14 WASTEWATER TREATMENT PLANTS' SPDES PERMITS

COMBINED SEWER OVERFLOWS

BEST MANAGEMENT PRACTICES

ANNUAL REPORT

FOR THE PERIOD JANUARY 1, 2015 - DECEMBER 31, 2015

CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF WASTEWATER TREATMENT

MAY 2016

Table of Contents

Executive Summary

In an effort to reduce Combined Sewer Overflows (CSOs) into local waterways, the New York City (NYC or "the City") Department of Environmental Protection (DEP) has implemented several initiatives focused on reducing stormwater runoff from entering the City's combined sewer system. DEP continued its implementation of a robust Green Infrastructure program to retain stormwater using natural systems, such as swales, green roofs and porous surfaces. DEP has also continued implementation of CSO Best Management Practices (BMPs) to optimize existing facilities, in order to deliver more combined sewage to the City's wastewater treatment plants (WWTPs) and to keep street debris out of waterways.

DEP's State Pollutant Discharge Elimination System (SPDES) permits for the City's WWTPs lists 15 BMPs that build upon EPA's federal CSO Control Policy's Nine Minimum Control Measures. This thirteenth Annual Report describes DEP's ongoing CSO BMP program. The Report is divided into 14 sections, one for each of the BMPs in the SPDES permits and one section for the SPDES Permit CSO BMP Special Conditions. Each section of this Report describes ongoing DEP programs, provides statistics for Calendar Year 2015 initiatives, and discusses overall environmental improvements.

In general, implementation of the BMPs has resulted in notable improvements. Because of these initiatives, in conjunction with other DEP programs, the waterways surrounding NYC are cleaner than they have been in a century. The City has also invested more than $2.1 billion in grey CSO mitigation measures such as storage tanks, regulator modifications, and pump station expansions; an additional $600 million has been allocated in the outyears to grey CSO measures. In addition, DEP has allocated about $1.5 billion to green infrastructure source controls with about $200 million allocated to date. DEP is developing additional major capital investments in green and grey infrastructure as part of the CSO Long Term Control Plans (LTCPs).

During the summer months, DEP works closely with the NYC Department of Health & Metal Hygiene (DOHMH), which oversees bathing water quality at City beaches. DOHMH has an extensive beach monitoring program, through which wet-weather advisories can be posted if local waterways are affected by CSOs. DOHMH's 2015 Beach Surveillance and Monitoring report can be found online at:

***http://www.nyc.gov/html/doh/downloads/pdf/beach/beach-report-2015.pdf*.**

Notable CSO BMP achievements during 2015 included:

- DEP's Interceptor Improvement Program completed the second cycle of inspection and cleaning in 2015. Citywide, 66,262 feet of intercepting sewers were inspected and 3,306 cubic yards of sediment were removed; an additional 3,419 cubic yards of sediment were removed from non-interceptor assets such as pump stations, regulators, etc.

- Tide gate operability on the CSO outfall chambers was improved to mitigate seawater infiltration into the combined sewer system, a condition that was reducing available holding capacity for storm flows in some locations.

DEP remains committed to implementing initiatives in a continuing effort to improve the waterways surrounding NYC.

1. CSO Maintenance and Inspection Program

(a) "The permittee shall develop and implement a written maintenance and inspection program for all CSOs listed beginning on page 3 of this permit. This program shall include all regulators tributary to these CSOs. This is to insure that no discharge or leakage occurs during dry weather and that the maximum amount of wet weather flow is conveyed to the WPCP for treatment. This program shall consist of scheduled inspections with required repair, cleaning and maintenance performed as needed to prevent dry weather overflow and leakage and ensure maximum wet weather flow is conveyed in accordance with CSO BMP #4. Inspection reports shall contain a record of visual inspections, any observed flow, incidence of rain or snowmelt, condition of equipment and work required."

The CSO Maintenance and Inspection Program was submitted to DEC on August 14, 2003. See Appendix 1, Exhibit 1.

A summary of preventive and corrective maintenance performed during 2015 on all regulators tributary to each treatment plant is attached as Attachment A, being submitted under separate cover. The table shows the regulator number, the date when preventive maintenance (PM) was performed at each site and whether any corrective actions were completed (designated on the table by an 'x').

PM of a regulator consists of a physical inspection of the regulator and diversion chambers as well as of the branch interceptors or drop pipes. It also includes any exercising or lubrication of sluice gates and anything else not considered corrective.

Corrective Maintenance (CM) of a regulator includes the clearing or cleaning of all blockages within diversion chamber, regulator, branch interceptor or drop pipe. It also consists of any replacement of manhole rungs and the cleaning of all sensors within the chambers.

Seven locations was were not inspected during 2015:

BBHL-27, Union Turnpike & Park Avenue, Queens could not be accessed because of major highway construction on the Grand Central Parkway ramp. In lieu of those inspections, operations personnel inspected the first manhole upstream and the first manhole downstream of the regulator every month.

Six locations, three under BEDC-Capital Project CS-NCFLO (BBL-4, 47th Avenue between 28th and 29th Streets, NCB-1, Johnson Avenue west of Porter Avenue, and NCQ-1, Rust Street and 56th Street) and three under BEDC-Capital Project CS-JA-BWR (JAM-3, 123rd Place and 150th Street, JAM-6, 225th Street and 138th Avenue, and JAM-14, 124th Street and North Conduit Avenue) were turned over to contractors for upgrades.

Beach Protection

During the Enhanced Beach Protection period from May 15 through September 30, inspections of beach-sensitive regulators are performed through telemetry twice per day. Shift engineers from Collection Facilities Operations (CFO) monitor these locations at the beginnings of their shifts and at the ends of their shifts. If telemetry is inoperable, field crews perform site inspections until the telemetry is corrected. See Attachment A for locations that were inspected when the telemetry was inoperable (designated by an 'x' in the column EBPP). As a preventative measure during beach season, DEP performed inspections of all regulators (OH-9, OH-9A, OH-9B, OH-9C, and OH-9D) tributary to outfall OH-015 (17th Avenue & Upper Bay).

