NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL ENGINEERING

New York City's Combined Sewer Overflow Program

3rd Quarterly Report - Year 2002

October 2002

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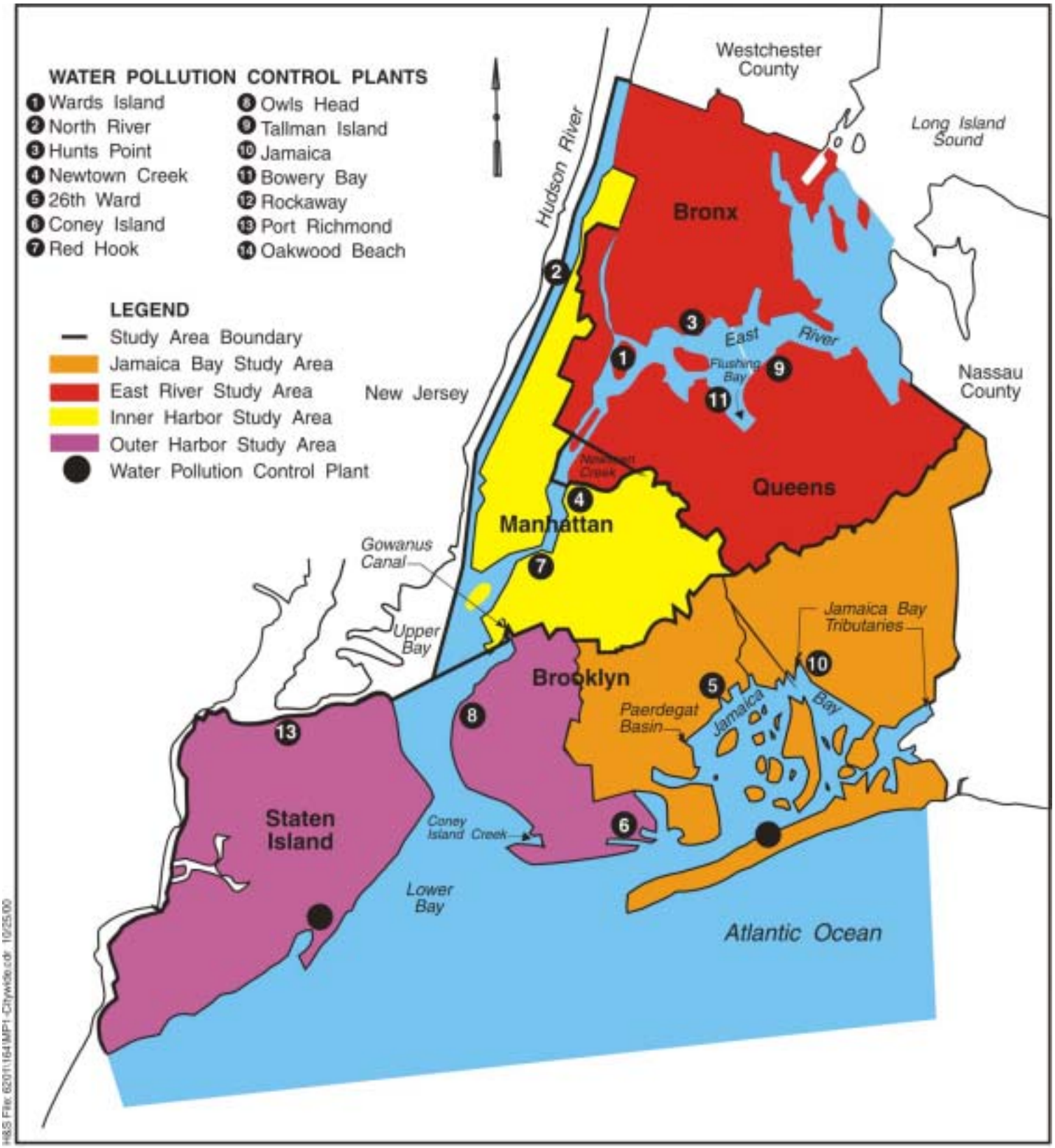
I. Introduction

The City of New York is primarily served by a combined sewer system. Approximately 70% of the City is comprised of combined sewers with 4,800 miles of combined sewers within the five boroughs. The sewer system drains some 200,000 acres and serves a population of about 7 million. Approximately 450 outfalls are permitted to discharge during wet-weather through combined-sewer overflows (CSOs) to the receiving waters of the New York Harbor. Although these discharges do not represent a major source of pollution to the harbor on a long-term basis, they can result in local water-quality problems such as periodically high levels of coliform bacteria, nuisance levels of floatables, depressed dissolved oxygen, and, in some cases, sediment mounds and unpleasant odors.

The NYC Department of Environmental Protection (DEP) is committed to improving water quality and achieving the maximum potential uses of the region's waters, and to maintaining compliance with the applicable regulations. The City has committed billions of dollars for improved pollution-control facilities, water-quality monitoring programs, and scientific and engineering investigations of innovative and cost-effective pollution-control alternatives. As a result, water quality has improved dramatically over the past 10 years.

One of the City's major initiatives to improving local receiving water quality is the $1.8 billion Citywide CSO Program. For this program the City has been divided into eight (8) areas, which together cover the entire harbor area. Four (4) area-wide project areas were developed (East River, Jamaica Bay, Inner Harbor, and Outer Harbor) and four (4) tributary projects areas were defined (Flushing Bay, Paerdegat Basin, Newtown Creek, and the Jamaica Tributaries) as shown in Figure 1.

This quarterly report summarizes recent progress by the City in its efforts to plan and construct the recommended CSO facilities under the Citywide CSO Program. This report covers the period from July 1, 2002 through September 30, 2002.



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DEP

CSO Study Area Locations

City-Wide CSO Facility Planning

Figure 1

II. Project Progress for Comprehensive Citywide CSO Project

A.) Flushing Bay

- **Flushing Bay CSO Retention Facility**

The Flushing Bay CSO Retention Facility is an underground storage tank, which will have a storage capacity of 43 million gallons, 28 MG in the tank and 15 MG in the upstream sewers. The facility collects flow from the system tributary to the "CS-4" outfall, which discharges to the head of Flushing Creek. The elements of the facility include:

- Relocation of ball fields in Kissena Corridor
- Rerouting of Park Drive East CSO line inside the construction site and construction of the effluent channel
- Phase 1 construction of the underground structural elements of the tank
- Phase 2 construction of the mechanical and above-ground portion of the facility
- Construction of tide gates on the tank outfall sewer and construction of ball field

On August 8, 2002 NYCDEP transmitted to NYSDEC the modified facility plan for the Flushing Bay Water Quality Facility Planning Project. This modified facility plan report was submitted to document the changes to the originally approved facility plan, pursuant to requirements of the CSO Consent Order.

Design

Design has been completed for all elements**.**

Construction

Construction has been completed for the relocation of ball fields and the rerouting of sewers. Phase 1 construction (Contract CS4-3) for the tank was substantially completed as of August 17, 2001. The Notice to Proceed for the Phase 2 construction contracts was issued on April 11, 2002. Construction is progressing on schedule toward the projected milestone date for beneficial use of the storage facility in July 2004. Final completion of the Phase 2 construction is projected for July 2005.

- **Corona Avenue Vortex Facility**

The Corona Avenue Vortex Facility includes three vortex units operating in parallel in an underground facility in Corona Avenue, Queens. The three units treat flow diverted from the lower deck of the "CS-3" outfall (permitted CSO outfall BB–006 in the Bowery Bay WPCP system). The overflow from the facility is returned to the CSO outfall, and the underflow (foul waste) is carried to the 108th Street Pumping Station that pumps the flow to the high level interceptor**.**

Construction

Construction is complete. The facility has been on-line since November 1997.

Monitoring Program

The sampling and evaluation program began in March 2000. Three interim reports have been submitted reporting on progress to March 2002. A fourth interim report is being prepared. Field sampling was completed in September 2002 and additional sampling to fill in missing data is underway. A final report on the evaluation of the data will be prepared after peer review of the data collection program and completion of data evaluation.

Additional Swirl Concentrators

Work on additional swirl concentrators was deferred until the completion of testing of the effectiveness of the Corona Avenue facility. The need for the additional vortex facilities originally proposed for floatables control will be re-evaluated as part of the Comprehensive Floatables and Settleables Plan to determine if other alternatives are either more cost effective, faster to implement or result in better floatables capture. An engineering assessment of the additional proposed swirl concentrators is underway, based on hydraulic data from the Corona Vortex Facility evaluation.

Table 1

Flushing Bay CSO Project

Plan Elements:	Corona Avenue Vortex Facility	Flushing Bay CSO Retention Facility
Location:	Corona Avenue, Queens	Intersection of College Point Boulevard and Avery Avenue, Queens
Actions:	Design and construction of three underground vortex units to treat CSO diverted from the lower deck of the "CS-3" outfall.	Design and construction of a 43 MG storage facility which includes a 28 MG underground storage tank and 15 MG in-line storage in upstream sewers. The facility collects flow from the system tributary to the "CS-4" outfall.
Cost:	$33,000,000	$291,000,000
Status:	Construction complete	Phase 2 construction started April 2002. Milestone for beneficial use July 2004
Other Issues:	Monitoring program – ongoing; contracts for final design of an odor treatment system at the facility and for final design of modifications at the facility are completed and are awaiting final Department review then bidding.	Contract change orders for additional work are in progress.

B.) Paerdegat Basin

The Paerdegat Basin CSO Retention Facility is located in southeastern Brooklyn, at the intersection of Flatlands and Ralph Avenues. The facility will receive combined sewer overflows from a drainage area of approximately 6,000 acres. Once constructed, it will consist of a four (4) bay underground storage tank and operations buildings. The stored CSO will be pumped back to the Coney Island WPCP for treatment after each rain event.

The elements of the originally approved facility plan included:

1. 20 MG of in-line storage.

   The CSO tank effluent weir will be set at an elevation of +2.00 ft (approximately the elevation of high tide), which will allow for the storage of 20 MG of CSO within the existing combined sewer network upstream of the facility.

2. 30 MG of off-line storage.

   The below grade retention tank will have a storage capacity of 20 MG and the influent channels, that redirect the existing outfalls to the CSO facility site on the western shore of Paerdegat Basin, have a storage capacity of 10 MG. The total storage of the new facility is 30 MG.

3. Dredging of the mouth of the basin.

   The dredging plan for Paerdegat Basin entails the removal of 20,000 yd^3 of material from the mouth of the basin and about 38,000 yd^3 of sediment from the head end. A dredging permit from NYSDEC has been obtained to implement this element.

On August 8, 2002 NYCDEP transmitted to NYSDEC the modified facility plan for the Paerdegat Basin Water Quality Facility Planning Project. This modified facility plan report was submitted to document the changes to the originally approved facility plan, pursuant to requirements of the CSO Consent Order. The implementation of the facility plan elements will take place during the following phases of design and construction:

- Phase IA – Influent Channels

  This phase includes construction of a major portion of the influent channels and the relief weir.

  Status:

  Construction of the influent channels to the CSO facility was substantially completed in February 2002. A few punch list items remain to be completed.

- Phase II – Foundations and Substructures

  This phase includes construction of the CSO tank and dredging of the mouth of the basin.

  Status:

  The Notice to Proceed was issued on June 24, 2002. The construction is underway. The contract completion date is December 25, 2005.

- Phase III – Structures and Equipment

  This phase includes installation of the CSO tank equipment, construction of the aboveground buildings, and construction of the remaining Influent Channels. The CSO facility will be put on line during construction of this phase.

  Status:

  Final design is 90 % complete. The construction of this phase cannot be scheduled until the CSO tanks and building foundations are substantially constructed under the Phase II.

- Phase IV – Natural Area Park Restoration

  This phase includes restoration and clean up of the Natural Area Park and construction of the park perimeter treatment such as fencing, curbing and lighting.

  Status:

  This phase will be designed in the future.

Table 2

Paerdegat Basin CSO Project

	Phase IA	*Phase II*	*Phase III*	*Phase IV*
Construction Phase:	Influent Channels	Foundations and Substructures	Structures and Equipment	Natural Area Park Restoration
Actions:	Construction of the influent channels to the CSO facility	Underground structural elements	Aboveground buildings and equipment	Park extending on both sides of Paerdegat Basin.
Cost:	$9,000,000	$145,809,424	$130,026,844	$8,000,000
Status:	Construction substantially completed in February 2002.	NTP issued on 6/24/02. Construction is in progress.	Final Design is 90% complete.	This phase will be designed in the future.
Other Issues:	-	-	Construction cannot be initiated until Phase II is substantially completed.	-

C.) Inner Harbor

The Inner Harbor CSO Facility Planning area consists of the North River, Newtown Creek, and Red Hook WPCP drainage areas. The facility plan concluded that CSOs in the Inner Harbor do not contribute to dissolved oxygen and coliform problems in the open water areas of the Hudson River, Lower East River, and Upper Bay. Therefore, consistent with the EPA's Nine Minimum Controls, the recommended elements of the facility plan for the open waters consists of:

- Regulator Improvements
- Throttling Facilities
- In-Line CSO Storage

In contrast to open waters, in Gowanus Canal, CSOs have a significant impact on numerical water quality limits for dissolved oxygen. The recommended plan for Gowanus included:

- Reactivate the Flushing tunnel
- Dredge the canal

On August 8, 2002 NYCDEP transmitted to NYSDEC the modified facility plan for the Inner Harbor CSO Facility Planning Project. This modified facility plan report was submitted to document the changes to the originally approved facility plan, pursuant to requirements of the CSO Consent Order.

Final Design

In the final design contract for Inner Harbor, the following three elements have been targeted in order to achieve the goals of reducing the magnitude, frequency, and duration of CSO discharges:

- Phase I – Regulator Improvements
- Phase II – Throttling Facilities (Maximize Wet Weather Treatment)
- Phase III – In-Line CSO Storage (Inflatable Dams)

Phase I

Phase I will provide improvements to 72 regulators in Inner Harbor. Added to the 22 regulators that were recently upgraded to fixed orifices under the NYSDOT Route 9A Project, and the 29 locations where the Department will automate the regulators, a total of 123 regulators are being improved in the Inner Harbor area. The breakdown is as follows:

- In the North River drainage area, 9 regulators will be automated under the Citywide SCADA project and 33 regulators have been or will be converted to fixed orifices. Of these 33, 15 were converted under the NYSDOT's Route 9A Reconstruction Project; the other 18 will be converted to fixed orifices under the Phase I construction contract.

- In the Newtown Creek Manhattan drainage area, 12 regulators will be automated under the Citywide SCADA project, and 29 regulators have been or will be converted to fixed orifices. Of these 29, 7 were converted under the Route 9A Reconstruction Project; the other 22 will be converted to fixed orifices under the Phase I construction contract.

- In the Newtown Creek Brooklyn drainage area, 5 regulators will be automated under the Citywide SCADA project, and 14 regulators will be converted to fixed orifices. All 14 regulators will be converted to fixed orifices under the Phase I construction contract.

- In the Red Hook drainage area, 3 regulators will be automated under the Citywide SCADA project, and 18 regulators will be converted to fixed orifices. All 18 regulators will be converted to fixed orifices under the Phase I construction contract.

Improvements under Phase I include plank guide and manhole rung replacement, sluice opening enlargement to a minimum of 12", termination of all water service connections, improved/enlarged access to the regulators, and the conversion of all sluice gates to manual operation for a fixed orifice condition. Hand-held hydraulic-powered valve turners will be supplied to maintenance crews to assist in sluice gate operation.

The two Phase I regulator improvement contracts (Manhattan and Brooklyn) were advertised for construction on September 4, with a pre-bid meeting held on September 30. The bid opening is scheduled for October 16, 2002.

Phase II

Phase II is intended to maximize wet weather flow treated at the plants by providing a throttling facility. New throttling facilities will be constructed at the Manhattan Pumping Station and Newtown Creek WPCP, both of which are being designed and constructed under the Newtown Creek WPCP upgrade work. The Newtown Creek throttling facility is included in Contract 30 for the Newtown Creek WPCP upgrade, and this contract is currently underway. The Manhattan Pumping Station throttling facility is included in Contract 40, which is currently at 90% completion. Preliminary design for throttling facility improvements at Red Hook WPCP is complete.

Design on the North River Throttling Facility was suspended in April 2002 due to operational and maintenance concerns. A wet weather operating plan (WWOP) is currently being developed in lieu of the throttling facility. The WWOP will serve the same purpose as the throttling facility, namely to maximize flow treated at the plant during wet weather.

Phase III

Final design of Phase III has not yet been initiated. Results of the Hunts Point in-line storage demonstration facility are being awaited to determine if this technology should be implemented. Under this phase, two inflatable dams will be designed – one for Regulator B-6 in the Newtown Creek-Brooklyn drainage area which will store up to 2.0 MG, and the other for Regulator R-20 in the Red Hook drainage area that will have the capacity to store up to 2.2 MG.

Gowanus Canal

Dredging of Gowanus Canal, along with reactivation of the Flushing Tunnel, was completed in March 1999.

Table 3

Inner Harbor CSO Project

OPEN WATERS

	Phase I	*Phase II*	*Phase III*
Plan Elements:	Regulator Improvements	Throttling Facilities	In-Line Storage
Location:	72 regulator sites in Manhattan and Brooklyn	North River WPCP, Manhattan Pumping Station, Newtown Creek WPCP	Upstream of regulators B-6 and R-20 in Brooklyn
Actions:	Conversion to fixed orifices	Installation of sluice gates and actuator in interceptor sewer	Installation of two inflatable dams in the combined sewer systems
Construction Cost:	$11,500,000	$10,000,000	$3,000,000
Status:	Final Design 100% Complete – Contracts Being Bid	WWOP for NR Under Development Final Design for MPS 90% Complete Construction contract at NC awarded	Final Design – Not Initiated
Other Issues:	-	-	Awaiting Hunts Point demonstration test results

D.) Outer Harbor

The Outer Harbor CSO Facility Planning area consists of the drainage areas of the Port Richmond, Oakwood Beach, Owls Head and Coney Island (separately sewered area) Water Pollution Control Plants (WPCPs) and their associated sewers and pumping stations. The receiving waters of the study area include the New York limits of the Raritan Bay, Arthur Kill, Kill Van Kull, Upper New York Bay waters to the boundary of the Inner Harbor CSO Project, the Narrows, Gravesend Bay, Lower New York Bay, Richmond Creek and Lemon Creek. The facility plan concluded that CSOs have minimal impact on the dissolved oxygen and coliform concentrations in the open water areas of the Outer Harbor. Therefore, consistent with the EPA's Nine Minimum Controls, the recommended elements of the facility plan for the open waters consist of:

- Regulator Improvements
- Throttling Facilities
- In-Line CSO Storage

On August 8, 2002 NYCDEP transmitted to NYSDEC the modified facility plan for the Outer Harbor CSO Facility Planning Project. This modified facility plan report was submitted to document the changes to the originally approved facility plan, pursuant to requirements of the CSO Consent Order.

