	20 800	4.32

[A] *Handbook of Chemistry and Physics*, 50th Ed., Chem. Rubber Publ. Co., Cleveland, OH, 1969–70, p. D-152. See Table on Vapor Pressure Organic Compounds (pressures less than 1 atm). Values given for 1-butanol are: 1 mm Hg, −1.2°C; 10 mm Hg, +30.2°C; and 40 mm Hg, 53.4°C. These three points were used to interpolate for other temperatures. Later editions have deleted this table.

The values of vapor pressures for 12 to 37°C for the table were calculated as follows: the Handbook values of °C were converted to K, the vapor pressures to log(mm Hg), and the least squares fit straight line was calculated for a plot of log(mm) versus reciprocal of the K temperatures. This equation was used to interpolate vapor pressures in mm Hg for the integral ° C values in the table.

The conversion of vapor pressures to ppm by volume was conducted as follows: As an example, the vapor pressure of 1-butanol at 25°C is 6.97 mm Hg. Air saturated with 1-butanol vapor at this temperature and 760-mm Hg total pressure contains (6.97 × 1 000 000)/760 = 9171 ppm of 1-butanol.

[B] 1 mm Hg = 133 Pa.

[C] Concentration of 1-butanol in air saturated with 1-butanol vapor.

scale points is the best match, the concentration value for this position is calculated as the geometrical mean of the concentrations at the two adjoining scale points. This applies to both procedures. For example, if the 1-butanol concentrations at points No. 7 and No. 8 are 685 and 1280 ppm, then the concentration that would correspond to the intermediate position of 7.5 is found by the following logarithmic computation:

$$\log (\text{ppm for position } 7.5) = \frac{\log (658) + \log (1280)}{2} = 2.96 \qquad (3)$$

Tables of antilogarithms give 918 ppm as the estimate for the 1-butanol concentration at the scale position 7.5.

7.4 *Averaging Panelists' Data*—A geometric average of a group of panelists' judgments is computed and converted into an ASTM Odor Intensity Referencing Scale value, in parts per million of 1-butanol, in a manner illustrated by the following example:

7.4.1 The odor of 3 % vol/vol of anethole dissolved in propylene glycol and prepared in 125-mL Erlenmeyer flasks was evaluated for its odor intensity in comparison to that of a dynamically prepared scale at sniffing ports such as those described in Appendix X4. Nine panelists participated.

Panelist	Matching Sniffing Port No.	1-Butanol Concentration Data ppm (vol/vol)	log (ppm)
1	5	165	2.22
2	6.5	452	2.66
3	7	658	2.88
4	6.5	452	2.66
5	7.5	919	2.96
6	7.5	919	2.96
7	7.5	919	2.96
8	6.5	452	2.66
9	5.5	226	2.35

7.4.2 The mean $\log_{10}$ in parts per million was equal to 2.701. The antilogarithm of 2.701 is 502 ppm of 1-butanol. This would be the best mean for the odor intensity match for the anethole solution. This result should be reported in accordance with Section 8.

7.5 *Standard Deviation*—It is desirable to quote, the standard deviation of the mean $\log_{10}$ (ppm) value **(2)**, for the method of calculation used when reporting the results. For the example given in 7.4.2, the standard deviation of the mean log (ppm) of 2.701 is ±0.27.

8. Report

8.1 *Procedure A*—Report the result as follows:

8.1.1 The odor intensity of the sample is equivalent to;lm ppm of 1-butanol (air) on the ASTM Odor Intensity Referencing Scale for Procedure A.

8.2 *Procedure B*—When the diluent is water and the static-scale method is used, report the result as follows:

8.2.1 The odor intensity of the sample is equivalent to __ ppm of 1-butanol in water, __ °C, in the ASTM Odor Intensity Referencing Scale for Procedure B.

8.3 Report the standard deviation of the result (see 7.5), if it is calculated. Also report the number of panelists that participated.

8.4 Values that are reported in this manner permit the comparison of odor intensity measurements for the same material to be conducted in different locations by different panels, the comparison of odor intensities for samples which are not available at the same time, and the reconstruction of a reported odor intensity for an unknown material in other laboratories.

9. Keywords

9.1 *n*-butanol; supra threshold odor intensity

ANNEX

(Mandatory Information)

A1. SAFETY DATA FOR 1-BUTANOL

A1.1 *General*—1-butanol is a common chemical used as a solvent for fats, waxes, resins, gums, and varnishes. It is also used in the manufacture of lacquers, detergents, and rayon; in special cleaning applications; and as a fuel. It is not a listed carcinogen and it does not cause lasting damage in case of accidental moderate overexposure. If ingested it is metabolized in a manner analogous to that of ethanol. It is however an irritant for eyes, skin, and the respiratory tract. Prolonged inhalation or ingestion causes dizziness and narcosis. Accordingly, contact times and concentrations of exposure should under no circumstances exceed those required for the application of the method. Exposure to concentrations in excess of the ACGIH Ceiling Value should be avoided or, if deemed necessary, should be kept to a few seconds per exposure. Assessors who experience symptoms of uneasiness during the test should be allowed the choice of not completing it.

A1.2 *OSHA Requirement*—The Occupational Safety and Health Authority enforces a workplace TLV (Threshold Limit Value) of 100 ppm (300 mg/m^3). This refers to an 8-h time-rated average. To determine compliance in a workroom situation, air sampling should be conducted around the user at intervals during the work period, and the average exposure should be calculated.

A1.3 *ACGIH Recommendation*—The American Conference of Governmental Industrial Hygienists, Inc., 6500 Glenway Ave., Bldg. D-7, Cincinnati, OH 45211-4438, recommends a TLV-C (TLV-Ceiling) of 50 ppm (152 mg/m^3). The user should obtain the relevant documentation in full. A TLV-C is a momentary value; in a workroom situation, it signals the need to begin air sampling in order to monitor any exposure above this level.

A1.4 *Realistic Assessment*—Determine the number of seconds an assessor is exposed to each concentration, then calculate the 8-h time-rated average. Example: 1 min at 1000 ppm, 2 min at 500 ppm, 4 min at 250 ppm, total $1 \times 1000 + 2 \times 500 + 4 \times 250 = 3000$ ppm × min. or $3000/60 \times 8 = 6.25$ ppm over 8 h. An assessor performing 4 such assessments within the same 8-h period is exposed to an 8-h time-rated average of $4 \times 6.25 = 25$ ppm.

APPENDIXES

(Nonmandatory Information)

X1. SELECTION OF 1-BUTANOL AS THE REFERENCE ODORANT

X1.1 1-Butanol was selected as the reference odorant because:

X1.1.1 It is a common chemical and is readily available in 99+ mol % purity.

X1.1.2 It is non-toxic, except in multigram doses.

X1.1.3 It has good stability in the presence of air and water.

X1.1.4 Its odor is somewhat unrelated, so that its odor quality can be more easily ignored when comparing with other odors which may have different qualities.

X1.1.5 The majority of people do not object to sniffing it frequently when doing odor-intensity referencing.

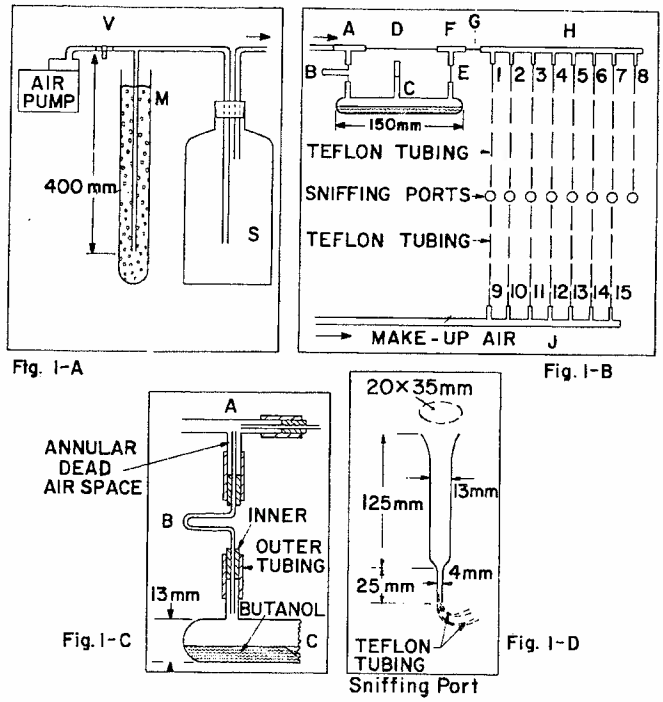

FIG. X1.1 Butanol Scale Olfactometer

TABLE X1.1 Capillary Tubing Calibration Data Used in the Design of the Flow Splitters and the Stimulus Generator[A]

Tubing Composition	Diameter[B]		Standard Flow, Rate, *V* (ml/min)[C,D]	Equivalent Lengths[D,E]
	OD,[F] mm (in.)	ID,[G] mm (in.)		
Stainless steel	1.6 (1/16)	0.76 (0.030)	220	1
Stainless steel	1.6 (1/16)	0.48 (0.019)	43	0.20
Stainless steel	1.6 (1/16)	0.25 (0.010)	2.3	0.010
PTFE	AWG 15[H]		4110	18.7

[A] The following types of tubing have been found satisfactory: *(1)* Stainless steel capillaries (all 1/16-in. OD)—0.030-in. ID, Supelco Co., Catalog No. 02-0529, Bellefonte, PA; 0.010-in. ID, Supelco Co., Catalog No. 02-0535, Bellefonte, PA; 0.019-in. ID, Chromatronix, Catalog No. SO63019, Berkeley, CA; and *(2)* PTFE AWG 15—standard wall thickness tubing, natural color, available from Pennwalt Plastics Co., Clifton Heights, PA.

[B] Nominal values, in practice the inside diameters vary from lot to lot.

[C] Airflow rate, mL/min, through a 100-mm length of tubing at a manostat pressure (immersion of the manostat leg in water) of 100 mm Hg of water, as measured with a soap film flowmeter with no other restrictions in the flow path.

[D] These values must be determined for each lot of tubing.

[E] The length of tubing of the indicated size (ID) which has a flow resistance equivalent to that of one unit length of 0.76-mm (0.030-in.) ID tubing.

[F] Outside diameter.

[G] Inside diameter.

[H] PTFE spaghetti tubing of standard wall thickness.

X1.1.6 Its perceived-odor intensity changes rapidly with concentration, for example, the slope of the logarithmic odor intensity versus the concentration plot is steep (see X3.2). Therefore, such a scale will cover a broad range of sensory intensities with a reasonable number of scale points. Also, a well-noticeable odor-intensity difference occurs between two adjoining concentration-scale points that differ in 1-butanol vapor content in air by a factor of 2.

X1.1.7 Since its odor threshold is relatively high (2 to 6 ppm (vol/vol) in air flowing at 100 to 200 mL/min), a continuous discharge of its vapors into the test room air does not result in a noticeable odor level in a normally ventilated room.

X1.1.8 Its concentration in air, down to the odor threshold concentration level, can be monitored with hydrogen-flame ionization detectors without the need for preconcentration.

TABLE X1.2 Design Requirements for the Stimulus and Make-Up Air Flow Splitters (Flow Rates and Capillary Tubing Dimensions)[A]

Port No.	Required Flow Rates, mL/min		Lengths of Stainless Steel Capillaries, mm					
			Stimulus Splitter				Make-Up Air Splitter	
			Inside Diameters of Capillaries, mm					
	Stimulus	Make-Up Air	0.76		0.48	0.25	0.76	
			Design[B]	Actual[C]			Design[B]	Actual[C]
8	160	none	120	99	...	...	none	none
7	80	80	240	219	...	...	240	219
6	40	120	480	459[D]	92		160	139
5	20	140	960	939[E]	188	...	137	116
4	10	150	1 920	1 890[E]	378	...	128	107
3	5	155	3 840	3 820[E]	...	38	124	103
2	2.5	157.5	7 680	7 660[E]	...	77	122	101
1	1.25	158.8	15 360	15 340[E]	...	153	121	100

[A] The calculated values are based on the assumption that each stainless steel capillary is connected in series with a 400-mL length of AWG 15 standard wall thickness PTFE spaghetti tubing.

[B] The design length is that length, in millimetres, of the indicated stainless steel capillary tubing which, by itself, would provide the required airflow resistance in the absence of the PTFE tubing.

[C] The actual length, in millimetres, of the indicated size of stainless capillary tubing which, if connected in series with 400 mm of PTFE tubing,[a] provides a combined flow resistance equivalent to that of the "design" length. In terms of 0.76-mm ID stainless steel capillary tubing, the actual length is equal to the design length minus 21 mm.

[D] Either the 0.76-mm ID or 0.48-mm ID tubing is practical.

[E] These lengths are impractical; use the indicated length of the smaller size tubing.

X2. PSYCHOPHYSICAL (SENSORY) INTERPRETATIONS

X2.1 It has been established **(7, 8, 9, 10)** that the expression of odor intensity in terms of multiples of odor-threshold concentration of an odorous material does not by itself properly reflect the actual sensory intensity of the odor presented. Odor intensities increase with concentration at different rates for different odorants.

X2.2 Although category scales of words or numbers are valid for the evaluation of odor intensities, the absence of standards for defining categories such as "slight,"" moderate," etc., generate difficulties when comparing odor intensity values obtained by category scaling by different groups of panelists.

X2.3 It should be emphasized that the values obtained in parts per million of 1-butanol in accordance with this recommended practice are not direct measures of odor intensities, because the perceived odor intensities of 1-butanol vapors are not linearly proportional to 1-butanol concentrations. For example, an increase in 1-butanol concentration by a factor of 2 results in an odor that is less than twice as intense. Therefore, the odor intensities expressed in parts per million of 1-butanol are simply numbers for recording and communicating in a reproducible form. A larger ppm value of 1-butanol means a stronger odor, but not in a simple numerical proportion. These numbers can be translated into perceived odor intensity values, however, this translation is not applicable to these recommended practices.

X3. COMPARISON OF TWO UNKNOWN SAMPLES

X3.1 The 1-butanol scale refers to the odor intensity of samples in terms of that concentration of 1-butanol which exhibits a matching odor intensity. When many samples are compared by separate matching to the 1-butanol scale, yielding different matching points, two typical questions may be asked:

X3.1.1 *Are two samples, X and Y, significantly different in their odor intensity?*—This can be estimated either by a generalized *t*-Test **(1)** if the judgment is by different panels; or by the *t*-Test-by-Difference, if the same panel judged *X* and *Y*. The latter test gives better discriminations.

X3.1.2 *How much stronger is X in comparison to Y?*—This can be estimated in terms of the perceived intensity ratios if the perceived odor intensity ratios for various concentrations of 1-butanol are known (see X3.2).

X3.2 Three laboratories **(9, 11, 12, 13)** have given estimates of the perceived odor intensity ratios for 1-butanol odors of different concentrations delivered in air with forced flow from dynamic preparation apparatus. Based on their findings, it appears that on the average, the odor intensity of 1-butanol vapor in air changes proportionally to 0.66 power of its concentration. For example, if the odor intensities of *X* and *Y* were equivalent to 1000 ppm and 200 ppm of 1-butanol, respectively, the perceived odor intensity ratio is

$$\frac{X}{Y} = \left(\frac{1000}{200}\right)^{0.66} = 2.9 \qquad \text{(X3.1)}$$

Thus, the odor intensity of sample *X* was approximately three times stronger in comparison to sample *Y*.

X4. 1-BUTANOL SCALE OLFACTOMETER

X4.1 The following description of a 1-butanol scale olfactometer is offered as a practicable example of a dynamic method for stimulus preparation and presentation. However, use of this apparatus is *not* a requirement of the standard.

X4.2 The olfactometer shown in Fig. X1.1, comprises two parts, an air supply system and an odorant vaporization-dilution system.

X4.3 *Air Supply*—The air (see 5.1.2) functions both as a carrier gas and as a diluent for 1-butanol vapor. Continuous streams of appropriately diluted 1-butanol vapor are thereby made available for sniffing. Any convenient source of nonodorous air may be used, such as air from a compressed gas cylinder (Note X4.1) or from an arrangement (see Fig. X1.1-A) comprised of an air pump, manostat, and surge bottle, as follows (Note X4.2):

NOTE X4.1—It is not known to what extent the odor intensity is affected by the existence of humidity differences between the odor stimuli and the test environment. To minimize possible problems in this regard, it may be desirable to humidify dry air from a compressed gas cylinder to approximate the room air humidity.

NOTE X4.2—The air supply shown in Fig. X1.1-A is both convenient and inexpensive to build. Two such units are needed (see X4.4.1 and X4.4.3).

X4.3.1 *Pump*—The pump for the air supply is an aquarium pump[5] (Note X4.3) which delivers ambient room air (Note X4.4) into the manostat.

NOTE X4.3—Some aquarium pumps contain components such as diaphragms, that odorize the pumped air.[6]

NOTE X4.4—The use of ambient room air as the air source may eliminate complications which could conceivably arise from preconditioning the nose at one set of conditions (relative humidity, temperature) and then testing under a different set of conditions (**10**).

X4.3.2 *Manostat*—The manostat, *M*, an air-pressure regulator, is of the simple T-tube type. Most of the excess air from the pump is permitted to escape by means of a three-way brass bleeder valve, *V*.[5] The remaining excess air escapes through the leg of the tee which is immersed in a column of water. The depth of immersion determines the air pressure in the tee. The pressure remains constant as long as air bubbles continue to slowly emerge from the immersed leg of the tee. This pressure provides the driving force required for maintaining a continuous air flow through the odorant vaporization-dilution section of the olfactometer (see X4.4).

X4.3.3 *Surge Bottle*— The surge bottle, *S* (Fig. X1.1-A), of approximately 2-L capacity, is inserted between the manostat and the odorant vaporization-dilution system. It effectively dampens the pressure pulses caused by the pump and, to a slight extent, by the bubbling of the manostat (Note X4.5). The rubber stopper at the mouth of the surge bottle is lined with aluminum foil to minimize leakage of odorants from rubber into the air flow system.

NOTE X4.5—Unless the pressure pulses are eliminated, the air flow through the flow splitters such as used in the stimulus generator will result in a time-flow distribution unlike that for steady flow. This can drastically change the odorant vaporization rate in the stimulus generator and thus give invalid data.

X4.3.4 Air connections between the pump, manostat, surge bottle, and odorant vaporization-dilution system should be made with odorless tubing.[7]

X4.4 *Odorant Vaporization-Dilution System*—In this section of the olfactometer shown in Fig. X1.1-B, the headspace atmosphere over an enclosed pool of 1-butanol becomes saturated with 1-butanol vapor. This saturated vapor is converted to a series of eight concentrations of 1-butanol in air, with each concentration differing from the preceding one by a factor of two, by means of a two-stage air dilution sequence. These eight concentrations of 1-butanol flow continuously from eight sniffing ports.

X4.4.1 *Stimulus Generator*—The stimulus generator, in which odorant vaporization and first-stage air dilution occur, is shown in Fig. X1.1-B (parts *A* through *G*). It is connected to an air supply such as described in X4.3. The horizontal, 150-mm long vaporization chamber, *C*, is made from glass tubing of 13-mm outside diameter (OD). The three side spouts are 4-mm OD glass tubing and are 12 mm in length. The middle spout on vessel, usually stoppered by a glass rod fitted with a flexible plastic sleeve, is used to introduce 1-butanol into the vessel. One millilitre of 1-butanol, added to vessel *C* by means of a syringe, provides 2 to 3 h of use (5.2.2).

NOTE X4.6—In practice, the pump is permitted to run day and night since, with continuous pump operation, the system is easily purged of the 1-butanol remaining from a previous session. This procedure avoids a possible complication wherein 1-butanol evaporates from vessel *C*, condenses elsewhere in the system, and then evaporates during the next sniffing session to produce faulty 1-butanol concentrations. It also prevents the accumulation in the system of odor from flexible plastic and rubber parts.

X4.4.1.1 The tees at junction *A* and *F* are brass.[5] In the first tee, *A*, air splits into two portions. One part, 20 % of the flow, passes through stainless steel capillary tubing *B* into the headspace of vessel *C*, which contains 1-butanol. The other portion, which is 80 % of the air flow, goes through a bypass capillary, *D*. As the 20 % portion of air passes over the 1-butanol surface, it becomes saturated with 1-butanol vapor at the temperature of the vessel (Note X4.7). This saturated vapor exits from vessel *C* through a stainless steel capillary, *E*, and in a brass tee *F* mixes with the bypass air from *D*. This mixture, after passing through another stainless steel capillary, *G*, enters the stimulus-flow splitter bulkhead, *H* (Note X4.8).

[5] Available from aquarium supply dealers.

[6] A small piston pump, such as Supreme Special Model B2F, available from Eugene G. Danner Mfg., Inc., Brooklyn, NY, or equivalent has been found satisfactory.

[7] Food-grade vinyl tubing, Formulation B-44-4X exhibits odor insufficient to create olfactometric problems. The size 5/32 in. ID and 7/32 in. OD has been found convenient.

NOTE X4.7—Tests with a hydrogen-flame ionization detector have indicated that 98 % saturation is achieved at airflows of up to 60 mL/min in such vessels. Over-the-surface air flow eliminates the possibility of droplet entrainment and the need for filtration.

NOTE X4.8—Capillaries *E* and *G* serve to assure high linear flow rates of air and vapor mixtures and thus to prevent vapor back-diffusion effects.

X4.4.2 *Stimulus-Flow Splitter Bulkhead*—The stimulus flow splitter bulkhead, *H* (Fig. X1.1-B), is made of glass and has eight side spouts of 4-mm OD glass tubing. Stainless steel capillaries (1 through 8) are attached to the spouts. These capillaries supply the 1-butanol air mixture from the bulkhead to eight pieces of PTFE spaghetti tubing which, in turn, terminate in eight sniffing ports (see X4.5.3 for port design details). The dimensions of the capillaries, that is, the inside diameter (ID) and length, are such that the highest-numbered port receives 160 mL/min; the next highest, 80 mL/min; the next, 40 mL/min, etc. (see X4.7.5).

X4.4.3 *Glass Splitter Bulkhead*—A second air supply system is connected to a seven-way glass splitter bulkhead, *J*. This bulkhead has seven attached stainless steel capillaries of appropriate sizes (see X4.7.6). These supply make-up air through PTFE spaghetti tubing to seven of the eight sniffing ports to assure that the total flow from each of the ports is 160 mL/min, just as from the port of highest 1-butanol concentration (No. 8). (Note that stage two of the 1-butanol vapor-air dilution sequence takes place in the sniffing ports.)

X4.4.4 Since the stimulus splitter bulkhead, *H*, is supplied from the stimulus generator (X4.4.1) which, by itself, exhibits a flow resistance, the actual driving pressure required for the vapor-carrying branch will be considerably greater than that for the make-up air branch. Typical manostat pressures for the stimulus and the make-up air systems correspond to 300 and 100 mm of water, respectively. Some adjustments in pressures may be necessary. These are made by changing the depth of immersion of the manostat tubes.

X4.4.5 The odor intensities in the olfactometer stabilize within 15 to 30 min after glass vessel *C* has been supplied with 1-butanol and stoppered, and after the pumps have been turned on.

X4.5 *Design Details:*

X4.5.1 Details of the stimulus generator connections are shown in Fig. X1.1-C. Similar connections are used for the splitter bulkheads. Each stainless steel capillary always protrudes well into the brass tee or glass spout to which it is connected and is held firmly in place by a sleeve made from two overlapping sizes of flexible plastic tubing.[8] The annular space between the stainless steel capillary wall and the surrounding brass or glass tubing wall forms a dead air pocket, across which odorant vapors can only slowly diffuse. This effectively isolates the flexible plastic connector from the mainstream of flow. As a consequence, any loss of 1-butanol from the gas stream by diffusion and solution in the plastic connector produces a negligible effect on the mainstream concentration of 1-butanol. By the same token, noticeable contamination of the mainstream vapors by extraneous odorants released from the plastic connector is avoided.

X4.5.2 All stainless steel capillaries are 1.6 mm (1/16 in.) in outer diameter. The selection of inner diameters and lengths is discussed in X4.7.

X4.5.3 Sniffing port dimensions are indicated in Fig. X1.1-D. Each port is made of glass and has a flared, elliptical upper end. The PTFE spaghetti tubing delivering stimuli and make-up air are held in the lower, narrower tubing of the port by means of a short piece of flexible plastic tubing used as a wedge. It is unnecessary to completely seal the narrow end (partially occupied by tubing), since the flow resistance here is much larger than at the mouth of the port.

X4.6 *Calibration*—The various flow rates are calibrated by means of a soap bubble flowmeter.[9]

NOTE X4.9—The flow resistance from other types of flowmeters is excessive. Therefore, they will not yield sufficiently accurate flow rates.