(b) For all plants except Rockaway: "The permittee shall include in the maintenance and inspection program a plan to maintain CSO tide gates to prevent infiltration of seawater into the collection system such that the WPCP influent concentration of chlorides does not exceed a twelve-month rolling average of 400 mg/l. The maintenance and inspection program shall specify corrective actions to be taken within twelve months of the influent chloride exceedance of 400 mg/l."

Treatment plant and process personnel notify CFO if elevated chloride levels and flow are measured at their respective treatment plants. The elevated chloride levels and extra flow initiate a chloride run by CFO personnel. A chloride run is defined as a visual inspection of the tide gates within the drainage area experiencing the high chlorides, followed by any subsequent debris removal and closing of any gates found opened). Chloride inspections are performed in addition to the standard regulator maintenance and inspection of regulators. Please refer to Attachment A for the results of those inspections (table column designated Cl). The following chloride runs were performed during 2015: Bowery Bay drainage area in June (2 times), July, September (4 times); Wards Island-Manhattan drainage area in October (2 times), Wards Island-Bronx drainage area in October; Owls Head drainage area in January, April and November (2 times); and Red Hook drainage area in September (2 times) and October (2 times).

Attachment A contains a summary of PM and CM performed during 2015 on all tide gates tributary to each treatment plant. The table sets forth the Regulator Numbers, the dates when PM was performed at the corresponding site (designated by an 'x' in the column TG PM) and whether any corrective actions were completed (designated on the table by an 'x' in the column TG CM).

PM of a tide gate consists of the physical inspection and exercising of the tide gate as well as any other maintenance not considered corrective.

CM of a tide gate includes removal of debris from the gate, cleaning of the rubber seals and rebuilding and refurbishing all hardware as well as the flap itself (which includes stop planking, gate removal, hardware cleaning, tap and chase adjusting bolts and new seals if required).

The following tide gates were completely refurbished by Operations personnel during 2015: NCM-43B: FDR Drive & E. 38th Street; WIM-12: E.90th Street and East End Avenue and NR-54: Gansevoort Street and West Street. The following locations had tide gates replaced under BWT-JOC (Job Order Contract) program during 2015: BBL-1: Greenpoint Avenue and Newtown Creek; BBL-

3: Borden Avenue and Dutch Kills; BBL-9: Vernon Boulevard south of 54th Avenue and BBL-11: 2nd Street and 51st Avenue.

Analysis of calendar year 2015 shows that the following eight WWTPs exceeded the twelve month rolling average of influent chlorides concentrations of 400 mg/l:

Wards Island, 26th Ward, Coney Island, Newtown Creek, Red Hook, Bowery Bay, and Port Richmond.

For more information regarding chloride levels at all 14 WWTPs see Appendix 1, Table 1.

Comparative yearly analysis of CY 2014 and CY 2015 average tidal inflow (Appendix 1, Table 2) indicates:

A decrease in estimated tidal inflow occurred at eight plants:

Wards Island, Coney Island, Owls Head, Jamaica, Bowery Bay, Oakwood Beach, Port Richmond.

An increase in estimated tidal inflow occurred at five plants: North River, Hunts Point, 26th Ward, Newtown Creek, Red Hook, Tallman Island.

(b) *For Rockaway only: "The permittee include in the maintenance and inspection program a plan to maintain CSO tidegates to prevent infiltration of seawater into the collection system such that the WWTP influent concentration of chlorides does not exceed a twelve month rolling average of 3,000 mg/l. Should the twelve month rolling average be exceeded, the permittee shall conduct an inspection of the tidegates and submit a report to the Department within 3 months describing the inspection findings, remedies taken and, if necessary, a schedule for completing repairs that cannot be completed by the time of the report submission. If the elevated chloride concentrations persist upon completion of the repairs, the permittee shall initiate a chloride source investigation Infiltration & Inflow (I&I) Study within 12 to 24 months of the chloride exceedance. The Permittee shall complete the I&I study and submit an approvable report within 36 months of determining that the elevated chloride concentrations persist, describing the findings of the I&I study and providing a schedule for collection system repairs.*

As per the 2015 SPDES permit for Rockaway WWTP, the requirements included in CSO BMP No. 1(b) have changed as described above. Analysis of calendar year 2015 shows that Rockaway was in compliance with the twelve month rolling average of influent chlorides concentration of 3,000 mg/l.

(c) *"The permittee shall include in the maintenance and inspection program a schedule for telemetering regulators and a plan to report the telemetering results. Within six months after completion of the telemetering of regulators required in the NYSDEC/NYCDEP Omnibus IV Consent Order Compliance Schedule (as noted in the outfall description page), the permittee shall record and report the number and duration of events that cause a discharge at an outfall during dry weather conditions. "*

The installation of the telemetering equipment at 102 regulators was completed in May 2001 pursuant to the Compliance Schedule set forth in the Omnibus IV Consent Order, DEC Case # R2-0045-93-05. At present, the upgraded system at 10 regulators is maintained through a service contract. The contractor is responsible for all maintenance issues and for providing monthly reports detailing all significant events.

The successful implementation of the regulator telemetry system has had a significant impact on the reduction of raw sewage bypasses. The system has allowed Collection Facilities field personnel to respond to problems in a timely manner and to reduce or prevent dry weather bypassing.

In calendar year 2015, Collections Operations field personnel responded to a total of 723 pump station and regulator-related alarms sent by the SCADA Telemetry System.

One pump station and two regulator dry weather bypasses were confirmed to have occurred and were reported to DEC.

All other alarms that resulted in call-outs were either false or resulted in elimination of a bypass event.

(d) *"CSO maintenance and inspection program reports shall be available for DEC review no later than 9 AM on the day following the day the inspection was conducted and shall be available for DEC review at the associated WWTP no later than 30 days following the inspection."*

The CSO maintenance and inspection program reports, log sheets and inspection forms are kept at each respective crew quarters and are available for DEC review upon request.