- **Open Waters**

Preliminary Design

A preliminary design report was completed. This report includes the following recommended elements:

- Regulator Improvements
- Throttling Facility
- In-Line Storage

As-built and record drawings, for the regulators selected for improvement, were collected and will be used for developing final design drawings. Detailed site location plans have been developed for the final design drawings.

Final Design

An engineering contract for final design has been developed and a pre-solicitation review (PSR) and CP request have been drafted as part of the engineering contract procurement process. The final design contract consists of three phases:

- Phase I – Regulator Improvements
- Phase II – Throttling Facility
- Phase III – In-line CSO Storage

Phase I – Regulator Improvements

Phase I will provide improvements to 32 regulators in the Outer Harbor. Added to the 6 locations where the Department will automate the regulators, a total of 38 regulators will be improved in the Outer Harbor area. The breakdown is as follows:

- In the Owls Head drainage area, 3 regulators will be automated under the Citywide SCADA project and 4 regulators will be converted to fixed orifices under the Phase I construction contract.

- In the Port Richmond drainage area, 3 regulators will be automated under the Citywide SCADA project and 28 regulators will be converted to fixed orifices under the Phase I construction contract.

Phase II – Throttling Facility

A throttling facility to store up to 5 MG in the Port Richmond WPCP east interceptor sewer has been recommended and preliminary design has been completed.

Phase III – In-line CSO Storage

Preliminary design of two inflatable dam locations for the Outer Harbor has been completed – One at Port Richmond (PR-6W, 1.4 MG) and the other at Owls Head (OH-6C, 2.2 MG).

Table 4

Outer Harbor CSO Project

	Phase I	*Phase II*	*Phase III*
Plan Elements:	Regulator Improvements	Throttling Facility	In-Line Storage
Location:	32 regulator sites throughout Brooklyn and Staten Island	Port Richmond WPCP	Owls Head: OH-6C P. Richmond: PR-6W
Actions:	Conversion to manually operated sluice gates, replacement of stop plank guides, termination of water supply	Installation of sluice gate in Port Richmond east interceptor sewer	Installation of two inflatable dams in the combined sewer system
Project Cost:	$4,800,000	$1,300,000	$3,100,000
Status*:*	Preliminary Design – 100% Complete	Preliminary Design – 100% Complete	Preliminary Design – 100% Complete
Other Issues:	-	-	-

E.) Jamaica Bay

The Jamaica Bay CSO Abatement Facilities Plan submitted in November 1993 recommended retention of 34 million gallons of CSO from Fresh Creek (27 million gallons) and Hendrix Creek (7 million gallons). The retention facility was to be located beneath the Bruekelen Houses Park, a 12-acre site north of the head end of Fresh Creek, and adjacent to the major CSO sewer in Williams Avenue.

34 MG off-line storage for Fresh Creek CSO and Hendrix Creek

These elements are no longer under consideration for the on-going work for revision of the original facility plan. An alternate plan is being developed.

Two issues negatively impacted the feasibility of constructing the off-line storage facility at the proposed location. These issues were: 1) the need to provide five interim ball fields off-site, but within the immediate neighborhood, to replace the five ball fields that would be eliminated during the construction, and 2) the subsequent sale of the only large available land in the immediate neighborhood that could accommodate five interim ball fields. The loss of the alternate ball fields site effectively made construction of the offline storage tank unfeasible.

At this time, an examination of alternate concepts for abating CSO to Fresh Creek and Hendrix St. Canal are being examined as part of new facility planning efforts. Strategies that appear promising include sewer system changes increasing wet weather flow from the Hendrix regulator to the 26th Ward WPCP by 50 MGD, and a tunnel storage conduit.

Investigations of sewer system conditions indicate that remedial work within the complex drainage system could have significant impacts on CSO discharges. The routing of CSO to high and low side systems in the 26th Ward drainage area are affected by the impact of "grit" in several sewers and subsequent impact on several "structural flow diversions". Sewer system modeling is proceeding on several scenarios to ascertain the impact to CSO volumes and the ability to drive 50 MGD more flow to the 26th Ward WPCP from the High Side (Hendrix) system.

Several sewer system/offline-storage scenarios/flow management schemes are under evaluation. Both sewer system modeling and water quality modeling are presently being undertaken to ascertain the feasibility and practicality (constructability and water quality) of each scenario and flow management scheme currently under evaluation.

Another alternative abatement strategy being examined involves the use of a CSO storage tunnel. Geotechnical work (both landside and waterside borings) has been completed for examination by the tunnel consultant. New ortho-photogrammetric mapping has also been completed. Examination of a riser shaft and TBM launch site at the southern end of the 26th Ward WPCP is underway.

Coordination with the 26th Ward WPCP upgrade design has been on going for both sewer system and tunneling alternatives.

At this time the consultant is developing several off-line storage concepts of various storage capacities to develop a 'knee of the curve' cost-benefit analysis. Issues such as pre or post screening of CSO are also being examined as it affects siting requirements. Off-line storage concepts include tankage and tunnel options.

Upgrade Spring Creek AWPCP

The original facility plan recommended that no additional storage was required at the Spring Creek Auxiliary WPCP, however modifications to provide around-the-clock disinfection of facility overflows, improved discharge and baffling, and pump-back of stored volume following rain events be provided.

A separate project was underway at the same time the Jamaica Bay CSO project was underway, specifically focusing on operational improvements to the Spring Creek Auxiliary WPCP. The efforts of both projects were coordinated. This resulted in water quality related recommendations from the Jamaica Bay CSO facility plan being incorporated into the work for the Spring Creek facility. The key water quality recommendation was that no additional storage was required.

At this time a construction contract for the upgrade to the Spring Creek AWPCP has been advertised, and bids were received during the second quarter of 2002.

Sewer Separation for Far Rockaway

The original facility plan recommended that in order to provide a 90 percent reduction of coliform bacteria levels in the open waters of Jamaica Bay that (1) the proposed CSO facility at Paerdegat Basin be constructed and with the ability to provided for disinfection of facility overflows, that (2) the sewer correction program on Rockaway be completed, that (3) the proposed CSO facility at Fresh Creek be constructed and that (4) reduction of coliform bacteria loading from Bergen and Thurston Basins be provided. The original facility plan also recommended proceeding with the Jamaica Tributaries Water Quality Facilities Plan.

The NYCDEP's sewer correction program in the Rockaway's is an on-going long-term program. For status of Paerdegat Basin and the Jamaica Tributaries, please refer to other sections of the quarterly report.

Non-structural (Floatables Control) Options

The original facilities recommended that a public education program be undertaken to focus on the relationship between street litter, improper disposal of trash into the sewers and the floatable materials found on beaches, shorelines and in the open waters.

Other derivative studies from Jamaica Bay CSO Facility Planning Project are the Jamaica Bay Eutrophication Study and Jamaica Bay Chlorine Residual Study.

Meetings

No meeting conducted this period.

Preliminary Examinations

Further work on CSO planning and preliminary design is underway. A draft final Eutrophication Study report was submitted to the Department on October 19, 2000 and to the NYSDEC on November 3, 2000. A report on the Chlorine Residual Study was reviewed and the consultant is addressing the Department's comments.

Table 5

Jamaica Bay CSO Project

Plan Elements:	CSO Storage Tank	Dredging
Location:	Fresh Creek, Brooklyn	Head Ends of Fresh, Hendrix and Spring Creeks
Actions:	Facility Plan and conceptual/preliminary design to be revised	No additional actions regarding dredging have been taken on this project at this time
Project Cost:	To be determined	$3 million (estimate from 1993 Facility Plan)
Status:	Evaluating alternatives for storage tunnel, sewer system modifications, and increased wet weather plant capacity	-
Other Issues:	ULURP, SEQR to be revised	-

F.) East River

The facility planning and design services for this project are being performed under East River CSO Project Contracts II, III and IV. The NYCDEP directed URS in early February 2002 to prepare Change Order X-1 to East River Contract III to cover the additional engineering costs associated with additional planning and re-design of the Hutchinson River CSO Storage Conduit. This change order was submitted to the NYCDEP by URS in late May 2002 for review.

- **Bronx River**

Project Summary

The Bronx River CSO Storage Conduit Project will include construction of a storage conduit to affect 4 MG of off-line CSO storage capacity to provide CSO abatement at Outfall HP-23 on the Bronx River. The storage conduit, which will be approximately 500' L x 50' W x 35' H, will be located along the east shore of the Bronx River in an area immediately south of the intersection of East 177th Street, DeVoe Avenue and the Sheridan Expressway. This project will also include relocating Outfall HP-23 approximately 400 feet downstream of the outfall's existing location. At the request of the New York State Department of Transportation (NYSDOT), the NYCDEP changed the new site of Outfall HP-23 from 600 feet to 400 feet downstream of the outfall's existing location. The existing Outfall HP-23 will be abandoned. In addition, NYSDOT requested that the NYCDEP move the proposed above ground building away from the westbound Cross Bronx Expressway. As a result of these changes, the dimensions of the storage conduit were modified from 500' L x 60' W x 40' H to 500' L x 50' W x 35' H. Other principal facilities to be constructed as part of this project include a pumping station with a rated capacity of 2,800 gpm with an accompanying 16-inch diameter force main for pumpback purposes, air treatment facilities, and mechanical screening facilities.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on July 10, 2002, August 6, 2002, August 14, 2002, September 3, 2002 and September 6, 2002 at the NYC Department of Environmental Protection (NYCDEP) offices between representatives of the NYCDEP, New York City Department of Parks and Recreation (NYCDPR), URS and Lawler, Matusky and Skelly Engineers (LMS), to discuss and review the overall progress of the East River CSO Project.
- Meeting on September 11, 2002 at the NYCDEP offices between representatives of the NYCDEP, New York State Department of Transportation (NYSDOT) and URS to discuss coordination between the NYCDEP Bronx River CSO Storage Conduit Project, and the NYSDOT Bronx River Greenway and Sheridan Expressway/Cross Bronx Expressway Ramp Re-Construction Projects.
- Meeting on September 27, 2002 at the NYCDEP offices between representatives of the NYCDEP and URS to review the status of the Bronx River CSO Storage Conduit and to

discuss issues between the NYCDEP and NYSDOT that need to be resolved to allow the storage conduit to proceed.

Field Investigations

Principal field investigations conducted during this report period are as follows:

- LMS continued to prepare a draft report summarizing the subsurface environmental investigation work performed in the southern portion of the Bronx River Greenway under a NYSDOT contract.
- The NYCDEP continued to review the Phase IA Archaeological Survey Report for the CSO storage conduit site.
- In-house review by URS of the Phase IB Archaeological Survey Report, documenting the findings at the two selected locations on the CSO storage conduit site (an area in proximity to the new outfall, and an area near the north entrance to the storage facility site), remained on hold, awaiting resolution of the issues with the NYSDOT on the Bronx River Project.
- The NYCDEP continued to review the subsurface geotechnical investigation reports (Subsurface Investigation and Geotechnical Evaluations) for the CSO storage conduit site.

Environmental Review

At the September 11, 2002 meeting, the NYCDEP directed URS and LMS to re-commence preparation of the EAS for the Bronx River Project. With regard to the EAS, the NYSDOT has provided the required information to LMS to complete the EAS for the combined Bronx River CSO Storage Conduit/Greenway Project. The air dispersion modeling for the EAS, to determine if the air treatment facilities need to be a two-stage or one-stage system, will be completed as part of the EAS. LMS has identified the nearest sensitive receptors to be used in the air dispersion modeling.

ULURP

At the September 11, 2002 meeting, the NYCDEP directed URS to re-commence preparation of the ULURP Application for the Bronx River Project. With regard to the ULURP Application, URS will also re-commence work associated with the required mapping actions as a result of the land swaps between the NYCDEP, NYSDOT, NYCDPR and MTA, and will coordinate these mapping actions with the New York City Department of City Planning.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- The Regional Director of the NYSDOT sent a letter to the NYCDEP, dated August 22, 2002, indicating that the Bronx River CSO Storage Conduit Project can proceed in

conjunction with the re-construction of the ramp from the northbound Sheridan Expressway to the westbound Cross Bronx Expressway; however, coordination will be required between the two projects. As a result of this letter, the September 11, 2002 meeting was held at the NYCDEP offices between representatives of the NYCDEP, NYSDOT and URS to discuss coordination between the NYCDEP Bronx River CSO Storage Conduit, Bronx River Greenway and Sheridan Expressway/Cross Bronx Expressway Ramp Re-construction Projects. Based on discussions at the meeting, it was agreed that the Bronx River CSO Storage Conduit Project would be able to proceed in conjunction with the NYSDOT Bronx River Greenway and ramp re-construction projects, so long as several specific requirements/revisions are incorporated by the NYCDEP and NYSDOT in their respective projects.

- As a result of the September 11, 2002 meeting, URS initiated evaluation of the specific requirements/revisions to be incorporated in the Bronx River CSO Storage Conduit Project. This evaluation, which will be completed in early October 2002, is needed to ensure that the specific requirements/revisions are feasible.
- At the September 27, 2002 meeting, the NYCDEP directed URS to re-commence preparation of the Bronx River CSO Abatement Facilities Plan.
- Design of the CSO storage conduit remained on hold until the issues with the NYSDOT on the Bronx River Project are resolved.
- The NYCDEP continued to review the report submitted by URS that provides results of the investigation into alternatives for installing the diversion conduit underneath the ramp to the Sheridan Expressway, and details of the selected installation method, the New Austrian Tunneling Method (NATM).
- The NYCDEP continued to review the detailed hydraulic calculations for the storage conduit and detailed hydrologic calculations for existing Outfall HP-23 that were submitted by URS.
- Approval by the NYCDEP remains pending for URS to utilize the services of Simco Engineering to prepare Maintenance and Protection of Traffic (MPT) Plan drawings for the Bronx River Project.
- As a result of the delay in proceeding with the project because of the issues with the NYSDOT, it is anticipated that the 30 percent Value Engineering Review will be delayed until March 2004.
- The project schedule remained under review by the NYCDEP and NYSDEC. The current schedule shows construction beginning in February 2007 and extending through January 2012.

Table 6

Bronx River CSO Project

Plan Elements:	Bronx River CSO Storage Conduit
Location:	Property adjacent to intersection of East 177th Street, DeVoe Ave., and Sheridan Expressway
Actions:	Design and construction of a 4 MG storage conduit, with new outfall, including screenings facility, air treatment system, and pumping station to pump stored CSO flow back into the interceptor system for conveyance to the Hunts Point WPCP for treatment; abandonment of existing Outfall HP-23.
Cost:	$42,000,000
Status:	Design of project on hold until issues between the NYCDEP and NYSDOT are resolved.
Other Issues:	EAS needs to be completed to obtain Negative Declaration for project; ULURP Application needs to be completed and certified; mapping for land transfers needs to be completed prior to ULURP Application certification.

- **Hutchinson River**

Project Summary

The Hutchinson River CSO Storage Conduit Project will include the construction of a storage conduit to affect 7 MG of off-line storage in order to provide CSO abatement at Outfalls HP-14 and HP-15 on the Hutchinson River. As a result of public opposition to locating the southern reach of the storage conduit within the right-of-way of CO-OP City Boulevard, the NYCDEP has agreed to relocate this southern reach of the conduit into City-owned land located between CO-OP City Boulevard and the Hutchinson River. However, relocation of the southern reach of the storage conduit will require major revisions to the design of the conduit.

Most of the design revisions will involve the southern reach; however, some revisions will be required to the design of the northern reach. Although the southern reach will be relocated out of the right-of-way, the majority of the northern reach of the conduit will remain within roadway rights-of-way, extending approximately 3,600 linear feet southward from near where Boston Road crosses over the Hutchinson River to the Conner Street Pumping Station. Under the re-design of the storage conduit, the northern reach may have a storage volume of less than 4.7 MG as presently designed with the southern reach having a storage volume of greater than 2.3 MG as presently designed. Other principal facilities to be constructed as part of this project include four large chambers for connection of the storage conduit to the existing sewer system, modifications to the existing Conner Street and possibly to CO-OP City North Pumping Stations, air treatment facilities, rehabilitation of existing Outfalls HP-14 and HP-15, and possibly construction of a new outfall at the southern terminus of the southern reach. In addition, a public recreational area will be constructed over top of the southern reach of the storage conduit within the property adjacent to the Hutchinson River. This recreational area will consist of paved walkways for walking and cycling, grass areas and shrubs.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on July 10, 2002, August 6, 2002, August 14, 2002, September 3, 2002 and September 6, 2002 at the NYCDEP offices between representatives of the NYCDEP, NYCDPR, URS and Lawler, Matusky and Skelly Engineers (LMS), to discuss and review the overall progress of the East River CSO Project.
- Meeting on August 15, 2002 at the NYCDEP offices between representatives of the NYCDEP and URS to review the change order to East River Contract III for re-planning and re-design of the Hutchinson River CSO Storage Conduit.

Field Investigations

Principal field investigations conducted during this report period are as follows:

- The NYCDEP was successful in their efforts to have the owner of the auto salvage yard, located at the northern end of the northern reach of the storage conduit, remove the junk vehicles from the City-controlled property, to allow for the construction of the northern reach of the conduit. Removal of these junk vehicles is needed to allow for the re-construction of Outfall HP-15.

- Based on site visits to the CO-OP City ball fields in early June and August 2002 by representatives of the NYCDEP and URS, alternative scopes of work for restoration of the ball fields were developed by URS. A letter describing these alternative scopes of restoration work, which range from approximately $70,000 to $160,000, along with recommendations for performing the work, was submitted to the NYCDEP in late August 2002. This letter is under review by the BEE.

- The subsurface geotechnical investigation report, summarizing the results and conclusions of the subsurface geotechnical boring investigations along the northern and southern reaches of the CSO storage conduit, within the public rights-of-way, remained under review by the NYCDEP.

- The subsurface environmental investigation report, summarizing the results and conclusions of the subsurface environmental boring investigations along the northern and southern reaches of the CSO storage conduit, within the public rights-of-way, remained under review by the NYCDEP.