X4.6.1 Connections to the flowmeter must have large openings in order to avoid distortions in the flow rates. The eight flows from the 1-butanol flow splitter, *H*, and the seven flows from the make-up air splitter, *J*, are measured at the ends of the PTFE spaghetti tubing which terminate in the sniffing ports. The flow rates used to determine the stimulus generator dilution ratio are obtained by disconnecting tee *F* and measuring the flow rates from capillaries *D* and *E*. These 17 flow measurements, which can be completed in 10 to 20 min, are sufficient to check all calibrations. Since actual flow rates are used for the calculation of data, it is not necessary that they correspond precisely to the flow rates specified by the design (see X4.7). Flow rates within ±10 % of design are quite satisfactory, and additional refinements may be unnecessarily time-consuming.

NOTE X4.10—Virtually the same odor intensity is expected for any concentration within this ±10 % range because intensity is not sensitive to concentration changes of as little as 10 %. In general, the differential odor intensity threshold (odorant concentration change required to produce a just noticeable odor intensity change) is on the order of 15 to 30 %.

X4.7 *Selection of Capillaries*—Capillary tubing is used to control flow rates throughout the olfactometer system. At a constant pressure drop the flow rate of a capillary is determined by its dimensions (internal diameter and length).

NOTE X4.11—At a given pressure drop, the flow rate of a piece of capillary tubing is inversely proportional to its length and approximately directly proportional to the fourth power of its internal diameter. Thus, a small change in internal diameter is considerably more influential in changing the flow rate than is a change in length.

X4.7.1 Stainless steel tubing and PTFE spaghetti tubing of the nominal sizes indicated in Table X1.1 can be used. In practice, the inside diameter for capillary tubing of the same nominal size will vary from one lot to the next. Therefore, it is necessary to calibrate each lot of tubing before use.

X4.7.2 Calibration of each size of capillary tubing with respect to flow rate at a standard set of conditions yields

[8] The following tubing has been found satisfactory: larger tubing—1/8-in. ID, 1/16-in. wall thickness neoprene tubing; and smaller tubing—0.0315-in. ID, 0.1625 in. OD food-grade vinyl tubing, Catalog No. 6419-41, available from Cole Parmer Co., Chicago, IL.

[9] A similar flowmeter available from Varian Associates, Instrument Div., Downey, CA, Catalog No. 96-000015-00, has been found satisfactory.

information which serves as an aid for cutting the tubing to the required lengths. A convenient standard measure is the volumetric air flow rate, V, calibrated in millilitres per minute, obtainable from a 100-mm length of tubing (with no other flow restrictions of consequence) at a manostat pressure of 100 mm Hg of water. Examples of some standard flow rates, obtained from actual samples of capillary tubing, are shown in Table X1.1.

X4.7.3 It is possible to compute equivalent lengths of capillary tubing from the standard flow rates. (The utility of these values will become evident later.) An equivalent length of capillary tubing is that length of tubing of a particular size (ID) which is equivalent in flow resistance to one unit length of tubing of a different size. To compute the length of tubing of size N that would be equivalent in its flow resistance to a length, L_M, of tubing of size M, the following equation is used:

$$L_N = L_M(V_N/V_M) \quad \text{(X4.1)}$$

where:

L_M = length of tubing of Size M,
L_N = length of tubing of Size N,
V_M = standard volumetric airflow rate for tubing of Size M, and
V_N = standard volumetric airflow rate for tubing of Size N.

If a 0.76-mm (0.030-in.) ID capillary with a standard flow rate of 220 mL/min is chosen to be the reference capillary ($L_{0.76} = 1$, $V_{0.76} = 220$), then the length of 0.48-mm (0.019-in.) ID tubing which is equivalent in its flow resistance to one unit length of the 0.76-mm tubing would be:

$$L_{0.48} = 1 \times (43/220) = 0.20 \quad \text{(X4.2)}$$

where the standard flow rate for the 0.48-mm tubing is 43 mL/min ($V_{0.48} = 43$). In the above manner the equivalent lengths listed in the right hand column of Table X1.1 were calculated, using the standard flow rate data from the same table. This set of equivalent lengths served as an aid for the construction of Table X1.2 in which the required capillary lengths for the stimulus and make-up airflow splitters are listed. The equivalent length data were also employed for the computation of the lengths of the capillaries used in the stimulus generator (see X4.7.7).

X4.7.4 Since PTFE spaghetti tubing is used to connect the splitter ends to the sniffing ports, its flow resistance must be taken into account when designing the splitter capillaries. A convenient length for the PTFE tubing is 400 mm. Its flow resistance can be calculated with the use of the appropriate equivalent length value from Table X1.1. This flow resistance is equivalent to (400/18.7) = 21 mm of 0.76-mm ID stainless tubing.

X4.7.5 The size requirements for the stimulus splitter capillaries are determined in the following manner. At the starting point, the flow path from the stimulus splitter, H (Fig. X1.1-B), to the port of highest 1-butanol concentration (No. 8) is designed to provide a flow resistance equal to that of 120 mm of 0.76-mm (0.030-in.) ID stainless steel tubing. Since 400 mm of the PTFE tubing is equivalent to 21 mm of 0.76-mm ID stainless tubing, the actual length of 0.76-mm ID stainless tubing required is 120 − 21 = 99 mm. The next port (No. 7) must receive a 1-butanol concentration which is, by a factor of two, smaller than for port No. 8. This flow path, therefore, requires a design length with twice the flow resistance, for example, 120 × 2 = 240 mm of 0.76-mm ID tubing. Since the connecting PTFE tubing is again equivalent to 21 mm of 0.76-mm ID tubing, the required length is actually 240 − 21 = 219 mm of 0.76-mm ID tubing. The next port (No. 6), similarly calculated, would require 459 mm of 0.76-mm ID tubing. If desired, this may be replaced by a shorter, more convenient, length of 0.48-mm ID stainless steel tubing of equal flow resistance. The calculation, using the appropriate equivalent length from Table X1.1, is 459 × 0.20 = 92 mm of 0.48-mm ID tubing. Typical lengths of other stimulus splitter capillaries, all to be used in series with 400 mm of PTFE tubing, are listed in Table X1.2.

X4.7.6 Capillary sizes for the make-up air splitter, J, are calculated as follows. Port No. 7 must receive make-up air at the same rate (80 mL/min) at which the stimulus-carrying air is supplied. Hence, it uses the same size capillary, a 219-mm length of 0.76-mm ID tubing, connected in series with 400 mm of PTFE tubing. This is a total equivalent design value of 240 mm of 0.76 mm ID tubing. The next port, No. 6, must receive 120 mL/min of make-up air. The design length for the line from the make-up air splitter to this port would be 240 × (80/120) = 160 mm of 0.76-mm ID tubing. (Note that the faster flow requires a shorter tubing length.) Since, once again, the 400 mm of PTFE tubing is equivalent to 21 mm of 0.76-mm ID tubing, the actual length of 0.76-mm ID tubing needed is 160 − 21 = 139 mm. The lengths for the remaining make-up air splitter capillaries, listed in Table X1.2, are calculated similarly.

X4.7.7 Stimulus generator capillaries D, E, and G (Fig. X1.1-B) are made of 0.76-mm ID stainless steel tubing with lengths of 210, 50, and 120 mm, respectively. The size of capillary B is determined by the stimulus generator design requirements and also by the sizes of capillaries D and E. The stimulus generator design calls for a flow-rate ratio of (air saturated with 1-butanol vapor):(bypass air) = 1:4. Thus, capillary B requires 158 mm of 0.48-mm, ID stainless steel tubing, calculated as follows. Capillaries B and E are connected in series, and this combination is connected in parallel with capillary D. In order to achieve the desired flow rate ratio of 1:4, the combined flow resistance for capillaries B and E must be, by a factor of four, greater than that for D. That is, the flow resistance for the combination B plus E must be equivalent to 4 × 210 = 840 mm of 0.76-mm ID capillary tubing. Since capillary E comprises 50 mm of this length, the remainder, 840 − 50 = 790 mm of 0.76-mm ID tubing, must be supplied by capillary B. Instead, a shorter and more convenient length of 0.48-mm ID tubing is selected for capillary B. The calculation, using the appropriate equivalent length from Table X1.1, is 790 × 0.20 = 158 mm of 0.48-mm capillary tubing.

X4.7.8 After the stimulus generator and the flow splitters are assembled, the actual flow rates can be checked and adjusted if necessary. To increase an individual flow rate, the corresponding capillary tubing may be shortened. To decrease an individual flow rate, a longer piece of capillary tubing may be used, or an additional piece may be attached with the aid of

PTFE tubing, or sharp bends may be made in the existing tubing (Note X4.11 and Note X4.12). To increase or decrease all of the flow rates simultaneously, the pressures in the manostats are changed (see X4.4.4).

NOTE X4.12—Stainless steel capillaries are easily cut to length by use of the following procedure. Hold the tubing in a pair of stub-nosed pliers and, close to the jaws, file a sharp (but not through-the-wall) notch in one side. Grasp the portion of tubing beyond the notch with the free hand, and while maintaining the pliers, grip with the other hand. Sharply bend the tubing at the notch while simultaneously pulling the two segments apart. The use of this procedure prevents restriction or closure of the opening from occurring, such as happens when using tubing cutters.

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City of New York
Department of Sanitation

FEIS
COLLECTION VEHICLE ODOR SAMPLING REPORT

ATTACHMENT D

Summary of Odor Sampling and Results

ATTACHMENT D

Summary of Odor Sampling and Results

1.0 GENERAL FIELD OBSERVATIONS, AND LABORATORY AND SAMPLING RESULTS

This Attachment contains a summary of general field observation, and laboratory and sampling results for the sampling efforts performed at the Manhattan District 8 garage facility. A table summarizing pertinent sampling information, parameters, laboratory detection threshold (DT) values and sampling results is referenced below. Data provided in the summary table include:

- **Sample #** - The odor sample identification number assigned during sampling and referenced in the field data notes and Odor Evaluation Report.
- **Start Time** – Local start time during which the associated sample was collected.
- **Stop Time** – Local stop time during which the associated sample was collected.
- **Sample Description** – Brief description of the odor sample collected.
- **Pretest Room Air Exchanges** – The approximate number of room air exchanges that occurred from when the room enclosure was "closed" (to meet total enclosure capture criteria [USEPA Method 204]) to when the associated sampling ended. Sampling should only be performed after the odor concentration within the room has reached equilibrium, typically 4 to 5 room air changes.
- **Collection Vehicles** – The number of collection vehicles staged in the room enclosure (maintenance alley) at the time the sample was collected.
- **Average Facial Velocity (ft/min)** – The average facial velocity in feet per minute (ft/min) measured through an opening in the building, in part supporting an assumed 100% capture efficiency of all odors exhausted through the active wall vent exhaust.
- **Measured Flowrate (m^3/s)** – Volumetric flow rate in cubic meters per second of the wall fan exhaust measured during the indoor background or collection vehicle odor sampling effort.
- **DT Value (OU/m^3)** – The odor concentration of a sample, expressed as a multiple of the detection threshold. A unitless value but for calculation purposes, expressed as odor units per volume of air (i.e., odor units per cubic meter [OU/m^3]).
- **Total Emission Rate (OU/sec)** – A total maintenance alley (room enclosure) odor emission rate for a defined sample set/operating mode (operations with or without collection vehicles staged inside the maintenance alley).

- **Average Emission Factor ([OU/sec]/collection vehicle)** – The average odor emission rate from each collection vehicle calculated by dividing the total emission for all 12 collection vehicles by 12.

1.1 July 20, 2004 Collection Vehicle Odor Sampling Field Effort

As noted in Table D.1.1-1, three sets of collection vehicle odor samples were collected from a lone, active wall exhaust vent. The first, second and third collection vehicle odor samples were collected after 4, 6 and 9 room air exchanges occurred, ensuring odor level equilibrium. Average facial velocities greater than 200 ft/min, supporting an assumed 100% ventilation system odor capture efficiency, were observed for all collection vehicle odor sampling. A duplicate sample (072004-06) was collected at the lone vent concurrent with Sample 072004-05). A media blank sample was set aside for submission to the odor laboratory. An outdoor background sample was collected approximately 10 feet east of the eastern vehicle access door to the maintenance alley.

Also noted in Table D.1.1-1 are the results of the odor panel analysis (DT – detection threshold multiple) for each sample. For collection vehicle odor samples, DT multiples ranged from 6 to 7, with a total emission rate (OU/sec) ranging from 33 to 38. The collection vehicle-based emission factors ([OU/sec]/collection vehicle) ranged from 2.7 to 3.2.

The program's QA samples suggest no significant sampling media contamination in the Tedlar Bag media blank with a 5 DT result that is slightly higher than the method detection limit of 4. The outdoor/background sample 6 DT and indoor sample 5 to 6 DT values suggests little or no significant background source interference with the on-site sampling program. Finally, the deviation about the average of the field duplicate samples (results of 6 and 6 OU) was 0 OU (0%), which is within the typical range of +25%/-20%.

APPENDIX K

TRUCK SIMULATION SUMMARY REPORT

FOR THE DRAFT NEW SOLID WASTE MANAGEMENT PLAN

FINAL ENVIRONMENTAL IMPACT STATEMENT

MARCH 2005

Summary

The Federal Highway Administration's (FHWA) Traffic Noise Model (TNM) Version 2.1 (TNM 2.1) overpredicts incremental noise from DSNY trucks. Therefore, at locations where a potential impact was predicted by TNM 2.1, the locations were further analyzed using a site-specific truck simulation noise analysis to better represent the noise levels that would be emitted by the DSNY collection vehicles traveling to and from the facilities analyzed in the SWMP FEIS to more accurately determine potential impacts.

The results of the off-site noise analysis study for the East 91st Street Converted MTS, North Shore Converted MTS, Hamilton Avenue Converted MTS, and West 135th Street Converted MTS show that noise levels were considerably less when the noise impact assessment was based on a site-specific truck simulation methodology as compared to the FHWA TNM 2.1.

1.0 Introduction and Background:

1.1 Screening and TNM 2.1 Analysis

An off-site noise screening, and if required, an off-site noise analysis was performed to determine the potential impacts from DSNY collection vehicles traveling on City streets along routes leading to and from the facilities analyzed in SWMP DEIS and this SWMP FEIS.

The 2001 CEQR Technical Manual includes guidelines for a screening-level analysis of off-site sources to determine if a detailed off-site noise analysis is required. A screening-level analysis was performed for major convergence points with one or more noise-sensitive receptors near those convergence points. The screening-level analysis is based on converting the future No-Build and future build traffic into passenger car equivalents (PCEs) using the noise-related PCE factors listed in Table 1-1 for each traffic category (from the 2001 CEQR Technical Manual). The future No-Build traffic is based on the existing traffic obtained from ATRs during 2003/2004, escalated to the build year of 2006 using the traffic escalation factors provided in the 2001 CEQR Technical Manual, which is based on information from the New York City Department of Transportation (NYCDOT) and New York City Department of Planning for each borough. The future build traffic is the future

No-Build traffic plus the facility related traffic (DSNY and other agency collection vehicles). For the off-site noise screening, collection vehicles were evaluated as heavy trucks (with a PCE of 47) based on their gross weight and added to the future No-Build traffic. If the future build PCEs were double the future No-Build PCEs, the facility related traffic was predicted to have the potential of causing an impact at a noise sensitive receptor, and a detailed off-site noise analysis was required.

Table 1-1
Noise Related PCE Factors

Traffic Category	PCE Factor (multiply each vehicle in the category by this factor)
Automobiles or Light Trucks	1
Medium Truck (gross weight 9,900 to 26,400 pounds)	13
Bus	18
Heavy Truck (gross weight more than 26,400 pounds)	47

Source: 2001 CEQR Technical Manual

For the detailed off-site noise analysis, the FHWA TNM 2.1 was used to predict potential off-site noise impacts. The noise levels predicted by TNM 2.1 for the future No-Build traffic and the future build traffic were compared to the 2001 CEQR Technical Manual off-site noise impact criteria of an increase of 3 dBA (hourly L_{eq}) or more over the future No-Build noise level.

A previous noise simulation study performed for the DSNY Interim Export Program concluded that TNM can overpredict the noise level assigned to the DSNY trucks. This conclusion was further supported based on discussions with the FHWA and other experienced professionals, who noted that: (1) the noise level assigned for heavy trucks in TNM 2.1 is based on a range of heavy trucks, some of which are much larger than the DSNY collection vehicles; and (2) TNM 2.1 does not account for the fact the ambient noise level in the City consists of other major sources of noise such as construction, people, music, air conditioners, etc., rather than just the noise from traffic. Upon review of the truck simulation approach by the NYCDEP, a site-specific truck simulation noise analysis was conducted for locations where a potential impact was predicted by TNM 2.1, to better represent the noise levels that would be emitted by the DSNY collection vehicles traveling to and from the facilities analyzed in the SWMP DEIS and this SWMP FEIS.

1.2 Background Noise Levels

During the study, nighttime background noise measurements were taken at different times of the year at City locations. Often, on the same street and during the same hour on a different day or time of the year, significantly different noise levels were obtained, although the traffic volumes were similar during these time periods. The monitored noise levels showed significant differences, which are attributed to the presence of noise sources other than traffic that are characteristic of the busy urban streets. The additional noise sources include:

- Window air conditioners during the summer months;
- Trucks (i e. delivery – food & newspapers, garbage collection);
- Construction / maintenance;
- Subways / buses;
- Emergency / police vehicles; and
- People

2.0 Site-Specific Truck Simulations Methodology

A site-specific truck simulation analysis was performed for the following facilities and locations where TNM 2.1 predicted a potential impact:

- East 91st Street Converted MTS
  - East 90th Street between 1st Avenue and York Avenue
  - York Avenue between East 90th Street and East 91st Street
- North Shore Converted MTS
  - College Point Boulevard South of Sanford
  - College Point Boulevard North of Roosevelt
- Hamilton Avenue Converted MTS
  - 20th Street West of 4th Avenue
- West 135th Street Converted MTS
  - West 133rd Street between Broadway and 12th Avenue
  - West 132nd Street between Broadway and 12th Avenue

2.1 Field Simulations

Truck simulations were conducted at sensitive receptor locations near the four Converted MTS facilities during the summers of 2003 and 2004. (See Attachment A for dates and times.) The truck simulation was performed for all hours with a predicted potential doubling of PCEs based on the screening-level analysis. The site-specific truck simulation analysis consisted of driving loaded DSNY collection vehicles along the routes past the sensitive receptors analyzed. For each hour and location analyzed, the estimated number of DSNY collection vehicles that would be traveling along those routes to and from the facilities (based on the traffic analysis, which includes a 20% contingency) were driven along the routes past the sensitive receptors. The future build noise levels with the additional DSNY collection vehicles were recorded on a digital noise measuring instrument. (See Section 2.2 for a description of the instrument). The future build DSNY collection vehicle noise levels were then removed from the recording to obtain the existing noise levels at that sensitive receptor. The difference between the existing and the future build noise levels was calculated and compared to the CEQR standard of 3dBA. It should be noted that the difference calculated was conservative because the calculation was based on the existing ambient noise level and not the future No-Build ambient noise levels, which are expected to be slightly higher as background traffic volumes increase.

2.2 Noise Measurement Instruments

The following digital noise measuring instruments were used to obtain the noise levels of the DSNY collection vehicles. Two types of noise meters were used in the study. The first meter ("01" dB) was used to perform a frequency analysis of noise emitted from the DSNY trucks. The second meter (B&K 2231) was used for short-term measurements of A-weighted noise levels (dBA) emitted from the DSNY trucks and the general environment.

1. "01"dB Environmental Noise Monitor:

   According to the manufacturer, "The 01dB is a system designed for easy operation in acoustic power determination according to the ISO-374x series of standards, taking into consideration envelope surfaces and environment correction factors. Extremely simple and easy to use, all calculations are automatically performed, while raw data are always available for later analysis and further investigation."

The "01" dB monitor was used to continuously monitor A-weighted (dBA) sound levels during the truck simulation measurements. The data acquisition system digitally recorded acoustic signals and performed statistical analysis of noise levels. In addition to 5, 10, 50, 90, and 95 percentile levels (L_{05}, L_{10}, L_{50}, L_{90}, L_{95}), the maximum and minimum noise levels (L_{max} and L_{min}) and the hourly equivalent continuous noise level (L_{eq}) at the end of each hour.

2. Bruel & Kjaer (B&K) Type 2231 Sound Level Meter:

   According to the manufacturer, "The Modular Precision Sound Level Meter 2231 is a type 1 precision instrument with a wide range of measurement capabilities. It also has a wide frequency range of 2 Hz to 70 kHz, which allows measurements in the infrasound and ultrasound regions."

This instrument was used to measure A-weighted (dBA) sound levels in conjunction with the "01" dB noise monitor. The meter performs statistical analysis of noise levels in addition to providing the equivalent continuous level during the short-term monitoring period (typically 20 minutes).

Both the "01 dB" Analyzer and the Sound Level Meter satisfy the requirements of standard S1.4 of the ANSI for laboratory grade noise measuring instruments. Each measurement system was calibrated before and after the monitoring sessions with a sound level calibrator whose calibration

was traceable to the National Institute of Standards and Technology. The measurement microphones were located at an approximate height of 5.5 feet above ground level by mounting the microphones on a tripod. The microphones were also fitted with windscreens to minimize noise generated by any occasional wind gusts. All measurements were performed under acceptable climatic and road surface conditions: low wind speed (less than 20 mph) and dry road surface.

Site-specific calculations were performed to determine the average acoustic energy from each individual truck movement (in terms of hourly L_{eq}) at each location. For locations where the truck simulations predicted a potential impact, the individual truck acoustic energy was used to estimate the number of DSNY collection vehicles that could be allowed at a location without causing noise impacts to a noise-sensitive receptor based on the CEQR standard. These calculations are provided in Attachment B.

3.0 Summary and Conclusions

The truck simulation method is a realistic method for determining the differences between the existing and the future noise levels in the City. Noise impact assessments based on truck simulations provide the ability to determine the number of additional heavy trucks that could be allowed at a given location without causing noise impacts. Use of the truck simulation method shows that the average number of allowable trucks that would not cause impacts can be 3 to 4 times greater than the number of trucks allowed when using TNM 2.1 to predict impacts. Therefore, by using the truck simulation methodology, it is possible to realistically estimate the maximum number of heavy trucks that can be allowed through sensitive residential areas of the City without causing significant increases in noise levels.

The results of the site-specific truck simulations are shown in the tables provided in Attachment A.

ATTACHMENT A
TRUCK SIMULATION RESULTS

East 91st Street Converted MTS

90th Street between First Avenue and York Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels (2)								Delta Leq (dBA)	Impact (1) (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
7/29/03	2:00 - 3:00 am	Car – 10 MT – 1 HT – 6 Bus - 0	5	65.8	62.1	92.5	63.4	63.6	64.2	65.2	66.2	0.9	No
		Car – 10 MT – 1 HT – 1 Bus - 0	0	64.9	62.1	86.6	63.4	63.5	64.1	65	65.4		
7/29/03	3:00 - 4:00 am	Car – 15 MT – 0 HT – 7 Bus - 0	7	65.4	62.5	84.1	63.4	63.5	64.1	65.2	66.5	0.9	No
		Car – 15 MT – 0 HT – 0 Bus - 0	0	64.5	62.5	77.8	63.4	63.5	64.1	64.9	65.4		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.
2) It was noted that sound levels for this time in the morning are high, which can be attributed to the fan noise of the window-based air-conditioners, which are located in many apartments. This fan noise contributed to the base noise level.

East 91st Street Converted MTS

York Avenue between East 90th Street and East 91st Street

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels (2)								Delta Leq (dBA)	Impact (1) (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
7/30/03	2:00 - 3:00 am	Car – 76 MT – 0 HT –13 Bus – 4	12	65.7	59.4	93.3	60.5	60.7	61.5	66.7	69.5	1.8	No
		Car – 76 MT – 0 HT – 1 Bus – 4	0	63.9	59.4	83.6	60.5	60.7	61.4	64.6	67.3		
7/30/03	3:00 - 4:00 am	Car – 60 MT – 0 HT –19 Bus – 3	19	66.5	59.6	96.1	60.5	60.7	61.7	66.8	69.8	3.6	Yes
		Car – 60 MT – 0 HT – 0 Bus – 3	0	62.9	59.6	81.9	60.5	60.7	61.4	64.2	66		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.
2) It was noted that sound levels for this time in the morning are high, which can be attributed to the fan noise of the window-based air-conditioners, which are located in many apartments. This fan noise contributed to the base noise level.

West 135th Street Converted MTS

West 133rd Street between Broadway and 12th Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels [2]								Delta Leq (dBA)	Impact [1] (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
7/31/03	1:00 – 2:00 am	Car – 66 MT – 0 HT – 14 Bus – 0	14	68.7	63.1	88.5	64.1	64.3	64.9	69.3	72.9	2.6	No
		Car – 66 MT – 0 HT – 0 Bus – 0	0	66.1	63.1	88.5	64.1	64.2	64.8	67	68.6		
7/31/03	2:00 - 3:00 am	Car – 47 MT – 0 HT – 13 Bus – 0	12	69.2	63.4	87.7	64.2	64.3	65	69.4	73.6	2.5	No
		Car – 47 MT – 0 HT – 1 Bus – 0	0	66.7	63.4	86.5	64.1	64.3	64.9	67.4	69.2		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.
2) It was noted that sound levels for this time in the morning are high, which can be attributed the exhaust fan noise of the MTA Bus Facility located across the street from the apartment complex. The fan noise contributed to the base noise level.