2. Maximum Use of Collection System for Storage

> *"The permittee shall optimize the collection system by operating and maintaining it to minimize the discharge of pollutants from CSOs. It is intended that the maximum amount of in system storage capacity be used (without causing service backups) to minimize CSOs and convey the maximum amount of combined sewage to the treatment plant in accordance with Item 4 below. This shall be accomplished by an evaluation of the hydraulic capacity of the system but should also include a program of flushing or cleaning to prevent deposition of solids and the adjustment of regulators and weirs to maximize storage. "*

Interceptors that deliver wet weather flow to the WWTPs have the ability to provide in-line storage during wet weather. This storage is induced when (a) the influent wet weather flow exceeds the WWTP capacity and the facility must throttle, (b) the WWTP wet well operates above the invert of the influent sewers, or (c) other site-specific circumstances occur. Generally, in these cases, in-line storage of a few hundred thousand to a few million gallons (MG) will be induced in the system.

The SPDES permits also contain management practices for maximizing use of the collection system to reduce CSOs. In May 2011, a pilot program was initiated in which the Stationary Electric Engineer (SEE) at the Bureau of Wastewater Treatment (BWT) Communication Center monitors approaching storms and notifies the plant Operations SEEs to begin reducing their wet-well elevations immediately prior to the onset of rain. This action helps increase available capacity in the interceptor, which can reduce CSO volumes. Each plant has established low-well elevation set points for impending rain events that are documented in its Wet Weather Operating Plan (WWOP).

- Red Hook WWTP WWOP – During previous CSO Facility Planning, DEP identified excess capacity of 4 MG in the Red Hook Interceptor that provides potential storage within the interceptor simply by operation of the existing manual throttling gate. The WWOP for the Red Hook WWTP submitted to DEC in February 2005 describes operations to induce such storage. The WWOP was approved by DEC in January 2006. (Note an updated WWOP for Red Hook was submitted in December 2014.) DEP has been operating this WWTP in accordance with the WWOP. In addition, a bending weir has been installed at regulator RH R-2 to enable additional in-line storage.

In-line storage upstream of CSO Control Facilities induces storage within the barrels upstream from the CSO facilities when operated in accordance with their WWOPs as described below.

- Paerdegat Basin CSO Retention Facility – Construction of this facility was certified complete in May 2011 in accordance with the CSO Order on Consent entered into by NYC and DEC on January 14, 2005, modified on April 14, 2008, and amended on March 8, 2012 (hereinafter, the "CSO Order"), and the facility was placed into service at that time. The Paerdegat Basin CSO retention facility induces 10 MG of in-line storage in the influent sewers and another 20 MG in the upstream combined sewers.

- Gowanus Canal CSO Facilities Upgrade – Upgrades to this facility were certified complete in February 2015 pursuant to the CSO Order. The RH-034 CSO outfall screens include a combination of fixed weirs and hydraulically operated outfall gates that direct flow through the CSO screens and induce inline storage within the combined sewers upstream of the outfall. DEP estimates, using InfoWorks models, that this inline storage may reduce CSOs by about 16 MG/yr.

CSO Order Projects – The Inner Harbor In–line Storage Facilities, Port Richmond WWTP Throttling Facilities and Citywide Collection System Supervisory Control and Data Acquisition (SCADA) projects were constructed in accordance with the CSO Order. DEP provides quarterly updates to DEC on the status of these and other projects. Although these projects are considered CSO Long Term Control Planning issues, DEP references these projects as part of the BMP Annual Report because these collection system projects improve conveyance and storage of wet weather flows.

Inner Harbor In-line Storage Facilities – Construction at the two inflatable dam sites was completed during 2010 in accordance with the CSO Order. The inflatable dam at Regulator RH-20 was out of service for most of 2014 due to major failure of the PLC. Towards the end of 2014, the PLC was successfully re-programmed. Nevertheless, DEP had to take it off-line due to several premature inflations during dry weather. Inasmuch as the inflatable dams at RH-20 and NCB-6 have consistently presented continuous and difficult to-resolve operational and control issues, DEP proposed to DEC on June 11, 2015 that the dams be decommissioned. The request was approved on July 27, 2015, contingent on the identification of alternatives in the Citywide Open Waters LTCP to achieve equivalent CSO reductions.

Flushing Creek CSO Retention Facility – As per the July 2010 Form NY-2A Permit Application for the Flushing Bay CSO Retention Facility, the capacity is 44.1 MG with 28.7 MG in the tank and 15.3 MG in inline storage. DEP has been operating this facility in accordance with the July 2010 WWOP approval.

Spring Creek CSO Retention Facility – As per the July 2007 Form NY-2A Permit Application for the Spring Creek CSO Retention Facility, the capacity is 20 MG with 13.8 MG in the tank and 6.2 MG in inline storage

SCADA/Collection Facilities Telemetry System Project

DEP's BWT completed the upgrade work on the SCADA project in 2013. The overall project involved the upgrade of the SCADA software, communication hardware to dual wireless and installation of additional instrumentation for the computerized data collection system. On February 18, 2013 DEP declared the Citywide Collection Facilities SCADA System (CCFISS) upgrade contract REG-027 "substantially complete" at all Pump Stations, 101 regulators and CSO Overflow facilities.

During 2015, DEP and its maintenance contractor continued making programming changes to reduce the number of false alarms, improve communication uptimes and automate the reporting as much as possible for a more robust and reliable monitoring system. As per the May 2014 CSO BMP Order on Consent (DEC Case No. R2-20140203-112) (the "CSO BMP Order"), monthly CSO Discharge reports were submitted to DEC using the data from the telemetry system at key regulators

The list of regulators under the SCADA project is found in Appendix 2 (DEP BWT), Table 1.