- The letter report prepared by LMS in November 2001, which provides the results of the investigation into the source of the contamination detected in the sentry wells located near the Hexagon Pharmaceutical Spill Site, remained under review by the NYCDEP. The results of the investigation indicate that the contamination detected in the sentry wells is from the Hexagon Pharmaceutical Spill Site, and that the spill contamination is migrating towards the Hutchinson River, which will impact on the dewatering operations during construction of the storage conduit.

- Massand Engineering continued with the topographic survey, along the proposed route of the southern segment of the storage conduit within the property adjacent to the Hutchinson River. This survey is needed to allow some preliminary routing and sizing of the revised southern segment of the storage conduit to be performed, which will then allow the subsurface investigations to proceed prior to the change order to East River Contract III being registered for design of the revised storage conduit, or as soon as the change order is registered. This will help to advance the project as the information needed for the design of the conduit support system and groundwater removal system will be available at the time of initiation of the re-design. It is anticipated that the survey services will be completed in October 2002.

Environmental Review

Work associated with the preparation of the EAS and with any permits remained discontinued due to the decision to re-design the Hutchinson River CSO Storage Conduit. Preparation of the EAS and work on permit applications will be re-initiated following registration of the change order to East River Contract III. Air dispersion modeling to determine if the air treatment facilities need to be a two-stage or one-stage system, will be performed as part of the EAS.

ULURP

A ULURP Application will need to be prepared for the Hutchinson River Project, as revisions to the storage conduit will require that ULURP actions be completed. Preparation of the ULURP Application will be initiated following registration of the change order to East River Contract III.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- The Hutchinson River CSO Abatement Facilities Plan will be prepared following registration of the change order to East River Contract III. The facilities plan is scheduled for submission to the NYSDEC in June 2003 for review and approval.
- Upon registration of the change order to East River Contract III, re-planning and re-design of the Hutchinson River CSO Storage Conduit will be initiated. This work will consist of: (1) relocating the southern reach of the storage conduit easterly out of the right-of-way of CO-OP City Boulevard into the property located between CO-OP City Boulevard and the Hutchinson River; (2) re-aligning the northern reach of the storage conduit to extend across the New York Bus Service Company property at the southeast corner of the intersection of Conner Street and Tillotson Avenue to avoid having the conduit extend directly through the intersection; (3) constructing a public recreational area over top of the southern reach of the storage conduit within the property adjacent to the Hutchinson River; and (4) upgrading Conner Street Pumping Station. In addition, the work will include a re-evaluation of both the northern and southern reaches of the storage conduit to determine whether it would be more cost-effective to maintain the design of the conduit based on the San Francisco Collector Concept, or whether it would be feasible and cost-effective to re-size and re-configure the entire storage conduit (northern and southern reaches), so that the southern reach would perform in a similar manner to a storage tank. Under such a scenario, the storage volume of the northern reach would be reduced from the current 4.7 MG and the storage volume of the southern reach would be increased from the current 2.3 MG, so that the total storage volume of the storage conduit would total 7 MG to achieve the required CSO abatement at Outfalls HP-14 and HP-15.
- The change order to East River Contract III to cover the additional engineering costs associated with re-planning and re-design of the storage conduit was revised by URS based on the discussions at the meeting held on August 15, 2002 between representatives

of the NYCDEP and URS. A revised change order was submitted by URS to the NYCDEP for review and processing on September 10, 2002.

- Design of the northern and southern reaches of the storage conduit, as well as permitting activities, remained discontinued based on the decision to re-design the Hutchinson River CSO Storage Conduit. Design and permitting activities will recommence when the change order to East River Contract III is registered.
- The project schedule remained under review by the NYCDEP and NYSDEC. The current schedule shows construction beginning in July 2008 and extending through June 2013.

Table 7

Hutchinson River CSO Project

Plan Elements:	Hutchinson River CSO Storage Conduit
Location:	Public rights-of-way from Boston Road to Conner Street Pumping Station; City-owned property adjacent to Hutchinson River.
Actions*:*	Design and construction of 7 MG CSO storage conduit consisting of two segments; a northern segment and a southern segment. Includes overflow chambers and conduits, dry weather flow conduits, outfalls and drainage conduits with connections to Conner Street Pumping Station for northern segment, and either Conner Street Pumping Station or CO-OP City North Pumping Station for southern segment.
Cost:	To be revised.
Status:	To be re-planned and re-designed.
Other Issues:	Change Order X-1 to East River Contract III needs to be registered for re-planning and re-design of storage conduit; EAS needs to be revised to obtain Negative Declaration for project; ULURP Application needs to be completed and certified.

- **Alley Creek**

Project Summary

The Alley Creek Drainage Area Improvements/CSO Abatement Facilities Project, which has been designated as Phase I of the comprehensive Alley Creek Project, will be constructed in two stages, the Alley Creek Drainage Area Improvements (Stage 1) and the Alley Creek CSO Abatement Facilities (Stage 2). The Oakland Ravine Stormwater Treatment System, which is not a part of the CSO abatement project, has been designated as Phase II of the comprehensive Alley Creek Project. The principal elements included in the project are: additional stormwater and combined sewers, a new outfall sewer, and a new combined sewer outfall to substantially eliminate street flooding and sewer surcharging, and construction of a new 5 MG CSO storage facility to abate CSO discharges into Alley Creek (Stage 1); and activation of the 5 MG CSO storage facility including upgrading the Old Douglaston Pumping Station (Stage 2). Construction of a stormwater treatment system in the form of settling basins and natural emergent wetlands will be included in the Oakland Ravine Stormwater Treatment System (Phase II). The construction contracts for Phase I, Stage 1 and Phase I, Stage 2 have been designated as ER-AC1 and ER-AC2, respectively.

The principal facilities to be provided under Phase I, Stage 1 include approximately 1,400 linear feet of an 11'-0" W x 8'-0" H combined sewer; approximately 1,200 linear feet of an 11'-0" W x 9'-0" H combined sewer; approximately 4,700 linear feet of stormwater sewers ranging from 15- through 48-inches in diameter; approximately 2,350 linear feet of a 20-inch diameter force main; a double barrel outfall sewer consisting of approximately 1,475 linear feet of two 16'-0" W x 7'-6" H barrels followed downstream by approximately 650 linear feet of two parallel 20'-0" W x 7'-9" H barrels (average height); a CSO storage facility to be constructed alongside of the 20'-0" W x 7'-9" H (average height) double barrel outfall sewer, with approximate dimensions of 120 feet wide by 600 feet long and a maximum depth of 25 feet; and an outfall structure and stilling basin on Alley Creek. The outfall sewer will discharge into Alley Creek, through a new outfall structure to be constructed under Phase I, Stage 1, which will be located north of Northern Boulevard, on the west side of Alley Creek.

The 5 MG CSO storage facility will be constructed under Phase I, Stage 1, and activated under Phase I, Stage 2. The new outfall sewer will function as part of the CSO storage facility after the construction of a fixed weir, at the downstream end of the outfall sewer, to induce CSO storage during rainstorms. The CSO storage facility will be emptied by use of 24-inch and 36-inch diameter gravity drains to the Old Douglaston Pumping Station, which is located (in Alley Park) along the south side of Northern Boulevard, west of Alley Creek. The Old Douglaston Pumping Station will be used to pump the captured CSO sewage to the Tallman Island WPCP for treatment. The CSO storage facility will be cleaned, after each storm event, through the use of ten HydroSelf Flushing Gates (five at each end of the CSO storage facility).

The design and construction of ecological restoration areas and wetlands to mitigate construction impacts within Alley Park have been separated from Phase I, Stage 1, Contract ER-AC1 and included in a separate construction contract. This contract will begin after the

completion of Contract ER-AC1. A contract number has not been issued for this construction contract at this time.

The stormwater treatment system to be provided under Phase II will consist of a wetlands treatment system to be constructed in Oakland Ravine to provide primary and secondary treatment, with the treated effluent being discharged into Oakland Lake, and ultimately into Alley Creek through the existing 10'-0" W x 7'-6" H outfall sewer. A contract number has not been issued for this construction contract at this time.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on July 10, 2002, August 6, 2002, August 14, 2002, September 3, 2002 and September 6, 2002 at the NYCDEP offices between representatives of the NYCDEP, URS and Lawler, Matusky and Skelly Engineers (LMS), to discuss and review the overall progress of the East River CSO Project.
- Meeting on July 24, 2002 at the NYCDEP offices between representatives of the NYCDEP, URS and Dvirka and Bartilucci Consulting Engineers (DB) to review the results of the constructability review of Contract ER-AC1 performed by DB.
- Pre-award meeting for Contract ER-AC1 on August 8, 2002 at the NYCDEP offices between representatives of the NYCDEP, URS and Carp Construction Corporation to review and discuss the bid submittal by Carp as well as other contractual issues.
- Meeting on August 27, 2002 at the Queens Borough President's Office to review the status of the Alley Creek and Oakland Ravine Projects; attendees included representatives from the Queens Borough President's Office, NYCDEP, NYCDPR, NYSDEC, URS, Queensborough Community College, Alley Pond Environmental Center, Community Board No. 11, community groups and special interests groups.
- Meeting on September 27, 2002 at the NYCDEP offices between representatives of the NYCDEP and URS to review the status of the Oakland Ravine Project, with the focus on the requests by the NYCDPR regarding the elements to be incorporated into the project.

Field Investigations

In May 2002, the NYCDEP requested that mechanical screens be considered for installation at the Old Douglaston Pumping Station as part of the upgrade of the facility. To determine if there is sufficient space within the property boundaries of the pumping station to install the mechanical screens, the NYCDEP authorized URS to have the property surveyed to verify the property boundaries. In mid-July 2002, Massand Engineering, the firm selected to perform the survey, indicated that based on their review of available records as well as discussions with the NYCDPR, defined property boundaries for the Old Douglaston Pumping Station were never established. This issue will be discussed with the NYCDEP Legal Department.

The surveying services discussed above also included a topographic survey of a portion of Cloverdale Boulevard right-of-way located between 46th Avenue and Birmington Parkway. This topographic survey is required for design of an extension of a storm sewer to have the sewer connect into the existing outfall sewer for Outfall TI-7 in lieu of discharging into Oakland Lake, as is the existing condition. Massand Engineering completed this topographic survey and submitted drawings presenting the survey to URS.

The protocol for collecting and analyzing samples from the bed of Oakland Lake to determine the feasibility of dredging and removing material from the lake remained under review by the NYCDEP.

Environmental Review

The NYSDEC issued the Joint Application Permit for the Alley Creek Project in mid-April 2002 contingent upon the submission of a mitigation plan for Alley Park, an erosion-monitoring plan for the shorelines of Alley Creek in the vicinity of the new CSO outfall, and information on the dewatering system requirements and soil erosion/sediment control measures for the project. In late August 2002, URS submitted final copies of the mitigation plan for Alley Park, erosion monitoring plan for the shorelines of Alley Creek, and specifications on the dewatering system requirements and soil erosion/sediment control measures to the NYCDEP for subsequent submittal to the NYSDEC to obtain full approval of the Joint Application for Permit.

The air treatment calculations submitted by URS to the NYCDEP in mid-June 2002, to determine the facilities required to treat air exhausted from the Alley Creek CSO storage facility and the wet well of the Old Douglaston Pumping Station, remained under review by the NYCDEP. A one-stage treatment system is recommended.

The NYSDEC continued to review the request for modification to the Tallman Island WPCP SPDES Permit for the new CSO outfall discharging into Alley Creek.

A decision needs to be made by the NYCDEP as to whether an EAS needs to be prepared for the Oakland Ravine Project.

ULURP

The ULURP Application for the siting action for the Alley Creek Drainage Area Improvements – Phase I, Stage 1 and Alley Creek CSO Abatement Facilities – Phase I, Stage 2 has been fully approved.

A decision needs to be made by the NYCDEP as to whether the Oakland Ravine Project requires ULURP approval.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- In early August 2002, the NYCDEP submitted the final Alley Creek CSO Abatement Facilities Plan to the NYSDEC for review and approval.
- In mid-March 2002, the NYCDEP submitted letters to the NYCDPR and NYCDOT - Arterial Maintenance requesting that the two Departments resolve the issue regarding maintenance jurisdictional limits in proximity to the Cross Island Parkway in Alley Park. Enclosed with these letters were landscape plans presenting the restoration within Alley Park in the vicinity of the Cross Island Parkway, and suggested maintenance jurisdictional limits. An agreement on the maintenance jurisdictional limits is required before NYCDOT - Arterial Maintenance will provide their approval of the Alley Creek Project; such an agreement has not yet been reached.
- Approval has not yet been received from the NYCDOT for the Cross Island Parkway MPT Plan drawings. The approval of the Cross Island Parkway MPT Plan drawings is contingent upon an agreement being reached between the NYCDOT - Arterial Maintenance and NYCDPR with regard to the maintenance jurisdictional limits in proximity to the Cross Island Parkway in Alley Park.
- The NYCDOT- Bureau of Traffic Signals provided their approval of the Alley Creek Project.
- The NYSDEC continued to review the Total Maximum Daily Load (TMDL) Program for floatables removal for Alley Creek, which was sent to the NYSDEC in mid-November 2001.
- Based on review comments received from the NYCDEP, URS finalized the amended drainage plan. Mylars of the finalized amended drainage plan were submitted to the NYCDEP in late June 2002 for approval signatures.
- The memorandum submitted to the NYCDEP by URS, summarizing the findings and results of the investigation of the alternatives for a water supply to provide a secondary flush for the storage facility, was reviewed by the NYCDEP. The memorandum recommends that the stored combined sewage in the elevated outfall sewer be used to refill the reservoirs for each of the ten Hydroself Flushing Gates for a secondary flush of the storage facility. The NYCDEP concurred with this recommendation.
- At the request of the NYCDEP, Dvirka and Bartilucci Consulting Engineers (DB) performed a constructability review of Contract ER-AC1. The results of this review were discussed at the July 24, 2002 meeting between representatives of the NYCDEP, URS and DB. Based on information presented and discussed at the meeting, no major issues were identified during the review that will impact the implementation of the contract. In late August 2002, DB submitted a final summary of the constructability review to the NYCDEP and URS.
- URS essentially completed the design of the extension of a storm sewer along Cloverdale Boulevard between 46th Avenue and Birmington Parkway to have the sewer connect into

the existing outfall sewer for Outfall TI-7 in lieu of discharging into Oakland Lake as is the existing condition. URS recommended that this sewer extension be constructed under Contract ER-AC1, which will require that a change order be prepared to include the work under the construction contract. The NYCDEP is evaluating this recommendation.

- URS continued to prepare the change order to East River Contract III to cover the additional engineering costs associated with planning, design and construction of the ecological restoration/wetlands construction within Alley Park. It is anticipated that this change order will be submitted to the NYCDEP in October 2002 for review.
- In mid-September 2002, URS submitted the Preliminary Design Report for the Old Douglaston Pumping Station to the NYCDEP for review. This report identifies the scope of work that needs to be completed to upgrade the pumping station to allow for the pumpback of the stored CSO to the Tallman Island WPCP. The report indicates that the pumping station requires a major upgrade involving mechanical, HVAC, electrical and instrumentation/control systems.
- The final design of Contract ER-AC2, Alley Creek CSO Abatement Facilities - Phase I, Stage 2, will begin after the NYCDEP has had an opportunity to review the recommendations included in the Preliminary Design Report for upgrading the Old Douglaston Pumping Station.
- The NYCDPR submitted a letter dated August 12, 2002 to the NYCDEP, which summarizes the items that the NYCDPR seeks to have included as part of the Oakland Ravine Project. A copy of this letter was also provided to URS for review.
- At the meeting held on September 27, 2002 at the NYCDEP offices between representatives of the NYCDEP and URS, the status of the Oakland Ravine Project was discussed. The focus of the discussion was on the comments provided by the NYCDPR in a letter to the NYCDEP, dated August 12, 2002, regarding the design of the Oakland Ravine Project. The approach and time frame for addressing the NYCDPR comments, as well as revising the Preliminary Design Report, were agreed upon by the NYCDEP and URS. Based on discussions at the meeting, URS will prepare a technical memorandum summarizing the approach for proceeding with the Oakland Ravine Project, taking into account previous discussions and understandings between the NYCDEP, NYCDPR and URS, with regard to the elements to be incorporated into the project.
- The project schedules remained under review by the NYCDEP and NYSDEC. The current schedule for the Alley Creek Project shows construction beginning in December 2002 and extending through July 2009. The ecological restoration/wetlands construction within Alley Park is currently scheduled to begin in December 2005 and to be completed in June 2008. The current schedule for the Oakland Ravine Project shows construction beginning in October 2007 and extending through September 2010.

Facility Bidding and Construction

A decision was made by the NYCDEP not to award Contract ER-AC1 to the low bidder, Rosewood Contracting Corporation/AFC Enterprises, Inc. Instead, the NYCDEP decided to award the contract to the second low bidder, Carp Construction Corporation. On August 8, 2002, a pre-award meeting was held at the NYCDEP offices with Carp Construction Corporation to review the bid submittal by Carp as well as other contractual issues. Representatives of the NYCDEP, URS and Carp were in attendance. At the request of the NYCDEP, URS prepared an analysis comparing Carp's bid submittal to the bid submittals of the other contractors for use at the pre-award meeting. URS submitted the results of this analysis to the NYCDEP in a letter dated August 1, 2002.

In early September 2002, the NYCDEP issued the Notice of Award Letter for Contract ER-AC1 to Carp Construction Corporation. It is anticipated that the Notice to Proceed for the contract will be issued in November 2002.

Based on the results of the constructability review of Contract ER-AC1 submitted to the NYCDEP by Dvirka and Bartilucci Consulting Engineers (DB) in late August 2002, URS initiated preparation of Field Clarifications to address some of the issues identified in the review.

In early September 2002, URS submitted conformed sets of specifications and drawings for Contract ER-AC1 to the NYCDEP.