West 135th Street Converted MTS

West 133rd Street between Broadway and 12th Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels (2)								Delta Leq (dBA)	Impact (1) (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
7/31/03	3:00 – 4:00 am	Car – 30 MT – 0 HT – 12 Bus – 0	11	69.1	63.2	89.7	64.2	64.4	65.2	69.4	73.4	2.2	No
		Car – 30 MT – 0 HT – 1 Bus – 0	0	66.9	63.2	89.7	64.2	64.4	65.1	67.7	69.5		
7/31/03	4:00 – 5:00 am	Car – 58 MT – 2 HT – 13 Bus – 0	12	69.2	63.2	86.9	64.1	64.4	65.5	69.7	73.4	2.5	No
		Car – 58 MT – 2 HT – 1 Bus – 0	0	66.7	63.2	85.9	64.1	64.3	65.3	67.5	69.2		
7/31/03	5:00 – 6:00 am	Car – 112 MT – 3 HT – 14 Bus – 1	12	70.5	63.9	90.6	64.9	65.1	66.2	72.2	75.3	1.8	No
		Car – 112 MT – 3 HT – 2 Bus - 1	0	68.7	63.9	90.6	64.9	65	66	70.4	73.1		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.
2) It was noted that sound levels for this time in the morning are high, which can be attributed the exhaust fan noise of the MTA Bus Facility located across the street from the apartment complex. The fan noise contributed to the base noise level.

West 135th Street Converted MTS

West 133rd Street between Broadway and 12th Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels [2]								Delta Leq (dBA)	Impact [1] (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
6/16/04	9:00 – 10:00 am	Car – 175 MT – 3 HT – 18 Bus – 3	15	72.2	68	90.9	69.5	69.7	70.5	73.4	75.6	0.7	No
		Car – 175 MT – 3 HT – 3 Bus – 3	0	71.5	68	90.9	69.5	69.7	70.4	72.2	73.6		
6/16/04	10:00 - 11:00 am	Car – 165 MT – 7 HT – 23 Bus – 2	15	72.7	68.4	99.7	69.4	69.5	70.2	72.9	75.4	0.6	No
		Car – 165 MT – 7 HT – 8 Bus – 2	0	72.1	68.4	99.7	69.4	69.5	70.2	71.6	72.7		
6/16/04	11:00 - 12:00 pm	Car – 220 MT – 6 HT – 6 Bus – 4	*	72.4	68.5	103.4	69.3	69.4	70.1	71.9	73.7	*	*

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.
2) It was noted that sound levels for this time in the morning are high, which can be attributed the exhaust fan noise of the MTA Bus Facility located across the street from the apartment complex. The fan noise contributed to the base noise level.

West 135th Street Converted MTS

West 132nd Street between Broadway and 12th Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels (2)								Delta Leq (dBA)	Impact (1) (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
6/16/04	1:00 – 2:00 am	Car – 62 MT – 0 HT – 9 Bus – 0	6	72.5	69.4	93.7	70.2	70.3	70.8	72.1	73.9	0.6	No
		Car – 62 MT – 0 HT – 3 Bus – 0	0	71.9	69.4	93.7	70.2	70.3	70.8	71.7	72.9		
6/16/04	2:00 - 3:00 am	Car – 30 MT – 0 HT – 6 Bus – 0	6	71.9	69.6	93.3	70.5	70.6	71.1	71.7	72.6	0.5	No
		Car – 30 MT – 0 HT – 0 Bus – 0	0	71.4	69.6	90.4	70.5	70.6	71.1	71.6	72		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.
2) It was noted that sound levels for this time in the morning are high, which can be attributed the exhaust fan noise of the MTA Bus Facility located across the street from the apartment complex. The fan noise contributed to the base noise level.

West 135th Street Converted MTS

West 132nd Street between Broadway and 12th Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels (2)								Delta Leq (dBA)	Impact (1) (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
6/16/04	3:00 – 4:00 am	Car – 15 MT – 0 HT – 7 Bus – 0	5	71.9	69.9	93.2	70.6	70.7	71.1	71.7	72.1	0.6	No
		Car – 15 MT – 0 HT – 2 Bus – 0	0	71.3	69.9	83.9	70.5	70.7	71.1	71.6	71.8		
6/16/04	4:00 – 5:00 am	Car – 28 MT – 0 HT – 8 Bus – 0	5	72.4	69.7	95.6	70.5	70.6	71.1	71.9	73.1	0.4	No
		Car – 28 MT – 0 HT – 3 Bus – 0	0	72	69.7	92.1	70.5	70.6	71.1	71.7	72.4		
6/16/04	5:00 – 6:00 am	Car – 40 MT – 2 HT – 2 Bus – 0	*	72.2	69.9	90.6	70.6	70.7	71.2	72	73.2	*	*

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.

2) It was noted that sound levels for this time in the morning are high, which can be attributed the exhaust fan noise of the MTA Bus Facility located across the street from the apartment complex. The fan noise contributed to the base noise level.

West 135th Street Converted MTS

West 132nd Street between Broadway and 12th Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels (2)								Delta Leq (dBA)	Impact (1) (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
5/27/04	8:00 – 9:00 am	Car – 81 MT – 5 HT – 20 Bus – 1	13	72.5	68.3	97.9	69	69.2	70	73	74.6	0.5	No
		Car – 81 MT – 5 HT – 7 Bus – 1	0	72.0	68.3	97.9	69	69.2	69.9	72.3	73.4		
5/27/04	9:00 – 10:00 am	Car – 83 MT – 4 HT – 18 Bus – 6	15	72.7	68.6	93.9	69.4	69.6	70.3	73.5	75.5	0.9	No
		Car – 83 MT – 4 HT – 3 Bus – 6	0	71.8	68.6	93.5	69.4	69.5	70.2	72.7	74.1		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.
2) It was noted that sound levels for this time in the morning are high, which can be attributed the exhaust fan noise of the MTA Bus Facility located across the street from the apartment complex. The fan noise contributed to the base noise level.

West 135th Street Converted MTS

West 132nd Street between Broadway and 12th Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels (2)								Delta Leq (dBA)	Impact (1) (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
5/27/04	10:00 – 11:00 am	Car – 110 MT – 6 HT – 23 Bus – 17	15	73.3	68.5	91.1	69.4	69.6	70.3	74.3	77.1	0.9	No
		Car – 110 MT – 6 HT – 8 Bus – 17	0	72.4	68.5	91.1	69.4	69.6	70.3	73.4	75.2		
5/27/04	11:00 – 12:00 pm	Car – 95 MT – 6 HT – 5 Bus – 2	N/A	72.4	68.5	93.7	69.4	69.6	70.9	73.3	74.7	N/A	N/A

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.
2) It was noted that sound levels for this time in the morning are high, which can be attributed the exhaust fan noise of the MTA Bus Facility located across the street from the apartment complex. The fan noise contributed to the base noise level.

North Shore Converted MTS

College Point Boulevard South of Sanford

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels								Delta Leq (dBA)	Impact [1] (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
8/12/03	1:00 – 2:00 am	Car – 195 MT – 6 HT – 46 Bus – 5	31	72.2	55	100.4	57.9	58.8	63.7	73.7	77.4	2.3	No
		Car – 195 MT – 6 HT – 15 Bus – 5	0	69.9	55	99.1	57.4	58.4	62.4	71.2	74.4		
8/12/03	2:00 - 3:00 am	Car – 137 MT – 14 HT – 43 Bus – 1	22	72.3	54.3	102.7	56.6	57.5	62.2	72.2	76.2	1.3	No
		Car – 137 MT – 14 HT – 21 Bus – 1	0	71	54.3	95.8	56.4	57.3	61.4	70.4	73.7		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.

North Shore Converted MTS

College Point Boulevard South of Sanford

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels								Delta Leq (dBA)	Impact [1] (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
8/12/03	3:00 – 4:00 am	Car – 128 MT – 10 HT – 35 Bus – 3	26	69.9	53.1	101	55.2	55.6	60.5	71.3	75.1	3.9	Yes
		Car – 128 MT – 10 HT – 9 Bus – 3	0	66	53.1	88.4	55.1	55.5	59.5	67.6	71.4		
8/12/03	4:00 - 5:00 am	Car – 161 MT – 10 HT – 32 Bus – 7	24	70.5	52.3	100.4	54	54.7	60.5	72.5	76.1	3.2	Yes
		Car – 161 MT – 10 HT – 8 Bus – 7	0	67.3	52.3	91.1	53.9	54.5	59	69.3	72.5		
8/12/03	5:00 – 6:00 am	Car – 226 MT – 10 HT – 40 Bus – 20	21	71.9	52.3	95.9	54.5	55.4	63.6	74.1	77.5	1.1	No
		Car – 226 MT – 10 HT – 19 Bus – 20	0	70.8	52.3	95.9	54.4	55.1	62.8	72.7	76		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.

North Shore MTS

College Point Boulevard North of Roosevelt Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels								Delta Leq (dBA)	Impact [1] (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
8/13/03	12:00 – 1:00 am	Car – 193 MT – 8 HT – 14 Bus – 2	11	67.5	52.6	94.1	54.8	55.2	57.8	69.1	72.7	2.0	No
		Car – 193 MT – 8 HT – 3 Bus – 2	0	65.5	52.6	90.3	54.8	55.1	57.4	67.9	71.6		
8/13/03	1:00 - 2:00 am	Car – 121 MT – 8 HT – 32 Bus – 0	31	69.3	52.1	97.9	54	54.3	57.2	68.8	73	3.6	Yes
		Car – 121 MT – 8 HT – 1 Bus – 0	0	65.7	52.1	97.9	53.9	54.2	56.2	65.4	69.2		
8/13/03	2:00 – 3:00 am	Car – 115 MT –7 HT – 24 Bus – 2	22	68	51.6	94.7	53.5	53.9	56.5	67.9	72.6	3.1	Yes
		Car – 115 MT – 7 HT – 2 Bus – 2	0	64.9	51.6	94.7	53.4	53.8	55.9	65.5	69.6		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.

North Shore MTS

College Point Boulevard North of Roosevelt Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels								Delta Leq (dBA)	Impact [1] (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
8/13/03	3:00 - 4:00 am	Car – 118 MT – 6 HT – 26 Bus – 16	26	69.4	51	97.5	53.3	53.7	56	69	73.7	2.4	No
		Car – 118 MT – 6 HT – 0 Bus – 16	0	67	51	97.5	53.2	53.6	55.4	66	70.1		
8/13/03	4:00 – 5:00 am	Car – 87 MT – 6 HT – 32 Bus – 2	24	69.5	51	100.6	53.1	53.6	56.2	69.6	74.8	1.8	No
		Car – 87 MT – 6 HT – 8 Bus – 2	0	67.7	51	100.6	53	53.5	55.6	67.3	71.9		
8/13/03	5:00 - 6:00 am	Car – 164 MT – 12 HT – 29 Bus – 5	21	69.6	53.1	94.8	55	55.5	58.7	70.8	75.4	1.4	No
		Car – 164 MT – 12 HT – 8 Bus – 5	0	68.2	53.1	94.8	54.9	55.4	58.1	69.3	73.3		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.

Hamilton Avenue Converted MTS

20th Street West of 4th Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels								Delta Leq (dBA)	Impact [1] (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
8/19/03	11:00 – 12:00 pm	Car – 34 MT – 6 HT – 3 Bus – 0	3	67.1	56.4	102	58.8	59.3	61.6	66.3	69.2	1.6	No
		Car – 34 MT – 6 HT – 0 Bus – 0	0	65.5	56.4	102	58.8	59.3	61.5	65.7	68.2		
8/20/03	12:00 - 1:00 am	Car – 24 MT – 0 HT – 8 Bus – 0	5	66.9	54.5	92	57.5	58.2	60.9	66.2	69.3	1.8	No
		Car – 24 MT – 0 HT – 3 Bus – 0	0	65.1	54.5	92	57.4	58.1	60.8	65.4	67.7		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.

Hamilton Avenue Converted MTS

20th Street West of 4th Avenue

Date	Time Periods	Total Traffic Count per Hour	Number of DOS Trucks	Recorded Levels								Delta Leq (dBA)	Impact [1] (Yes / No)
				Leq	Lmin	Lmax	L95	L90	L50	L10	L5		
8/20/03	1:00 – 2:00 am	Car – 17 MT – 7 HT – 8 Bus – 0	4	67.2	53.3	93	56.9	57.6	60.7	66.5	70	1.9	No
		Car – 17 MT – 7 HT – 4 Bus – 0	0	65.3	53.3	88.8	56.9	57.6	60.6	65.9	68.6		
8/20/03	2:00 - 3:00 am	Car – 14 MT – 0 HT – 7 Bus – 0	6	67	52.1	93.7	56.2	57	60.3	65.7	68.1	3.6	Yes
		Car – 14 MT – 0 HT – 1 Bus – 0	0	63.4	52.1	88.9	56.1	56.9	60.1	64.9	66.6		
8/20/03	3:00 – 4:00 am	Car – 15 MT – 3 HT – 9 Bus – 0	4	68.1	53	93.3	56.2	57.1	61.1	67.7	72	1.1	No
		Car – 15 MT – 3 HT – 5 Bus – 0	0	67	53	87.6	56.1	57	61	67.2	71.2		

1) Per NYC CEQR guidelines, an increase in Leq (1 hr) equal to or greater than 3 dBA is considered an impact.

ATTACHMENT B
TRUCK ACOUSTIC ENERGY CALCULATIONS

Truck Energy Calculation based on Site-specific truck simulations

West 135th Street MTS
West 133rd Street btwn Broadway and 12th Avenue

7/31/2003

	existing	w/trucks	Total Truck Energy	# of DSNY Trucks	Single Truck Energy	Single Truck Energy	Noise Increase caused by Trucks	Impact
1:00 AM	66.1	68.7	3339300	14	238521.4	53.78	2.6	No
2:00 AM	66.7	69.2	3640286	12	303357.2	54.82	2.5	No
3:00 AM	66.9	69.1	3230517	11	293683.4	54.68	2.2	No
4:00 AM	66.7	69.2	3640286	12	303357.2	54.82	2.5	No
5:00 AM	68.7	70.5	3807082	12	317256.8	55.01	1.8	No
				Truck Noise Energy	**291235.2**	**54.6**		

West 132nd Street btwn Broadway and 12th Avenue

using simulation data from 133rd St btwn Broadway and 12th St

	existing	# of DSNY Trucks	Total Truck Energy	Noise Level w/trucks	Noise Increase caused by Trucks	Impact	Adjusted Truck Number based on Linden Exit	Total Truck Energy	Noise Level w/trucks	Noise Increase caused by Trucks	Impact	
1:00 AM	64.8	6	62.4	66.8	2.0	No	8	63.7	67.3	2.5	No	Increased Proposed truck number by 2
2:00 AM	61.6	6	62.4	65.0	3.4	Yes	4	60.6	64.2	2.6	No	Decreased Proposed truck number by 2
3:00 AM	64.7	5	61.6	66.4	1.7	No						
4:00 AM	74.2	5	61.6	74.4	0.2	No						
5:00 AM	70.8	4	60.6	71.2	0.4	No						

Northshore MTS

College Point Boulevard South of Sanford 8/12/2003

	existing	w/trucks	Total Truck Energy	# of DSNY Trucks	Single Truck Energy	Single Truck Energy	Noise Increase caused by Trucks	Impact	Adjusted Truck Number based on Linden Exit	Total Truck Energy	Noise Level w/trucks	Noise Increase caused by Trucks	Impact
1:00 AM	69.9	72.2	6823497	31	220112.8	53.43	2.3	No	14	64.9	71.1	1.2	No
2:00 AM	71	72.3	4393182	22	199690.1	53.00	1.3	No	8	62.0	71.5	0.5	No
3:00 AM	66	69.9	5791301	26	222742.3	53.48	3.9	Yes	12	64.3	68.2	2.2	No
4:00 AM	67.3	70.5	5849867	24	243744.4	53.87	3.2	Yes	11	64.3	69.1	1.8	No
5:00 AM	70.8	71.9	3465522	21	165024.8	52.18	1.1	No					
				Truck Noise Energy	**210262.9**	**53.2**							

College Point Boulevard North of Roosevelt 8/13/2003

	existing	w/trucks	Total Truck Energy	# of DSNY Trucks	Single Truck Energy	Single Truck Energy	Noise Increase caused by Trucks	Impact	Adjusted Truck Number based on Linden Exit	Total Truck Energy	Noise Level w/trucks	Noise Increase caused by Trucks	Impact
12:00 PM	65.5	67.5	2075279	11	188661.8	52.76	2	No					
1:00 AM	65.7	69.3	4796028	31	154710.6	51.90	3.6	Yes	14	63.4	67.7	2.0	No
2:00 AM	64.9	68	3219278	22	146330.8	51.65	3.1	Yes	8	60.7	66.3	1.4	No
3:00 AM	67	69.4	3697764	26	142221.7	51.53	2.4	No	12	62.3	68.3	1.3	No
4:00 AM	67.7	69.5	3024073	24	126003.0	51.00	1.8	No	11	61.4	68.6	0.9	No
5:00 AM	68.2	69.6	2513174	21	119674.9	50.78	1.4	No					
				Truck Noise Energy	**146267.1**	**51.6**							

Hamilton Avenue
MTS
20th Street West of 4th Avenue 8/20/2003

	Existing Noise Level	Noise Level w/trucks	Total Truck Energy	# of DSNY Trucks	Single Truck Energy	Single Truck Energy	Noise Increase caused by Trucks	Impact	Adjusted Truck Number	Total Truck Energy	Noise Level w/trucks	Noise Increase caused by Trucks	Impact	
1:00 AM	65.3	67.2	1859633	4	464908.3	56.67	1.9	No						
2:00 AM	63.4	67	2824111	6	470685.1	56.73	3.6	Yes	4	62.7	66.1	2.7	No	Decrease Propose truck number by 2
3:00 AM	67	68.1	1444670	4	361167.5	55.58	1.1	No	6	63.4	68.6	1.6	No	Increase Proposed truck number by 2
4:00 AM	65.5	67.1	1580480	3	526826.6	57.22	1.6	No						
5:00 AM	65.1	66.9	1661852	5	332370.3	55.22	1.8	No						
				Truck Noise Energy	**431191.6**	**56.3**								

East 91st Street
MTS
East 90th Street between 1st Avenue and York Avenue 7/29/2003

	existing	w/trucks	Total Truck Energy	# of DSNY Trucks	Single Truck Energy	Single Truck Energy	Noise Increase caused by Trucks	Impact
2:00 AM	64.9	65.8	711598.5	5	142319.7	51.53	0.9	No
3:00 AM	64.5	65.4	648985.6	7	92712.2	49.67	0.9	No
				Truck Noise Energy	**117516.0**	**50.6**		

York Avenue between East 90th Street and East 91st Street

7/30/2003

	existing	w/trucks	Total Truck Energy	# of DSNY Trucks	Single Truck Energy	Single Truck Energy	Noise Increase caused by Trucks	Impact	Adjusted Truck Number	Total Truck Energy	Noise Level w/trucks	Noise Increase caused by Trucks	Impact	
2:00 AM	63.9	65.7	1260643	12	105053.6	50.21	1.8	No	17	62.5	66.3	2.4	No	Increase Proposed truck number by 5
3:00 AM	62.9	66.5	2516991	19	132473.2	51.22	3.6	Yes	14	62.7	65.8	2.9	No	Decrease Propose truck number by 5
				Truck Noise Energy	**118763.4**	**50.7**								

APPENDIX L

EQUIPMENT-INDUCED VIBRATION MEMO

MARCH 2005

HDR

memo

To File

From Tim Casey

CC

Date 03-16-05

RE Equipment-induced Vibration

In environmental review projects (NEPA/SEPA/CEQRA), vibration analyses are typically performed when the proposed action is likely to have the potential to create vibrations that will affect people or vibration-sensitive facilities or resources. This memo demonstrates that the proposed Converted MTSs are unlikely to have such potential.

Vibration is quantified using one of three measures: displacement, velocity, or acceleration. Displacement is the distance that a point on a vibrating surface moves away from its static position. Velocity represents the instantaneous speed of the movement, and acceleration is the rate of change of the speed. Displacement is rarely used for describing ground-borne vibration because most transducers used for measuring ground-borne vibration use either velocity or acceleration and, more important, because the response of humans, buildings, and equipment to vibration is more accurately described using velocity or acceleration. Human response to vibration is typically quantified using the root mean square (rms) vibration velocity, which represents average vibration level. Building response to vibration is typically quantified using peak particle velocity (PPV).

To simplify vibration velocity estimates, the range of commonly occurring vibration velocities from low velocity, characteristic of the threshold of human perception, to high velocity that may cause building damage, is compressed into a logarithmic scale or metric using the vibration decibel. The Federal Transit Administration (FTA) advocates use of such a logarithmic unit of measure and it is expressed as vibration decibel. VdB is defined as:

$$20 \times \log_{10} (v/v_{ref})$$

Where v is the velocity measured and v_{ref} is the reference velocity of 1×10^{-6} inches/second.

Equipment-Induced Vibration at the proposed Converted MTSs

Mechanical equipment that will be used at the proposed Converted MTSs includes a variety of mobile and fixed (stationary) material handling equipment. Vibration generated by mechanical equipment originates from many sources within the equipment. The magnitude of generated vibration velocity can be reduced by including the following measures in the design or operation of the equipment.

- The rotating crankshaft of reciprocating engines. Vibrations beyond the design tolerance will cause failures in common engines and motors. Also, vehicles and mobile equipment with reciprocating engines typically include vibration isolating engine mounts and other suspension systems that reduce vibration transmission into the ground. Rubber tires also reduce the transmission of reciprocating engine vibration, and their mobility limits the amount of vibrations transmitted into the ground at any one location.

- DSNY collection vehicles and commercial waste hauling vehicles. According to the Federal Highway Administration (FHWA), Engineering Guidelines for the Analysis of Traffic-Induced Vibration (FHWA-RD-78-766, February 1978), parameters governing traffic-induced vibration include:

    - Gross vehicle weight and speed. Ground vibration levels increase approximately 3 dBfor each doubling of gross vehicle weight. Increasing vehicle speed increases the vibration levels approximately 3 to 6 dB (per FHWA dB which refers to vibration acceleration level (dB, relative to 1 g (rms) = 9.8 m/s2)) per doubling of speed. These are concerns at highway speeds. Vehicle speeds at the proposed Converted MTSs will be significantly below highway speeds, therefore weight and speed-induced vibrations are not a concern.

    - Pavement/subgrade parameters. Pavement surface roughness variations of approximately 0.25 inches appear to be able to cause perceptible ground vibration at the edge of the pavement at highway speeds. Speeds at the proposed Converted MTSs will be significantly below highway speeds. Therefore, pavement/subgrade-induced vibrations are not expected to be a concern.

    - Potholes and other discrete bumps. As stated, pavement roughness variations of approximately 0.25 inches appear to be able to cause perceptible ground vibration at the edge of the pavement at highway speeds. Speeds at proposed Converted MTSs will be significantly below highway speeds and limited to traveling on new, well maintained, access/egress ramps and within the process building. Therefore, pothole and other discrete bump-induced vibrations are not expected to be a concern.

- Imperfections at the wheel-rail points of contact on the gantry cranes. Gantry cranes are overhead cranes that are rigidly supported on two or more legs running on fixed rails. Imperfections in the wheels or the rails cause vibrations, a common phenomenon in

railroads. In well-designed and maintained cranes such imperfections increase vibration levels.

The weight of a fully loaded DSNY gantry crane may approach the weight of a light rail rapid transit car; However gantry cranes are not considered to be a significant source of ground-borne vibration because:

- Typical gantry crane travel speeds are very slow. Typical large gantry cranes move at speeds less than 3.5 miles per hour (approximately 300 feet per minute).
- There are no curves on the tracks of the rail-supported gantry cranes at the proposed Converted MTSs to cause the wheel flange to contact the rail, and the rails will be welded seamless, so there are no bumps or discontinuities. The absence of high-speed braking reduces the creation of imperfections in wheels and rails – which minimizes vibrations.
- The gantry cranes are located on the waterfront side of proposed Converted MTS facilities, which is typically the farthest point from vibration-sensitive receptors.

The table below provides estimates of the vibration levels associated with the equipment that will be included in the proposed Converted MTSs, as well as the thresholds for human response to vibration. All data is based on the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment guidance document (April 1995).