Tide Gates

A program is in place to repair defective tide gates in order to prevent tidal waters from entering the system. Below is an update of tide gate locations completed and those in the process of being reconstructed:

Regulator/Tide Gate Report Status

Reg. #	Status	Schedule	Scope	Comments
NR-34	Complete	August 2012	New Gate	Contract REG-025L
NC(M)-48	Complete	September 2011	New Gate	Contract REG-025L
NC(M)-21	Complete	September 2011	New Gate	Contract REG-025L
NC(M)-23	Complete	September 2011	New Gate	Contract REG-025L
NC(M)-33	Complete	September 2011	New Gate	Contract REG-025L
WI(M)-24	Complete	April 2013	New pull box	Contract REG-025L
Oakwood Beach Flume	Canceled			DEC instructed not to install this gate
NCB-1,6,7,9,14	Complete	January 2013	15 New Gates	JOC Contract
RH-9,11,15	Complete	January 2013	4 New Gates	JOC Contract
PR-9E,11E,13E, 16E,36	Complete	January 2013	8 New Gates	JOC Contract
WIM-14,15,16,50	Complete	3/14/2013	4 New Gates	JOC Contract

NCM-18,31,51A	Complete	2/ 26 / 2013	3 New Gates	JOC Contract
WIB-67	Complete	2 /22 / 2013	4 New Gates	JOC Contract
JAM-14	Complete	9 /5/ 2013	4 New Gates	JOC Contract
26W- 01	In design	Estimated completion – April 2017	6 New Gates	JOC Contract
26W-02	In Design	Estimated completion – April 2017	16 New Gates	JOC Contract
WIB -68	In Design	Estimated completion - December 2016	2 New Gates	JOC Contract
TI-1,2,4, & 5	In construction	Estimated completion – July 2016	4 New Gates	JOC Contract
HP-14	In construction	Estimated completion – June 2016	1 New Gate	JOC Contract
CSO#1 & CSO#2	In construction	Estimated completion – April 2016	2 New Gates	JOC Contract
BBLL1,3,4,8, 9,11,17,18,21, 22, 23,30	In construction	Estimated Completion July 2016	21 New Gates	JOC Contract

Interceptor Improvement Program

In 2015, BWT continued with its intercepting sewer inspection and cleaning program.

Scope of Work Completed in 2015

In 2015, Citywide, 66,262 linear feet of intercepting sewers were inspected and 3,306 cubic yards of sediment were removed from them. A breakdown by drainage area, of the length inspected and the volume of sediment removed is provided in Table 1 below. Volume of sediment removed from non-interceptor assets was 3,419 cubic yards which is detailed by asset in Appendix 2 (Table 2).

Table 1: Length of pipe inspected and sediment removed by drainage area

Drainage Area	Inspected Length (feet)	Sediment Removed (cubic yards)

26 Ward	-	-
Bowery Bay	-	37
Coney Island	-	1,901
Hunts Point	-	2
Jamaica	42,110	459
Newtown Creek	2,386	7
North River	-	3
Oakwood Beach	-	-
Owls Head	-	5
Port Richmond	-	8
Red Hook	-	-
Rockaway	14,472	862
Tallman Island	7,295	22
Wards Island	-	-
Totals	**66,262**	**3,306**

Sewer Cleaning and Inspection

Introduction:

DEP maintains its sewers through inspections and cleaning. Inspections are done either in person or via camera (CCTV, Zoom Camera, or Push cams). Sewer cleaning methods include Hydraulic (flushing), Mechanical (e.g. dragging, rodding, vactoring) and Chemical (degreasing) procedures. This work is done by DEP personnel as well as through various contracts. Cleaning activities performed in calendar year (CY) 2015 are summarized in Table 2-1. Maps of the cleaning activities for the Capacity, Management, Operation, and Maintenance (CMOM) Section and NYC Department of Design and Construction (DDC) have been printed by Community Board and are in Appendix 2.

Sewer Maintenance Complaint Inspection and Response:

The Bureau of Water & Sewer Operations (BWSO) Division of Field Operations has personnel including construction laborers, supervisors, and technical staff whose primary function is operation, maintenance, and repair of the sewer collection system and water distribution system. For the sewer collection system, this Division performs investigations and responds to all sewer complaints received by the City's 311 call center, including sewer back-ups, catch basin flooding, and street flooding. The Division also performs programmatic work involving sewer cleaning, and catch basin survey inspections and cleaning. The group works in conjunction with the BWT Industrial Waste section to investigate grease conditions, to perform programmatic degreasing to ensure proper operations, and to perform routine inspections with the engineering-based CMOM section. Maintenance and repair yard facilities are located throughout the five boroughs of NYC; they are equipped with heavy duty and light duty construction vehicles, including truck-mounted crane

vehicles (catch basin cleaning trucks), power jet flushing vehicles, power rodding auger trucks, and combined flusher/vacuum trucks.

During CY 2015, there were 10,709 customer service requests that resulted in sewer inspections. Of those requests, 8,015 were determined to be unrelated to the DEP infrastructure. In response to each request, the sewer maintenance division performed an initial inspection. This initial inspection includes inspecting the downstream and upstream manholes nearest the complaint location and collecting all data relevant to the incident. If the manhole inspection determines that the complaint was unconfirmed, meaning that the sewer was functioning as designed, crews are directed to perform hydraulic cleaning for at least two sections of sewer. If the sewer complaint is confirmed, meaning that there was evidence that the sewer was overtaxed, the crews are directed to initially perform hydraulic cleaning; if hydraulic cleaning does not alleviate the condition, crews perform mechanical cleaning to remove material obstructing flow in the sewer in order to resolve the condition. In response to these complaints, DEP's in-house forces cleaned over 169.35 miles of sewer. This number either represents actual footage, or represents an estimate of 150 linear feet between two manholes when an actual footage was not reported. As indicated, the inspections and cleanings were performed as a result of service requests, and some of the footages may overlap with requests made at different times.

Sewer Maintenance Proactive Inspection and Response

BWSO performs proactive sewer inspections and response through a program that DEP started in 2011 called Sewer Operations and Analysis Program (SOAP). Quarterly, areas of the City associated with recurring confirmed sewer back-up (SBU) complaints are assigned to each of the sewer yards for inspection.

Using DEP's Geospatial Information System, the City is divided into more than 157,700 sewer segments. A sewer segment is defined as a City block, street center line to street center line. Analysis has shown that approximately 1.06% of our overall sewer segments experienced a confirmed SBU, while only 0.26% of our overall sewer segments experienced more than 1 SBU event. Locations with recurring service issues are the focal point of the SOAP program. Under the SOAP program, in-house staff inspects/investigates each street segment. The inspections may lead to cleaning, as warranted, spot repair, if necessary, or referral for capital replacement, as appropriate.