Table 8

Alley Creek CSO Project

Plan Elements:	Alley Creek Drainage Area Improvements (Phase I, Stage 1)	Alley Creek CSO Abatement Facilities (Phase I, Stage 2)	Alley Park Ecological Restoration and Wetlands Construction	Oakland Ravine Stormwater Treatment System (Phase II)
Location:	46th Avenue, 53rd Avenue, 56th Avenue, Bell Boulevard, Luke Place, 214th Street, 216th Street, 217th Street, Springfield Boulevard, Cross Island Parkway, Northern Boulevard and Alley Park in Bayside, Queens	Northern Boulevard and Alley Park in Bayside, Queens	Alley Park in Bayside, Queens	Oakland Ravine and Oakland Lake in Bayside, Queens; Queensborough Community College Campus in Bayside, Queens
Actions:	Construction of additional stormwater and combined sewers, catch basins, outfall sewer and outfall structure to effect improved drainage in areas upstream of Outfall TI-7 in Bayside, Queens. Construction of 5 MG CSO storage facility for CSO abatement within Alley Creek.	Design and construction of modifications to the Old Douglaston Pumping Station including air treatment facilities to treat air exhausted from the CSO storage facility; design and construction of hydraulic control structures and facilities to activate the 5 MG CSO storage facility constructed under Phase I, Stage 1.	Design and construction of ecological restoration areas and wetlands to mitigate construction impacts; approximately 8.6 acres to be constructed.	Design and construction of a wetlands stormwater treatment system in Oakland Ravine to treat stormwater prior to discharge into Oakland Lake and ultimately into Alley Creek; design and construction of upgrades to the stormwater sewer system on the Queensborough Community College Campus; and design and construction of rehabilitation measures within Oakland Ravine and Oakland Lake.
Cost:	$93,093,094	$9,126,000	$8,000,000	$26,500,000
Status:	Contract awarded to Carp Construction Corporation; Notice to Proceed to be issued.	Preliminary design completed; final design to be initiated.	Conceptual design completed.	Preliminary design report under review by NYCDEP.
Other Issues:	NYSDEC issued Joint Application for Permit contingent upon receipt of supplemental information; ULURP Application fully approved.	Address mechanical screenings issue; and property boundary issue for Old Douglaston Pumping Station.	NYC Department of Parks and Recreation approved conceptual design; prepare change order to East River Contract III to cover additional engineering costs and register change order.	Determine if ULURP Actions required; NYCDPR and NYCDEP to reach agreement on elements to be incorporated into project; Input from local environmental groups needed.

- **Westchester Creek**

Project Summary

The Westchester Creek CSO Storage Tank Project will include construction of a 12 MG underground CSO storage tank to be located in the southwest section of the Bronx Psychiatric Center (BPC) Campus adjacent to Waters Place, near the intersection of Eastchester Road . The proposed underground storage tank will have approximate dimensions of 410' L x 155' W x 36' H and will provide CSO abatement at Outfall HP-25 on Westchester Creek. Other principal facilities to be constructed as part of the project include: a two story operations building to house operational units including air treatment facilities; a single-barrel supply conduit (13'-0" W x 8'-0" H) extending from the Outfall HP-25 sewer in Eastchester Road to the underground storage tank; and a pumping station with a rated capacity of approximately 10,500 gpm and an accompanying 24-inch diameter force main extending from the underground storage tank to the sewer system in Eastchester Road for pumpback purposes. In addition to the facilities required for CSO abatement at Outfall HP-25, the NYCDEP has agreed to provide, as part of this project, amenities for use by the two Little Leagues that utilize the baseball fields adjacent to the site of the underground storage tank. These amenities consist of restroom facilities, a clubhouse facility, and fencing to enclose the Little League areas so as to keep the ball fields separated from the BPC Campus facilities, NYCDEP facilities and the Italian-American Soccer League of New York. The NYCDEP has also agreed to provide the Italian-American Soccer League of New York with a soccer field to be constructed at ground level above the underground storage tank in the approximate location of the existing soccer field located at the proposed site of the CSO storage tank.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on July 10, 2002, August 6, 2002, August 14, 2002, September 3, 2002 and September 6, 2002 at the NYC Department of Environmental Protection (NYCDEP) offices between representatives of the NYCDEP, New York City Department of Parks and Recreation (NYCDPR), URS and Lawler, Matusky and Skelly Engineers (LMS), to discuss and review the overall progress of the East River CSO Project.
- Meeting on September 27, 2002 at the NYCDEP offices between representatives of NYCDEP and URS. URS presented an overview of the draft Westchester Creek CSO Abatement Facilities Plan. It is anticipated that the finalized plan will be submitted by the NYCDEP to the NYSDEC in October 2002 for approval.

Field Investigations

Principal field investigations conducted during this report period are as follows:

- In early August 2002, URS initiated the solicitation of price quotes from subconsultants to inspect and document the conditions of Outfall HP-25 and the upstream outfall sewer.

- The subsurface geotechnical investigation report, which summarizes the findings and results of the geotechnical borings drilled at the locations for the proposed Little League restrooms and clubhouse facility, remained under review by the NYCDEP.
- Craig Test Boring Company completed drilling of the geotechnical borings at the site of the storage tank, as well as along Eastchester Road and Waters Place. Upon receipt of the boring logs from Craig Test Boring Company, URS will initiate preparation of the subsurface investigation reports (Subsurface Investigation and Geotechnical Evaluations).

Environmental Review

URS and LMS initiated preparation of a revised EAS for the CSO storage tank project, based on the replacement soccer field for the Italian-American Soccer League of New York being located atop the storage tank. Specific information is needed from the Italian-American Soccer League of New York to allow the NYCDEP to assess the impacts of the loss of the use of the soccer field at the BPC Campus both on a permanent and temporary basis. This information, which has been requested by the NYCDEP from the soccer league, includes detailed rosters of the teams that currently use the existing soccer field, information indicating where members of the teams travel from to attend the matches, existing and future schedules of the matches with times of the day for the matches, and existing and future schedules for practice sessions with times of the day for the sessions. As of yet, the soccer league has not fully responded to the NYCDEP request for information.

As part of the EAS, URS and LMS continued work, including dispersion air modeling, to determine if the air treatment facilities for the Westchester Creek Project need to be a two-stage system or a one-stage system.

Site Acquisition/ULURP

The Dormitory Authority of New York (DASNY) has not yet responded in writing to a letter from the NYCDEP Legal Department, sent in late January 2002, explaining that a revised layout for the Westchester Creek CSO Storage Tank Project has been developed. This letter indicates that the need for the land included within the easement, granted by DASNY to a private development corporation along the west boundary of the BPC Campus, is no longer required. This letter also presents a description of the revised property boundaries required for the CSO storage tank project, and indicates that the NYCDEP is proceeding with requirements necessary for acquiring the property. In addition, the letter requests that DASNY reserve the property as now configured for the benefit of the City until such time when the title can be transferred to the City. The letter also requests information on future wastewater flows to be generated by the BPC that are needed for design purposes.

DASNY has indicated that they cannot commit to selling of the property at the BPC Campus for the proposed storage tank until a contract or some type of letter agreement is executed between NYCDEP and DASNY. The NYCDEP has been following up on the status of such a contract or letter agreement.

The completed metes and bounds survey for the property being acquired at the BPC Campus for the Westchester Creek Project remained under review by DASNY and the BPC.

URS initiated preparation of a revised draft ULURP Application for the CSO storage tank project, based on the replacement soccer field for the Italian-American Soccer League of New York being located atop the storage tank.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- At the September 6, 2002 Progress Meeting, URS reported that the design of the Westchester Creek CSO Storage Tank will need to change from the previously planned flow-through tank configuration to a dead-end configuration, due to hydraulic considerations and NYCDEP sewer system design criteria. URS explained that the need for a dead-end storage facility was identified during the initial preliminary design phase for the facility. Upon further analyses performed as part of preliminary design, it was found that the hydraulic capacities and slopes of the sewers immediately upstream of the proposed CSO influent conduit and storage tank are such that given the hydraulic head losses that will likely be imposed by the storage facility (influent conduit, screens, storage tank and internal and overflow weirs), adequate hydraulic head to "drive" the storage tank to overflow could not be developed without surcharging the upstream sewers. Surcharging of the collection system sewers could cause street and basement flooding, and is against the policy and design criteria of the NYCDEP. Therefore, given the design constraints, the operation of a flow-through facility is generally unfeasible. The proposed solution is to reconfigure the tank as a dead-end facility, i.e., during a rain storm, combined sewage overflowing from Regulators CSO-29 and CSO-29A would flow into the tank until it is completely full, and then all combined sewage flows during the remainder of the rain storm would completely bypass the tank, and discharge to Westchester Creek through Outfall HP-25.
- At the September 6, 2002 Progress Meeting, URS and LMS made a presentation of the landside and water quality modeling results for the Westchester Creek CSO Storage Tank, for a dead-end configuration in lieu of a flow-through configuration, utilizing the latest, enhanced models.
- The draft Westchester Creek CSO Abatement Facilities Plan was submitted to NYCDEP for review at the September 27, 2002 meeting. It is anticipated that the finalized plan will be submitted by the NYCDEP to the NYSDEC in October 2002 for approval.
- In early September 2002, the NYCDEP was informed by the NYCDPR that sites at either Sound View Park or Ferry Point Park in the Borough of the Bronx were no longer options for constructing a replacement soccer field for the Italian-American Soccer League of New York. As a result, the NYCDEP requested URS to develop a plan for siting the replacement soccer field atop the storage tank at the BPC Campus. Such a revised plan was presented by URS at the September 9, 2002 Progress Meeting and, with some subsequent revisions to include approximately 20 vehicular parking spaces for the Bronxchester and Van Nest Little Leagues, has been approved by the NYCDEP. The

revised plan includes a NYCDEP operations building with a floor area of about 13,000 sf to be located at the southwest end of the storage tank along Waters Place. This operations building was downsized from the building as originally envisioned as a result of the CSO storage facility being unmanned, and the air treatment facilities being carbon adsorption and not wet scrubbers

- Siting the replacement soccer field for the Italian-American Soccer League of New York atop the storage tank is fine from a long-term standpoint; however, during the projected construction period for the storage tank (November 2007 through October 2012), the soccer league will need to use an alternative soccer field site. URS suggested that a possible location of the interim soccer field is at the site of the new baseball fields to be constructed atop the Flushing Bay CSO Storage Tank in the Borough of Queens. The interim soccer field would be in use for the five-year construction period for the Westchester Creek CSO Storage Tank. Following construction of the permanent soccer field atop the Westchester Creek CSO Storage Tank, the interim soccer field would be removed, and the area atop the Flushing Bay CSO Storage Tank would be restored for sole use as baseball fields. In early September 2002, URS submitted a drawing to the NYCDEP showing that an interim soccer field would fit in the area of the baseball fields to be constructed atop the Flushing Bay CSO Storage Tank.

- As per direction from the NYCDEP, preparation of the TMDL Program for settleables removal for Westchester Creek remained on hold until the TMDL Program for floatables removal for Alley Creek is finalized with the NYSDEC.

- URS continued final design of the site preparation contract for the Westchester Creek CSO Project. This contract includes the women and men's restroom facilities for the Bronxchester and Van Nest Little Leagues, and installation of fencing at the site of the CSO storage tank at the BPC Campus. As a result of a recent change in the project to construct the replacement soccer field for the Italian-American Soccer League of New York atop the storage tank, the drawings and specifications will require significant revisions. In addition, the completion of the specifications for this contract has been delayed as a result of the recent changes in the general specifications by the NYCDEP, and the procedure for preparing the detailed specifications as a result of the changes. Final guidance with regard to preparation of the specifications is scheduled to be provided by the NYCDEP in the near future.

- URS continued preliminary design for the CSO storage tank, which included site surveys, subsurface investigations, and hydrologic and hydraulic analyses.

- In late July 2002, the NYCDEP submitted the site-fencing plan to Senator Velella's office for subsequent submittal to the Bronxchester and Van Nest Little Leagues for review. The plan shows the locations of the fencing during the various phases of the project; (1) during construction of the Little League restrooms; (2) during construction of the storage tank; and (3) at completion of the project. Based on their review, very minor revisions to the plan were requested by the Little Leagues. However, as a result of the recent change in the project to construct the replacement soccer field for the Italian-American Soccer League of New York atop the storage tank, the site-fencing plan will require major revisions from the version submitted to the Little Leagues for review.

- The revised schedule for the site preparation contract shows construction beginning in October 2004 and extending through December 2005, and the schedule for the storage tank shows construction beginning in November 2007 and extending through October 2012

Table 9

Westchester Creek CSO Project

Plan Elements:	Westchester Creek CSO Storage Tank
Location:	Bronx Psychiatric Center Campus in the Bronx
Actions:	Design and construction of a 12 MG underground CSO Storage Tank to provide CSO abatement at Outfall HP-25 on Westchester Creek, including an influent conduit along Waters Place and Eastchester Road; design and construction of a two story operations building; design and construction of amenities for the Bronxchester and Van Nest Little Leagues; and design and construction of a soccer field for the Italian-American Soccer League of New York.
Cost:	To be revised.
Status:	Final design underway for the site preparation contract (restrooms for Little Leagues and miscellaneous site preparation work); preliminary design underway for storage tank.
Other Issues:	Site needs to be acquired by NYCDEP from the State of New York; EAS needs to be finalized; ULURP Application needs to be certified and approved; NYC Art Commission granted full preliminary approval for restrooms and clubhouse facility for Little Leagues; licensing agreement between the NYCDEP and the Little League organizations needs to be finalized; acceptance of Flushing Bay CSO Storage Tank site for location of the interim soccer field for the Italian-American Soccer League of New York.

G.) Coney Island Creek

- **Avenue V Pumping Station**

The recommended plan for the Coney Island Creek CSO Facility Planning Project is to increase the wet weather pumping capacity of the Avenue V Pumping Station. The Avenue V Pumping Station tributary area encompasses 2,900 acres, of which 2,056 acres are separately sewered and 844 acres have combined sewers. The Avenue V Pumping Station capacity will be increased to capture 85 percent, by volume, of the CSO discharges to Coney Island Creek. The capacity of the pumping station will be increased from approximately 30 mgd to 80 mgd. New pumps, motors, variable frequency drives (VFDs) and controls will be installed and two new force mains will be constructed.

On August 8, 2002 NYCDEP transmitted to NYSDEC the modified facility plan for the Coney Island Creek CSO Facility Planning Project. This modified facility plan report was submitted to document the changes to the originally approved facility plan, pursuant to requirements of the CSO Consent Order.

Meetings

Principal meetings held during this report period were as follows:

- Meetings with NYCDEP and Hazen and Sawyer on July 24.

Maximize Flows: Upgrade Avenue V Pumping Station for Wet Weather Flow Conveyance Capacity and Regulator Automation at Avenue V Pumping Station

Final design work of the pumping station upgrade, associated new force mains and modification of existing regulators has continued.

In a letter to Con Edison dated April 8, 2002, the Department stated a preference for 120/208V power supply from the electrical utility. However, following further evaluation by the City, it was decided that it is more beneficial to have: 277/480V service. A letter to Con Edison informing the utility of the decision was transmitted on July 22, 2002.

The 480V service will require construction within the site of a single story Network Protector Structure (NPS) with approximate dimensions of 45 feet long by 26 feet wide. The NPS will be located at the southwest corner of the pumping station site on West 11th Street. Zoning requirements for the Avenue V PS (map 28c, R5, corner lot) dictate that the NPS have a minimum front yard of 18 feet on West 11th Street, given that the front yard on Avenue V is 10 feet. In order to locate the facility on or close to the property line, a variance (from Board of Standards and Appeals [BSA]) is required.

Preparation of documents for submission to the Department of Buildings (DOB) to initiate the process for obtaining a variance for the NPS has begun. Because the NPS cannot be

located with the required setback along West 11th Street, DOB will disapprove the submission and a submission to BSA will be required 25 days thereafter.

Elimination of Dry Weather Overflows (DWOs)

Thirteen outfalls that discharge to Coney Island Creek were identified as contributing dry weather overflows to the Creek. The following table identifies the outfall number, location, and determination date of the discharge, flow, and current status.

Outfall I.D.	Location	Determination Date	Flow (GPD)	Status
CI-214	CI Creek (N) 600' w/o Shore Pkwy	12/20/90	1,860	Abated as of 12/31/96
CI-215	CI Creek (N) 10' w/o Shore Pkwy	12/20/90	1,411	Abated as of 12/31/98
CI-602	CI Creek & W.33rd Street	11/20/90	259	Abated as of 12/31/98
CI-639	CI Creek (SS) & W.12th Street	02/08/95	2,938	Abated as of 12/31/96
CI-641	Head of CI Creek & Shore Pkwy	12/20/90	372,960	Abated as of 12/29/94
CI-653	CI Creek (SS) 1500' sw/o Shore Pkwy	02/08/95	1,958	Abated as of 12/31/98
CI-664	CI Creek (S) & W.15th Street	12/12/90	3,326	Abated as of 12/31/98
CI-601	CI Creek & W.28th Street	11/16/90	158	Capital Project to abate discharge is under design
OH-021a	CI Creek – 90" Storm Sewer	12/02/94	50,000	Abated as of 12/02/94
OH-021b	CI Creek – 108" Storm Sewer	12/02/94	150,000	Abated as of 12/02/94
OH-021c	CI Creek – Avenue X Storm Sewer	12/02/94	70,000	Abated as of 12/02/94
OH-101	CI Creek – @ Bay 50th Street	02/08/95	800	Abated as of 02/22/95
OH-606	16th Avenue @ Coney Island Creek	07/09/96	2,880	Abated as of 07/09/98

Dredge the Head End of Coney Island Creek

At this time, DEP has no specific plans for dredging the Creek. The inability to dispose of dredged materials at an ocean mud dump site and the high costs associated with land disposal of dredged sediments requires further investigation to define the extent of dredging actions. DEP has made a formal request to the Army Corps of Engineers that the Creek be dredged as part of the Hudson-Raritan Estuary Restoration Project. We will continue to work with the Corps to have this action implemented in its ongoing Feasibility Plan for the Hudson-Raritan Estuary.

Table 10

CONEY ISLAND CREEK CSO Project

	Contracts PS-79G, H, P, E	*Contract PS-79G*	*Contract PS-79F*
Plan Elements:	Upgrade Avenue V Pumping Station	Regulator Modifications	New Force Mains
Location:	Avenue V PS (Avenue V and West 11th Street)	Reg. AV-1 at Avenue V PS site; Reg. OH-1 (Shore Pkwy. vic. Verrazano Bridge)	42-inch to SE-133 (Shore Pkwy. Vic. Verrazano Bridge); 48-inch to vic. Reg. 9A
Actions:	Comprehensive upgrade to automate and increase station capacity to 80 mgd; Lower Wet Well operating level to reduce sewer surcharges; Network Protector Structure to reliably transform utility power; Generator system to improve station reliability; Architectural restoration of Main Building to 1915 appearance	Automate Reg. AV-1 throttling gate (influent gate to Wet Well); Lower weir at Reg. OH-1 diversion chamber and at Reg. 9A to maintain existing HGL in upstream sewers	New force mains to convey DWF and WWF
Cost:	$32,000,000	Incl. at left	$68,000,000
Status:	Final Design – 50% Complete	Final Design – 0% Complete	Final Design – 50% Complete
Other Issues:	Relocation of station personnel during construction.	-	Routing of force main along parkland; Selective replacement of water and sewer utilities along route.