Vibration Source or Human Response to Vibration	**Typical RMS Vibration Velocity Levels (VdB) @ 50 Feet From the Source** (1)
Residential Annoyance from >70 rapid train passages per day	72
Threshold of Human Perception	65
DSNY Collection Vehicles	62
Wheel loaders (2)	62
Sweepers (2)	62
Typical Background Vibration	52
Gantry Cranes	NA
Tug Boats	NA

Notes:
NA = not available
(1) FTA Transit Noise and Vibration Impact Assessment, April 1995

(2) Assumed to be representative of other rubber-tired vehicles, such as heavy trucks.

The table shows that typical equipment-induced ground-vibration levels at the proposed Converted MTSs are below the threshold of human perception at distances of 50 feet and beyond based on vibration levels published by FTA. At distances closer than 50 feet, equipment-induced ground-vibration levels may be higher than levels shown in the table above. Since foundation and soil conditions differ at each site, meaningful calculation of resulting vibration levels cannot be performed without rigorous analyses. However, where proposed Converted MTS facility property lines are within 50 feet of an area where a vibration source may operate (such as a highway, which is the case at the East 91st Street and Hamilton Avenue Converted MTSs), background vibration levels are likely to be high due to roadway traffic and other non-MTS activities. In these areas, non-project-related background vibration will likely mask any potential Converted MTS equipment- induced vibrations. At the Southwest Brooklyn and North Shore Converted MTSs, there are no vibration sensitive receptors within 50 feet of a vibration source.

Therefore, equipment-induced vibrations at the proposed Converted MTSs are not expected to be perceived as annoyance by nearby residents or to affect other vibration-sensitive facilities or resources that may exist near a proposed Converted MTS site.

APPENDIX M

TONNAGES MEMO

MARCH 2005

HDR | ONE COMPANY *Many Solutions*℠

Memo

To: File	
From: Elo Comfort	Project: DSNY MTS EIS
CC: Dan Harkins, Joyce Mariani, Elena Barnett, Susan Raila	
Date: 2/8/2005	Job No: 07912-147-180-91

Document2

RE: Tonnages analyzed at the Converted MTSs for the EIS

This memo is intended to describe the tonnage capacity for each of the Converted Marine Transfer Stations (MTSs) that is supported by the New York City Environmental Quality Review (CEQR) based Environmental Impact Statement (EIS) for this project This memo describes the origin of the data used for these calculations as well as sample calculations for each of the eight Converted MTSs

Data Origin

The last year for which representative data is available on the average and peak day waste delivery profiles to the existing MTSs is Fiscal Year (FY) 1998, except for the Bronx, which is FY 1997. In the subsequent years, as Interim Export was implemented, there was considerable variation in the total amount of DSNY-managed Waste generated in the City (disposed and recycled). For example, in the fiscal year period of 1998 though 2004, there is a difference of 1000 tpd between the reported high (1998) and low (2002) numbers. Compounding this variability are changes in the Curbside Recycling Program, which showed steady increases in the diversion rate from 1998 to 2002, followed by a substantial drop in 2003 as budget cuts affected the scope of the program. This history of variability means that there is no single best set of data to rely upon to report MTS loads and tons. It was decided that FY 1998 and FY 1997 for the Bronx would be used because these years represented a relative high in the waste generation rates for New York City.

FY 1997 & FY 1998 Tonnage Data - CEQR Environmental Review of the MTS Conversion Program

Work on the CEQR Environmental Review of the MTS Conversion Program began in the summer of 2002 The loads and tons delivery profile data necessary for evaluating off-site traffic, air and noise impacts was provided initially in late 2003 by DSNY's Bureau of Cleaning and Collection (BCC). It was based on average peak values from FY 1997 and RY 1998. Using this data, the Operations Management Division (OMD) in DSNY broke out loads and tons by Community District (CD) of origin and by "Splinter Groups" (Auxiliary Field Force (AFF), EZ pack, Self-Help Bulk, (SH Bulk) Miscellaneous (MISC), Lot Cleaning (LC) and Other Collected Departments (OCD)). The OMD data also classified loads into three categories for each CD and splinter group priority, non-priority, and relay. This classification was used to assign the appropriate truck route from the CD to the MTS and determine peak hour arrival rates. The allocation of loads and tons to each MTS was based on CD assignments to each MTS and assumptions on how the splinter groups would be divided among the MTSs.

This data was used to evaluate peak day traffic, air and noise impacts in the CEQR Environmental Review of the MTS Conversion Program. In addition to using the relatively high tonnage data from FY1997 and FY 1998, these analyses assumed an additional 20% increment on the actual peak hourly arrival rate as a margin of conservatism for the DEIS analysis.

Historical Tonnage Data - MTS AND BQB RFPS

When work began on the MTS RFP, DSNY Bureau of Long Term Export had identified a number of anomalies in the loads and tons data for 1998. DSNY made a decision to construct a composite tonnage allocation scenario for the MTSs. This allocation was based on historical patterns of waste disposed within a

borough as a whole with allocations then made to specific MTSs. This allocation determined an average tons per day (tpd) number for each MTS. The average tpd numbers would be used in the MTS RFP for purposes of obtaining vendor pricing. These data are reported in Table 4-2, page 4-5 of the MTS RFP.

CWMS Converted MTSs – Summary Report - Commercial Waste Processing and Analysis of Potential Impacts

In developing the Summary Report in Volume III of the Commercial Waste Management Study (CWMS), DSNY Bureau of Long Term Export had to establish the capacity to be reserved at the MTSs for its own use and then determine the capacity potentially available for deliveries of commercial waste. The starting point for this analysis was the average tpd allocation used in the MTS RFP, which was used as a baseline for calculating an average peak tpd. The average peak tpd was calculated by evaluating on a borough basis the relationship between average and average-peak-day tonnage based on the data sets for several fiscal years. Factors were derived and applied to the average tpd number to establish a peak tonnage for each borough. In the cases of Manhattan and Brooklyn, the borough peak was then allocated to each of the three respective MTSs in each borough based on the allocation factors prescribed by DSNY. These data are reported in the Volume III Summary Report, Processing Commercial Waste at the Converted MTS and Related Potential Impacts.

Section 2.0 of the CWMS explains the methodology used to establish a DSNY Capacity Scenario. Table 2.1-1 presents DSNY's tpd requirements under the column headed DSNY-managed Waste Reserved Capacity. These numbers are the average tpd allocations to each MTS adjusted for the peaking factor as previously described. Based on the DSNY Capacity Scenario, the amount of additional Commercial Waste that each converted MTS could process was calculated, and then the environmental constraints that would reduce the tonnage that could be delivered to each Converted MTS without causing a significant environmental impact were considered.

SUMMARY

The CEQR Environmental Review of the draft New Solid Waste Management Plan began under time pressures without the benefit of a comprehensive review of annual data. Later in time, DSNY needed to construct a tonnage allocation scenario that had an historical basis, reflected what the expected quantities of waste disposed, but corrected various anomalies in reported data. As a matter of policy, DSNY has determined that the DSNY Capacity Scenario reflects their long term requirements for capacity at the MTSs. The average peak tpd numbers in this scenario are based on the DSNY's average tpd allocation among the MTSs, adjusted with a peaking factor. The average peak day numbers used in the CEQR Environmental Review of the MTS Conversion Program are in all cases higher than the DSNY Capacity Scenario. The fact that the CEQR Environmental Review of the MTS Conversion Program numbers are higher points to the fact this review was done with a margin of conservatism in the analysis of off-site impacts

Attachment A

FEIS Tonnage and Truck Distribution

Excess Capacity Summary
Open Top Design

FEIS Tonnages Analyzed at Converted MTSs
Average Peak Day - Annual Average

MTS Facility	Total Number of Loading Slots	DSNY Managed Waste Deliveries, (tons)[1]	Average Day Design Capacity, (tons)[2]	Average Day			
				Total Excess Capacity (tons)	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity for Commercial Vendors, 8 pm - 8 am	Maximum Tons in Stock Pile
West 135th Street	4	1,416	4,290	2,874	1,035	1,783	104
East 91st Street	4	1,093	4,290	3,197	1,019	2,178	299
West 59th Street*	3	1,068	2,145	1,077	115	925	451
South Bronx	4	2,804	4,290	1,486	0	1,472	767
North Shore	4	2,672	4,290	1,618	449	830	259
Greenpoint	4	3,387	4,290	903	0	555	326
Hamilton Avenue	4	2,248	4,290	2,042	578	1,306	96
Southwest Brooklyn	4	1,388	4,290	2,902	1,234	1,595	74
Totals		16,076	32,175	16,099	4,429	10,644	

Notes:

[1] Based on waste information received from the New York City Department of Sanitation BCC

[2] Based on running MTS under normal operating conditions. Spare operating lines are not used to process waste.

* - West 59th Street is a Lift and Load operation, not an open top hopper system

MTS - Marine Transfer Station

Excess Capacity Summary
Open Top Design

General Assumptions

Assume that the MTS will keep the Loader Level floor as clear as possible, therefore pushing all waste received into containers as soon as possible (HDR)
Assume that each open-top line can operate 24-hours per day (G&H)
Assume that there is enough storage room for full containers so that container loading operations are not interrupted during the time it takes to switch barges. (HDR)
Assume that the MTSs with 4 hoppers will not operate more than three (3) hoppers per hour. (G&H)
Assume that MTSs with 4 hoppers can process 10 containers per hour (G&H) = 220 tons per hour (10 containers x 22 tons per container)
Assume the daily capacity of the MTSs with 4 hoppers is 4,290 tons per day [220 tons per hour x 6.5 work hours per shift x 3 shifts per day]
Assume that the 59th Street MTS can process 5 containers per hour (G&H) = 110 tons per hour (5 containers x 22 tons per container)
Assume the daily capacity of the 59th Street MTS is 2,145 tons per day [110 tons per hour x 6.5 work hours per shift x 3 shifts per day]
Assume that commercial waste is delivered to each MTS only during the time period from 8 p.m. to 8 a.m. (DSNY)
Assume Commercial Waste delivery trucks deliver an average of 11 tons per truck (HDR from field data)
Assume that there are a maximum of 5 barge switches per day at each facility (G&H)
Assume that barge capacity is not a limiting factor to MTS throughput [5 barges per day x 1056 tons per barge = 5,280 tons per day > 4,290 tons per day]

Hours of Work Assumptions
Assume 6.5 hours of work per 8 hour shift
- Assume 0.5 hours down time at the beginning of a shift
- Assume 0.5 hours down time for lunch break
- Assume 0.5 hours down time at the end of a shift

Container Assumptions
Assume 22 tons per container (G&H)
Assume 48 containers per barge (G&H)
Assume 1056 tons per barge (22 tons per container X 48 containers per barge) (Calculated)

Number of Hoppers per Facility

Facility	Maximum Number of Operating Lines per Facility	
West 135th St	4	
East 91st St	4	
West 59th St	3	Lift & Load Operation
South Bronx	4	
North Shore	4	
Greenpoint	4	
Hamilton Avenue	4	
Southwest Brooklyn	4	

(HDR) - HDR assumptions
(G&H) - G&H assumptions
(DSNY) - New York City Department of Sanitation assumptions

Excess Capacity Summary
Open Top Design

West 135th St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	194.4	18	110.0	84.4	84.4	194.4	110.0		0.0	0.0	0	18
2	9:00	10:00	222.5	21	220.0	2.5	86.8	416.8	330.0		0.0	0.0	0	21
3	10:00	11:00	187.2	17	220.0	-32.8	54.0	604.0	550.0		0.0	0.0	0	17
4	11:00	12:00	139.7	13	110.0	29.7	83.8	743.8	660.0		0.0	0.0	0	13
5	12:00	13:00	101.5	9	185.2	-83.8	0.0	845.2	845.2		34.8	0.0	0	9
6	13:00	14:00	46.2	4	46.2	0.0	0.0	891.4	891.4		173.8	0.0	0	4
7	14:00	15:00	20.9	2	20.9	0.0	0.0	912.3	912.3		199.1	0.0	0	2
8	15:00	16:00	5.4	1	5.4	0.0	0.0	917.7	917.7		104.6	0.0	0	1
9	16:00	17:00	13.3	1	13.3	0.0	0.0	931.0	931.0		96.7	0.0	0	1
10	17:00	18:00	41.0	4	41.0	0.0	0.0	972.0	972.0		179.0	0.0	0	4
11	18:00	19:00	35.3	3	35.3	0.0	0.0	1007.3	1007.3		184.7	0.0	0	3
12	19:00	20:00	47.6	4	47.6	0.0	0.0	1054.9	1054.9		62.4	0.0	0	4
13	20:00	21:00	31.7	3	31.7	0.0	0.0	1086.6	1086.6	Barge Switch	0.0	188.3	18	21
14	21:00	22:00	55.3	5	55.3	0.0	0.0	1142.0	1142.0		0.0	164.7	15	20
15	22:00	23:00	8.5	1	8.5	0.0	0.0	1150.4	1150.4		0.0	211.5	20	21
16	23:00	0:00	10.8	1	10.8	0.0	0.0	1161.2	1161.2		0.0	99.2	10	11
17	0:00	1:00	36.6	3	36.6	0.0	0.0	1197.8	1197.8		0.0	73.4	7	10
18	1:00	2:00	60.5	6	60.5	0.0	0.0	1258.3	1258.3		0.0	159.5	15	21
19	2:00	3:00	31.6	3	31.6	0.0	0.0	1289.9	1289.9		0.0	188.4	18	21
20	3:00	4:00	22.1	2	22.1	0.0	0.0	1312.0	1312.0		0.0	87.9	8	10
21	4:00	5:00	7.9	1	0.0	7.9	7.9	1319.9	1312.0		0.0	212.1	20	21
22	5:00	6:00	7.4	1	0.0	7.4	15.4	1327.4	1312.0		0.0	204.6	19	20
23	6:00	7:00	17.0	2	0.0	17.0	32.3	1344.3	1312.0		0.0	187.7	18	20
24	7:00	8:00	71.7	7	0.0	71.7	104.0	1416.0	1312.0		0.0	6.0	1	8
Totals			1,416.0	132	1312.0						1035.1	1783.3	169	301

Excess Capacity Summary
Open Top Design

East 91st St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	140.9	13	110.0	30.9	30.9	140.9	110.0		0.0	0.0	0	13
2	9:00	10:00	239.6	21	220.0	19.6	50.5	380.5	330.0		0.0	0.0	0	21
3	10:00	11:00	326.3	29	220.0	106.3	156.8	706.8	550.0		0.0	0.0	0	29
4	11:00	12:00	252.1	23	110.0	142.1	298.8	958.8	660.0		0.0	0.0	0	23
5	12:00	13:00	86.1	8	220.0	-133.9	164.9	1044.9	880.0		0.0	0.0	0	8
6	13:00	14:00	24.4	2	189.4	-164.9	0.0	1069.4	1069.4	Barge Switch	30.6	0.0	0	2
7	14:00	15:00	2.0	1	2.0	0.0	0.0	1071.4	1071.4		218.0	0.0	0	1
8	15:00	16:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		110.0	0.0	0	0
9	16:00	17:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		110.0	0.0	0	0
10	17:00	18:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		220.0	0.0	0	0
11	18:00	19:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		220.0	0.0	0	0
12	19:00	20:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		110.0	0.0	0	0
13	20:00	21:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	220.0	20	20
14	21:00	22:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	220.0	20	20
15	22:00	23:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	220.0	20	20
16	23:00	0:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	110.0	10	10
17	0:00	1:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	110.0	10	10
18	1:00	2:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	220.0	20	20
19	2:00	3:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	220.0	20	20
20	3:00	4:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	110.0	10	10
21	4:00	5:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	220.0	20	20
22	5:00	6:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	220.0	20	20
23	6:00	7:00	0.0	0	0.0	0.0	0.0	1071.4	1071.4		0.0	220.0	20	20
24	7:00	8:00	21.6	2	0.0	21.6	21.6	1093.0	1071.4		0.0	88.4	9	11
Totals			1,093.0	99	1071.4						1018.6	2178.4	199	298

Excess Capacity Summary
Open Top Design

West 59th St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	115.1	11	55.0	60.1	60.1	115.1	55.0		0.0	0.0	0	11
2	9:00	10:00	226.5	22	110.0	116.5	176.5	341.5	165.0		0.0	0.0	0	22
3	10:00	11:00	249.9	24	110.0	139.9	316.4	591.4	275.0		0.0	0.0	0	24
4	11:00	12:00	189.8	18	55.0	134.8	451.2	781.2	330.0		0.0	0.0	0	18
5	12:00	13:00	84.2	8	110.0	-25.8	425.4	865.4	440.0		0.0	0.0	0	8
6	13:00	14:00	31.3	3	110.0	-78.7	346.7	896.7	550.0		0.0	0.0	0	3
7	14:00	15:00	20.9	2	110.0	-89.1	257.5	917.5	660.0		0.0	0.0	0	2
8	15:00	16:00	1.3	1	55.0	-53.7	203.8	918.8	715.0		0.0	0.0	0	1
9	16:00	17:00	0.3	1	55.0	-54.7	149.1	919.1	770.0		0.0	0.0	0	1
10	17:00	18:00	3.5	1	110.0	-106.5	42.6	922.6	880.0		0.0	0.0	0	1
11	18:00	19:00	3.3	1	45.9	-42.6	0.0	925.9	925.9		64.1	0.0	0	1
12	19:00	20:00	4.0	1	4.0	0.0	0.0	929.9	929.9		51.0	0.0	0	1
13	20:00	21:00	3.3	1	3.3	0.0	0.0	933.3	933.3		0.0	106.7	10	11
14	21:00	22:00	1.8	1	1.8	0.0	0.0	935.1	935.1		0.0	108.2	10	11
15	22:00	23:00	0.7	1	0.7	0.0	0.0	935.7	935.7		0.0	109.3	10	11
16	23:00	0:00	0.0	0	0.0	0.0	0.0	935.7	935.7		0.0	55.0	5	5
17	0:00	1:00	24.3	2	24.3	0.0	0.0	960.1	960.1		0.0	30.7	3	5
18	1:00	2:00	26.8	3	26.8	0.0	0.0	986.8	986.8		0.0	83.2	8	11
19	2:00	3:00	28.4	3	28.4	0.0	0.0	1015.2	1015.2		0.0	81.6	8	11
20	3:00	4:00	23.1	2	23.1	0.0	0.0	1038.3	1038.3		0.0	31.9	3	5
21	4:00	5:00	8.6	1	0.0	8.6	8.6	1046.9	1038.3		0.0	101.4	10	11
22	5:00	6:00	3.5	1	0.0	3.5	12.1	1050.4	1038.3		0.0	97.9	9	10
23	6:00	7:00	3.7	1	0.0	3.7	15.8	1054.1	1038.3		0.0	94.2	9	10
24	7:00	8:00	13.9	1	0.0	13.9	29.7	1068.0	1038.3		0.0	25.3	3	4
Totals			1,068.0	110	1038.3						115.1	925.4	88	198

Excess Capacity Summary
Open Top Design

South Bronx Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (Tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	310.4	34	110.0	200.39	200.39	310.4	110.0		0.0	0.0	0	34
2	9:00	10:00	369.0	41	220.0	149.00	349.39	679.4	330.0		0.0	0.0	0	41
3	10:00	11:00	388.7	43	220.0	168.69	518.08	1,068.1	550.0		0.0	0.0	0	43
4	11:00	12:00	315.2	35	110.0	205.21	723.30	1,383.3	660.0		0.0	0.0	0	35
5	12:00	13:00	263.7	29	220.0	43.67	766.96	1,647.0	880.0		0.0	0.0	0	29
6	13:00	14:00	170.7	19	220.0	-49.33	717.63	1,817.6	1,100.0	Barge Switch	0.0	0.0	0	19
7	14:00	15:00	63.4	7	220.0	-156.61	561.02	1,881.0	1,320.0		0.0	0.0	0	7
8	15:00	16:00	19.6	2	110.0	-90.41	470.62	1,900.6	1,430.0		0.0	0.0	0	2
9	16:00	17:00	54.1	6	110.0	-55.87	414.75	1,954.7	1,540.0		0.0	0.0	0	6
10	17:00	18:00	86.9	10	220.0	-133.09	281.65	2,041.7	1,760.0		0.0	0.0	0	10
11	18:00	19:00	108.3	12	220.0	-111.65	170.00	2,150.0	1,980.0		0.0	0.0	0	12
12	19:00	20:00	99.2	11	110.0	-10.78	159.22	2,249.2	2,090.0		0.0	0.0	0	11
13	20:00	21:00	77.1	9	220.0	-142.95	16.27	2,326.3	2,310.0	Barge Switch	0.0	0.0	0	9
14	21:00	22:00	88.0	10	104.2	-16.27	0.00	2,414.2	2,414.2		0.0	115.8	11	21
15	22:00	23:00	37.2	4	37.2	0.00	0.00	2,451.5	2,451.5		0.0	182.8	17	21
16	23:00	0:00	1.0	1	1.0	0.00	0.00	2,452.5	2,452.5		0.0	109.0	10	11
17	0:00	1:00	12.5	1	12.5	0.00	0.00	2,465.0	2,465.0		0.0	97.5	9	10
18	1:00	2:00	28.4	3	28.4	0.00	0.00	2,493.4	2,493.4		0.0	191.6	18	21
19	2:00	3:00	40.9	5	40.9	0.00	0.00	2,534.3	2,534.3		0.0	179.1	17	22
20	3:00	4:00	46.1	5	46.1	0.00	0.00	2,580.4	2,580.4		0.0	63.9	6	11
21	4:00	5:00	22.8	3	0.0	22.79	22.79	2,603.2	2,580.4		0.0	197.2	18	21
22	5:00	6:00	28.2	3	0.0	28.15	50.94	2,631.3	2,580.4		0.0	169.1	16	19
23	6:00	7:00	2.5	1	0.0	2.49	53.43	2,633.8	2,580.4		0.0	166.6	16	17
24	7:00	8:00	170.2	19	0.0	170.20	223.63	2,804.0	2,580.4		0.0	0.0	0	19
Totals			2,804.0	313	2,580.4						0.0	1472.5	138	451

Excess Capacity Summary
Open Top Design

North Shore Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	160.6	20	110.0	50.6	50.6	160.6	110.0		0.0	0.0	0	20
2	9:00	10:00	207.6	25	220.0	-12.4	38.2	368.2	330.0		0.0	0.0	0	25
3	10:00	11:00	198.4	24	220.0	-21.6	16.6	566.6	550.0		0.0	0.0	0	24
4	11:00	12:00	205.0	25	110.0	95.0	111.6	771.6	660.0		0.0	0.0	0	25
5	12:00	13:00	169.9	21	220.0	-50.1	61.5	941.5	880.0		0.0	0.0	0	21
6	13:00	14:00	117.4	14	178.9	-61.5	0.0	1058.9	1058.9	Barge Switch	41.1	0.0	0	14
7	14:00	15:00	74.2	9	74.2	0.0	0.0	1133.1	1133.1		145.8	0.0	0	9
8	15:00	16:00	18.8	2	18.8	0.0	0.0	1151.9	1151.9		91.2	0.0	0	2
9	16:00	17:00	110.1	13	110.0	0.1	0.1	1262.0	1261.9		0.0	0.0	0	13
10	17:00	18:00	131.0	16	131.2	-0.1	0.0	1393.1	1393.1		88.8	0.0	0	16
11	18:00	19:00	138.3	17	138.3	0.0	0.0	1531.4	1531.4		81.7	0.0	0	17
12	19:00	20:00	124.8	15	110.0	14.8	14.8	1656.2	1641.4		0.0	0.0	0	15
13	20:00	21:00	90.6	11	105.4	-14.8	0.0	1746.8	1746.8		0.0	114.6	11	22
14	21:00	22:00	128.6	16	128.6	0.0	0.0	1875.3	1875.3		0.0	91.4	9	25
15	22:00	23:00	41.6	5	41.6	0.0	0.0	1916.9	1916.9		0.0	178.4	17	22
16	23:00	0:00	39.1	5	39.1	0.0	0.0	1956.1	1956.1		0.0	70.9	7	12
17	0:00	1:00	92.7	11	92.7	0.0	0.0	2048.8	2048.8		0.0	17.3	2	13
18	1:00	2:00	126.4	15	126.4	0.0	0.0	2175.2	2175.2	Barge Switch	0.0	93.6	9	24
19	2:00	3:00	127.7	16	127.7	0.0	0.0	2302.9	2302.9		0.0	92.3	9	25
20	3:00	4:00	118.6	14	110.0	8.6	8.6	2421.6	2412.9		0.0	0.0	0	14
21	4:00	5:00	90.9	11	0.0	90.9	99.5	2512.5	2412.9		0.0	120.5	11	22
22	5:00	6:00	77.5	9	0.0	77.5	177.0	2590.0	2412.9		0.0	43.0	4	13
23	6:00	7:00	35.1	4	0.0	35.1	212.2	2625.1	2412.9		0.0	7.8	1	5
24	7:00	8:00	46.9	6	0.0	46.9	259.1	2672.0	2412.9		0.0	0.0	0	6
Totals			2,672.0	324	2412.9						448.6	829.7	80	404