DEP manages Fats, Oils and Grease (FOG) issues of varying severity individually to ensure effective resolution and future maintenance. Recurring FOG conditions are added to DEP's Programmatic Degreasing List. DEP then tracks and visits these locations, and cleans them mechanically, hydraulically, or chemically according to an established programmatic schedule. During CY 2015, 185.82 miles of sewer were proactively cleaned under this program. Some of these lengths may overlap depending on the frequency warranted by the FOG condition.

CMOM Sewer Inspections

At times, field crews identify sewer conditions that require cleaning beyond their capabilities to address. For example the size and condition of the sewer or a record of recent repeated cleanings may

limit the crew's ability to take effective action. In these instances, the work is transferred to DEP's CMOM (formerly Sewer Analysis) Section. The CMOM staff then delineates the specific needs and boundaries of the work via more robust field inspection by DEP's CMOM Investigation Unit. Once the scope is defined, it can be assigned to DEP's citywide contractors for cleaning and debris removal. Table 2-1 and, in more detail, Table 2-2 show the activities of the CMOM Section for CY 2015. The locations are listed and shown in Appendix 2. The activities have also been mapped by Community Board, including details of the areas and associated dates of cleaning activities in Appendix 2.

DEP's CMOM Section is also tasked with the responsibility of performing internal visual inspections of sewers. The majority of the areas that require inspection are identified by field crew initial responders. The balance of the inspection work is identified by other agencies, such as NYCDOT and DDC, when it is required to support capital planning work. DEP's CMOM Section, through in-house personnel and citywide contracting, inspected 374,152 linear feet (or 70.86 miles) of sewers at 689 locations throughout the city during CY 2015. Some of this footage overlaps with areas addressed by field crews. As explained above and further below, this overlap occurs because the visual inspection is done prior to cleaning activities as it is necessary to determine the extent of cleaning needed. Post-cleaning inspections are also conducted to verify that the contractor has completed the work in an acceptable manner.

Citywide Sewer Cleaning Contracts

As discussed above, after DEP inspects the sewers to determine the scope of cleaning required, the work is assigned to a contractor who performs the work for DEP at various locations city-wide. The contractor has equipment capable of cleaning sewers with diameters up to and including 204". Using the citywide sewer cleaning contractor resources, DEP cleaned 243,502 linear feet or approximately 46.12 miles of sewers in CY 2015, as shown in Table 2-2**.** The cost of this work was about $2,946,503.

Sewer Cleaning for Lining and Guniting Activities

DEP also rehabilitates sewers with the use of lining and guniting methods. For both lining and guniting, the first step is to clean and remove all debris, grease, and silt from within the sewer. Upon completion of the rehabilitation, the sewers are either TV-inspected or visually inspected. In CY 2015, DEP lined 58,982 linear feet (or 11.17 miles) of sewer at a cost of $4,216,056.91. In CY 2015, DEP gunited 17,361.5 linear feet (or 3.28 miles) of sewers at a cost of $8,187,276.86.

Sewer Cleaning and Inspection: Capital Project Design

DDC also performed sewer maintenance work associated with its capital project design program. Specifically, when capital work is planned for a specific location, the sewer infrastructure in the street is inspected via TV camera and then cleaned as necessary. DDC inspected and cleaned 292,983 linear feet or 55.49 miles, as shown in detail in Appendix 2. (See Table 2-1)

Table 2-1: Summary of Sewers Inspected & Cleaned by DEP BWSO & DDC in CY 2015		
METHOD	**INSPECTED (miles)**	**CLEANED (miles)**
In-House (Reactive)	169.35	169.35
In-House (Proactive)	430.15	430.15
CMOM Unit*	70.86	46.23
Lining	11.17	11.17
Guniting	3.28	3.28
Inspections & Cleaning (DDC)	55.49	55.49
TOTALS:	**740.3**	**715.67**

*See Table 2-2 for further break downs of CMOM Unit figures.

Table 2-2: Summary of Sewers Inspected & Cleaned by DEP BWSO CMOM Unit in CY 2015			
METHOD	**INSPECTED (miles)**	**CLEANED (miles)**	**COST ($)**
CMOM Sewer Investigations	24.74	0.11	N/A
City-Wide Contract Inspection & Cleaning	46.12	46.12	$2,946,503
TOTALS:	**70.86**	**46.23**	**$2,946,503**

3. Maximize Flow to POTW

"Factors cited in BMP#2 above, shall also be considered in maximizing flow to the WWTP. Maximum delivery to the WWTP is particularly critical in treatment of "first-flush" flows. For each wet weather event, the treatment plant shall be physically capable of: receiving and treating a minimum of (plant specific wet weather capacity) *through the plant headworks; a minimum of (*plant specific wet weather capacity) *through the primary treatment works (and disinfection works if applicable); and a minimum of (*plant specific secondary system wet weather capacity) *through the secondary treatment works during wet weather. The actual process control set points may be established by the Wet Weather Operating Plan required in BMP #4. The sewer collection system and associated regulating devices shall be optimized to the extent practicable to minimize the release of combined sewer overflows. In satisfying this BMP, the Permitted shall also comply with the Additional CSO BMP Special Conditions section of this permit."*

DEP's (the City) wastewater treatment plants (WWTPs) and associated interceptor sewers have been designed and constructed to deliver and treat approximately two times dry weather flow during wet weather. In order to protect the WWTP's biological process to ensure effective treatment, as well as to guard against homes being flooded during wet weather events, conveyance structures called "regulators" were incorporated into the City's combined sewer system to regulate the flows that reach the interceptors and the WWTPs. As the City's sewer system was constructed over the last 90 years, almost five hundred regulators were installed to regulate the flow to 135 miles of interceptors and 14 WWTPs. Regulators allow all dry-weather sewage and some stormwater runoff to enter the interceptor. During times when the amount of flow due to wet weather exceeds the design capacity of the sewer system, combined sewage spills over a fixed weir inside the regulator, and into a local water body. These discharges, subject to certain conditions, are permitted under the New York City Department of Environmental Protection's (DEP) SPDES permits.