H.) Newtown Creek

- **Phase I Aeration Facilities**

This element of the plan will provide for aeration of English Kills, south of the Grand Street bridge, to raise DO concentrations to a minimum of 1.0 mg/l at all times. A compressor station will be located at 1106 Grand Street, adjacent to English Kills and will deliver air to English Kills via air headers and diffusers on the Creek bottom along its centerline. Data will be collected during the first year of operation to guide refinements in operating procedures and verify performance.

Preliminary Design

The preliminary design has been completed. Drawings, facility descriptions and construction cost estimates have been prepared for three alternatives. The Department has reviewed the alternatives.

A preliminary evaluation of an alternative utilizing perforated plastic pipe as a header/diffuser, has also been completed and was reviewed by the Department.

CEQR and Permitting

An EAS for the Phase I Aeration has been completed and sent to NYSDEC together with applications for permits for their review. OEPA issued a negative declaration on December 14, 2000 for the Phase I Aeration project. NYSDEC issued a permit on May 31, 2001. The U.S. Army Corp. of Engineers has approved the Departments request for a Nationwide Permit No. 5 concurrence for Scientific Measurement Devices. Contact has also been made with the US Coast Guard for their review of the project.

ULURP

The NYC Department of City Planning certified the ULURP application on October 22, 2001. The Community Board and the Borough President's Office reviewed it. A Public Hearing before the City Planning Commission was held on February 6, 2002 and the City Planning Commission adopted the application on March 6, 2002.

Final Design

Construction of the Phase I Aeration Facility will be performed in two stages. During the initial stage of construction, plastic perforated piping will be used and evaluated. If the perforated piping does not achieve the desired result, the piping will be replace with stainless steel pipe with air diffusers under the second stage of the construction contract.

The 30 % design was submitted to the Department in July 2002. The 60% design submittal is due on November 1, 2002. A presentation of the building architecture to the City Art Commission is scheduled for October 23, 2002.

- **Phase II Aeration Facilities**

This element of the facility plan includes aeration of the Lower English Kills, the East Branch and Dutch Kills. This work will follow the performance evaluation of the Phase I facilities.

- **Maximize Flow Through Morgan Ave. Interceptor**

In-line storage in the combined systems within the Newtown Creek wet weather tributary area has been determined to be inconsistent with the City drainage plan. An alternative to installation of in-line storage dams has been proposed that would increase the capacity of Regulator B1, increase flow through the Morgan Avenue Interceptor, and provide a relief sewer from the St. Nicholas Weir to Regulator B1. Facility planning for routing of the sewer has been completed. The facility plan includes throttling of the Kent Avenue Interceptor in order to allow more flow from the Morgan Avenue Interceptor to reach the WPCP. Modeling of the interceptors was performed to determine the size and operation of the throttling gate.

Receiving water modeling to assess the benefits of this proposal has established required volume for supplementary off-line storage.

Preliminary Design

Modeling to establish a control strategy for the Kent Avenue throttling gate is continuing. A meeting was held on August 14, 2002 with the Newtown Creek WPCP design team to exchange information regarding the facility, with a follow-up conference call on September 20, 2002. The facility will be constructed under the Newtown Creek WPCP project.

- **Off-Line Storage Tank**

This plan element comprises the construction of an off-line storage facility to control CSO discharge into English Kills. Flow would be diverted from the combined sewers flowing west along Johnson Avenue. As described in the May 1995 facilities plan, the proposed tank was to be on property located on Varick Avenue, adjacent to English Kills. The tank was to be co-located on the site with a Department of Sanitation facility.

Siting

An alternative siting proposal was developed, to construct the tank within the head end of English Kills. This proposal was sent to NYSDEC for comment on its feasibility. The Department met with NYSDEC on May 23, 2001 to review this proposal and to solicit comment from NYSDEC. The proposal was rejected because the Department had not established sufficient cause why a tank could not be constructed on existing land.

A re-evaluation of land based siting alternatives was initiated following this meeting. Six (6) alternative sites were reviewed and presented to the Department. Information presented to the Department included possible site plans, construction feasibility and risks, impacts on current occupants and neighborhood, and construction and O&M costs. The alternative sites were

screened and the advantages and disadvantages were evaluated. The preferred site is located at the intersection of Johnson and Morgan Avenues. This site is preferred due to its close proximity to the interceptor, outfall and force main. Concerns have been raised regarding dislocating 4 businesses with 105-115 employees and a presentation was made to NYCDEP's Commissioner on September 11, 2002 describing the proposed plan and the need for the preferred site. Approval to proceed with acquisition of the site is being sought from other City agencies. Additional work cannot proceed until a site decision has been made.

Facility Planning

A draft Facility Plan was prepared for construction of the storage facility on the preferred site. Modeling analysis was performed to verify CSO abatement projections. Preliminary plan and profile drawings and preliminary equipment sizing was performed. An updated Facility Plan Draft Report was submitted to the Department on June 5, 2002. The Department is continuing to review the report.

CEQR and Permitting

A draft EAS for the proposed storage facility was prepared. OEPA has reviewed and submitted comments to the report. A Phase I Site Assessment, including the site history and site inspection was prepared. OEPA has reviewed and accepted this report. A scope of work for the Phase II Site Assessment has been prepared. OEPA has reviewed and submitted comments to the scope of work. The phase II Site Assessment will begin once the Department is authorized to proceed with acquisition of this site, and access to the site is granted.

- **Sediment Dredging**

A dredging feasibility study was added to the facility plan at the request of NYSDEC. The feasibility of dredging CSO sediments from the branches of Newtown Creek was investigated. The investigation included a hydrographic survey to determine locations of sediment mounds and sediment sampling to clarify sediment quality.

Feasibility Study

The draft Dredging Feasibility Study Report was completed in October 2000. The Department anticipates collaboration with the Army Corps of Engineers to include the dredging of Newtown Creek with the COE Habitat Restoration Projects.

Table 11

Newtown Creek CSO Project

Plan Elements:	Maximize flow through Morgan Ave. Interceptor	Phase I Aeration Facilities	Off-line Storage Tank
Location:	Regulator B1 and WPCP throttling chamber	Head end of English Kills, south of Grand Street	Sewers tributary to CSO outfall discharging to English Kills
Actions:	Raise overflow weir in Regulator B1; increase sluice gate openings to interceptor; provide relief sewer from St. Nicholas weir to Regulator B1; provide throttling gate on Kent Avenue Interceptor.	Provide aeration of English Kills to raise DO concentrations to a minimum of 1.0 mg/l. The facility includes a landside compressor station and an air header and diffuser assembly on the Creek bottom.	Design of an off-line storage facility to control CSO discharge into English Kills. The facility would include the tank, a pumping station, and a new gravity drain to drain the tank for treatment at the Newtown Creek WPCP.
Cost:	$4,000,000*	$8,000,000	$93,000,000
Status:	Facility plan elements for modifications to regulator and routing of the relief sewer have been completed and included in an Updated Facility Plan Draft Report. Modeling of the interceptors was performed to determine the size and operation of the throttling gate. Coordination with the WPCP design team is continuing.	Preliminary design & CEQR completed. Permit issued by NYSDEC. Nationwide Permit No. 5 concurrence issued by USACOE. ULURP application adopted by City Planning Commission. Final design is approximately 50% complete.	Siting within English Kills was rejected by NYSDEC. Identified preferred site at intersection of Johnson and Morgan Avenues after re-evaluation of siting alternatives. Preliminary plan and profile drawings and preliminary equipment sizing prepared for construction of tank at preferred location. Updated Facility Plan Draft Report Submitted to DEP.
Other Issues:	Requires coordination with WPCP planning and design requirements	Phase II for the lower English Kills, the East Branch and Dutch Kills will follow.	Site approval (ULURP) and acquisition of property required.

* Does not include cost of Kent Avenue Throttling Facility to be constructed under Newtown Creek WPCP project.

I.) Jamaica Tributaries

The Jamaica Tributaries project area includes the Jamaica WPCP sewershed area and the tributaries, which receive the wet weather discharges from the drainage area. These tributaries include Bergen, Thurston, Shellbank, and Hawtree Basin, which are located in the northeast portion of Jamaica Bay.

A schedule for the Jamaica Tributaries CSO Facility Planning Project was transmitted to NYSDEC on August 8th.

Area-Wide Recommendations

- Clean the East Interceptor.

  The Jamaica WPCP East Interceptor sewer has been cleaned of accumulated sediments.

- Automate and improve the regulator system.

  As part of the Department's citywide effort to provide outfall alarm capabilities at key regulators, 7 outfall alarms will be installed in the Jamaica WPCP drainage area as per Omnibus IV Consent Order requirements.

  Continued the calibration of the HydroWorks model of the Jamaica WPCP drainage area. Confirming model input data including regulator drainage area and dry weather flow.

- Build-out storm sewers in Jamaica WPCP drainage area.

  A drainage plan for the Jamaica WPCP drainage area must be developed. The Department is in the process of awarding an engineering contract to develop the drainage plan. Proposals in response to the Bureau of Water and Sewer Operations RFP were submitted on June 27, 2002 and negotiations with the selected consultant have been initiated.

- Jamaica WPCP stabilization.

  The Jamaica WPCP stabilization project is currently under construction.

- Reconfigure forebay at JA WPCP.

  The HydroWorks hydraulic model of the drainage area is being developed. This model will be used to evaluate the hydraulics of the interceptor and forebay.

- Booming and skimming at basins.

  DEP continues the use of interim facilities to capture floatables with in-stream booms in Bergen and Thurston Basins, and to remove floatables with skimmer vessels.

- Nitrogen Control Action Plan

  An analysis of BNR technologies for the four (4) Jamaica Bay WPCPs was performed and documented in the Nitrogen Control Feasibility Plan (December 1998).

Thurston Basin Recommendations

- Eliminate dry weather flow.

  Completed fieldwork for the Phase II Site Investigation and Environmental Analysis for the abatement of Meadowmere and Warnerville dry weather discharge, as requested by the DEP. Groundwater and/or soil samples are being tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PCBs, pesticides, and metals. A final report will summarize the findings of this field investigation and will compare analytical results to NYS DEC TAGM 4046 Guidance Levels.

  Completed Preliminary Design Report for the Abatement of Meadowmere/Warnerville Dry Weather Discharges and submitted the final report to the DEP. Submitted Final EAS to the DEP for distribution. A pre-certification meeting for the ULURP application has been requested, and a meeting date with the Department of City Panning is anticipated in the next quarter.

  A detailed schedule for the construction of a wastewater/stormwater collection system, pumping station, and force main for the abatement of the dry weather discharge from this area was transmitted to NYSDEC on August 8th.

- CSO control vs. high-level storm sewers in the Laurelton area.

  As part of the build-out of storm sewers (area-wide recommendation) high-level storm sewers will be constructed in the Laurelton area as the control strategy for this area.

- Dredge basin.

  At this time, DEP has no immediate plans for dredging due to the high costs associated with land disposal of dredged sediments and the inability to dispose materials at an ocean mud dumpsite.

- In-stream basin aeration.

  In-stream aeration is being demonstrated and evaluated in the Newtown Creek waterbody. Results from this demonstration test are awaited.

Bergen Basin Recommendations

- Reduce CSO discharges through expansion of plant capacity.

  The Department has begun the RFR to select an engineering consultant to expand the wet weather capacity of the Jamaica WPCP from 200 to 250 mgd. A detailed schedule of this upgrade was submitted to NYSDEC on August 8th.

- Eliminate JA WPCP dry weather discharge.

  The abatement process to correct the dry weather illicit sewer connections into Bergen Basin, from Outfall JAM-006, has been substantially completed. The official certification confirming abatement was submitted.

  The related projects were as follows:

  Baisley Boulevard = #SEQ-002381 Construction completed
  (Installed new sanitary sewer fronting properties along Baisley Boulevard)

  Liberty Avenue = SE-744/SEQ-200260 Construction completed
  Tuckerton Street
  (Corrected illegal connections at locations along Liberty Avenue)

  The completion of the above Capital Sewer Projects resulted in the abatement of 65,580 GDP of flow entering Bergen Basin. The total amount of flow abated to date is 340,000 GPD with the remaining 1,500 GPD the result of the four homeowners who could not afford to make the necessary repairs due to financial hardships. These locations were forwarded to NYC's Department of Housing Preservation & Development to make the necessary repairs, and then place lines on the properties. Housing has provided no information up to this reporting period. DEP has requested an update on the status of the four hardship properties.

- Evaluate the potential for 7 MG in-line storage.

  A detailed analysis of flooding complaints in DEP's database of complaint records was conducted for the area proposed for in-line storage (Regulators 3 & 14). Based on the evaluation, in-line storage was found to be unfeasible due to excessive complaints.

- Dredge basin.

  At this time, DEP has no immediate plans for dredging due to the high costs associated with land disposal of dredged sediments and the inability to dispose materials at an ocean mud dumpsite.

- In-stream basin aeration.

  In-stream aeration is being demonstrated and evaluated in the Newtown Creek waterbody. Results from this demonstration test are awaited.

- Eliminate Jamaica WPCP discharge to Bergen Basin.

  The feasibility of installing a sluice gate in Jamaica WPCP outfall will be evaluated. Currently, the Jamaica WPCP has a dual outfall, one to Bergen Basin and one to Grassy Bay. Most of the effluent is discharged to Bergen Basin, but the installation of a sluice gate in the outfall would direct most of the flow to Grassy Bay.

Shellbank Basin Recommendations

- Bulkhead CSO outfall to basin.

  The construction work to bulkhead the inactive CSO outfall to Shellbank Basin has been completed. Therefore, there are no CSO discharges to Shellbank Basin, only stormwater.

- Pilot destratification system for basin.

  The pilot destratification facility was shut down in mid September. The third season of operation concluded with positive results, as expected, similar to those of the first two seasons.

  The ULURP and EAS for the review and approval of a permanent facility at Shellbank Basin have been completed. Mega Engineering, Inc. has completed a full detailed survey of the proposed site in the north Starbucks parking lot. This survey will be used for the preliminary design of the facility, which was initiated in September. A detailed schedule for the construction of a permanent destratification facility was submitted to NYSDEC on August 8th.

- Pilot chemical oxidation.

  A bench scale study of the feasibility of adding calcium nitrate to significantly reduce sediment oxygen demand (SOD) was performed. Sediment cores were taken from the Jamaica Tributary basins and analyzed in a laboratory setting to determine the effectiveness of various dosages of calcium nitrate on lowering the SOD. The results indicated that chemical oxidation of SOD in a marine environment is not effective.

Hawtree Basin Recommendations

- Construct sanitary sewers in Hamilton Beach.

  Construction of sanitary sewers in the area has been completed. The sanitary sewers were constructed to eliminate the failing septic tanks in this small community.

Meetings

Principal meetings held during this report period were as follows: Project Progress Meetings with NYCDEP on July 16 and September 17, 2002.

Table 12

Jamaica Tributaries CSO Project

Plan Elements:	Chemical Oxidation, HRPCT and Destratification Demonstrations	Abatement of Meadowmere and Warnerville	Preliminary Design – Thurston/Bergen Drainage Plan
Location:	Jamaica WPCP, Jamaica WPCP, and Shellbank Basin	Meadowmere and Warnerville – Queens, New York	Jamaica WPCP Drainage Area
Actions:	Conduct demonstration testing of new technologies	Construction of 1 Pumping Station, Sewer Collection System, and Dual Force Mains	Develop drainage plan for sewer separation
Construction Cost:	HRPCT Pilot - $100,000 Destratification Pilot - $100,000	$12.2 million	To be determined
Status:	- Developed a Process Evaluation / Impact Report for HRPCT Demo Plant - Initiated Preliminary Design of Permanent Destratification Facility	Preliminary Design Complete; ULURP and EAS Submitted	Consultant Selection Process Underway

J.) Citywide Floatables

Work continued on tasks being performed for the development of the Comprehensive City-Wide Floatables Control Abatement Plan. During the period July through September 2002, progress continued on tasks related to comprehensive plan development, public outreach, in-stream controls, wet weather capacity analysis, CSO modeling, floatables loadings, and CSO abatement demonstration projects.

- ***Comprehensive Plan Development***

Coordinated efforts continued between the Use and Standards Attainment (USA) Bronx River Plan and the Hunts Point WPCP Comprehensive Plan. CSO and floatables control options were evaluated for Bronx River outfalls. The final report on a survey of floatables material in the Bronx River and at the border of Westchester and Bronx Counties was reviewed and incorporated into the draft Preliminary Bronx River Waterbody/Watershed Plan under the USA project.

Work continued on the Tallman Island WPCP draft comprehensive plan. Information was collected on the combined sewer system, drainage area and shoreline characteristics. Flow monitoring and manhole and regulator inspections were completed. Work was completed on comparing the basic information of the hydraulic model for Tallman with the SWMM model to establish consistency. Work continued on computer hydraulic modeling of the operation of the interceptor/regulator system. An analysis of potential alternatives, which would respond to system limitations, was performed, and an analysis of the costs and feasibility of these alternatives was also completed. An evaluation of the headworks of the Tallman Island WPCP was completed to determine its ability to accept 2xDDWF. The evaluation included meetings with plant personnel, a review of on-site records and as-built drawings, and an inspection and measurement of flow velocities. Engineering design calculations were performed following the review and analysis of the information collected.

Joint meetings were held to review planning effort and schedules for the USA Flushing Bay water body study and the Comprehensive Plan Tallman Island WPCP study. Planning schedules were prepared for DEP on completion of the Corona Avenue Vortex evaluation and long-term CSO control analyses for Flushing Bay, and Flushing Bay Plan Implementation. These schedules were submitted to NYSDEC on August 9, 2002.

- ***CSO Modeling and Floatables Loadings***

A technical memorandum on the use of hydraulic computer sewer system models within New York City was completed and a draft report was presented to DEP on July 17, 2002. Work was completed on calibration of URS's XP-SWMM model for the Tallman Island WPCP drainage area.

- ***Public Outreach***

DEP met with the Mayor's Office of Environmental Coordination to discuss the research conducted on public education and outreach, as well as other potential Best Management Practices, and to develop a direction for the City to follow. A short presentation is being prepared for the Commissioner on public outreach and other BMPs.