Excess Capacity Summary
Open Top Design

Greenpoint Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	142.4	15	110.0	32.4	32.4	142.4	110.0		0.0	0.0	0	15
2	9:00	10:00	258.5	26	220.0	38.5	70.8	400.8	330.0		0.0	0.0	0	26
3	10:00	11:00	283.5	29	220.0	63.5	134.4	684.4	550.0		0.0	0.0	0	29
4	11:00	12:00	264.9	27	110.0	154.9	289.2	949.2	660.0		0.0	0.0	0	27
5	12:00	13:00	256.7	26	220.0	36.7	325.9	1205.9	880.0		0.0	0.0	0	26
6	13:00	14:00	153.4	16	220.0	-66.6	259.3	1359.3	1100.0	Barge Switch	0.0	0.0	0	16
7	14:00	15:00	93.2	10	220.0	-126.8	132.5	1452.5	1320.0		0.0	0.0	0	10
8	15:00	16:00	40.9	4	110.0	-69.1	63.4	1493.4	1430.0		0.0	0.0	0	4
9	16:00	17:00	124.2	13	110.0	14.2	77.7	1617.7	1540.0		0.0	0.0	0	13
10	17:00	18:00	193.7	20	220.0	-26.3	51.4	1811.4	1760.0		0.0	0.0	0	20
11	18:00	19:00	204.7	21	220.0	-15.3	36.1	2016.1	1980.0		0.0	0.0	0	21
12	19:00	20:00	232.1	24	110.0	122.1	158.3	2248.3	2090.0		0.0	0.0	0	24
13	20:00	21:00	136.8	14	220.0	-83.2	75.0	2385.0	2310.0	Barge Switch	0.0	0.0	0	14
14	21:00	22:00	145.9	15	220.0	-74.1	0.9	2530.9	2530.0		0.0	0.0	0	15
15	22:00	23:00	67.2	7	68.0	-0.9	0.0	2598.0	2598.0		0.0	152.0	14	21
16	23:00	0:00	7.4	1	7.4	0.0	0.0	2605.4	2605.4		0.0	102.6	10	11
17	0:00	1:00	78.1	8	78.1	0.0	0.0	2683.5	2683.5		0.0	31.9	3	11
18	1:00	2:00	161.7	17	161.7	0.0	0.0	2845.2	2845.2		0.0	58.3	6	23
19	2:00	3:00	189.1	19	189.1	0.0	0.0	3034.4	3034.4		0.0	30.9	3	22
20	3:00	4:00	159.8	16	110.0	49.8	49.8	3194.2	3144.4		0.0	0.0	0	16
21	4:00	5:00	66.9	7	0.0	66.9	116.7	3261.1	3144.4		0.0	103.3	10	17
22	5:00	6:00	60.1	6	0.0	60.1	176.8	3321.2	3144.4		0.0	43.2	4	10
23	6:00	7:00	10.8	1	0.0	10.8	187.6	3332.0	3144.4		0.0	32.4	3	4
24	7:00	8:00	55.0	6	0.0	55.0	242.6	3387.0	3144.4		0.0	0.0	0	6
Totals			3,387.0	348	3144.4						0.0	554.6	53	401

Excess Capacity Summary
Open Top Design

Hamilton Avenue Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	139.1	15	110.0	29.1	29.1	139.1	110.0		0.0	0.0	0	15
2	9:00	10:00	212.2	23	220.0	-7.8	21.2	351.2	330.0		0.0	0.0	0	23
3	10:00	11:00	210.0	23	220.0	-10.0	11.2	561.2	550.0		0.0	0.0	0	23
4	11:00	12:00	194.6	21	110.0	84.6	95.8	755.8	660.0		0.0	0.0	0	21
5	12:00	13:00	162.3	17	220.0	-57.7	38.1	918.1	880.0		0.0	0.0	0	17
6	13:00	14:00	98.3	11	136.5	-38.1	0.0	1016.5	1016.5		83.5	0.0	0	11
7	14:00	15:00	29.6	3	29.6	0.0	0.0	1046.1	1046.1		190.4	0.0	0	3
8	15:00	16:00	80.8	9	80.8	0.0	0.0	1126.9	1126.9	Barge Switch	29.2	0.0	0	9
9	16:00	17:00	122.7	13	110.0	12.7	12.7	1249.7	1236.9		0.0	0.0	0	13
10	17:00	18:00	84.7	9	97.5	-12.7	0.0	1334.4	1334.4		122.5	0.0	0	9
11	18:00	19:00	90.0	10	90.0	0.0	0.0	1424.4	1424.4		130.0	0.0	0	10
12	19:00	20:00	88.0	9	88.0	0.0	0.0	1512.5	1512.5		22.0	0.0	0	9
13	20:00	21:00	48.5	5	48.5	0.0	0.0	1561.0	1561.0		0.0	171.5	16	21
14	21:00	22:00	87.3	9	87.3	0.0	0.0	1648.3	1648.3		0.0	132.7	13	22
15	22:00	23:00	8.6	1	8.6	0.0	0.0	1656.9	1656.9		0.0	211.4	20	21
16	23:00	0:00	30.2	3	30.2	0.0	0.0	1687.2	1687.2		0.0	79.8	8	11
17	0:00	1:00	103.9	11	103.9	0.0	0.0	1791.1	1791.1		0.0	6.1	1	12
18	1:00	2:00	132.4	14	132.4	0.0	0.0	1923.4	1923.4		0.0	87.6	8	22
19	2:00	3:00	134.6	14	134.6	0.0	0.0	2058.0	2058.0		0.0	85.4	8	22
20	3:00	4:00	102.5	11	102.5	0.0	0.0	2160.5	2160.5	Barge Switch	0.0	7.5	1	12
21	4:00	5:00	39.0	4	0.0	39.0	39.0	2199.5	2160.5		0.0	181.0	17	21
22	5:00	6:00	17.7	2	0.0	17.7	56.7	2217.2	2160.5		0.0	163.3	15	17
23	6:00	7:00	6.4	1	0.0	6.4	63.1	2223.6	2160.5		0.0	156.9	15	16
24	7:00	8:00	24.4	3	0.0	24.4	87.5	2248.0	2160.5		0.0	22.5	3	6
Totals			2,248.0	241	2160.5						577.5	1305.6	125	366

Excess Capacity Summary
Open Top Design

Southwest Brooklyn Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	123.8	13	110.0	13.8	13.8	123.8	110.0		0.0	0.0	0	13
2	9:00	10:00	211.1	22	220.0	-8.9	4.9	334.9	330.0		0.0	0.0	0	22
3	10:00	11:00	154.8	16	159.7	-4.9	0.0	489.7	489.7		60.3	0.0	0	16
4	11:00	12:00	104.5	11	104.5	0.0	0.0	594.2	594.2		5.5	0.0	0	11
5	12:00	13:00	40.8	4	40.8	0.0	0.0	634.9	634.9		179.2	0.0	0	4
6	13:00	14:00	12.1	1	12.1	0.0	0.0	647.0	647.0		207.9	0.0	0	1
7	14:00	15:00	11.3	1	11.3	0.0	0.0	658.3	658.3		208.7	0.0	0	1
8	15:00	16:00	14.2	1	14.2	0.0	0.0	672.5	672.5		95.8	0.0	0	1
9	16:00	17:00	46.1	5	46.1	0.0	0.0	718.5	718.5		63.9	0.0	0	5
10	17:00	18:00	46.3	5	46.3	0.0	0.0	764.8	764.8		173.7	0.0	0	5
11	18:00	19:00	47.5	5	47.5	0.0	0.0	812.3	812.3		172.5	0.0	0	5
12	19:00	20:00	43.2	5	43.2	0.0	0.0	855.5	855.5		66.8	0.0	0	5
13	20:00	21:00	41.0	4	41.0	0.0	0.0	896.6	896.6		0.0	179.0	17	21
14	21:00	22:00	37.5	4	37.5	0.0	0.0	934.1	934.1		0.0	182.5	17	21
15	22:00	23:00	2.8	1	2.8	0.0	0.0	937.0	937.0		0.0	217.2	20	21
16	23:00	0:00	0.0	0	0.0	0.0	0.0	937.0	937.0		0.0	110.0	10	10
17	0:00	1:00	129.1	13	110.0	19.1	19.1	1066.1	1047.0		0.0	0.0	0	13
18	1:00	2:00	118.4	12	137.5	-19.1	0.0	1184.5	1184.5	Barge Switch	0.0	82.5	8	20
19	2:00	3:00	88.0	9	88.0	0.0	0.0	1272.5	1272.5		0.0	132.0	12	21
20	3:00	4:00	41.2	4	41.2	0.0	0.0	1313.7	1313.7		0.0	68.8	7	11
21	4:00	5:00	18.0	2	0.0	18.0	18.0	1331.7	1313.7		0.0	202.0	19	21
22	5:00	6:00	6.2	1	0.0	6.2	24.2	1337.9	1313.7		0.0	195.8	18	19
23	6:00	7:00	6.3	1	0.0	6.3	30.5	1344.2	1313.7		0.0	189.5	18	19
24	7:00	8:00	43.8	5	0.0	43.8	74.3	1388.0	1313.7		0.0	35.7	4	9
Totals			1,388.0	145	1313.7						1234.5	1594.9	150	295

Historical Tonnage and Truck Distribution

Excess Capacity Summary
Open Top Design

Commercial Waste Capacity at Converted MTSs
Average Peak Day - Annual Average

MTS Facility	Total Number of Loading Slots	Dept. Managed Waste Deliveries, (tons)[1]	Average Day Design Capacity, (tons)[2]	Average Day			
				Total Excess Capacity (tons)	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity for Commercial Vendors, 8 pm - 8 am (tons)	Maximum Tons in Stock Pile
West 135th Street	4	1,180	4,290	3,110	1,211	1,853	87
East 91st Street	4	880	4,290	3,410	1,227	2,183	136
West 59th Street*	3	880	2,145	1,265	279	956	314
South Bronx	4	2,190	4,290	2,100	333	1,732	420
North Shore	4	2,370	4,290	1,920	622	1,000	222
Greenpoint	4	2,360	4,290	1,930	575	1,145	136
Hamilton Avenue	4	2,170	4,290	2,120	630	1,337	84
Southwest Brooklyn	4	1,090	4,290	3,200	1,418	1,725	58
Totals		13,120	32,175	19,055	6,295	11,930	

Notes:

[1] Based on waste information received from the New York City Department of Sanitation BWD

[2] Based on running MTS under normal operating conditions. Spare operating lines are not used to process waste.

* 59th Street is a Lift and Load operation, NOT an open top hopper system

MTS - Marine Transfer Station

Excess Capacity Summary
Open Top Design

General Assumptions

Assume that the MTS will keep the Loader Level floor as clear as possible, therefore pushing all waste received into containers as soon as possible (HDR)
Assume that each open-top line can operate 24-hours per day (G&H)
Assume that there is enough storage room for full containers so that container loading operations are not interrupted during the time it takes to switch barges. (HDR)
Assume that the MTSs with 4 hoppers will not operate more than three (3) hoppers per hour. (G&H)
Assume that MTSs with 4 hoppers can process 10 containers per hour (G&H) = 220 tons per hour (10 containers x 22 tons per container)
Assume the daily capacity of the MTSs with 4 hoppers is 4,290 tons per day [220 tons per hour x 6.5 work hours per shift x 3 shifts per day]
Assume that the 59th Street MTS can process 5 containers per hour (G&H) = 110 tons per hour (5 containers x 22 tons per container)
Assume the daily capacity of the 59th Street MTS is 2,145 tons per day [110 tons per hour x 6.5 work hours per shift x 3 shifts per day]
Assume that commercial waste is delivered to each MTS only during the time period from 8 p.m. to 8 a.m. (DSNY)
Assume Commercial Waste delivery trucks deliver an average of 11 tons per truck (HDR from field data)
Assume that there are a maximum of 5 barge switches per day at each facility (G&H)
Assume that barge capacity is not a limiting factor to MTS throughput [5 barges per day x 1056 tons per barge = 5,280 tons per day > 4,290 tons per day]

Hours of Work Assumptions
Assume 6.5 hours of work per 8 hour shift
- Assume 0.5 hours down time at the beginning of a shift
- Assume 0.5 hours down time for lunch break
- Assume 0.5 hours down time at the end of a shift

Container Assumptions
Assume 22 tons per container (G&H)
Assume 48 containers per barge (G&H)
Assume 1056 tons per barge (22 tons per container X 48 containers per barge) (Calculated)

Number of Hoppers per Facility

Facility	Maximum Number of Operating Lines per Facility	
West 135th St	4	
East 91st St	4	
West 59th St	3	Lift & Load Operation
South Bronx	4	
North Shore	4	
Greenpoint	4	
Hamilton Avenue	4	
Southwest Brooklyn	4	

(HDR) - HDR assumptions
(G&H) - G&H assumptions
(DSNY) - New York City Department of Sanitation assumptions

Excess Capacity Summary
Open Top Design

West 135th St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	162.0	15	110.0	52.0	52.0	162.0	110.0		0.0	0.0	0	15
2	9:00	10:00	185.4	17	220.0	-34.6	17.3	347.3	330.0		0.0	0.0	0	17
3	10:00	11:00	156.0	14	173.4	-17.3	0.0	503.4	503.4		46.6	0.0	0	14
4	11:00	12:00	116.4	11	110.0	6.4	6.4	619.8	613.4		0.0	0.0	0	11
5	12:00	13:00	84.6	8	91.0	-6.4	0.0	704.4	704.4		129.0	0.0	0	8
6	13:00	14:00	38.5	4	38.5	0.0	0.0	742.9	742.9		181.5	0.0	0	4
7	14:00	15:00	17.4	2	17.4	0.0	0.0	760.3	760.3		202.6	0.0	0	2
8	15:00	16:00	4.5	1	4.5	0.0	0.0	764.8	764.8		105.5	0.0	0	1
9	16:00	17:00	11.1	1	11.1	0.0	0.0	775.9	775.9		98.9	0.0	0	1
10	17:00	18:00	34.1	3	34.1	0.0	0.0	810.0	810.0		185.9	0.0	0	3
11	18:00	19:00	29.4	3	29.4	0.0	0.0	839.4	839.4		190.6	0.0	0	3
12	19:00	20:00	39.7	4	39.7	0.0	0.0	879.1	879.1		70.3	0.0	0	4
13	20:00	21:00	26.4	2	26.4	0.0	0.0	905.5	905.5		0.0	193.6	18	20
14	21:00	22:00	46.1	4	46.1	0.0	0.0	951.6	951.6		0.0	173.9	16	20
15	22:00	23:00	7.1	1	7.1	0.0	0.0	958.7	958.7		0.0	212.9	20	21
16	23:00	0:00	9.0	1	9.0	0.0	0.0	967.7	967.7		0.0	101.0	10	11
17	0:00	1:00	30.5	3	30.5	0.0	0.0	998.2	998.2		0.0	79.5	8	11
18	1:00	2:00	50.4	5	50.4	0.0	0.0	1048.6	1048.6		0.0	169.6	16	21
19	2:00	3:00	26.3	2	26.3	0.0	0.0	1074.9	1074.9	Barge Switch	0.0	193.7	18	20
20	3:00	4:00	18.4	2	18.4	0.0	0.0	1093.3	1093.3		0.0	91.6	9	11
21	4:00	5:00	6.6	1	0.0	6.6	6.6	1099.9	1093.3		0.0	213.4	20	21
22	5:00	6:00	6.2	1	0.0	6.2	12.8	1106.1	1093.3		0.0	207.2	19	20
23	6:00	7:00	14.1	1	0.0	14.1	26.9	1120.3	1093.3		0.0	193.1	18	19
24	7:00	8:00	59.7	6	0.0	59.7	86.7	1180.0	1093.3		0.0	23.3	3	9
Totals			1,180.0	112	1093.3						1210.9	1852.7	175	287

Excess Capacity Summary
Open Top Design

East 91st St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	Excess number of Commercial Vehicles, 11 tons per vehicle	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	113.4	10	110.0	3.4	3.4	113.4	110.0		0.0	0.0	0	10
2	9:00	10:00	192.9	17	196.3	-3.4	0.0	306.3	306.3		23.7	0.0	0	17
3	10:00	11:00	262.7	23	220.0	42.7	42.7	569.1	526.3		0.0	0.0	0	23
4	11:00	12:00	202.9	18	110.0	92.9	135.6	772.0	636.3		0.0	0.0	0	18
5	12:00	13:00	69.3	6	205.0	-135.6	0.0	841.3	841.3		15.0	0.0	0	6
6	13:00	14:00	19.7	2	19.7	0.0	0.0	861.0	861.0		200.3	0.0	0	2
7	14:00	15:00	1.6	1	1.6	0.0	0.0	862.6	862.6		218.4	0.0	0	1
8	15:00	16:00	0.0	0	0.0	0.0	0.0	862.6	862.6		110.0	0.0	0	0
9	16:00	17:00	0.0	0	0.0	0.0	0.0	862.6	862.6		110.0	0.0	0	0
10	17:00	18:00	0.0	0	0.0	0.0	0.0	862.6	862.6		220.0	0.0	0	0
11	18:00	19:00	0.0	0	0.0	0.0	0.0	862.6	862.6		220.0	0.0	0	0
12	19:00	20:00	0.0	0	0.0	0.0	0.0	862.6	862.6		110.0	0.0	0	0
13	20:00	21:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
14	21:00	22:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
15	22:00	23:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
16	23:00	0:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	110.0	10	10
17	0:00	1:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	110.0	10	10
18	1:00	2:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
19	2:00	3:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
20	3:00	4:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	110.0	10	10
21	4:00	5:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
22	5:00	6:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
23	6:00	7:00	0.0	0	0.0	0.0	0.0	862.6	862.6		0.0	220.0	20	20
24	7:00	8:00	17.4	2	0.0	17.4	17.4	880.0	862.6		0.0	92.6	9	11
Totals			880.0	79	862.6						1227.4	2182.6	199	278

Excess Capacity Summary
Open Top Design

West 59th St Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	94.8	9	55.0	39.8	39.8	94.8	55.0		0.0	0.0	0	9
2	9:00	10:00	186.6	18	110.0	76.6	116.4	281.4	165.0		0.0	0.0	0	18
3	10:00	11:00	205.9	20	110.0	95.9	212.3	487.3	275.0		0.0	0.0	0	20
4	11:00	12:00	156.4	15	55.0	101.4	313.7	643.7	330.0		0.0	0.0	0	15
5	12:00	13:00	69.4	7	110.0	-40.6	273.1	713.1	440.0		0.0	0.0	0	7
6	13:00	14:00	25.8	2	110.0	-84.2	188.8	738.8	550.0		0.0	0.0	0	2
7	14:00	15:00	17.2	2	110.0	-92.8	96.0	756.0	660.0		0.0	0.0	0	2
8	15:00	16:00	1.0	1	55.0	-54.0	42.1	757.1	715.0		0.0	0.0	0	1
9	16:00	17:00	0.2	1	42.3	-42.1	0.0	757.3	757.3		12.7	0.0	0	1
10	17:00	18:00	2.9	1	2.9	0.0	0.0	760.2	760.2		107.1	0.0	0	1
11	18:00	19:00	2.7	1	2.7	0.0	0.0	762.9	762.9		107.3	0.0	0	1
12	19:00	20:00	3.3	1	3.3	0.0	0.0	766.2	766.2		51.7	0.0	0	1
13	20:00	21:00	2.7	1	2.7	0.0	0.0	769.0	769.0		0.0	107.3	10	11
14	21:00	22:00	1.5	1	1.5	0.0	0.0	770.5	770.5		0.0	108.5	10	11
15	22:00	23:00	0.5	1	0.5	0.0	0.0	771.0	771.0		0.0	109.5	10	11
16	23:00	0:00	0.0	0	0.0	0.0	0.0	771.0	771.0		0.0	55.0	5	5
17	0:00	1:00	20.0	2	20.0	0.0	0.0	791.1	791.1		0.0	35.0	4	6
18	1:00	2:00	22.1	2	22.1	0.0	0.0	813.1	813.1		0.0	87.9	8	10
19	2:00	3:00	23.4	2	23.4	0.0	0.0	836.5	836.5		0.0	86.6	8	10
20	3:00	4:00	19.1	2	19.1	0.0	0.0	855.5	855.5		0.0	35.9	4	6
21	4:00	5:00	7.1	1	0.0	7.1	7.1	862.6	855.5		0.0	102.9	10	11
22	5:00	6:00	2.9	1	0.0	2.9	10.0	865.5	855.5		0.0	100.0	10	11
23	6:00	7:00	3.0	1	0.0	3.0	13.0	868.6	855.5		0.0	97.0	9	10
24	7:00	8:00	11.4	1	0.0	11.4	24.5	880.0	855.5		0.0	30.5	3	4
Totals			880.0	93	855.5						278.8	956.1	91	184

Excess Capacity Summary
Open Top Design

South Bronx Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (Tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	242.4	27	110.0	132.42	132.42	242.4	110.0		0.0	0.0	0	27
2	9:00	10:00	288.2	32	220.0	68.20	200.63	530.6	330.0		0.0	0.0	0	32
3	10:00	11:00	303.6	34	220.0	83.58	284.20	834.2	550.0		0.0	0.0	0	34
4	11:00	12:00	246.2	27	110.0	136.19	420.39	1,080.4	660.0		0.0	0.0	0	27
5	12:00	13:00	205.9	23	220.0	-14.07	406.32	1,286.3	880.0		0.0	0.0	0	23
6	13:00	14:00	133.3	15	220.0	-86.70	319.62	1,419.6	1,100.0	Barge Switch	0.0	0.0	0	15
7	14:00	15:00	49.5	5	220.0	-170.49	149.13	1,469.1	1,320.0		0.0	0.0	0	5
8	15:00	16:00	15.3	2	110.0	-94.70	54.43	1,484.4	1,430.0		0.0	0.0	0	2
9	16:00	17:00	42.3	5	96.7	-54.43	0.00	1,526.7	1,526.7		13.3	0.0	0	5
10	17:00	18:00	67.9	8	67.9	0.00	0.00	1,594.6	1,594.6		152.1	0.0	0	8
11	18:00	19:00	84.6	9	84.6	0.00	0.00	1,679.2	1,679.2		135.4	0.0	0	9
12	19:00	20:00	77.5	9	77.5	0.00	0.00	1,756.7	1,756.7		32.5	0.0	0	9
13	20:00	21:00	60.2	7	60.2	0.00	0.00	1,816.9	1,816.9		0.0	159.8	15	22
14	21:00	22:00	68.7	8	68.7	0.00	0.00	1,885.6	1,885.6		0.0	151.3	14	22
15	22:00	23:00	29.1	3	29.1	0.00	0.00	1,914.7	1,914.7		0.0	190.9	18	21
16	23:00	0:00	0.8	1	0.8	0.00	0.00	1,915.5	1,915.5		0.0	109.2	10	11
17	0:00	1:00	9.8	1	9.8	0.00	0.00	1,925.3	1,925.3		0.0	100.2	10	11
18	1:00	2:00	22.2	2	22.2	0.00	0.00	1,947.4	1,947.4		0.0	197.8	18	20
19	2:00	3:00	31.9	4	31.9	0.00	0.00	1,979.4	1,979.4		0.0	188.1	18	22
20	3:00	4:00	36.0	4	36.0	0.00	0.00	2,015.3	2,015.3		0.0	74.0	7	11
21	4:00	5:00	17.8	2	0.0	17.80	17.80	2,033.1	2,015.3		0.0	202.2	19	21
22	5:00	6:00	22.0	2	0.0	21.99	39.78	2,055.1	2,015.3		0.0	180.2	17	19
23	6:00	7:00	1.9	1	0.0	1.95	41.73	2,057.1	2,015.3		0.0	178.3	17	18
24	7:00	8:00	132.9	15	0.0	132.93	174.66	2,190.0	2,015.3		0.0	0.0	0	15
Totals			2,190.0	246	2,015.3						333.3	1732.1	163	409