Most of the regulators are located along waterways. The outfall pipes from the regulators are only a short distance from the waterbody, while the tributary WWTP may be miles away. Consequently, depending on the length and/or intensity of the wet weather event, and consistent with the design of the collection system, overflows from regulators during storms can occur at outfall pipes some distance from the WWTP and long before the wastewater in a regulator's catchment area reaches the WWTP.

DEP has taken a number of steps to reduce the amount of wet weather flow that discharges as combined sewer overflows (CSOs) including implementation of certain best management practices (BMPs) to reduce CSO discharges, expansion of certain of its WWTPs, regulator improvements, construction of CSO tanks, installation of green infrastructure and many other initiatives, all totaling billions of dollars in investments.

Key Regulator Monitoring

Building on these investments and system improvements, and pursuant to the 2015 SPDES permits and the CSO BMP Order, DEP began undertaking the Key Regulator Monitoring Program. Beginning with June 2014, DEP began submitting monthly reports of all known or suspected CSO discharges from key regulators outside the period of a critical wet weather event. These monthly reports provide itemized lists of such CSO discharges, the approximate start time and end time for each discharge, the corresponding WWTP flow rate, and the start time and end time of the critical wet weather event. Table 3.1 summarizes the observations of Key Regulators during CY2015. Included in Appendix 3.1 is the Key Regulators Monitoring Report CY2015 Summary which includes the details reported in the monthly reports sorted by regulator. Additionally, DEP submitted quarterly engineering analyses of the cause(s) for each discharge and an analysis of options to reduce or eliminate similar future events. Quarterly report submittals were required for the first year after the effective date of the Order and then are to be filed for each calendar year with the Annual CSO BMP Report, see Section 14. The first year's quarterly reports have been submitted:

- Quarterly Engineering Report #1 For the Second Quarter of 2014 (June Only)
- Quarterly Engineering Report #2 For the Third Quarter of 2014
- Quarterly Engineering Report #3 For the Fourth Quarter of 2014
- Quarterly Engineering Report #4 For the First Quarter of 2015 (final Quarterly Engineering Report for first year after the effective date of the CSO BMP Order)

Additionally, on February 1, 2016, DEP submitted the deliverable Regulator(s) with CSO Monitoring Equipment Identification Program Reporting. DEP undertook a 12-month Regulator Monitoring Program, from August 2014 through July 2015, of all regulators with CSO monitoring equipment. This requirement is now included in the DEP WWTP SPDES permits, Additional CSO BMP Special Conditions, Appendix B, Item 5.c.

Table 3-1: Key Regulators with Potential CSO Discharges Outside the Period of a Critical Wet Weather Event, January through December 2015

Key Regulator	Number of Occurrences, Jan-Dec 2015													Total Duration (hr.)	Results Category **
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date		
26W-01	0	1	0	1	1	2	2	0	2	0	0	1	10	4.00	A
26W-02	1	0	0	1	0	2	1	1	0	1	0	0	7	9.75	A
BBH-02	0	0	0	0	0	1	1	0	0	0	1	0	3	0.50	A
BBH-06	1	0	0	0	0	0	1	0	0	0	0	0	2	0.50	A
BBL-04	2	0	0	1	0	0	4	3	*	*	*	*	10	4.75	A
BBL-22	0	0	1	1	0	1	3	1	0	0	0	0	7	8.25	A
HP-05	2	0	2	1	1	4	5	1	3	2	1	2	24	45.50	A
HP-10	1	0	2	0	1	5	6	1	3	3	1	2	25	32.25	C
HP-13	0	0	0	0	1	2	6	0	0	4	0	1	14	21.75	C
JA-03	5	2	7	3	2	7	6	4	*	*	*	*	36	109.00	A
NCB-01	1	0	0	0	0	2	2	1	1	1	2	0	10	2.50	A

NCB-04	1	0	0	1	1	1	3	3	1	2	0	1	14	10.50	C
NCM-47	1	0	0	0	0	0	5	2	1	1	0	1	11	10.75	B
NR-16	0	0	0	0	0	1	4	4	2	1	0	0	12	4.25	B
NR-23	0	0	0	0	0	0	4	1	1	0	0	1	7	2.50	B
NR-33	0	0	0	0	0	0	3	2	0	0	0	0	5	2.00	B
OH-01	2	1	2	2	0	4	2	0	1	1	0	1	16	13.75	C
OH-06	1	1	7	2	1	4	3	0	1	0	1	1	22	16.75	C
PR-06W	3	2	7	0	2	4	1	2	2	2	2	3	30	59.25	C
PR-13E	3	2	4	1	2	7	5	3	3	3	3	4	40	111.50	C
RH-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	B
RH-20	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	B
TI-09	5	2	6	3	1	7	3	3	3	4	0	3	40	122.50	C
TI-10A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	B
WIB-53	1	0	2	0	1	0	0	0	1	1	0	0	6	8.50	A
WIB-67	1	0	0	0	0	0	0	0	1	0	0	0	2	2.25	A
WIM-23	0	0	2	0	0	0	1	0	0	0	0	2	5	1.25	A
Count*	16	7	11	11	11	16	22	15	15	13	7	13	24		

*Count of regulators with at least one event

**Results Category

A. Key Regulators that may be influenced by planned capital improvements (Projects are currently in design or construction that may result in CSO reductions and additional wet weather capture);

B. Key Regulators averaging one or fewer potential discharge outside the period of a critical wet weather event per month

C. All other Key Regulators with an average of more than one potential discharge outside the period of a critical wet weather event per month

Critical Wet Weather Events

The 2015 SPDES permits and the Order defines a critical wet weather event as "a wet weather event which causes or would cause the influent flow at the WWTP to exceed the wet weather flow identified in the associated SPDES permit." Generally, the wet weather flow identified in the associated SPDES permit of the WWTP is two times the design dry weather flow (2xDDWF), but it may be less than 2xDDWF under certain operational limitations (e.g., when critical equipment has been reported to be out of service and a reduced capacity request has been submitted to DEC). CSO discharges from key regulators that occurred outside of a critical wet weather event were determined based on inference from synoptic data collected from the city telemetry system, meteorological and tidal observations, and plant operational data. Analysis of mitigation strategies to reduce the occurrence of discharges outside the critical wet weather periods is being performed using InfoWorks CS models of the city's collection systems.