- ***In-Stream Controls***

DEP is investigating the use of inter-pier skimmer vessels for use in floatables removal where other CSO control measures are not feasible. These vessels would be completely self-contained, self-powered, and capable of operating on New York City inter-pier waterways. The RFP and PSR for the first phase, which covers the conceptual/preliminary design to meet the performance criteria for the DEP inter-pier marine trash skimmer vessels, have been finalized. A cost analysis for operation and maintenance (O&M) costs was performed on the inter-pier skimmer boats. The CP was revised to include the projected O&M costs.

- ***Wet Weather Capacity Analysis***

A final draft of the wet weather operating plan specification entitled "Specification For Preparing Wet Weather Operating Plans For New York City Wastewater Pollution Control Plants" was prepared and submitted to DEP for internal distribution and review. The Bureau of Wastewater Treatment provided comments that are being addressed. The final draft was expanded to include a more comprehensive analysis of treatment plant operating data and an analysis of plant wet weather flow data for determining observed wet weather capacity.

- ***Cryders Lane Outfall Diversion Channel Project***

Design and Construction

The contractor initiated construction activities on the Cryders Lane Diversion Channel project in September. The contractor, Spearin, Preston and Burrows (SPB) started in early September to submit requests for manufacturer approvals and approval for shop drawings. HydroQual reviewed the following submittals during September: alternate manufacturers for the floating netting system for floatable control, SPB corporate health and safety plan (HASP), and shop drawings for the concrete culvert, steel sheeting for the diversion channel, pile driving equipment for installing the steel sheeting, false work layout and temporary bracing, and false work calculations. HydroQual has approved the pile driving equipment. HydroQual has reviewed and returned all submitted shop drawings that were received to the contractor requesting additional information. HydroQual's review of the alternate netting manufacturers was submitted to DEP in early September as requested. Both alternate manufacturers were rejected based on not meeting the years of experience and the number of online operating systems requirements defined in the floating netting control technology specifications. SPB's corporate HASP was reviewed and comments were submitted. HydroQual's comments centered on the general nature of the HASP, and that the HASP should be specific for the Cryders Lane construction site. HydroQual also attended a Community Board #7 meeting on September 5,

2002 with DEP and the contractor to review the construction activities for the outfall diversion channel project.

III. Project Progress for Use and Standards Attainment Project

The Use and Standards Attainment (USA) Project is being conducted by the New York City Department of Environmental Protection (DEP) for waterbodies throughout New York Harbor to address compliance with water quality standards and designated uses. The goals of the USA Project are to:

- Define, through a public process, more specific and comprehensive long-term beneficial use goals for each waterbody, including habitat, recreational, wetlands and riparian uses, in addition to water quality goals, thus maximizing the overall environmental benefit;
- Develop technical, economic, public and regulatory support for prioritizing and expediting implementation of projects and actions needed to attain the defined goals; and
- Provide the technical, scientific and economic bases to support the regulatory process needed to define water quality standards for the highest reasonably attainable use and to allow water quality standards to be attained upon implementation of recommended projects.

Waterbody/Watershed assessments are being conducted for more than 23 waterbodies throughout New York Harbor. The waterbodies include major open water areas of New York Harbor and selected urban tributaries. The following is a brief description of USA Project activities for the period of July 1 to September 30, 2002.

- **Waterbody/Watershed Assessments**

The USA Project is conducting focused waterbody/watershed assessments on more than 23 waterbodies. Organization of the waterbodies was modified during this reporting period to recognize the City's need to develop long-term CSO control plans and more realistically reflect effective coordination between the USA Project, the Comprehensive City-Wide Floatables Control Abatement Plan project, and they City's various CSO and water quality facility planning projects. Waterbody/watershed assessments have been redistributed into nine groups. The "pilot waterbody/watershed assessments", Paerdegat Basin and the Bronx River, represent Groups 1 and 2, respectively. The Group 3 waterbodies are Bergen and Thurston Basins. Fresh, Hendrix and Spring Creeks are the Group 4 waterbodies. Jamaica Bay, Sheepshead Bay, Mill and East Mill Basins, and Shellbank Basin are the Group 5 waterbodies. Alley Creek, the East River, Flushing Creek and Bay, the Hutchinson River, and Westchester Creek are the Group 6 waterbodies. Gowanus Canal and Newtown Creek are the Group 7 waterbodies. The Arthur Kill, Harlem River, Hudson River, Arthur Kill, Lower New York Bay, Raritan Bay, and Upper New York Bay are the Group 8 waterbodies. Coney Island Creek constitutes Group 9. The waterbody/watershed assessments include various activities including existing data and information gathering/compilation, watershed/waterbody field investigations and data collection, public outreach in the form of stakeholder teams, land use and shoreline characterizations, data management, watershed and receiving water mathematical modeling, ecosystem (habitat) evaluations, waterbody use evaluations, problem identification and prioritization, engineering analyses, and waterbody/watershed planning.

Assessment Schedule

The Paerdegat Basin assessment is completed and the Preliminary Paerdegat Basin Waterbody/Watershed Plan has been finalized. Follow-up regulatory actions are now proceeding with the State of New York to advance the Paerdegat Basin plan. A Preliminary Bronx River Waterbody/Watershed Plan is being finalized. Work is ongoing on assessment Groups 4, 5, 6, and 7.

Local Waterbody/Watershed Stakeholder Teams

Stakeholder involvement is a critical component of the USA Project. Local stakeholder teams are being convened for each waterbody assessment. The USA Project has formed local waterbody stakeholder teams for the Bronx River and Paerdegat Basin. Efforts are currently underway to convene additional teams as assessments begin in other waterbodies.

The Paerdegat Basin Stakeholder Team has met on four occasions and has received presentations on the status of the Paerdegat Basin CSO Facility Plan; results of Paerdegat Basin related investigations of the USA Project; results of field investigations; and projections of water quality and standards compliance for the implementation of the Paerdegat Basin Preliminary Waterbody/Watershed Plan. Stakeholder team members have provided feedback on existing and desired uses for Paerdegat Basin.

The Bronx River has met on three occasions and has received presentations on the status of the Bronx River CSO Facility Plan and the Bronx River related investigations of the USA Project. Stakeholder team members have provided feedback on existing and desired uses for the Bronx River.

Efforts began this reporting period for forming stakeholder teams for the Gowanus Canal, Newtown Creek, and Jamaica Bay waterbody/watershed assessments. DEP has made presentations to several New York City Community Boards to introduce the USA Project and the value of the stakeholder team process. Lists of candidates for each of the stakeholder teams are being developed.

Field Investigations

Field Sampling and Analysis Programs (FSAPs) are being developed and executed to conduct field investigations for waterbody/watershed assessments. Specific FSAPs address biological sampling, shoreline characterizations, and other investigations necessary for collecting comprehensive information on each waterbody/watershed, where no information has previously been collected or is out of date. A Field and Laboratory Standard Operation Procedures (SOP) document for the USA Project is being used in support of FSAP execution. This document is updated when new procedures are required for additional investigations. The SOP and all FSAPs are developed in conformance with SOP guidelines developed by the U.S. Environmental Protection Agency (EPA) and discussed with the EPA Monitoring and Assessment Branch in Edison, NJ.

Laboratory work continued on biological samples collected during the year 2001 harbor-wide epibenthic and ichthyoplankton investigations. A FSAP was executed to further characterize epibenthic, ichthyoplankton, zooplankton, and fish communities in selected waterbodies. Ichthyoplankton, zooplankton, and fish trawling were completed this reporting period in Paerdegat and Mill Basins, and at three Jamaica Bay stations. Fish stomach samples were preserved for later analysis if determined necessary for refined characterization purposes. Ichthyoplankton sub-samples were preserved and shipped to the University of Connecticut for RNA/DNA typing and identification Quality Assurance/Quality Control (QA/QC). The FSAP document for this FSAP was finalized. The project Standard Operating Procedures (SOP) document is being revised to reflect the addition of zooplankton sampling to the USA Project. Laboratory analytical work and database entry with QA/QC is ongoing.

A sampling program was completed for characterizing total and fecal coliform and enterococcus in New York City's sanitary sewage. The program sampled the influent of all 14 New York City Water Pollution Control Plants (WPCP). Each WPCP was sampled five occasions on a rotating schedule. Four samples were collected on an hourly basis on each sampling day. Sampling was performed following at least one full day of dry weather to assure that the samples truly represent sanitary sewage. This information is being used to reinforce the selection of sanitary pathogen concentrations for mathematical modeling purposes. A database for the sampling is being compiled and reviewed for QA/QC. The data is being compared to data collected during previous monitoring programs and the literature for ground truthing.

The USA Project and the DEP Harbor Survey installed continuous monitoring sensors at several locations in the New York Harbor complex. Remote sensors were installed at each location to continuously monitor surface and bottom salinity, temperature, dissolved oxygen, and other parameters to better characterize water quality conditions concurrently with biological investigations. The Worlds Fair Marina in Flushing Bay and two sites in the saline reach of the Bronx River were selected in addition to the Harbor Survey's original site in the East River at Wards Island. The USA Project installed the mounting hardware and the Harbor Survey installed all the remote sensors by August 29, 2002. Two sensors were placed at the Worlds Fair Marina and two at the mouth of the Bronx River. One sensor was placed at a location near DEP's Bronx River Interim Floatables Containment Program boom. The Harbor Survey is servicing the sensors weekly and providing recorded data to HydroQual through the end of the USA Project's biological sampling, which is planned to conclude in late October.

A Tributary Benthos Characterization FSAP was executed during July 2002 for investigating New York City tributaries throughout New York Harbor. This FSAP gathered data for total organic carbon model calibration and habitat assessments. CR Environmental, Inc., a qualified Woman-owned Business Enterprise (WBE), executed the FSAP. Reconnaissance and data collection surveys were completed during the month of July. The project SOP was revised, Revision No. 1, to include the types of sampling required to perform this investigation.

Data Management

Sewer system, surface water, sediment, biological, and many other categories of data are continually being compiled from a variety of sources to construct a relational database. The

database consists of data from DEP's Harbor Survey, the Interstate Environmental Commission, the National Park Service, and virtually all of DEP's past and ongoing CSO and water quality facility planning projects. The relational database is integrated with a Geographic Information System (GIS) such that spatial information is maintained for analyses. Water quality, biological, and other data forms collected by the USA Project are being added to this relational database for waterbody assessments with quality assurance/control verification.

Land Use and Shoreline Characterizations

Land use and shoreline characterizations described in the previous status report are continuing. The characterizations are general in nature and build upon existing data. Field verification of the analyses is being performed as existing information is compiled and interpreted. Land use and shoreline characterizations are being conducted on all USA Project waterbodies and watersheds at this time.

A shoreline development index analysis is being performed to develop a multi-metric measure of tributary habitat complexity that might be correlated with marine species abundance and diversity. Shoreline development indexes (SDI) are being calculated using GIS data for shoreline lengths and waterbody surface areas of USA Project waterbodies. Measures of wetlands and/or salt marshes in the waterbodies are also being conducted for added correlation purposes. The SDIs are then being compared to biological data to develop correlations between habitat and aquatic life. Preliminary SDI analyses have been conducted for the Hutchinson and Bronx Rivers and the analyses are being reviewed.

Waterbody/Watershed Mathematical Modeling

An important component of the USA Project is assessing existing conditions in waterbodies as well as projecting the long-term benefits of the DEP's various water quality improvement projects. Mathematical modeling consists of both watershed modeling and receiving water modeling. The models are being prepared to calculate water quality conditions for a meteorologically average annual period. The annual period was selected from available rainfall statistics and available modeling abilities. Statistical and return-period analyses were performed on the fifty-year rainfall record of New York City to select the annual-average year - 1988. This simulation period is being used for all waterbody modeling of baseline, facility plan, and sewer separation scenarios. DEP's System-Wide Eutrophication Model (SWEM) is the primary model being used to assess harbor-wide conditions as well as calculating boundary conditions for tributary models. The Jamaica Bay Eutrophication Model (JEM) is being used to assess conditions in Jamaica Bay and calculate boundary conditions for Jamaica Bay tributaries. Tributary models are being used to assess near-field water quality impacts of point and non-point sources and evaluate long-term improvement alternatives.

A design condition analysis is being performed to assure that evaluations of use attainability are being performed using appropriate conditions and reinforce the selection of year 1988 as a design condition for mathematical model simulations. An analysis of 1988 and 1989 rainfall records in comparison to the long-term rainfall period of record was conducted. Following this analysis, long-term watershed simulations were performed for all fourteen New

York City WPCPs in order to compare calculated 1988 CSO discharges to long-term calculations. Long-term analyses of July CSO discharges were also analyzed to evaluate the statistical representativeness of the July 1988 period.

Watershed modeling for SWEM and JEM is primarily being performed using HydroQual's RAINMAN model, which is a simplified rainfall-runoff models to calculate watershed pollutant loadings to receiving waters. Watershed models are being modified and updated for all fourteen of New York City's WPCPs as new information is developed and water quality improvement plans evolve. The models are calibrated to the City's WPCP flow data for the years 1996 and 2000. Detailed hydraulic models (SWMM) are being used for simulating combined sewer systems for tributary assessments. These models are being used for the Paerdegat Basin and Bronx River assessments.

Mathematical modeling of Paerdegat Basin concluded and final analyses were performed to finalize the Preliminary Paerdegat Basin Waterbody/Watershed Plan. Simulations were performed to evaluate baseline, facility plan, and sewer separation scenarios using revised CSO discharge calculations from HydroQual's RAINMAN model. Engineering alternatives were also simulated to evaluate supplemental aeration, which was requested by the U.S. Environmental Protection Agency (EPA) during a January 2002 Harbor-Wide Government Steering Committee meeting.

Mathematical modeling of the saline reach of the Bronx River concluded. Additional strategies beyond the current CSO facility plan were evaluated to achieve compliance with water quality standards and criteria for the Bronx River while also meeting water use goals of stakeholders. Simulations were performed to evaluate baseline, facility plan, and sewer separation scenarios using revised CSO discharge calculations from HydroQual's RAINMAN model and more sophisticated SWMM models of the Hunts Point WPCP service area.

Mathematical modeling activities for Flushing Bay and Creek continued this reporting period. A receiving water model of these waterbodies previously developed as part of the USACE's Flushing Bay and Creek Ecosystem Restoration Study is being used to evaluate waterbody modification options that may enhance benthic habitat and species diversity while also addressing aesthetic issues.

A model grid for the USA Project's East River Tributaries Model is being developed to model the Group 6 waterbodies. The grid is built upon the SWEM grid but has a finer spatial resolution in the tributaries of interest. Trial runs of the hydrodynamic component are being performed using HydroQual's ECOM-Si, which allows for wetting and drying of grid cells. Several of the East River embayments and tributaries (e.g., Flushing Bay and Flushing Creek) have large expanses of exposed mudflats at low tide, thus modeling of wetting-and-drying dynamics is an important consideration. Current work is focused on adding meteorological forcing, updating model inputs (e.g., river flow, rainfall runoff, etc.), specifying open boundary conditions from SWEM, and generalized model adjustment and debugging.

Efforts continued for developing an approach to watershed/waterbody modeling of Gowanus Canal. Watershed and receiving water models were previously developed for the

Gowanus Canal CSO Facility Planning Project and are now being evaluated for application to the Gowanus Canal waterbody/watershed assessment. Meetings were held with the U.S. Army Corp of Engineers (USACE) to coordinate activities with its Ecosystem Restoration Study of Gowanus Bay and Canal to identify the mathematical modeling necessary to fulfill DEP's in-kind services commitments in parallel with the USA Project. The receiving water model of Gowanus Canal, Creek and Bay used for the CSO facility planning project was recovered and is being evaluated to determine what modifications/updates will be necessary to address use assessment and attainability issues of the USA Project and ecosystem analysis requirements of the USACE project.

Mathematical modeling of Jamaica Bay by the USA Project is being coordinated with DEP's Jamaica Bay CSO Facility Planning Project, the Jamaica Bay Eutrophication Project, and the Long Outfall Project to assure consistency of approach. The progress of these activities influences the schedules for Jamaica Bay and back-bay tributary waterbody/watershed assessments. The Jamaica Eutrophication Model (JEM), which is being used by the USA Project, is undergoing a review by a Model Evaluation Group (MEG). Mathematical modeling of the 26th Ward Tributaries (Fresh, Hendrix, and Spring Creeks) by the Jamaica Bay CSO Facility Planning Project is being monitored by the USA Project to assure consistency of approach. Existing conditions and long-term CSO control alternatives are being evaluated using the same approach as the USA Project.

Ecosystem Evaluations

Data collected during field investigations are being used to comprehensively analyze existing ecological conditions of USA Project waterbodies. Comparisons are being made between waterbodies of similar and differing water quality and habitat conditions both within and outside New York Harbor. Information developed by mathematical modeling is also being used to assess existing benthic and water quality biological conditions and to assess future potential conditions with anticipated water quality improvements of facility plans and other pollution abatement programs. Evaluations of existing and potential dissolved oxygen conditions are being conducted for larval growth, larval survival, and juvenile growth of aquatic species for dissolved oxygen conditions. Evaluations are now focused on the Bronx River, the East River, and Jamaica Bay waters.

Engineering Analyses

Engineering analyses are being conducted to identifying control alternatives that may be implemented in addition to WPCP and CSO facility plans such that water quality goals are met. CSO abatement alternatives such as outfall relocation, additional storage, floatables controls, and disinfection are being evaluated. Costs, constructability, implementation schedule, environmental impact, and other associated issues are being developed with conceptual planning of these alternatives. Floatables controls and facility plan enhancements are being identified and evaluated in coordination with the DEP's Comprehensive City-Wide Floatables Control Abatement Plan project and DEP's CSO facility planning projects.

Public Opinion Survey

A public opinion survey is being conducted to measure how various City populations feel about, use, and might use water resources in their community and elsewhere throughout New York Harbor. The survey will investigate question areas such as how people feel about their waterbodies (i.e., the importance they place on them); what waterbodies they use; existing and desired uses of the waterbodies; if not used, why not; and, reactions to potential improvements of the waterbodies. Survey activities include focus groups, a telephone survey, and a mail survey. Five focus group sessions were held in July and August 2002; each group consisted of residents representative of the five boroughs of New York City. Audiotapes, videotapes, and a report on the sessions document the proceedings. Efforts are currently underway to develop the telephone survey.

Waterbody/Watershed Planning

The Paerdegat Basin Preliminary Waterbody/Watershed Plan was further discussed with the NYSDEC this reporting period. NYSDEC requested that a Use Attainability Analysis be prepared by the USA Project and submitted to NYSDEC as soon as possible. This is being prepared for submission to NYSDEC by the end of the year. Planning efforts continued on the Bronx River Preliminary Waterbody/Watershed Plan.