Excess Capacity Summary
Open Top Design

North Shore Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	142.4	17	110.0	32.4	32.4	142.4	110.0		0.0	0.0	0	17
2	9:00	10:00	184.2	22	216.6	-32.4	0.0	326.6	326.6		3.4	0.0	0	22
3	10:00	11:00	176.0	21	176.0	0.0	0.0	502.5	502.5		44.0	0.0	0	21
4	11:00	12:00	181.9	22	110.0	71.9	71.9	684.4	612.5		0.0	0.0	0	22
5	12:00	13:00	150.7	18	220.0	-69.3	2.5	835.1	832.5		0.0	0.0	0	18
6	13:00	14:00	104.1	13	106.7	-2.5	0.0	939.2	939.2		113.3	0.0	0	13
7	14:00	15:00	65.8	8	65.8	0.0	0.0	1005.0	1005.0		154.2	0.0	0	8
8	15:00	16:00	16.7	2	16.7	0.0	0.0	1021.7	1021.7		93.3	0.0	0	2
9	16:00	17:00	97.7	12	97.7	0.0	0.0	1119.4	1119.4	Barge Switch	12.3	0.0	0	12
10	17:00	18:00	116.2	14	116.2	0.0	0.0	1235.6	1235.6		103.8	0.0	0	14
11	18:00	19:00	122.7	15	122.7	0.0	0.0	1358.3	1358.3		97.3	0.0	0	15
12	19:00	20:00	110.7	14	110.0	0.7	0.7	1469.0	1468.3		0.0	0.0	0	14
13	20:00	21:00	80.4	10	81.1	-0.7	0.0	1549.3	1549.3		0.0	138.9	13	23
14	21:00	22:00	114.0	14	114.0	0.0	0.0	1663.4	1663.4		0.0	106.0	10	24
15	22:00	23:00	36.9	5	36.9	0.0	0.0	1700.3	1700.3		0.0	183.1	17	22
16	23:00	0:00	34.7	4	34.7	0.0	0.0	1735.0	1735.0		0.0	75.3	7	11
17	0:00	1:00	82.3	10	82.3	0.0	0.0	1817.2	1817.2		0.0	27.7	3	13
18	1:00	2:00	112.1	14	112.1	0.0	0.0	1929.4	1929.4		0.0	107.9	10	24
19	2:00	3:00	113.3	14	113.3	0.0	0.0	2042.6	2042.6		0.0	106.7	10	24
20	3:00	4:00	105.2	13	105.2	0.0	0.0	2147.9	2147.9	Barge Switch	0.0	4.8	1	14
21	4:00	5:00	80.6	10	0.0	80.6	80.6	2228.5	2147.9		0.0	139.4	13	23
22	5:00	6:00	68.7	8	0.0	68.7	149.4	2297.2	2147.9		0.0	70.6	7	15
23	6:00	7:00	31.2	4	0.0	31.2	180.5	2328.4	2147.9		0.0	39.5	4	8
24	7:00	8:00	41.6	5	0.0	41.6	222.1	2370.0	2147.9		0.0	0.0	0	5
Totals			2,370.0	289	2147.9						621.7	999.9	95	384
										Max	154.2	183.1	17	24

Excess Capacity Summary
Open Top Design

Greenpoint Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	99.2	10	99.2	0.0	0.0	99.2	99.2		10.8	0.0	0	10
2	9:00	10:00	180.1	18	180.1	0.0	0.0	279.3	279.3		39.9	0.0	0	18
3	10:00	11:00	197.6	20	197.6	0.0	0.0	476.9	476.9		22.4	0.0	0	20
4	11:00	12:00	184.5	19	110.0	74.5	74.5	661.4	586.9		0.0	0.0	0	19
5	12:00	13:00	178.9	18	220.0	-41.1	33.4	840.3	806.9		0.0	0.0	0	18
6	13:00	14:00	106.9	11	140.3	-33.4	0.0	947.2	947.2		79.7	0.0	0	11
7	14:00	15:00	64.9	7	64.9	0.0	0.0	1012.1	1012.1		155.1	0.0	0	7
8	15:00	16:00	28.5	3	28.5	0.0	0.0	1040.6	1040.6		81.5	0.0	0	3
9	16:00	17:00	86.6	9	86.6	0.0	0.0	1127.2	1127.2	Barge Switch	23.4	0.0	0	9
10	17:00	18:00	135.0	14	135.0	0.0	0.0	1262.2	1262.2		85.0	0.0	0	14
11	18:00	19:00	142.6	15	142.6	0.0	0.0	1404.8	1404.8		77.4	0.0	0	15
12	19:00	20:00	161.7	17	110.0	51.7	51.7	1566.5	1514.8		0.0	0.0	0	17
13	20:00	21:00	95.3	10	147.0	-51.7	0.0	1661.8	1661.8		0.0	73.0	7	17
14	21:00	22:00	101.6	10	101.6	0.0	0.0	1763.5	1763.5		0.0	118.4	11	21
15	22:00	23:00	46.8	5	46.8	0.0	0.0	1810.3	1810.3		0.0	173.2	16	21
16	23:00	0:00	5.1	1	5.1	0.0	0.0	1815.4	1815.4		0.0	104.9	10	11
17	0:00	1:00	54.4	6	54.4	0.0	0.0	1869.8	1869.8		0.0	55.6	6	12
18	1:00	2:00	112.7	12	112.7	0.0	0.0	1982.5	1982.5		0.0	107.3	10	22
19	2:00	3:00	131.8	13	131.8	0.0	0.0	2114.3	2114.3	Barge Switch	0.0	88.2	9	22
20	3:00	4:00	111.4	11	110.0	1.4	1.4	2225.7	2224.3		0.0	0.0	0	11
21	4:00	5:00	46.6	5	0.0	46.6	48.0	2272.3	2224.3		0.0	172.0	16	21
22	5:00	6:00	41.9	4	0.0	41.9	89.8	2314.1	2224.3		0.0	130.2	12	16
23	6:00	7:00	7.5	1	0.0	7.5	97.3	2321.6	2224.3		0.0	122.7	12	13
24	7:00	8:00	38.4	4	0.0	38.4	135.7	2360.0	2224.3		0.0	0.0	0	4
Totals			2,360.0	243	2224.3						575.2	1145.4	109	352

Excess Capacity Summary
Open Top Design

Hamilton Avenue Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	134.2	14	110.0	24.2	24.2	134.2	110.0		0.0	0.0	0	14
2	9:00	10:00	204.8	22	220.0	-15.2	9.0	339.0	330.0		0.0	0.0	0	22
3	10:00	11:00	202.7	22	211.7	-9.0	0.0	541.7	541.7		8.3	0.0	0	22
4	11:00	12:00	187.9	20	110.0	77.9	77.9	729.6	651.7		0.0	0.0	0	20
5	12:00	13:00	156.6	17	220.0	-63.4	14.5	886.3	871.7		0.0	0.0	0	17
6	13:00	14:00	94.9	10	109.5	-14.5	0.0	981.2	981.2		110.5	0.0	0	10
7	14:00	15:00	28.6	3	28.6	0.0	0.0	1009.8	1009.8		191.4	0.0	0	3
8	15:00	16:00	78.0	8	78.0	0.0	0.0	1087.8	1087.8	Barge Switch	32.0	0.0	0	8
9	16:00	17:00	118.5	13	110.0	8.5	8.5	1206.3	1197.8		0.0	0.0	0	13
10	17:00	18:00	81.8	9	90.3	-8.5	0.0	1288.1	1288.1		129.7	0.0	0	9
11	18:00	19:00	86.9	9	86.9	0.0	0.0	1375.0	1375.0		133.1	0.0	0	9
12	19:00	20:00	85.0	9	85.0	0.0	0.0	1460.0	1460.0		25.0	0.0	0	9
13	20:00	21:00	46.9	5	46.9	0.0	0.0	1506.9	1506.9		0.0	173.1	16	21
14	21:00	22:00	84.3	9	84.3	0.0	0.0	1591.1	1591.1		0.0	135.7	13	22
15	22:00	23:00	8.3	1	8.3	0.0	0.0	1599.5	1599.5		0.0	211.7	20	21
16	23:00	0:00	29.2	3	29.2	0.0	0.0	1628.6	1628.6		0.0	80.8	8	11
17	0:00	1:00	100.3	11	100.3	0.0	0.0	1728.9	1728.9		0.0	9.7	1	12
18	1:00	2:00	127.8	14	127.8	0.0	0.0	1856.7	1856.7		0.0	92.2	9	23
19	2:00	3:00	129.9	14	129.9	0.0	0.0	1986.6	1986.6		0.0	90.1	9	23
20	3:00	4:00	98.9	11	98.9	0.0	0.0	2085.5	2085.5		0.0	11.1	2	13
21	4:00	5:00	37.7	4	0.0	37.7	37.7	2123.2	2085.5		0.0	182.3	17	21
22	5:00	6:00	17.1	2	0.0	17.1	54.7	2140.2	2085.5		0.0	165.3	16	18
23	6:00	7:00	6.2	1	0.0	6.2	60.9	2146.5	2085.5		0.0	159.1	15	16
24	7:00	8:00	23.5	3	0.0	23.5	84.5	2170.0	2085.5		0.0	25.5	3	6
Totals			2,170.0	234	2085.5						630.0	1336.7	129	363

Excess Capacity Summary
Open Top Design

Southwest Brooklyn Historical Average Peak Day Throughput

Hour	Start Time	End Time	Inbound Tonnage	Number of DCV	Tons Containerized in the Hour	Fluctuation in Stock Pile (tons)	Tons in Stock Pile	Cumulative Tons Received	Cumulative Tons Containerized	Hour of the Beginning of a barge switch	Excess Capacity, 8 am - 8 pm (tons)	Excess Capacity, 8 pm - 8 am (tons)	number of Commercial Vehicles, 11 tons per	Total Number of Trucks, Including Commercial Vehicles
1	8:00	9:00	97.2	10	97.2	0.0	0.0	97.2	97.2		12.8	0.0	0	10
2	9:00	10:00	165.8	17	165.8	0.0	0.0	263.0	263.0		54.2	0.0	0	17
3	10:00	11:00	121.6	13	121.6	0.0	0.0	384.5	384.5		98.4	0.0	0	13
4	11:00	12:00	82.1	9	82.1	0.0	0.0	466.6	466.6		27.9	0.0	0	9
5	12:00	13:00	32.0	3	32.0	0.0	0.0	498.6	498.6		188.0	0.0	0	3
6	13:00	14:00	9.5	1	9.5	0.0	0.0	508.1	508.1		210.5	0.0	0	1
7	14:00	15:00	8.9	1	8.9	0.0	0.0	517.0	517.0		211.1	0.0	0	1
8	15:00	16:00	11.1	1	11.1	0.0	0.0	528.1	528.1		98.9	0.0	0	1
9	16:00	17:00	36.2	4	36.2	0.0	0.0	564.2	564.2		73.8	0.0	0	4
10	17:00	18:00	36.4	4	36.4	0.0	0.0	600.6	600.6		183.6	0.0	0	4
11	18:00	19:00	37.3	4	37.3	0.0	0.0	637.9	637.9		182.7	0.0	0	4
12	19:00	20:00	33.9	4	33.9	0.0	0.0	671.9	671.9		76.1	0.0	0	4
13	20:00	21:00	32.2	3	32.2	0.0	0.0	704.1	704.1		0.0	187.8	18	21
14	21:00	22:00	29.5	3	29.5	0.0	0.0	733.6	733.6		0.0	190.5	18	21
15	22:00	23:00	2.2	1	2.2	0.0	0.0	735.8	735.8		0.0	217.8	20	21
16	23:00	0:00	0.0	0	0.0	0.0	0.0	735.8	735.8		0.0	110.0	10	10
17	0:00	1:00	101.4	11	101.4	0.0	0.0	837.2	837.2		0.0	8.6	1	12
18	1:00	2:00	92.9	10	92.9	0.0	0.0	930.2	930.2		0.0	127.1	12	22
19	2:00	3:00	69.1	7	69.1	0.0	0.0	999.3	999.3		0.0	150.9	14	21
20	3:00	4:00	32.4	3	32.4	0.0	0.0	1031.7	1031.7		0.0	77.6	8	11
21	4:00	5:00	14.1	1	0.0	14.1	14.1	1045.8	1031.7		0.0	205.9	19	20
22	5:00	6:00	4.9	1	0.0	4.9	19.0	1050.7	1031.7		0.0	201.0	19	20
23	6:00	7:00	4.9	1	0.0	4.9	23.9	1055.6	1031.7		0.0	196.1	18	19
24	7:00	8:00	34.4	4	0.0	34.4	58.3	1090.0	1031.7		0.0	51.7	5	9
Totals			1,090.0	116	1031.7						1418.1	1724.8	162	278

Commercial Waste Capacity Based on Historical Distribution

West 135th St

Hour	Design Capacity		DSNY Delivered Waste, tons, 8 pm - 8 am	Capacity with Noise Restraints	
	Total Commercial Vehicles	CW Tonnage 8 pm - 8 am		Total Commercial Vehicles	CW Tonnage 8 pm - 8 am
8:00 PM	18	194	26	18	194
9:00 PM	16	174	46	16	174
10:00 PM	20	213	7	12	132
11:00 PM	10	101	9	10	110
12:00 AM	8	80	30	8	88
1:00 AM	16	170	50	0	0
2:00 AM	18	194	26	0	0
3:00 AM	9	92	18	0	0
4:00 AM	20	213	7	2	22
5:00 AM	19	207	6	10	110
6:00 AM	18	193	14	16	176
7:00 AM	3	23	60	3	23
Total	175	1,853	301	95	1,029

Analysis incomplete - Alternate routes that pass sensitive receptors must be evaluated

East 91st Street

Hour	Design Capacity		DSNY Delivered Waste, tons, 8 pm - 8 am	Capacity with Noise Restraints	
	Total Commercial Vehicles	CW Tonnage 8 pm - 8 am		Total Commercial Vehicles	CW Tonnage 8 pm - 8 am
8:00 PM	20	220	0	11	121
9:00 PM	20	220	0	10	110
10:00 PM	20	220	0	8	88
11:00 PM	10	110	0	6	66
12:00 AM	10	110	0	4	44
1:00 AM	20	220	0	4	44
2:00 AM	20	220	0	2	22
3:00 AM	10	110	0	1	11
4:00 AM	20	220	0	3	33
5:00 AM	20	220	0	7	77
6:00 AM	20	220	0	14	154
7:00 AM	9	93	17	1	11
Total	199	2,183	17	71	781

Need to use different routes for CW vehicles in order to be able to deliver the full amount of excess capacity

West 59th St

Hour	Design Capacity		DSNY Delivered Waste, tons, 8 pm - 8 am	Capacity with Noise Restraints	
	Total Commercial Vehicles	CW Tonnage 8 pm - 8 am		Total Commercial Vehicles	CW Tonnage 8 pm - 8 am
8:00 PM	10	107	3	10	107
9:00 PM	10	109	1	10	109
10:00 PM	10	109	1	10	109
11:00 PM	5	55	0	5	55
12:00 AM	4	35	20	4	35
1:00 AM	8	88	22	8	88
2:00 AM	8	87	23	8	87
3:00 AM	4	36	19	4	36
4:00 AM	10	103	7	10	103
5:00 AM	10	100	3	10	100
6:00 AM	9	97	3	9	97
7:00 AM	3	31	11	3	31
Total	91	956	114	91	956

Can take all CW without any problems

South Bronx

Hour	Design Capacity		DSNY Delivered Waste, tons, 8 pm - 8 am	Capacity with Noise Restraints	
	Total Commercial Vehicles	CW Tonnage 8 pm - 8 am		Total Commercial Vehicles	CW Tonnage 8 pm - 8 am
8:00 PM	15	160	60	13	143
9:00 PM	14	151	69	14	151
10:00 PM	18	191	29	17	187
11:00 PM	10	109	1	10	109
12:00 AM	10	100	10	10	100
1:00 AM	18	198	22	11	121
2:00 AM	18	188	32	15	165
3:00 AM	7	74	36	7	74
4:00 AM	19	202	18	19	202
5:00 AM	17	180	22	17	180
6:00 AM	17	178	2	17	178
7:00 AM	0	0	133	0	0
Total	163	1,732	433	150	1,611

Need to use different routes for CW vehicles in order to be able to deliver the full amount of excess capacity

North Shore

Hour	Design Capacity		DSNY Delivered Waste, tons, 8 pm - 8 am	Capacity with Noise Restraints	
	Total Commercial Vehicles	CW Tonnage 8 pm - 8 am		Total Commercial Vehicles	CW Tonnage 8 pm - 8 am
8:00 PM	13	139	80	13	139
9:00 PM	10	106	114	10	106
10:00 PM	17	183	37	17	183
11:00 PM	7	75	35	7	75
12:00 AM	3	28	82	3	28
1:00 AM	10	108	112	10	108
2:00 AM	10	107	113	10	107
3:00 AM	1	5	105	1	5
4:00 AM	13	139	81	13	139
5:00 AM	7	71	69	7	71
6:00 AM	4	39	31	4	39
7:00 AM	0	0	42	0	0
Total	95	1,000	901	95	1,000

There is a route to the North Shore Converted MTS that does not pass sensitive receptors that must be used from 12 am to 6 am in order to deliver the full amount there is for commercial capacity The route should not be used at other times upon request from DOT due to congestion that occurs at certain intersections along the route during daytime traffic hours

Greenpoint

Hour	Design Capacity		DSNY Delivered Waste, tons, 8 pm - 8 am	Capacity with Noise Restraints	
	Total Commercial Vehicles	CW Tonnage 8 pm - 8 am		Total Commercial Vehicles	CW Tonnage 8 pm - 8 am
8:00 PM	7	73	95	7	73
9:00 PM	11	118	102	11	118
10:00 PM	16	173	47	16	173
11:00 PM	10	105	5	10	105
12:00 AM	6	56	54	6	56
1:00 AM	10	107	113	10	107
2:00 AM	9	88	132	9	88
3:00 AM	0	0	111	0	0
4:00 AM	16	172	47	16	172
5:00 AM	12	130	42	12	130
6:00 AM	12	123	8	12	123
7:00 AM	0	0	38	0	0
Total	109	1,145	793	109	1,145

Need to use different routes for CW vehicles in order to be able to deliver the full amount of excess capacity

Hamilton Ave

Hour	Design Capacity		DSNY Delivered Waste, tons, 8 pm - 8 am	Capacity with Noise Restraints	
	Total Commercial Vehicles	CW Tonnage 8 pm - 8 am		Total Commercial Vehicles	CW Tonnage 8 pm - 8 am
8:00 PM	16	173	47	16	173
9:00 PM	13	136	84	13	136
10:00 PM	20	212	8	20	212
11:00 PM	8	81	29	8	81
12:00 AM	1	10	100	1	10
1:00 AM	9	92	128	9	92
2:00 AM	9	90	130	7	77
3:00 AM	2	11	99	1	11
4:00 AM	17	182	38	15	165
5:00 AM	16	165	17	16	165
6:00 AM	15	159	6	15	159
7:00 AM	3	26	24	3	26
Total	129	1,337	710	124	1,306

Need to use different routes for CW vehicles in order to be able to deliver the full amount of excess capacity

Southwest Brooklyn

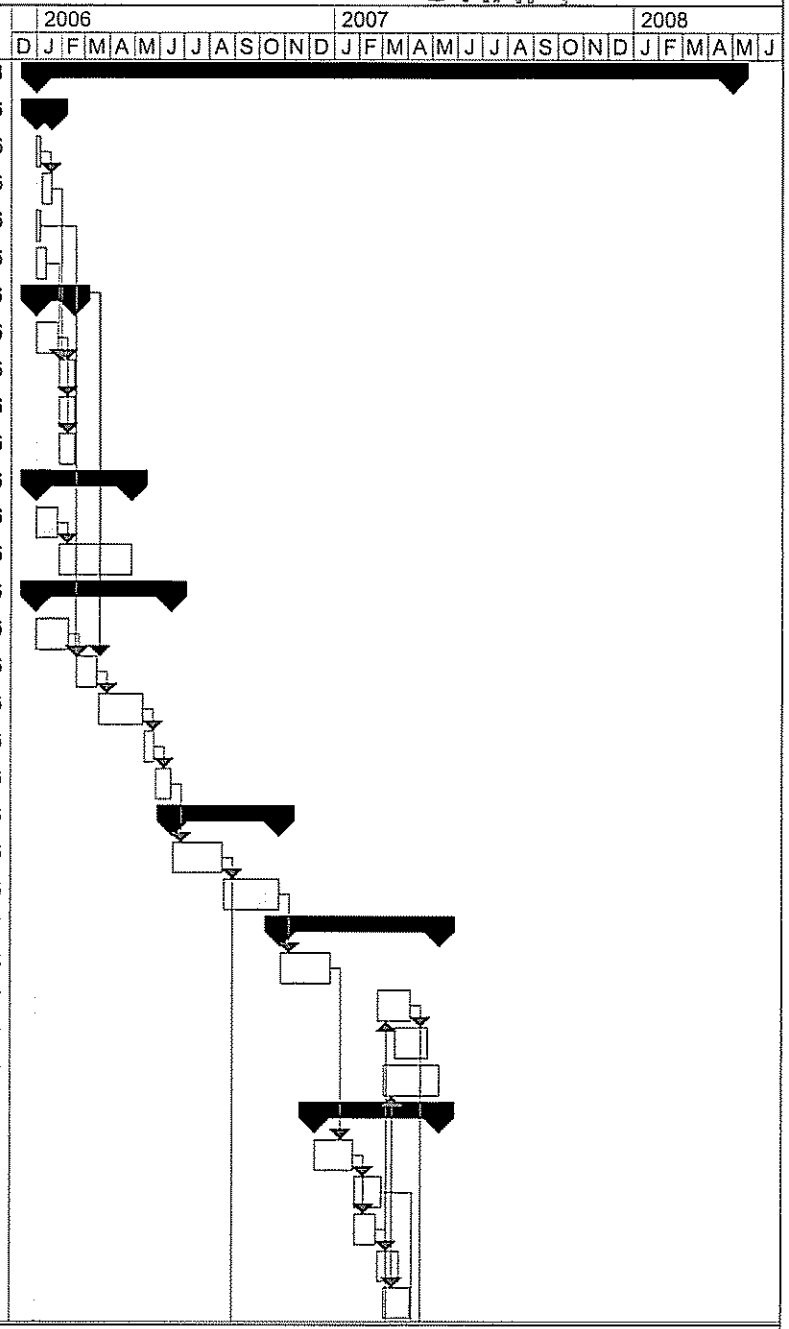
Hour	Design Capacity		DSNY Delivered Waste, tons, 8 pm - 8 am	Capacity with Noise Restraints	
	Total Commercial Vehicles	CW Tonnage 8 pm - 8 am		Total Commercial Vehicles	CW Tonnage 8 pm - 8 am
8:00 PM	18	188	32	13	143
9:00 PM	18	191	29	13	143
10:00 PM	20	218	2	10	110
11:00 PM	10	110	0	5	55
12:00 AM	1	9	101	1	9
1:00 AM	12	127	93	2	22
2:00 AM	14	151	69	0	0
3:00 AM	8	78	32	0	0
4:00 AM	19	206	14	2	22
5:00 AM	19	201	5	7	77
6:00 AM	18	196	5	18	196
7:00 AM	5	52	34	5	52
Total	162	1,725	418	76	828

Outbound trucks passing 26th St b/w Cropsey & Shore limit the number of inbound CW vehicles that the SW Brooklyn Converted MTS can accommodate