Included in Appendix 3.2 is the CY2015 Critical Wet Weather Event Summary for each plant (January to December.) The summary tables include details related to the critical wet weather events

for each plant, including: the event-specific wet weather capacity, plant throttling information, and the start and end times of the critical event with its corresponding maximum and average flows.

Also included in the summary tables are references, where applicable, to Bypass Item Nos. or Wet Weather Item Nos. for additional information on these events. Prior to June 1, 2014, all wet weather throttling events that averaged less than 2xDDWF were included in the Wet Weather Quarterly Report and were given Wet Weather Item Nos. Effective June 2014, the information provided in the Wet Weather Quarterly Report is based on the requirements set forth in the 2015 SPDES permit and Appendix B.2 (b) of the Order – Maximize Flow at WWTP – which requires that for the entire duration of each critical wet weather event, the WWTPs shall be operated to receive and treat, through primary treatment and disinfection works, an average flow at least equal to the wet weather flow requirement in the applicable SPDES permit.

Additionally, DEP continued reporting, within the required two-hour time frame, events in which the WWTP throttled but never achieved the applicable SPDES permitted wet weather capacity at any point during the period the WWTP throttled, except in instances when the WWTP was at reduced capacity with prior approval by the DEC. These events were reported with Bypass Item Nos.

Critical Equipment Notifications

As per the 2015 SPDES permits and the CSO BMP Order, DEP continued notifying DEC whenever critical equipment is anticipated to be, or is out-of service for necessary repair or maintenance for more than 48 hours or under a DEC approved schedule. Upon receipt of such notice, and on a case-by-case basis, DEC may adjust the flow required to be passed through the WWTP in consideration of the recommendations contained within an approved Wet Weather Operating Plan (WWOP.) DEP based all subsequent required reporting, including determination of critical wet weather events, on the reduced wet weather capacity levels submitted in these requests.

WWTP Engineering Analysis

As per the CSO BMP Order, DEP submitted to DEC Engineering Analyses of WWTP influent flow throttling operations on August 6, 2014. These analyses provided specific recommendations for initiation and cessation of wet weather flow throttling operations designed to maximize flow through the WWTP. Based on comments received from DEC, DEP submitted supplements to the WWTP Engineering Analyses on December 12, 2014. These supplements included a brief summary of throttling protocol set points and indicators used to determine how and when throttling occurs at each WWTP.

Combined Sewer Overflows Annual Report Checklist Part III – CSO BMP's

Checklist Part III, Section 4, Maximize Flow to WWTP, Question 3 asks whether a plan and schedule have been submitted to DEC for addressing any inability during the past year of the headworks, primary treatment works, secondary treatment works and disinfection works to pass the flows specified in the permit for all wet weather flows. In 2014, DEP submitted Engineering Analyses of

WWTP influent flow throttling operations and updated WWOPs pursuant to Appendix B, sections 2 and 4 of the CSO BMP Order which provide recommendations for maximizing flow through the WWTPs. In addition, for Wards Island WWTP, a pending modification to the CSO Order, Revised Appendix A, Section XV, includes headworks wet weather improvement projects: specifically reconstruction of the main sewage pumps and replacement of the bar screens at the Manhattan and Bronx Grit Chambers. For Bowery Bay WWTP, the pending 2016 Omnibus Order on Consent, includes replacement of the main sewage pumps and forcemain, as well as emergency work related to the Forcemain Header "A" leakage.

Combined Sewage and Floatables Percent Capture at NYC WWTP's

DEP uses a calibrated InfoWorks Hydraulic Model in conjunction with NOAA rain gauge data and plant operating information to calculate the annual percent wet weather capture. A detailed report on Combined Sewage and Floatables Percent Capture at DEP WWTPs' is included in Appendix 3.

4. Wet Weather Operating Plan

"The permittee shall maximize treatment during wet weather events. This shall be accomplished by having a WWOP containing procedures and guidance for operating unit processes, including any regional CSO treatment/retention facilities listed in this permit. The WWOP requirements are provided in the Additional CSO BMP Conditions section of this permit."

"DEP shall maximize flow through the WWTP during wet weather events. This shall be accomplished by having a WWOP containing procedures and guidance for operating unit processes, including any regional CSO treatment/retention facilities listed in this permit. The goals of the WWOP are to provide operational guidance to WWTP staff for treating the maximum flows, while not appreciably diminishing effluent quality or destabilizing treatment upon return to dry weather operation. The WWOP will establish process control procedures and set points to maintain the stability and efficiency of the Biological Nitrogen Removal (BNR) process, if required, for the host WWTP. The WWOP shall be written in accordance with the DEC publication, Wet Weather Operating Practices for POTWs with Combined Sewers. DEP shall incorporate the throttling protocol and guidance developed during the CSO BMP Order, Pilot Study into the WWOP. The WWOP shall also include an update of the critical equipment lists for the WWTPs, which shall include screening facilities at pump station that deliver flow directly to the WWTP and at WWTP headworks. The updated WWOP shall be submitted to Region 2 for review and approval within 6 months. After approval by the Department, DEP shall implement and follow the terms of the approved WWOP, submitted on December 12, 2014."

Wet Weather Operating Plans (WWOPs) are required for each WWTP and CSO retention facility. Appendix 4 summarizes the last date that the WWOP for each WWTP was submitted to DEC. In accordance with the SPDES permit and the 2014 CSO BMP Order on Consent, WWOPs for each WWTP were resubmitted to DEC in December 2014. *See Appendix 4.* Additionally, in accordance with the CSO Order on Consent, the WWOP for the 26th Ward WWTP was resubmitted in October 2015.

Combined Sewer Overflows Annual Report Checklist

Question 2, Section 5 Wet Weather Operating Plan (WWOP)
"In the past year, did treatment of wet weather flows cause any effluent violations or destabilize treatment upon return to normal service?"