- **Interagency Coordination**

Harbor-Wide Government Steering Committee

A Harbor-Wide Government Steering Committee provides guidance and coordination for conducting the USA Project. Members of the Harbor-Wide Government Steering Committee represent the U.S. Environmental Protection Agency, the National Park Service, the U.S. Army Corps of Engineers, the Interstate Environmental Commission, the New York State Department of Environmental Conservation, the New York City Departments of Environmental Protection, City Planning, and Parks & Recreation, and the New York City Citizens Advisory Committee on Water Quality. Harbor-Wide Government Steering Committee meetings are scheduled to occur on a quarterly basis. There were no Steering Committee activities this period. The next meeting has been scheduled for December 2002.

U.S. Army Corps of Engineers Ecosystem Restoration Studies

The USA Project is conducting a variety of field and engineering investigations that are similar in scope to proposed plans being developed by the U.S. Army Corps of Engineers (USACE) for New York Harbor and its tributaries. These plans are primarily focused on habitat/ecosystem restoration. USA Project efforts are continually being evaluated for identifying cost-sharing opportunities that will fulfill DEP's commitments as a local sponsor to the USACE projects. Specifically, the USA Project is coordinating its activities with the USACE's restoration work on Jamaica Bay, Gowanus Canal, Flushing Creek and Bay, and the Bronx River. The USA Project is also gathering information on these projects to identify the water quality benefits and how they can be integrated into DEP's waterbody/watershed plans.

New York /New Jersey Harbor Estuary Program

The USA Project is being coordinated with the New York/New Jersey Harbor Estuary Program's (HEP) Nutrient Work Group (NWG). DEP's SWEM is being applied for initial phases of possible Total Maximum Daily Loads (TMDL) for nutrients and organic carbon to the harbor area. Such work is relevant to, and needs to be coordinated with, the USA Project. A kick-off meeting was held with the NWG on September 18, 2002 to discuss initial model executions. A recommendation was made by the USA Project to consider use of 1988 hydrological conditions so that NWG modeling activities can be coordinated with those of the USA Project. The NWG decided to perform an initial baseline calculation using two full calendar years, 1988 and 1989, for preliminary assessments and then determine how best to proceed.

- **Project Documentation, Reports, and Publications**

Preliminary Waterbody/Watershed Characterizations

Preliminary waterbody/watershed characterization documents are being developed for all waterbodies being assessed by the USA Project. Documents are completed for Paerdegat Basin, the Bronx River, and Jamaica Bay. Documents are being developed for all remaining USA Project waterbodies. These preliminary characterization documents are being used as a baseline for developing more comprehensive documents for each waterbody/watershed as their assessments proceed and planning is begun.

Preliminary Waterbody/Watershed Plan Reports

Efforts are underway to complete a preliminary waterbody/watershed plan report for Paerdegat Basin. The draft report includes all information used to construct the plan. A UAA is also being prepared for Paerdegat Basin. A preliminary waterbody/watershed plan report is being drafted for the Bronx River.

Project Web Site

A project web site describing the objectives of the USA Project and the importance of public participation is now accessible to the public (http://www.nyc.gov/depusa). The web site has specific areas focused on each of the waterbody/watershed assessments. Dissemination of local waterbody stakeholder teams documents such as meeting notes is facilitated. Federal and state regulations on designated uses and water quality standards are described with links to governmental sites for additional information. An interactive mapping tool provides spatial representations of USA Project and general DEP activities such as the Harbor Survey.

IV. Demonstration Projects

A.) Destratification Demonstration at Shellbank Basin

The purpose of this demonstration is to specifically address the poor water quality that seasonally exists in Shellbank Basin (located in the Jamaica Bay) due to natural temperature stratification of the waterbody.

System Design

In an effort to mitigate the natural temperature stratification, which results in marine kills and odor releases, a full-scale destratification demonstration system has been installed in Shellbank Basin. The destratification facility consists of a shore-side compressor station and diffused-air lines, which run along the bottom of the basin. The destratification system delivers compressed air to the basin bottom, which vertically mixes the water column of Shellbank Basin to create an isothermal condition.

System Operations

The third year of the demonstration was successfully completed in September. Receiving water monitoring indicated that the facility was able to maintain a vertically uniform temperature in Shellbank Basin. No odor complaints associated with past chronic stratification were received from the residents near Shellbank Basin. The facility was shutdown for the fall/winter seasons and will be reactivated in the beginning of June 2003.

B.) In-Line Storage

The Hunts Point drainage basin comprises the eastern two thirds of the borough of the Bronx. It is bounded by Westchester County to the north and the East River estuary to the east and the south. The drainage area comprises of approximately 1,800 acres of urban terrain. The Hunts Point drainage area sewer system may be appropriate for in-line storage because of a large sewer storage capacity, shallow hydraulic grade, gravity flow, and low potential for flooding.

The Hunts Point In-line Storage project incorporates the use of three inflatable dams, installed in sewers within the Hunts Point drainage basin, to make use of the in-line storage capacity of the sewers. The purpose of this project is to demonstrate the technology and ascertain the operational and maintenance issues and concerns at actual full-scale New York City installations. The systems from two inflatable dam manufacturers, Rodney Hunt and Bridgestone, will be tested. O'Brien and Gere will be operating both systems for a period of one year.

The use of inflatable dam sewer installations is planned for use at some Track 1 CSO abatement projects and could be involved in Track 2 CSO abatement projects (floatables and settleables control).

At this time the functional testing and dry weather flow monitoring phase is underway.

C.) High Rate Physical Chemical Treatment

The Port Richmond WPCP was selected as the best-suited site for the demonstration facility. It is envisioned that the demo facility will consist of two 6 mgd HRPCT units running side-by-side, a Krueger Actiflo unit and an IDI Densadeg unit. An analysis and technical report of the process impacts of siting the HRPCT demonstration facility at Port Richmond was completed and is being reviewed by NYCDEP.

D.) CSO Control Technologies

The evaluation of a hinged baffle system as retrofit CSO control technologies continued during this period. Alden Research Laboratory (ARL) has completed hydraulic model testing of the hinged baffle system. A draft report from Alden Research Laboratory (ARL) on the hydraulic model testing results was reviewed and HydroQual comments were forwarded to ARL for inclusion in the final report. The draft technical memorandum on the CSO demonstration project is being reviewed and updated.

V. Contracts

- **New Contracts**

  No new contracts were reported this quarter.

- **Change Orders**

  - ***Jamaica Bay***

    The NYCDEP directed OBG in to prepare Change Order X-7 to Jamaica Bay Contract I to cover the additional engineering costs associated with additional alternatives analyses for the Fresh Creek CSO facility planning. The final CO was submitted to the NYCDEP by OBG in early October 2002.

  - ***Hunts Point In-Line Storage***

    The NYCDEP directed OBG to prepare Change Order X-1 to East River Contract I to cover the additional engineering costs associated with additional months of operation and to provide spare parts and repairs/maintenance following expiration of warranties. This change order was submitted to the NYCDEP by OBG in early October 2002 for review.

VI. Public Participation

- **Public Outreach**

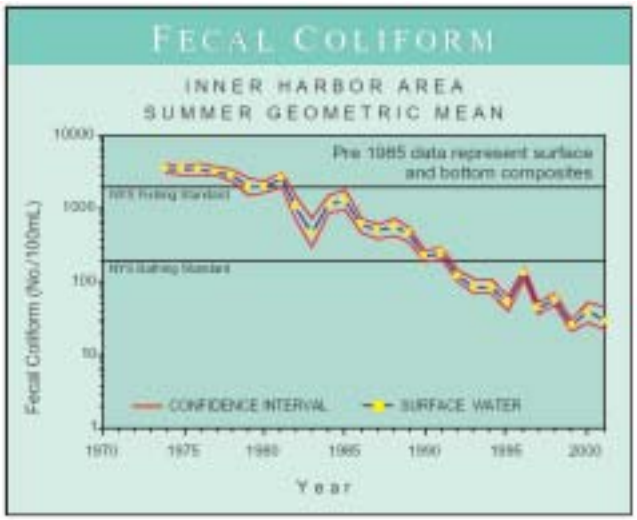
Citizens Advisory Committee on Water Quality

Two *Citizens Advisory Committee on Water Quality Meetings* were held during the third quarter period, on July 10, and July 11, 2002. The July 10 meeting was a regularly scheduled meeting of the CAC on the New York State Pollutant Discharge Elimination System (SPDES) permit renewals for New York City's14 water pollution control plants (WPCPs), combined sewer overflows (CSOs), and stormwater outfalls. The meeting on July 11 was a scientific round-table on the filtration of the Croton water supply system. The agendas from the meetings are presented in Appendix B.

VII. Water Quality

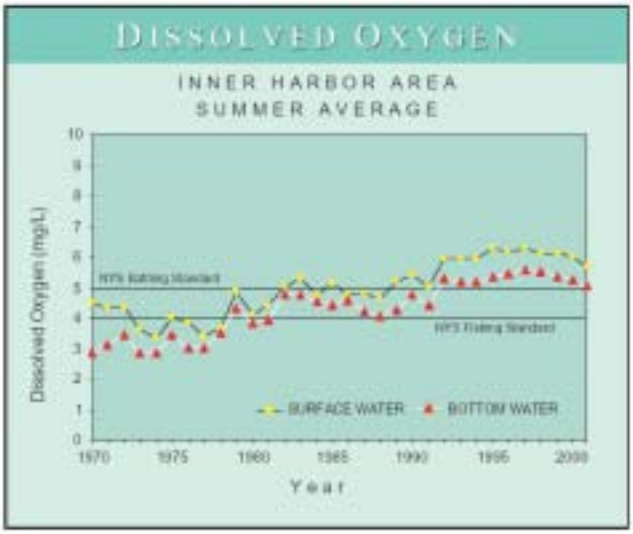
The following information was taken from the New York Harbor Water Quality Regional Summary Report for the year 2001.

- **Inner Harbor**



Sanitary water quality as estimated by fecal coliform (FC) concentrations was excellent for the Inner Harbor Area in summer 2001. All IH Area monitoring sites complied with monthly FC standards of 200 cells/ 100 mL.

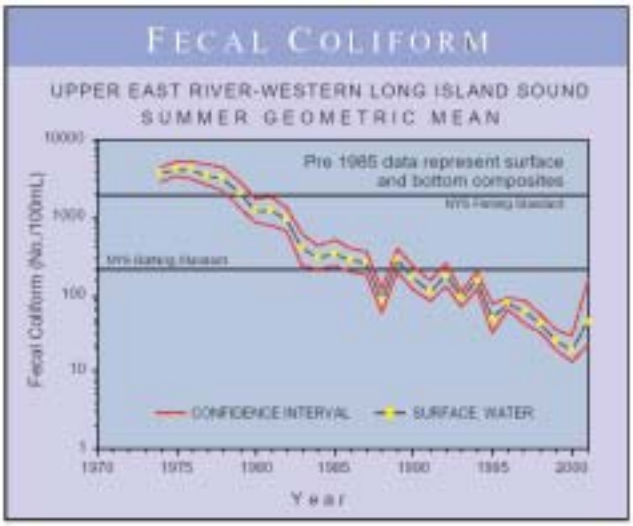
Fecal coliform concentrations for the Inner Harbor Area show a dramatic decline from the early 1970s to the present time. Today's water quality has improved to the degree that surpasses conditions deemed appropriate for most recreational activities, whereas 1970s water quality did not meet fishing standards.



Dissolved Oxygen (DO) values in the Inner Harbor area declined slightly from 2000. However, average DO values remained above the DEC standard of 4 mg/L deemed appropriate for fishing for both surface and bottom waters.

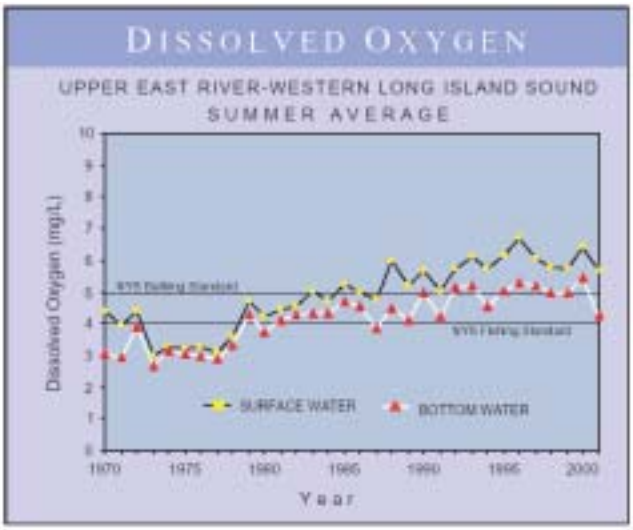
Dissolved oxygen has shown a consistent increase in the Inner Harbor Area over the past 30 years. The average DO values for bottom waters have increased from below 3mg/L in 1970 to nearly 6 mg/L in 2001.

- **East River**



In 2001, a slight increase in fecal coliform concentrations was observed for this area. Average levels increased from 19 cells/100 ml to 65 cells/100ml. Weather and illegal connection are suspected of causing this upturn. Corrective action is ongoing.

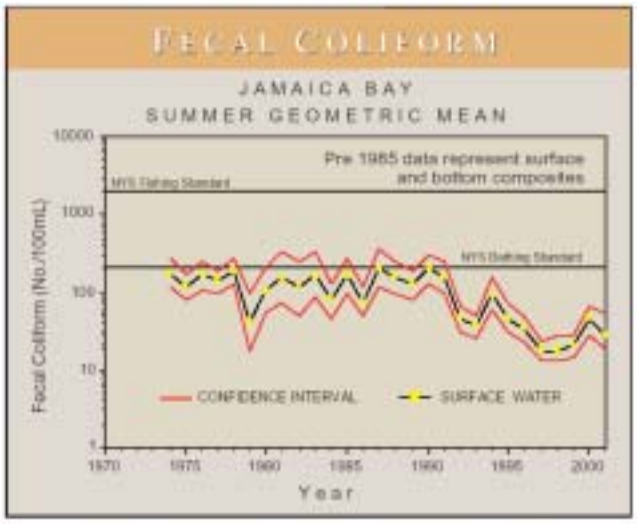
Fecal coliform levels in 2001 reversed the trend that has been observed in the Upper East River - Long Island Sound (UER-LIS) region for the past twenty years. A similar upturn was observed in 1989, with a downward trend following thereafter for the past two decades.



Average summer DO values for the UER-LIS vicinity showed a pattern similar to that displayed by fecal coliform values. However, at all stations the surface waters met or exceeded state standards, and only two stations showed average levels below standards in the bottom waters (a decrease from three in 2000).

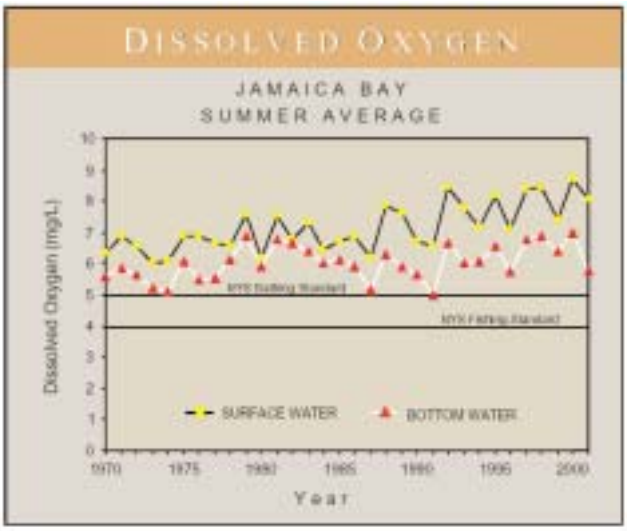
Trend analysis for the UER-WLIS area shows an increase in DO of almost 2 mg/L for top waters and almost 1.5 mg/L for bottom waters since 1970.

- **Jamaica Bay**



In 2001, sanitary water quality was superior for Jamaica Bay, with summer fecal coliform concentrations well below standards for most stations.

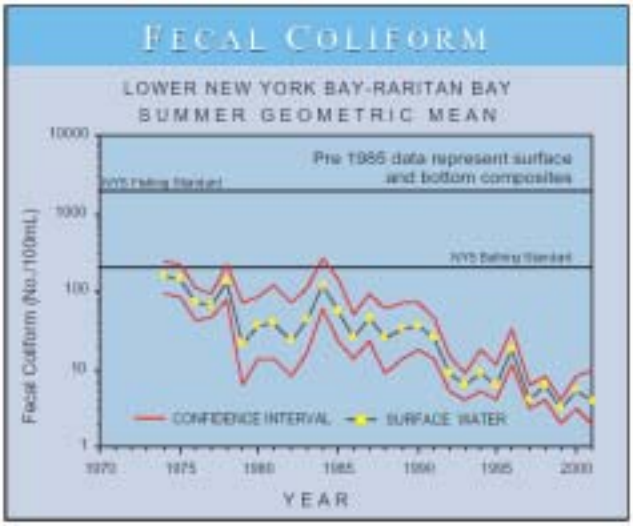
Trends for Jamaica Bay FC, from the early 1970s until 1990, show considerable variability above and below the standard. However, beginning in the 1990s, a significant improvement is apparent. From this point, and continuing through 1999, the geometric mean FC concentration decreased by an order of magnitude.



The summer averages for dissolved oxygen for surface and bottom waters surpassed the New York State standard of 5 mg/L for bathing at all Jamaica Bay sites.

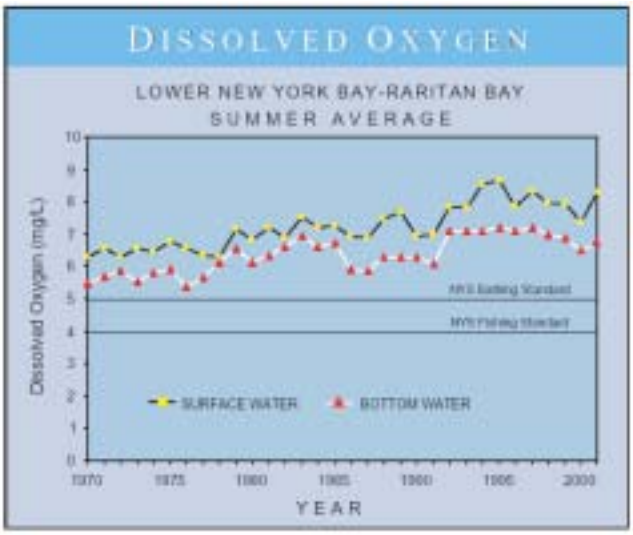
Average DO concentrations in Jamaica Bay have shown improvement over the past 30 years; with top waters often reaching DO levels over 8 mg/L since the 1990s.