PRELIMINARY DRAFT

Hamilton Avenue Marine Transfer Station

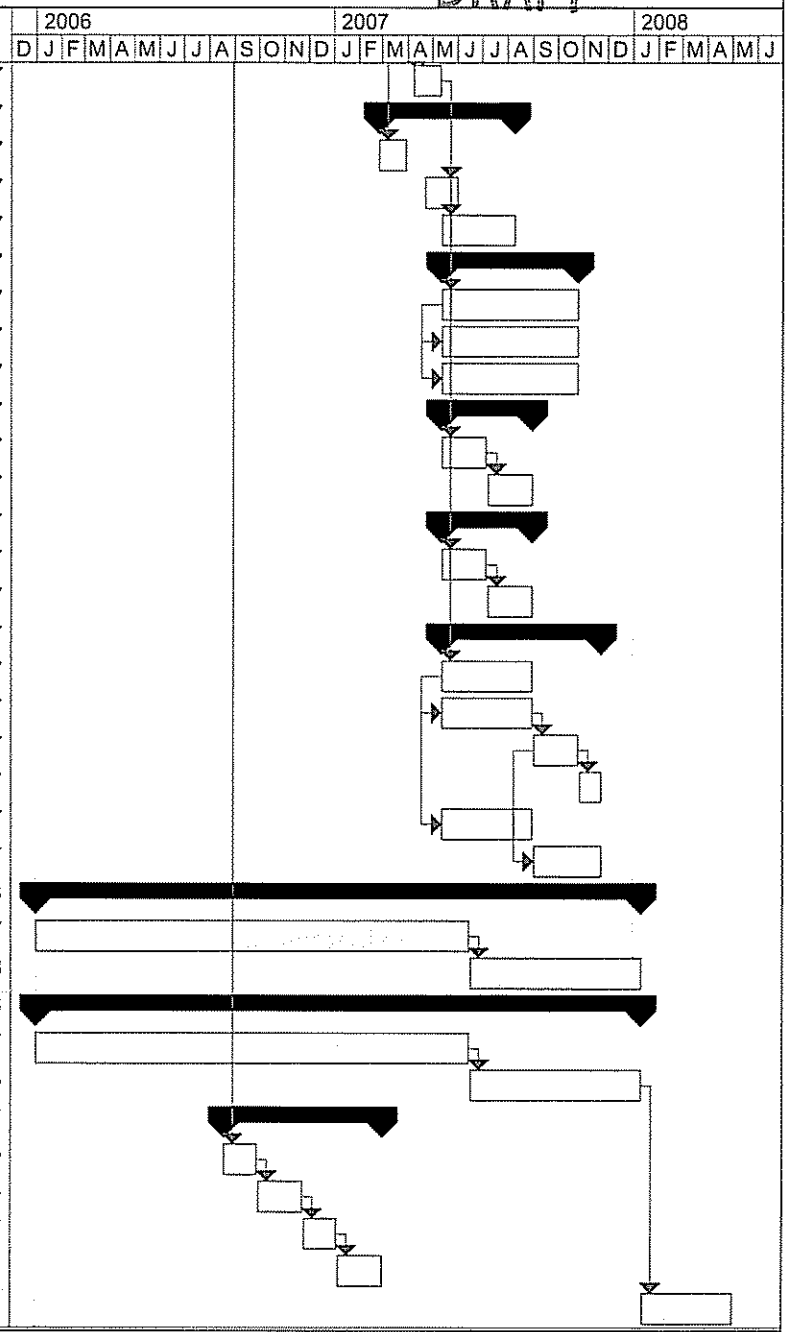
ID	Task Name	Duration	Start	Finish
1	**Hamilton MTS Notice To Proceed**	**610 days**	**Mon 1/2/06**	**Fri 5/2/08**
2	**Contractor Mobilization**	**15 days**	**Mon 1/2/06**	**Fri 1/20/06**
3	Apply for Permits	5 days	Mon 1/2/06	Fri 1/6/06
4	Obtain Permits	10 days	Mon 1/9/06	Fri 1/20/06
5	Survey/Layout Site	5 days	Mon 1/2/06	Fri 1/6/06
6	Mobilize trailer(s) to site	10 days	Mon 1/2/06	Fri 1/13/06
7	**Environmental Remediation**	**35 days**	**Mon 1/2/06**	**Fri 2/17/06**
8	Submit & Approve Remediation Shop Drawings	20 days	Mon 1/2/06	Fri 1/27/06
9	Lead Abatement	15 days	Mon 1/30/06	Fri 2/17/06
10	Asbestos Abatement	15 days	Mon 1/30/06	Fri 2/17/06
11	Arsenic Abatement	15 days	Mon 1/30/06	Fri 2/17/06
12	**Dredging**	**85 days**	**Mon 1/2/06**	**Fri 4/28/06**
13	Submit & Approve Dredging Plan	20 days	Mon 1/2/06	Fri 1/27/06
14	Complete Dredging	65 days	Mon 1/30/06	Fri 4/28/06
15	**Demolition of Existing Incinerator Building**	**120 days**	**Mon 1/2/06**	**Fri 6/16/06**
16	Submit & Approve Demolition Shop Drawings	30 days	Mon 1/2/06	Fri 2/10/06
17	Demolition and Removal Building	20 days	Mon 2/20/06	Fri 3/17/06
18	Demolition and Removal Concrete	40 days	Mon 3/20/06	Fri 5/12/06
19	Survey Piles	10 days	Mon 5/15/06	Fri 5/26/06
20	Remove or Cut Offshore Piles	15 days	Mon 5/29/06	Fri 6/16/06
21	**Pile Foundations**	**95 days**	**Mon 6/19/06**	**Fri 10/27/06**
22	Drive Piles	45 days	Mon 6/19/06	Fri 8/18/06
23	Reinforced Concrete - Pile Caps and Beams	50 days	Mon 8/21/06	Fri 10/27/06
24	**Structural Concrete**	**140 days**	**Mon 10/30/06**	**Fri 5/11/07**
25	Reinforced Concrete Deck	45 days	Mon 10/30/06	Fri 12/29/06
26	Reinforced Concrete Walls	30 days	Mon 2/26/07	Fri 4/6/07
27	Reinforced Concrete Elevated Slab	30 days	Mon 3/19/07	Fri 4/27/07
28	Concrete Encase Columns	50 days	Mon 3/5/07	Fri 5/11/07
29	**Structural Steel Building**	**110 days**	**Mon 12/11/06**	**Fri 5/11/07**
30	Floor and Misc. Framing	35 days	Mon 12/11/06	Fri 1/26/07
31	Roof Framing	25 days	Mon 1/29/07	Fri 3/2/07
32	Truss and Monitor Framing	20 days	Mon 1/29/07	Fri 2/23/07
33	1/2" Steel Plate Push Wall Armor	20 days	Mon 2/26/07	Fri 3/23/07
34	Steel Roof Deck	25 days	Mon 3/5/07	Fri 4/6/07



PRELIMINARY DRAFT

Hamilton Avenue Marine Transfer Station

ID	Task Name	Duration	Start	Finish
35	Steel Siding	25 days	Mon 4/9/07	Fri 5/11/07
36	**Architectural**	**120 days**	**Mon 2/26/07**	**Fri 8/10/07**
37	Masonry	25 days	Mon 2/26/07	Fri 3/30/07
38	Doors and Windows	30 days	Mon 4/23/07	Fri 6/1/07
39	Finishes	65 days	Mon 5/14/07	Fri 8/10/07
40	**HVAC**	**120 days**	**Mon 5/14/07**	**Fri 10/26/07**
41	Odor Control System	120 days	Mon 5/14/07	Fri 10/26/07
42	Dust Suppression System	120 days	Mon 5/14/07	Fri 10/26/07
43	Heating and Ventilating Equipment	120 days	Mon 5/14/07	Fri 10/26/07
44	**Plumbing**	**80 days**	**Mon 5/14/07**	**Fri 8/31/07**
45	Piping and Insulation	40 days	Mon 5/14/07	Fri 7/6/07
46	Plumbing Equipment and Fixtures	40 days	Mon 7/9/07	Fri 8/31/07
47	**Fire Protection**	**80 days**	**Mon 5/14/07**	**Fri 8/31/07**
48	Piping	40 days	Mon 5/14/07	Fri 7/6/07
49	Equipment	40 days	Mon 7/9/07	Fri 8/31/07
50	**Electrical**	**140 days**	**Mon 5/14/07**	**Fri 11/23/07**
51	MCC/Switchgear Installation	80 days	Mon 5/14/07	Fri 8/31/07
52	Interior Electrical Rough-in	80 days	Mon 5/14/07	Fri 8/31/07
53	Interior Wire and Cable	40 days	Mon 9/3/07	Fri 10/26/07
54	Interior Electrical Fixtures	20 days	Mon 10/29/07	Fri 11/23/07
55	Site Power and Lighting	80 days	Mon 5/14/07	Fri 8/31/07
56	Security System	60 days	Mon 9/3/07	Fri 11/23/07
57	**Gantry Crane**	**530 days**	**Mon 1/2/06**	**Fri 1/11/08**
58	Crane Procurement and Delivery	380 days	Mon 1/2/06	Fri 6/15/07
59	Crane Installation and Startup	150 days	Mon 6/18/07	Fri 1/11/08
60	**Lidding Equipment**	**530 days**	**Mon 1/2/06**	**Fri 1/11/08**
61	Lidding Equipment Procurement and Delivery	380 days	Mon 1/2/06	Fri 6/15/07
62	Lidding Equipment Installation and Startup	150 days	Mon 6/18/07	Fri 1/11/08
63	**Ramp Construction**	**140 days**	**Mon 8/21/06**	**Fri 3/2/07**
64	Drive Piles	30 days	Mon 8/21/06	Fri 9/29/06
65	Reinforced Concrete - Pier Stems and Caps	40 days	Mon 10/2/06	Fri 11/24/06
66	Reinforced Concrete - Box Girders	30 days	Mon 11/27/06	Fri 1/5/07
67	Road Slab and Deck	40 days	Mon 1/8/07	Fri 3/2/07
68	Startup and Testing	80 days	Mon 1/14/08	Fri 5/2/08

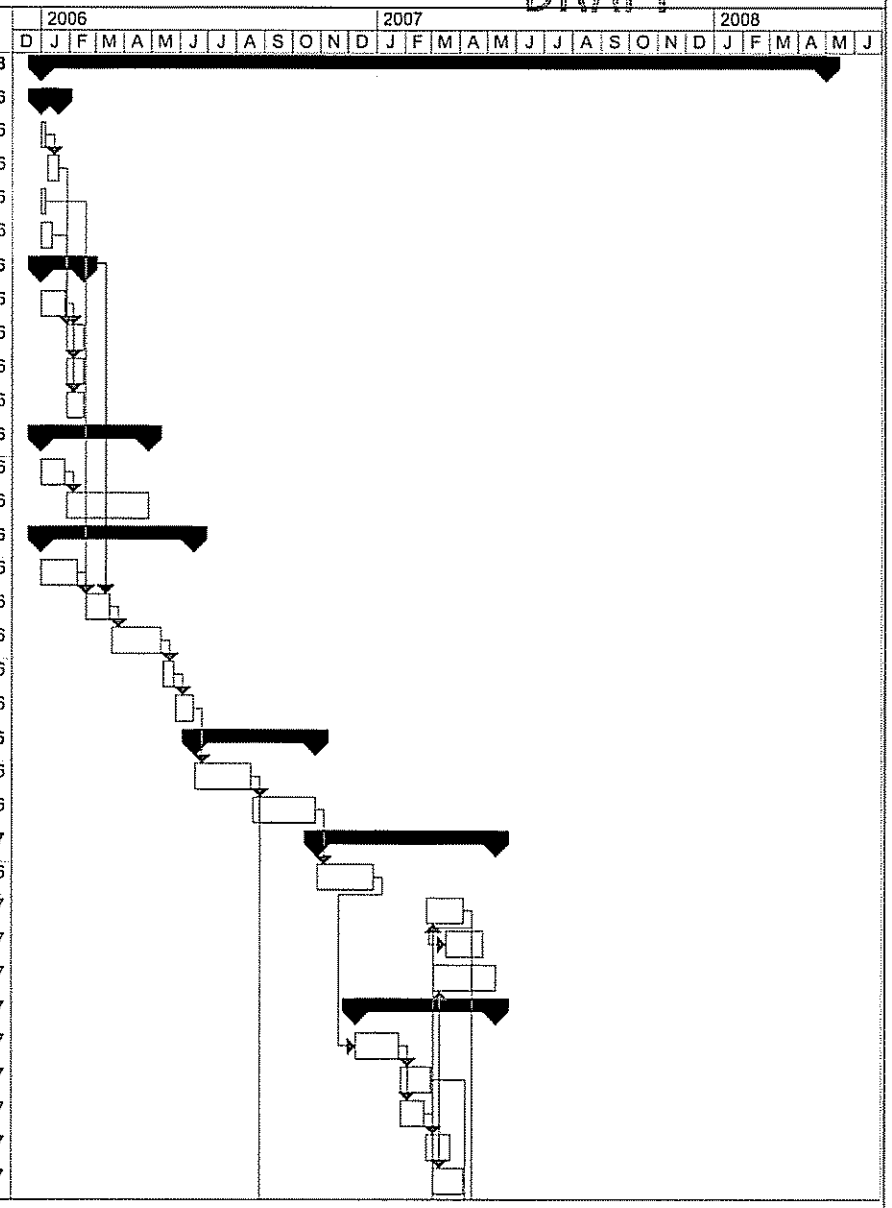


PRELIMINARY

Southwest Brooklyn Marine Transfer Station

DRAFT

ID	Task Name	Duration	Start	Finish
1	**SWB MTS Notice To Proceed**	**610 days**	**Mon 1/2/06**	**Fri 5/2/08**
2	**Contractor Mobilization**	**15 days**	**Mon 1/2/06**	**Fri 1/20/06**
3	Apply for Permits	5 days	Mon 1/2/06	Fri 1/6/06
4	Obtain Permits	10 days	Mon 1/9/06	Fri 1/20/06
5	Survey/Layout Site	5 days	Mon 1/2/06	Fri 1/6/06
6	Mobilize trailer(s) to site	10 days	Mon 1/2/06	Fri 1/13/06
7	**Environmental Remediation**	**35 days**	**Mon 1/2/06**	**Fri 2/17/06**
8	Submit & Approve Remediation Shop Drawings	20 days	Mon 1/2/06	Fri 1/27/06
9	Lead Abatement	15 days	Mon 1/30/06	Fri 2/17/06
10	Asbestos Abatement	15 days	Mon 1/30/06	Fri 2/17/06
11	Arsenic Abatement	15 days	Mon 1/30/06	Fri 2/17/06
12	**Dredging**	**85 days**	**Mon 1/2/06**	**Fri 4/28/06**
13	Submit & Approve Dredging Plan	20 days	Mon 1/2/06	Fri 1/27/06
14	Complete Dredging	65 days	Mon 1/30/06	Fri 4/28/06
15	**Demolition of Existing Incinerator Building**	**120 days**	**Mon 1/2/06**	**Fri 6/16/06**
16	Submit & Approve Demolition Shop Drawings	30 days	Mon 1/2/06	Fri 2/10/06
17	Demolition and Removal Building	20 days	Mon 2/20/06	Fri 3/17/06
18	Demolition and Removal Concrete	40 days	Mon 3/20/06	Fri 5/12/06
19	Survey Piles	10 days	Mon 5/15/06	Fri 5/26/06
20	Remove or Cut Offshore Piles	15 days	Mon 5/29/06	Fri 6/16/06
21	**Pile Foundations**	**95 days**	**Mon 6/19/06**	**Fri 10/27/06**
22	Drive Piles	45 days	Mon 6/19/06	Fri 8/18/06
23	Reinforced Concrete - Pile Caps and Beams	50 days	Mon 8/21/06	Fri 10/27/06
24	**Structural Concrete**	**140 days**	**Mon 10/30/06**	**Fri 5/11/07**
25	Reinforced Concrete Deck	45 days	Mon 10/30/06	Fri 12/29/06
26	Reinforced Concrete Walls	30 days	Mon 2/26/07	Fri 4/6/07
27	Reinforced Concrete Elevated Slab	30 days	Mon 3/19/07	Fri 4/27/07
28	Concrete Encase Columns	50 days	Mon 3/5/07	Fri 5/11/07
29	**Structural Steel Building**	**110 days**	**Mon 12/11/06**	**Fri 5/11/07**
30	Floor and Misc. Framing	35 days	Mon 12/11/06	Fri 1/26/07
31	Roof Framing	25 days	Mon 1/29/07	Fri 3/2/07
32	Truss and Monitor Framing	20 days	Mon 1/29/07	Fri 2/23/07
33	1/2" Steel Plate Push Wall Armor	20 days	Mon 2/26/07	Fri 3/23/07
34	Steel Roof Deck	25 days	Mon 3/5/07	Fri 4/6/07



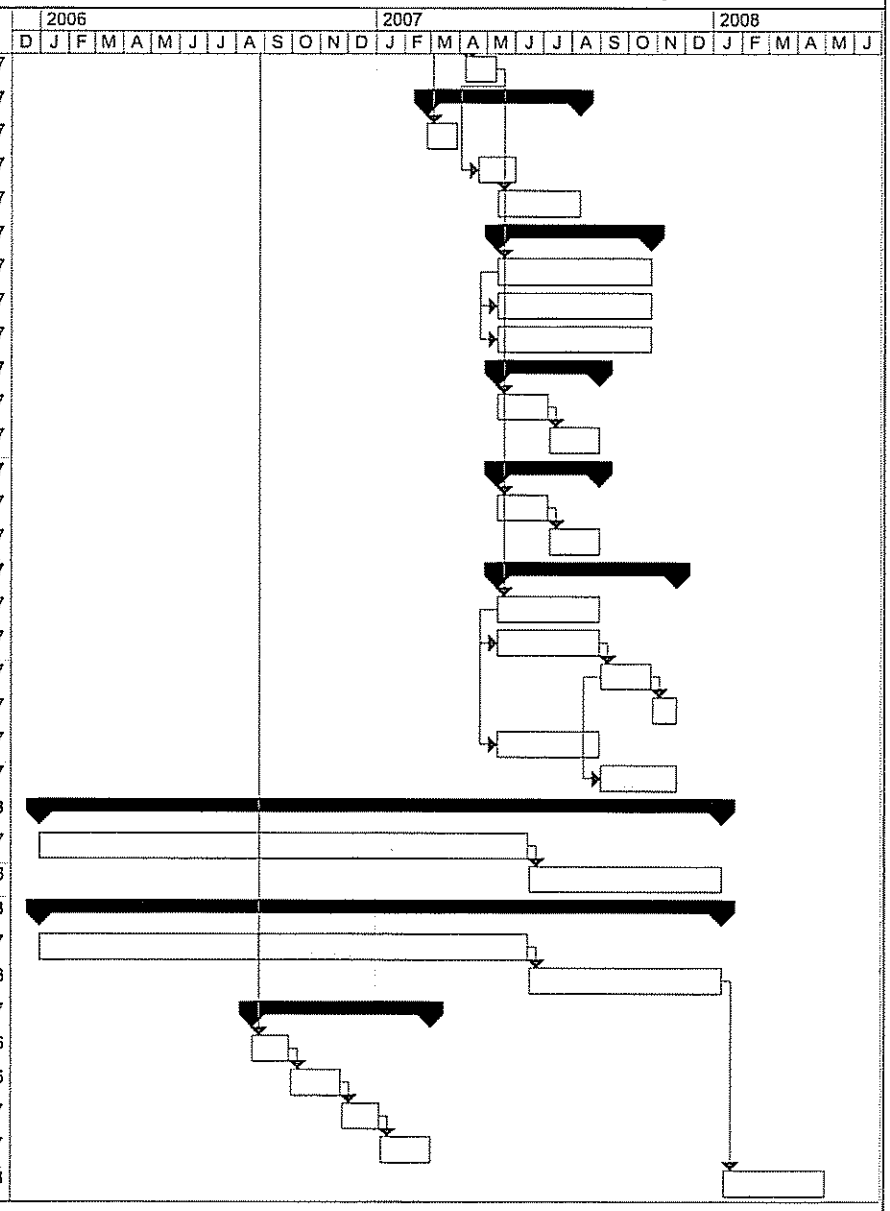
Project: Land MTS
Date: Tue 12/7/04

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

PRELIMINARY DRAFT

Southwest Brooklyn Marine Transfer Station

ID	Task Name	Duration	Start	Finish
35	Steel Siding	25 days	Mon 4/9/07	Fri 5/11/07
36	**Architectural**	**120 days**	**Mon 2/26/07**	**Fri 8/10/07**
37	Masonry	25 days	Mon 2/26/07	Fri 3/30/07
38	Doors and Windows	30 days	Mon 4/23/07	Fri 6/1/07
39	Finishes	65 days	Mon 5/14/07	Fri 8/10/07
40	**HVAC**	**120 days**	**Mon 5/14/07**	**Fri 10/26/07**
41	Odor Control System	120 days	Mon 5/14/07	Fri 10/26/07
42	Dust Suppression System	120 days	Mon 5/14/07	Fri 10/26/07
43	Heating and Ventilating Equipment	120 days	Mon 5/14/07	Fri 10/26/07
44	**Plumbing**	**80 days**	**Mon 5/14/07**	**Fri 8/31/07**
45	Piping and Insulation	40 days	Mon 5/14/07	Fri 7/6/07
46	Plumbing Equipment and Fixtures	40 days	Mon 7/9/07	Fri 8/31/07
47	**Fire Protection**	**80 days**	**Mon 5/14/07**	**Fri 8/31/07**
48	Piping	40 days	Mon 5/14/07	Fri 7/6/07
49	Equipment	40 days	Mon 7/9/07	Fri 8/31/07
50	**Electrical**	**140 days**	**Mon 5/14/07**	**Fri 11/23/07**
51	MCC/Switchgear Installation	80 days	Mon 5/14/07	Fri 8/31/07
52	Interior Electrical Rough-in	80 days	Mon 5/14/07	Fri 8/31/07
53	Interior Wire and Cable	40 days	Mon 9/3/07	Fri 10/26/07
54	Interior Electrical Fixtures	20 days	Mon 10/29/07	Fri 11/23/07
55	Site Power and Lighting	80 days	Mon 5/14/07	Fri 8/31/07
56	Security System	60 days	Mon 9/3/07	Fri 11/23/07
57	**Gantry Crane**	**530 days**	**Mon 1/2/06**	**Fri 1/11/08**
58	Crane Procurement and Delivery	380 days	Mon 1/2/06	Fri 6/15/07
59	Crane Installation and Startup	150 days	Mon 6/18/07	Fri 1/11/08
60	**Lidding Equipment**	**530 days**	**Mon 1/2/06**	**Fri 1/11/08**
61	Lidding Equipment Procurement and Delivery	380 days	Mon 1/2/06	Fri 6/15/07
62	Lidding Equipment Installation and Startup	150 days	Mon 6/18/07	Fri 1/11/08
63	**Ramp Construction**	**140 days**	**Mon 8/21/06**	**Fri 3/2/07**
64	Drive Piles	30 days	Mon 8/21/06	Fri 9/29/06
65	Reinforced Concrete - Pier Stems and Caps	40 days	Mon 10/2/06	Fri 11/24/06
66	Reinforced Concrete - Box Girders	30 days	Mon 11/27/06	Fri 1/5/07
67	Road Slab and Deck	40 days	Mon 1/8/07	Fri 3/2/07
68	Startup and Testing	80 days	Mon 1/14/08	Fri 5/2/08