- **Outer Harbor**



Fecal coliform levels in the Lower Bay / Raritan area (collectively, dubbed Outer Harbor) surpassed NYS standards, with all stations having average summer values below 20 cells/100ml.

Fecal coliform concentrations for Outer Harbor show significant declines from the early 1970s to the present time.



Dissolved Oxygen values for top and bottom waters show excellent compliance with the NYS DO standard of 5 mg/L.

Since 1970, average DO concentration have increased by 1.75 mg/L – from just over 6 mg/L to just over 8 mg/L for surface waters, and from about 5.5 mg/L to nearly 7 mg/L for bottom waters.

APPENDIX A

QUARTERLY REPORT ON STATUS OF CITY-WIDE FLOATABLES PLAN

City of New York
Department of Environmental Protection
Bureau of Environmental Engineering
Comprehensive City-Wide Floatables Control Abatement Plan

TECHNICAL MEMORANDUM

QUARTERLY REPORT ON STATUS OF CITY-WIDE FLOATABLES PLAN JULY 2002 - SEPTEMBER 2002

HydroQual Environmental Engineers and Scientists, P.C.
In Association With
HydroQual, Inc.

October 2002
Project No: NYDP4008/89

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GLOSSARY OF ACRONYMS USED IN THIS REPORT

BNR	Biological Nutrient Removal
CAC	Citizens' Advisory Committee
CB-01	Capital Program for replacement of collapsed catch basins
CP	Capital Program (NYC)
CSO	Combined (Sanitary and Stormwater) Sewer Overflow
DEC	Department of Environmental Conservation (NYS)
DEP	Department of Environmental Protection (NYC)
DWF	Dry-Weather Flow
DDWF	Design Dry-Weather Flow
DOS	Department of Sanitation (NYC)
DOT	Department of Transportation (NYC)
HI-3	Capital Program for hooding of catch basins in Phase III areas
HI-S	Capital Program for hooding of catch basins in high-speed roadways
HSV	Harbor Survey Vessel
IFCP	Interim Floatables Containment Program
MOO	Mayor's Office of Operations (NYC)
NYC	New York City
NYS	New York State
OMB	Office of Management and Budget (NYC)
SLR	Scorecard Litter Rating
PS	Pumping Station
USA	Use and Standard Attainment
WPCP	Water Pollution Control Plant
XP-SWMM	Storm Water Management Model, (proprietary version)

OVERVIEW OF PLAN ELEMENTS

REPORTING PERIOD: JULY 2002 THROUGH SEPTEMBER 2002

Floatables Plan Elements	New Information This Period
1. Ongoing Activities	
-Maintain Street Cleanliness	Yes
-Catch Basin Hooding in Phase I/II Areas	No
-Netting/Booming and Skimming	Yes
-Track I Facilities	*
-Maximizing Wet-Weather Flow to WPCPs	Yes
2. Catch Basin Hooding in Phase III Areas	No
3. City-Wide Reconstruction of Unhoodable Catch Basins	Yes
4. City-Wide Catch Basin Re-Inspection Program	Yes
5. Illegal Disposal Control	Yes
6. Public Education Program	*
7. Pilot Studies and Demonstration Projects	*

* -Please refer to NYC's CSO Program 3rd Quarterly Report – Year 2002.

1. Ongoing Activities

Prior to the issuance in June 1997 of the City-Wide CSO Floatables Plan, the City of New York had been engaged in a number of activities that help to control floatables. Some of these ongoing activities, such as street sweeping and catch basin hooding, were not originally intended for the purpose of reducing floatables discharges. Other activities, such as the Interim Floatables Containment Program, had been instituted specifically for floatables control. This section summarizes the status of these ongoing activities. Chapters 2 through 7 address other activities that were instituted after the June 1997 City-Wide CSO Floatables Plan.

a) Maintain Street Cleanliness

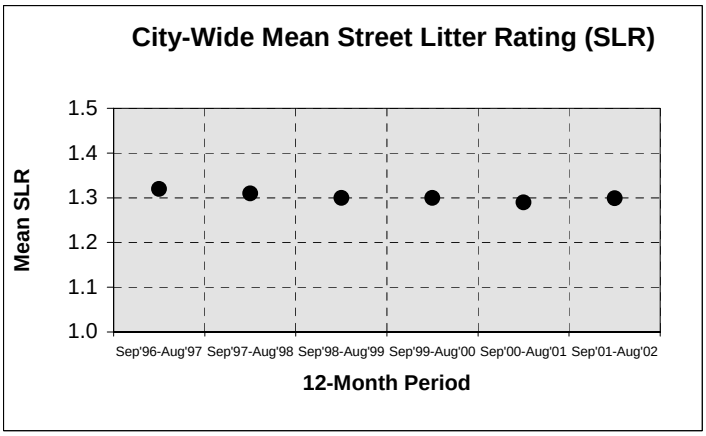
Previous studies have indicated that most floatable litter in New York Harbor can be traced to city streets (HydroQual, 1993). Although many factors can affect the amount of litter on city streets at any given time, the City of New York attempts to control litter levels through a street-sweeping program administered by the Department of Sanitation and through systematic street-litter monitoring, known as the "Scorecard Program," conducted by the Mayor's Office of Operations.

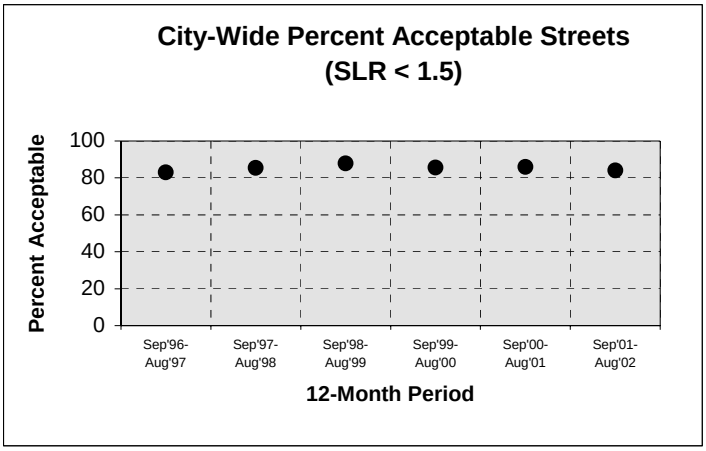
Scorecard Program results for the past six 12-month periods are summarized in the following table and on Figure 1. These results show that street cleanliness has been maintained at or better than 1996 levels.

City-Wide Street Cleanliness, 1996 - 2002

Measure of Street Cleanliness	Results of Scorecard Litter Ratings (SLR)					
	9/96-8/97	9/97-8/98	9/98-8/99	9/99-8/00	9/00-8/01	9/01-8/02
Mean SLR[(1)]	1.32	1.31	1.30	1.30	1.29	1.30
% Acceptable[(2)]	83.0	85.4	87.9	85.6	86.0	84.1
% Filthy[(3)]	2.31	1.54	0.99	1.40	1.43	1.71

Notes:
(1) SLRs follow a 7-point scale from 1.0 (cleanest) to 3.0 (dirtiest).
(2) Percentage of tested blockfaces with SLR less than 1.5.
(3) Percentage of tested blockfaces with SLR greater than 1.74.





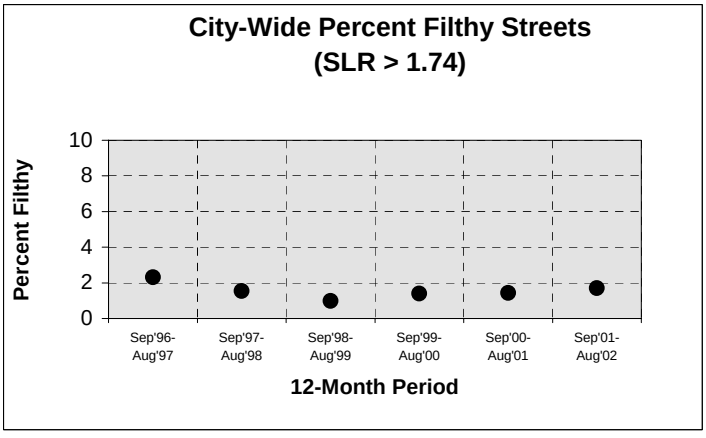


Figure 1. Street Cleanliness

b) Catch Basin Hooding in Phase I / II Areas

Catch basin hooding in Phase I/II areas was completed on or ahead of schedule. A detailed description of these activities, with a summary of the results, is available in previous Quarterly Reports and will not be repeated here.

c) Netting/Booming and Skimming (Interim Floatables Containment Program)

As of August 31, 2002, the IFCP included 19 boomed sites and 4 netted sites draining a total of approximately 58,600 acres. As shown in the table below and on Figure 2, the total volume of floatable material retrieved annually from these sites has varied between about 470 and 950 cubic yards. These retrievals are affected by many factors, including the number and efficiency of IFCP sites, street cleanliness, catch basin hooding, and weather.

Interim Floatables Containment Program Results, 1997[(1)] - 2002

	9/97-8/98	9/98-8/99	9/99-8/00	9/00-8/01	9/01-8/02
No. Sites[(2)]					
Permanent	21	22	22	21	21
Temporary	1	1	1	2	2
Total	22	23	23	23	23
Volume [cy][(3)]					
Permanent	869	952	793	469	833
Temporary	0	1	0	0	0
Total	869	953	793	469	833

Notes:
[(1)] Volume measurements began 7/95.
[(2)] Maximum number of sites operating during period.
[(3)] Total volume of floatables retrieved from sites during period.
[(4)] "Temporary-status" sites feature lower-quality equipment than "Permanent-status" sites.

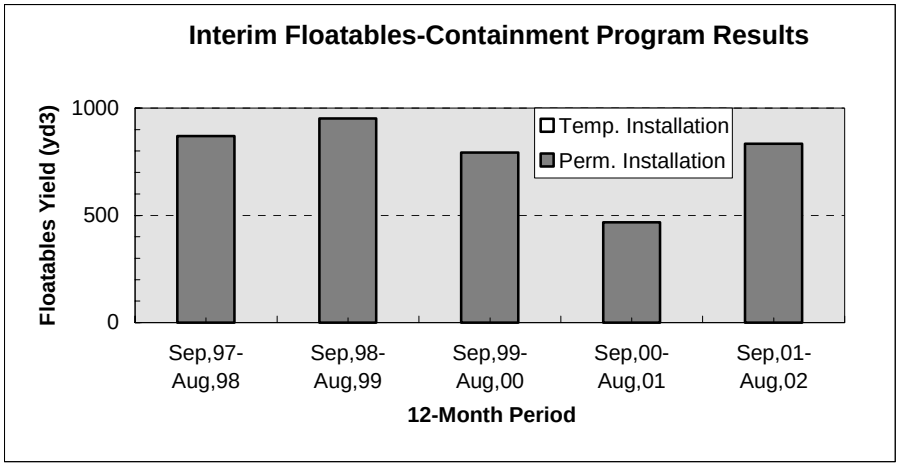


Figure 2. Floatable Material Retrieved from IFCP

In addition to the IFCP netting and booming sites, there are two additional sites from which DEP collects material on an as-needed basis. These sites are located at Buttermilk Channel (at the intake to the water tunnel) and near Bowery Bay at the Ogden Fuel Services site. Both sites are boomed. From June through August 2002, 19.3 cubic yards of material was collected from the Buttermilk channel site (including material collected by the Transportation Section). Nothing was observed at the Ogden Fuel services site.

DEP also conducts retrievals of large floating debris throughout New York Harbor using the *Cormorant* skimmer vessel. During June through August 2002, the *Cormorant* retrieved a total of approximately 34.03 tons of floating debris, including roughly 2.91 tons of trash, 0.44 tons of metal, 1.33 tons of plastic, and 0.44 tons of rubber. The remaining 23.5 tons of material was comprised of wood from decayed piers and derelict vessels.

No community clean-up activities were reported during this period.

d) Track I Facilities

Please refer to Section II of the NYC's CSO Program 3rd Quarterly Report – Year 2002.

e) Maximizing Wet-Weather Flow to WPCPs

During the 3rd Quarter, a Wet Weather Operating Plan (WWOP) was prepared for the Newtown Creek WPCP as required by the Newtown Creek Consent Order. This WWOP was prepared by the joint venture design team and was submitted to DEC for review. DEC provided their review comments in August 2002.

Kickoff meetings for WWOPs have been held for the North River, 26th Ward and Tallman Island WPCPs. A plant headworks capacity investigation was conducted for the Tallman Island WPCP. Collection system modeling is also being performed to assess the capacity of the interceptor and also evaluate several alternatives for conveying at least 2xDDWF to the plant. Additional WWOP kickoff meetings are scheduled for the Bowery Bay and Wards Island WPCPs.

2. Catch Basin Hooding in Phase III Areas

Non-priority ("Phase III") areas of the city are not subject to Consent Order requirements for catch basin inspections and hooding. However, DEP proceeded with catch basin inventory and hood replacement operations in Phase III areas. Catch basin hooding in Phase III areas was completed on or ahead of schedule. A detailed description of these activities, with a summary of the results, is available in the NYC's CSO Program 4th Quarterly Report – Year 2001.

3. City-Wide Reconstruction of Unhoodable Catch Basins

Catch basin reconstruction is provided for in Capital Program CB-01, which appropriates $6 million annually for replacement of collapsed catch basins and associated work required to make sidewalks handicapped accessible. The funding for CB-01 is above and beyond the existing levels needed to address normal repair work.

In addition to the catch basins being identified for reconstruction, and based on estimates by Liro Consulting Engineers, P.C., there are roughly 1,067 catch basins that cannot be inspected and hooded as part of the ongoing program because they are located in "high-speed roadways" and as such require DOT permits as well as special safety equipment. Inspection, cleaning and hooding of this basin was performed between July 26 and October 4, 2002. A total of 1320 basins were inspected in these areas.

4. City-Wide Catch Basin Re-inspection Program

As a follow-up to the catch basin hooding program (discussed in Section 1b), the Consent Order also requires that all catch basins in Phase I and Phase II areas be re-inspected every two years to confirm that hoods remain in place. These two-year re-inspection cycles are to commence upon completion of the initial hooding process, for which the milestone dates were February 1998 (Phase I) and February 1999 (Phase II). DEP completed initial hooding ahead of schedule, in December 1997 (Phase I) and September 1998 (Phase II).

The Status of DEP's reinspection program is as follows:

Reinspection Round	Phase	Completion
1	I	December 1999
1	II	September 2000

2	I	January 2002
2	II	September 2002

Discussions with Mr. Edward Coleman of DEP indicate that the Department completed second round of re-inspections for Phase II by September 2002. Mr. Coleman also confirmed that all missing hoods are being replaced within 90 days of the inspection, as per the Consent Order.

HydroQual is assisting the Department in the reinspection program as part of a change order to the Catch Basin Inspection and Hooding Project. HydroQual's activities started in July of 2002. Dispatching, cleaning and hooding of approximately 1300 catch basins on high speed roads started in July 2002 and is expected to be completed in October 2002. Reinspection of Phase I basins started in September 2002.

DEP compiled the results of the first round of Phase I re-inspections and determined that, of the 29,383 basins that had been hooded initially, just under 3.3 percent required re-hooding over the two-year re-inspection cycle. This equates to an annual hood-dislodge rate of about 1.6 percent. HydroQual, under Change Order X-2 to Contract IV (Catch Basin Program) will be providing catch basin re-inspection services consistent with the requirements of the Modified Consent Order, which will allow hood loss and replacement rates to be monitored. This information will be reported in future quarterly reports as available.

5. Illegal Disposal Control

In 1998, HydroQual helped DEP and DOS develop a protocol to record and report locations of suspected illegal shoreline trash-dumping. This "Illegal Dumping Notification" program has coordinated efforts between DEP's Harbor Survey Program, DEP's Sentinel Monitoring Program, and two branches of DOS, the Environmental Police and the Sanitation Police. The Environmental Police handle information related to hazardous substances (such as medical waste and asbestos), and the Sanitation Police handle information related to illegal trash dumping. The "Illegal Dumping Notification" program within the Harbor Survey Program is presently on hold due to changes in their monitoring program. An update will be provided when available.

6. Public Education

Please refer to Section VI of the NYC's CSO Program 3rd Quarterly Report – Year 2002.

7. Pilot Studies and Demonstration Projects

Please refer to Section IV of the NYC's CSO Program 3rd Quarterly Report – Year 2002.

APPENDIX B

CITIZEN ADVISORY COMMITTEE ON WATER QUALITY – AGENDAS

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
58-17 JUNCTION BLVD., CORONA, NY 11368

AGENDA

CITIZENS ADVISORY COMMITTEE
ON
WATER QUALITY

MEETING NO. 52
Wednesday, July 10, 2002
3:00 – 6:00 p.m.

Real Estate Board of New York
570 Lexington Avenue, New York City
Lower Level Classroom

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1. Opening Remarks	CAC co-chairs NYCDEP
2. Renewal of New York State Pollutant Discharge Elimination System (SPDES) permits for NYCDEP's 14 WPCPs, CSOs and Storm Water Outfalls	Joe DiMura, NYSDEC
3. Other Business	
4. Special Meeting – Scientific Roundtable on Croton Filtration, Thursday, July 1, 2002, Environmental Defense, 257 Park Avenue South	

SPECIAL MEETING OF THE WATER QUALITY CAC

The Water Quality Citizens Advisory Committee of the New York City Department of Environmental Protection will be conducting a scientific roundtable on Croton Filtration on:

Date: Thursday, July 11, 2002

Time: 3:00 to 5:30 p.m.

Place: Environmental Defense
257 Park Avenue South (20th-21st Streets), 17th floor.
Contact, Jim Tripp, 212-212-505-2100

The purpose of this roundtable is to provide EPA, the State and NYCDEP a scientific forum in which to present scientific and technical evidence and analysis relating to Croton water quality and watershed conditions and the need for filtration. EPA headquarter's Stig Regli will be participating. This roundtable is designed to provide members of the CAC and others an opportunity to listen to this scientific evidence and to ask questions about it.

The regularly scheduled CAC meeting will be held on Wednesday, July 10,2002, and will be held at REBNY, 570 Lexington Avenue.