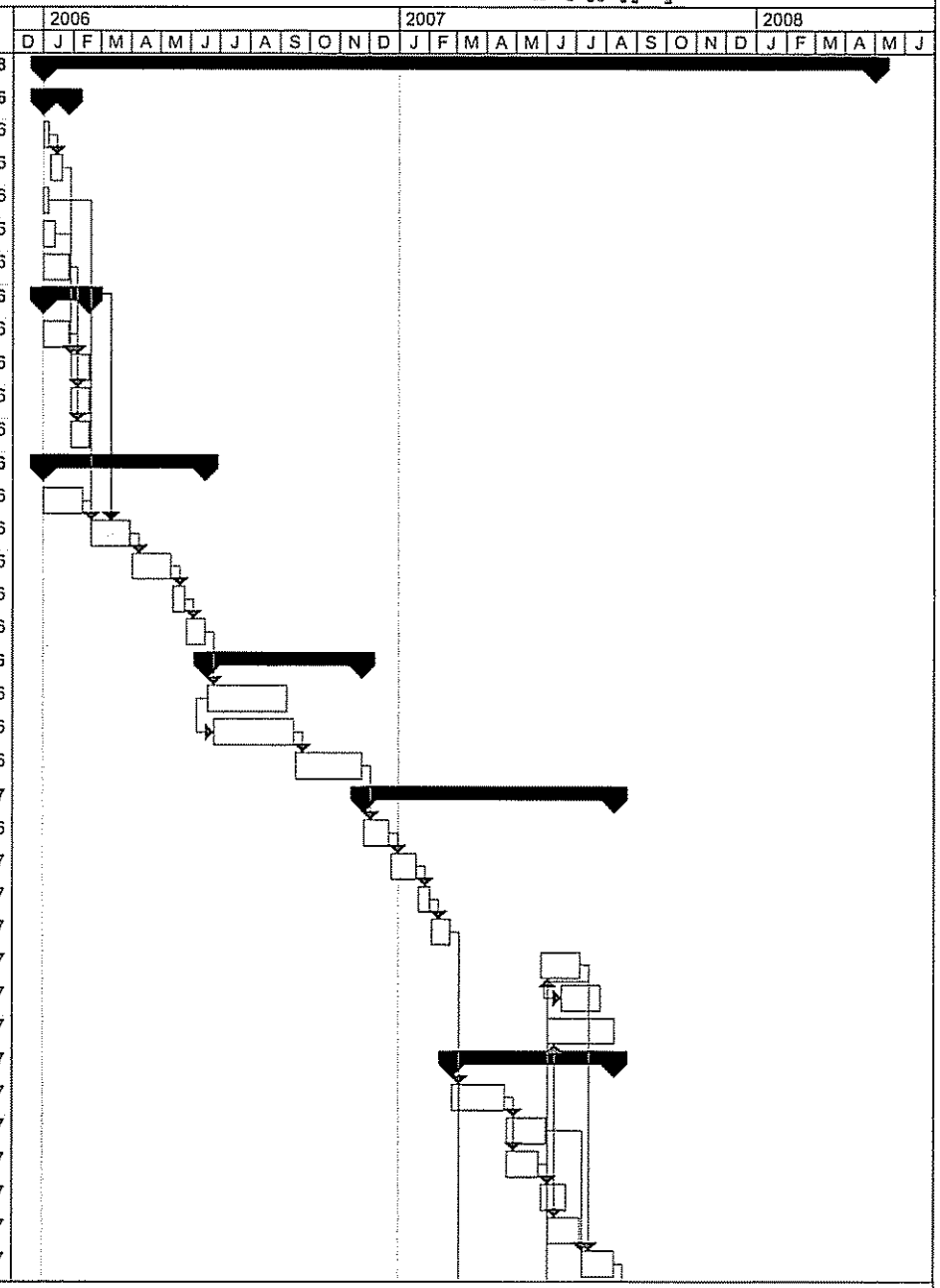
Project: Land MTS
Date: Tue 12/7/04

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

East 91st Street Marine Transfer Station

PRELIMINARY DRAFT

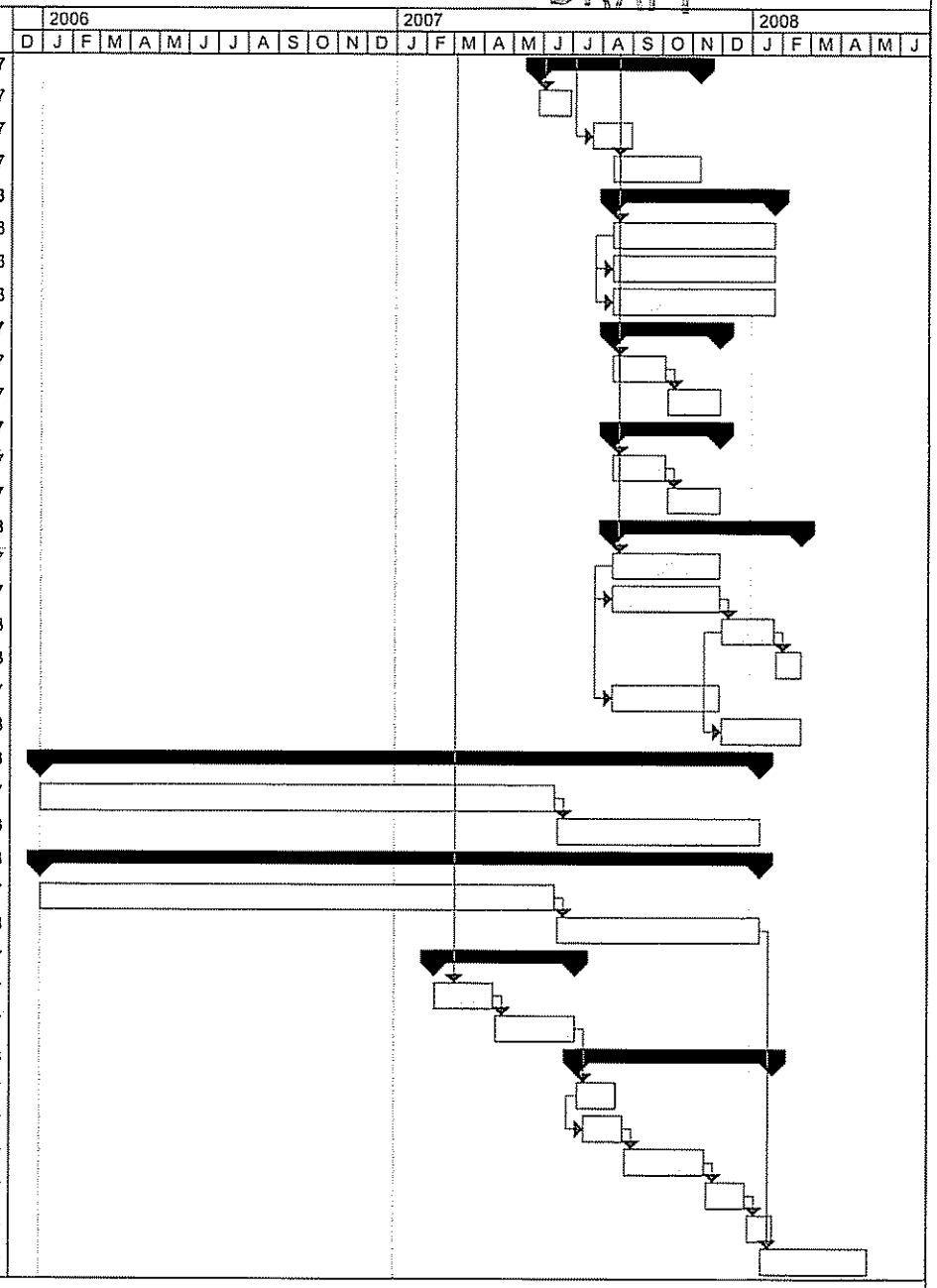
ID	Task Name	Duration	Start	Finish
1	**91st Street Notice To Proceed**	**610 days**	**Mon 1/2/06**	**Fri 5/2/08**
2	**Contractor Mobilization**	**20 days**	**Mon 1/2/06**	**Fri 1/27/06**
3	Apply for Permits	5 days	Mon 1/2/06	Fri 1/6/06
4	Obtain Permits	10 days	Mon 1/9/06	Fri 1/20/06
5	Survey/Layout Site	5 days	Mon 1/2/06	Fri 1/6/06
6	Mobilize trailer(s) to site	10 days	Mon 1/2/06	Fri 1/13/06
7	Mobilize working barge(s) to site	20 days	Mon 1/2/06	Fri 1/27/06
8	**Environmental Remediation**	**35 days**	**Mon 1/2/06**	**Fri 2/17/06**
9	Submit & Approve Remediation Shop Drawings	20 days	Mon 1/2/06	Fri 1/27/06
10	Lead Abatement	15 days	Mon 1/30/06	Fri 2/17/06
11	Asbestos Abatement	15 days	Mon 1/30/06	Fri 2/17/06
12	Arsenic Abatement	15 days	Mon 1/30/06	Fri 2/17/06
13	**Demolition of Existing Offshore Structure**	**120 days**	**Mon 1/2/06**	**Fri 6/16/06**
14	Submit & Approve Demolition Shop Drawings	30 days	Mon 1/2/06	Fri 2/10/06
15	Demolition and Removal Building	30 days	Mon 2/20/06	Fri 3/31/06
16	Demolition and Removal Offshore Concrete	30 days	Mon 4/3/06	Fri 5/12/06
17	Survey Offshore Piles	10 days	Mon 5/15/06	Fri 5/26/06
18	Remove or Cut Offshore Piles	15 days	Mon 5/29/06	Fri 6/16/06
19	**Pile Foundations**	**115 days**	**Mon 6/19/06**	**Fri 11/24/06**
20	Drilled Shafts	60 days	Mon 6/19/06	Fri 9/8/06
21	Reinforced Concrete - upper shafts	60 days	Mon 6/26/06	Fri 9/15/06
22	Reinforced Concrete - Pile Caps and Beams	50 days	Mon 9/18/06	Fri 11/24/06
23	**Structural Concrete**	**185 days**	**Mon 11/27/06**	**Fri 8/10/07**
24	Prestressed Underdeck Planks	20 days	Mon 11/27/06	Fri 12/22/06
25	Reinforced Deck Overlay	20 days	Mon 12/25/06	Fri 1/19/07
26	Insulated Deck	10 days	Mon 1/22/07	Fri 2/2/07
27	Reinforced Deck	15 days	Mon 2/5/07	Fri 2/23/07
28	Reinforced Concrete Walls	30 days	Mon 5/28/07	Fri 7/6/07
29	Reinforced Concrete Elevated Slab	30 days	Mon 6/18/07	Fri 7/27/07
30	Concrete Encase Columns	50 days	Mon 6/4/07	Fri 8/10/07
31	**Structural Steel Building**	**120 days**	**Mon 2/26/07**	**Fri 8/10/07**
32	Floor and Misc. Framing	40 days	Mon 2/26/07	Fri 4/20/07
33	Roof Framing	30 days	Mon 4/23/07	Fri 6/1/07
34	Truss and Monitor Framing	25 days	Mon 4/23/07	Fri 5/25/07
35	1/2" Steel Plate Push Wall Armor	20 days	Mon 5/28/07	Fri 6/22/07
36	Steel Roof Deck	25 days	Mon 6/4/07	Fri 7/6/07
37	Steel Siding	25 days	Mon 7/9/07	Fri 8/10/07



East 91st Street Marine Transfer Station

PRELIMINARY DRAFT

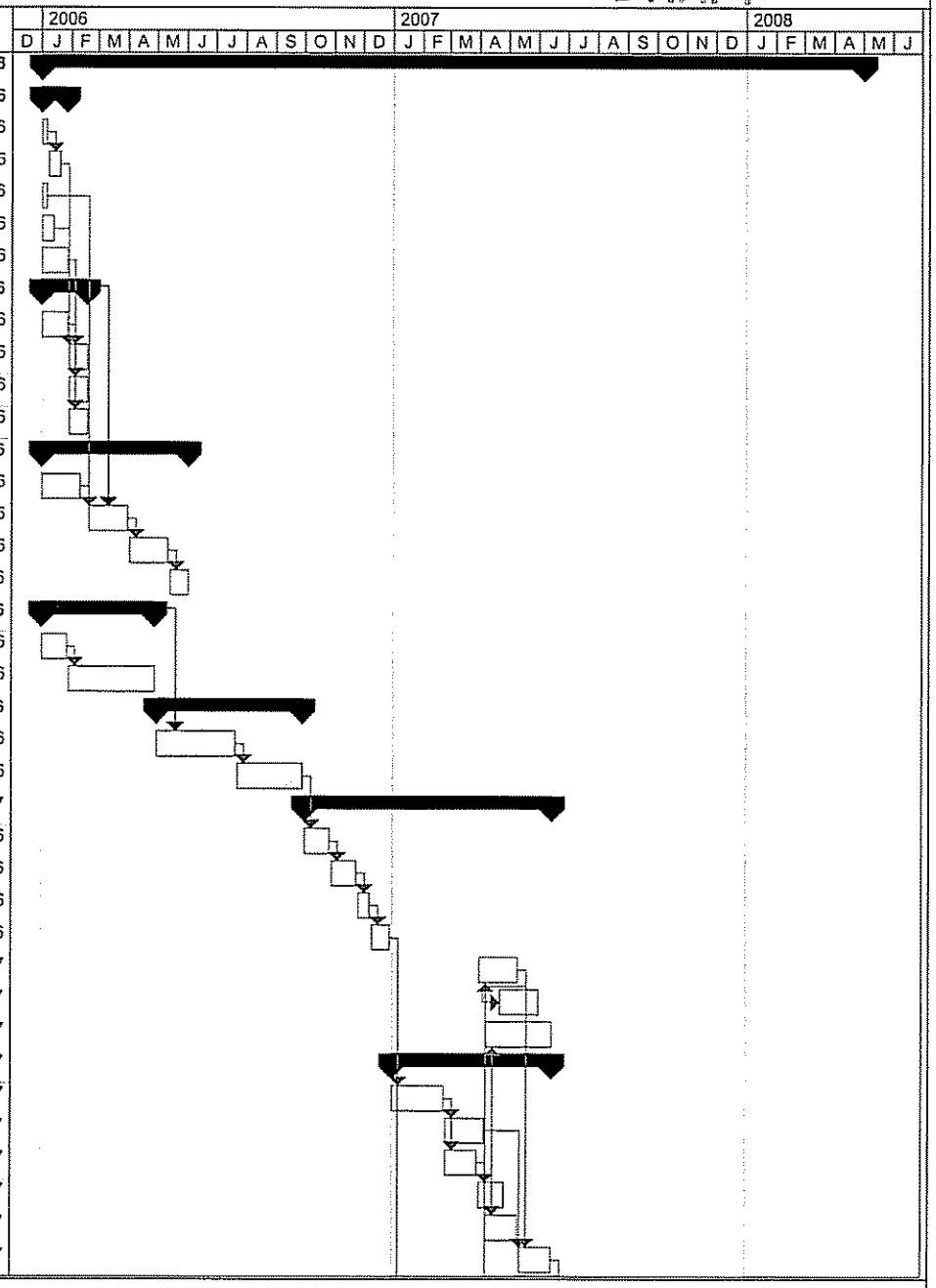
ID	Task Name	Duration	Start	Finish
38	**Architectural**	**120 days**	**Mon 5/28/07**	**Fri 11/9/07**
39	Masonry	25 days	Mon 5/28/07	Fri 6/29/07
40	Doors and Windows	30 days	Mon 7/23/07	Fri 8/31/07
41	Finishes	65 days	Mon 8/13/07	Fri 11/9/07
42	**HVAC**	**120 days**	**Mon 8/13/07**	**Fri 1/25/08**
43	Odor Control System	120 days	Mon 8/13/07	Fri 1/25/08
44	Dust Suppression System	120 days	Mon 8/13/07	Fri 1/25/08
45	Heating and Ventilating Equipment	120 days	Mon 8/13/07	Fri 1/25/08
46	**Plumbing**	**80 days**	**Mon 8/13/07**	**Fri 11/30/07**
47	Piping and Insulation	40 days	Mon 8/13/07	Fri 10/5/07
48	Plumbing Equipment and Fixtures	40 days	Mon 10/8/07	Fri 11/30/07
49	**Fire Protection**	**80 days**	**Mon 8/13/07**	**Fri 11/30/07**
50	Piping	40 days	Mon 8/13/07	Fri 10/5/07
51	Equipment	40 days	Mon 10/8/07	Fri 11/30/07
52	**Electrical**	**140 days**	**Mon 8/13/07**	**Fri 2/22/08**
53	MCC/Switchgear Installation	80 days	Mon 8/13/07	Fri 11/30/07
54	Interior Electrical Rough-in	80 days	Mon 8/13/07	Fri 11/30/07
55	Interior Wire and Cable	40 days	Mon 12/3/07	Fri 1/25/08
56	Interior Electrical Fixtures	20 days	Mon 1/28/08	Fri 2/22/08
57	Site Power and Lighting	80 days	Mon 8/13/07	Fri 11/30/07
58	Security System	60 days	Mon 12/3/07	Fri 2/22/08
59	**Gantry Crane**	**530 days**	**Mon 1/2/06**	**Fri 1/11/08**
60	Crane Procurement and Delivery	380 days	Mon 1/2/06	Fri 6/15/07
61	Crane Installation and Startup	150 days	Mon 6/18/07	Fri 1/11/08
62	**Lidding Equipment**	**530 days**	**Mon 1/2/06**	**Fri 1/11/08**
63	Lidding Equipment Procurement and Delivery	380 days	Mon 1/2/06	Fri 6/15/07
64	Lidding Equipment Installation and Startup	150 days	Mon 6/18/07	Fri 1/11/08
65	**Demolition of Ramp over FDR Drive**	**105 days**	**Mon 2/12/07**	**Fri 7/6/07**
66	Demolition and Removal Concrete Deck	45 days	Mon 2/12/07	Fri 4/13/07
67	Demolition and Removal Piers	60 days	Mon 4/16/07	Fri 7/6/07
68	**Ramp Construction**	**145 days**	**Mon 7/9/07**	**Fri 1/25/08**
69	Drilled Shafts	30 days	Mon 7/9/07	Fri 8/17/07
70	Reinforced Concrete - upper shafts	30 days	Mon 7/16/07	Fri 8/24/07
71	Reinforced Concrete - Pier Stems and Caps	60 days	Mon 8/27/07	Fri 11/16/07
72	Reinforced Concrete - Box Girders	30 days	Mon 11/19/07	Fri 12/28/07
73	Road Slab and Deck	20 days	Mon 12/31/07	Fri 1/25/08
74	**Startup and Testing**	**80 days**	**Mon 1/14/08**	**Fri 5/2/08**



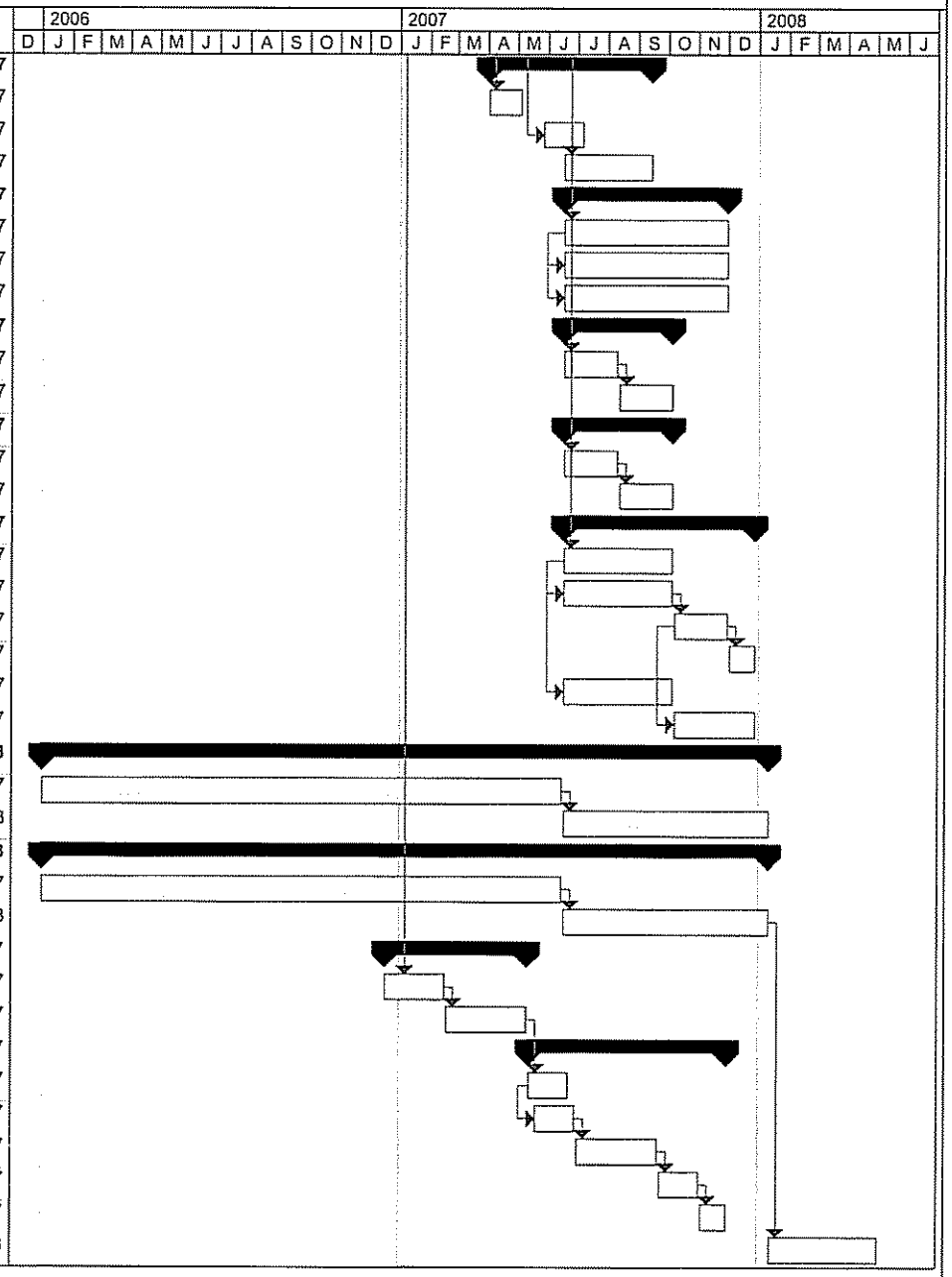
North Shore Marine Transfer Station

PRELIMINARY DRAFT

ID	Task Name	Duration	Start	Finish
1	**North Shore Notice To Proceed**	**610 days**	**Mon 1/2/06**	**Fri 5/2/08**
2	**Contractor Mobilization**	**20 days**	**Mon 1/2/06**	**Fri 1/27/06**
3	Apply for Permits	5 days	Mon 1/2/06	Fri 1/6/06
4	Obtain Permits	10 days	Mon 1/9/06	Fri 1/20/06
5	Survey/Layout Site	5 days	Mon 1/2/06	Fri 1/6/06
6	Mobilize trailer(s) to site	10 days	Mon 1/2/06	Fri 1/13/06
7	Mobilize working barge(s) to site	20 days	Mon 1/2/06	Fri 1/27/06
8	**Environmental Remediation**	**35 days**	**Mon 1/2/06**	**Fri 2/17/06**
9	Submit & Approve Remediation Shop Drawings	20 days	Mon 1/2/06	Fri 1/27/06
10	Lead Abatement	15 days	Mon 1/30/06	Fri 2/17/06
11	Asbestos Abatement	15 days	Mon 1/30/06	Fri 2/17/06
12	Arsenic Abatement	15 days	Mon 1/30/06	Fri 2/17/06
13	**Demolition of Existing Offshore Structure**	**110 days**	**Mon 1/2/06**	**Fri 6/2/06**
14	Submit & Approve Demolition Shop Drawings	30 days	Mon 1/2/06	Fri 2/10/06
15	Demolition and Removal Building	30 days	Mon 2/20/06	Fri 3/31/06
16	Demolition and Removal Offshore Concrete	30 days	Mon 4/3/06	Fri 5/12/06
17	Remove or Cut Offshore Piles	15 days	Mon 5/15/06	Fri 6/2/06
18	**Dredging**	**85 days**	**Mon 1/2/06**	**Fri 4/28/06**
19	Submit & Approve Dredging Plan	20 days	Mon 1/2/06	Fri 1/27/06
20	Complete Dredging	65 days	Mon 1/30/06	Fri 4/28/06
21	**Pile Foundations**	**110 days**	**Mon 5/1/06**	**Fri 9/29/06**
22	Drive Piles	60 days	Mon 5/1/06	Fri 7/21/06
23	Reinforced Concrete - Pile Caps and Beams	50 days	Mon 7/24/06	Fri 9/29/06
24	**Structural Concrete**	**185 days**	**Mon 10/2/06**	**Fri 6/15/07**
25	Prestressed Underdeck Planks	20 days	Mon 10/2/06	Fri 10/27/06
26	Reinforced Deck Overlay	20 days	Mon 10/30/06	Fri 11/24/06
27	Insulated Deck	10 days	Mon 11/27/06	Fri 12/8/06
28	Reinforced Deck	15 days	Mon 12/11/06	Fri 12/29/06
29	Reinforced Concrete Walls	30 days	Mon 4/2/07	Fri 5/11/07
30	Reinforced Concrete Elevated Slab	30 days	Mon 4/23/07	Fri 6/1/07
31	Concrete Encase Columns	50 days	Mon 4/9/07	Fri 6/15/07
32	**Structural Steel Building**	**120 days**	**Mon 1/1/07**	**Fri 6/15/07**
33	Floor and Misc. Framing	40 days	Mon 1/1/07	Fri 2/23/07
34	Roof Framing	30 days	Mon 2/26/07	Fri 4/6/07
35	Truss and Monitor Framing	25 days	Mon 2/26/07	Fri 3/30/07
36	1/2" Steel Plate Push Wall Armor	20 days	Mon 4/2/07	Fri 4/27/07
37	Steel Roof Deck	25 days	Mon 4/9/07	Fri 5/11/07
38	Steel Siding	25 days	Mon 5/14/07	Fri 6/15/07



PRELIMINARY DRAFT

North Shore Marine Transfer Station

ID	Task Name	Duration	Start	Finish
39	**Architectural**	**120 days**	**Mon 4/2/07**	**Fri 9/14/07**
40	Masonry	25 days	Mon 4/2/07	Fri 5/4/07
41	Doors and Windows	30 days	Mon 5/28/07	Fri 7/6/07
42	Finishes	65 days	Mon 6/18/07	Fri 9/14/07
43	**HVAC**	**120 days**	**Mon 6/18/07**	**Fri 11/30/07**
44	Odor Control System	120 days	Mon 6/18/07	Fri 11/30/07
45	Dust Suppression System	120 days	Mon 6/18/07	Fri 11/30/07
46	Heating and Ventilating Equipment	120 days	Mon 6/18/07	Fri 11/30/07
47	**Plumbing**	**80 days**	**Mon 6/18/07**	**Fri 10/5/07**
48	Piping and Insulation	40 days	Mon 6/18/07	Fri 8/10/07
49	Plumbing Equipment and Fixtures	40 days	Mon 8/13/07	Fri 10/5/07
50	**Fire Protection**	**80 days**	**Mon 6/18/07**	**Fri 10/5/07**
51	Piping	40 days	Mon 6/18/07	Fri 8/10/07
52	Equipment	40 days	Mon 8/13/07	Fri 10/5/07
53	**Electrical**	**140 days**	**Mon 6/18/07**	**Fri 12/28/07**
54	MCC/Switchgear Installation	80 days	Mon 6/18/07	Fri 10/5/07
55	Interior Electrical Rough-in	80 days	Mon 6/18/07	Fri 10/5/07
56	Interior Wire and Cable	40 days	Mon 10/8/07	Fri 11/30/07
57	Interior Electrical Fixtures	20 days	Mon 12/3/07	Fri 12/28/07
58	Site Power and Lighting	80 days	Mon 6/18/07	Fri 10/5/07
59	Security System	60 days	Mon 10/8/07	Fri 12/28/07
60	**Gantry Crane**	**530 days**	**Mon 1/2/06**	**Fri 1/11/08**
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74	Road Slab and Deck	20 days	Mon 11/5/07	Fri 11/30/07
75	**Startup and Testing**	**80 days**	**Mon 1/14/08**	**Fri 5/2/08**