DEP answer: "Yes." In the past year, effluent violations have been reported for parameters such as daily maximum total suspended solids (TSS) concentration and daily maximum copper loading, at various WWTPs. Elevated flows due to wet weather can result in solids washout from the final clarifiers which can contribute to elevated fecal coliform counts or effluent TSS concentrations. Additionally, high flow values due to wet weather can result in high loading values (e.g., for copper)

because the calculation of loading values requires multiplication of the TSS concentration by flow and a conversion factor. Please refer to the monthly Discharge Monitoring Report submittals for specific information.

Question 7, Section 5 Wet Weather Operating Plan (WWOP)
"Does the plant identify the maximum flows through preliminary, primary, secondary treatment, tertiary, and disinfection units?"

DEP answer: "No." The WWOPs identify the minimum flow rates through the treatment units, not the maximum flow.

5. Prohibition of Dry Weather Overflow

"Dry weather overflows from the combined sewer system are prohibited. The occurrence of any dry weather overflow shall be promptly abated and reported to the NYSDEC Region 2 Office within 24 hours. A written report shall also be submitted within fourteen (14) days of the time the permittee becomes aware of the occurrence. Such reports shall contain the information listed in the General Conditions (Part II), Section 5(b) of the SPDES permit."

Dry weather overflows from the combined sewer system are prohibited and DEP's goal is to reduce and eliminate dry weather discharges. As a result of DEP's continuing efforts in this regard, in calendar year 2015 pump station and regulator bypass overflow volume continued to remain at low levels.

The occurrence of any dry weather overflow is promptly abated and reported to DEC within 2 hours. A written report is also submitted within five days of the confirmed time of occurrence.

The total bypass overflow volume from the New York City collection system during the reporting period was 4.43 MG, and details are listed in Appendix 5. In addition, an annual comparison of regulators', pump stations', and WWTPs' dry weather bypasses is attached in Appendix 5.

For the period from January 1, 2015 to December 31, 2015, dry weather bypass overflow volume from pump stations and regulators was 0.0011% (0.0049 MG) of total dry weather flow treated by NYC's 14 Wastewater Treatment Facilities 417,527 MG.

Pump station and regulator failures that resulted in dry weather overflow during the calendar year 2015 were categorized by cause, and grouped by cause code. Major causes were further sub-coded and identified in more detail. These bypass overflows were analyzed for trends at particular locations and, as a result, specific locations are being studied for improvements or modifications to reduce future discharge during dry weather.

Pump Station Dry Weather Bypassing and Analysis

An evaluation of pumping stations revealed one major cause for dry weather overflow:

● Electrical Equipment Failures-MSP Control System

On July 15, 2015 there was a dry weather overflow at the 2nd Avenue pump station that leads to the OH-007 outfall. The overflow was triggered by an electrical malfunction at the pump station that caused the pumps to cease operation. Collection Facilities South personnel used a diesel pump on site to stop the discharge and resume pumping. This incident was discovered by a Stationary Electric Engineer checking SCADA, who noticed no pumps running and a high water level in the well.

This incident caused a total discharge of 0.000137 MG.

Regulators Dry Weather Bypassing and Analysis

An evaluation of the regulator system revealed that a large percentage of the total dry weather overflow volume during the reporting period was caused by two regulator blockages.

Regulator Dry Weather Bypassing is categorized as follows:

Blockages-Regulator

Regulator blockages remain the most common cause of dry weather overflow from regulators. However, discharge caused by regulator blockages have been kept to a minimum due to alarms from the telemetry system that allow operations personnel to quickly respond to blockages.

Blockages: (Cause code 6A)

Two separate dry weather overflow events were caused by regulator blockages, as reported to DEC on 04/10/2015 and 07/30/2015. These two events led to a total discharge amount of 0.0.0047 MG.

Additional details on the blockage events are provided in **Appendix 5**.

Other Locations of Dry Weather Bypassing and Analysis

On January 12, 2015, there was a sanitary sewer overflow due to a blockage in the sanitary sewer line. Sewage was discovered overflowing into a catch basin near 223rd Street and 37th Avenue, along the Cross Island Parkway, which discharges to Outfall TI-899. A total of 0.2 MG bypass of discharge was reported to DEC on 01/16/2015.

On January 23, 2015, BWSO, during a routine inspection, discovered a sanitary sewer overflowing into to a Combined Sewer at 193rd St and 109th Ave. in Queens that was caused by a failed overflow weir. . The weir is to be repaired through an Emergency Sewer Repair Contract. A total of 0.5 MG of discharge was reported to DEC on 01/28/2015.

On March 27, 2015, BWSO personnel, responding to a private citizen complaint, discovered a sanitary sewer overflow due to a blockage in the sanitary sewer line located at Amboy Road and Penton Street in Staten Island. . Raw sewage was discovered overflowing into a catch basin that discharges into the Raritan Bay. BWSO personnel cleared the blockage and abated the discharge. A total of 0.005 MG bypass of discharge was reported to DEC on 04/01/2015.

On April 1, 2015, BWSO personnel, responding to a private citizen complaint, discovered a discharge from a private sanitary sewer line at Beach 72nd Street and Bayfield Avenue in the Rockaway WWTP drainage area. The private sewer sanitary discharge flowed into DEP-owned storm-water catch basins, which resulted in discharge from DEP outfalls during dry weather. BWSO responded and found no problem with the city sewer line and informed the homeowner that the problem was with the homeowner's private sewage system. BWSO confirmed that there was no further discharge on May 14, 2015. A total of 0.156 MG of discharge was reported to DEC on 05/19/2015.

On May 19, 2015, BWSO personnel, responding to a private citizen complaint, discovered a sanitary sewer overflow from a manhole into a catch basin at 108 Lovell Ave, Staten Island, due to a blockage in the sanitary sewer line. . BWSO personnel cleared the blockage and mitigated the discharge. A total of 0.0003 MG of discharge was reported to DEC on 05/22/2015.

On July 26, 2015, BWSO personnel, responding to a private citizen complaint of a sanitary sewer overflow, discovered raw sewage seeping out of a manhole into the Long Island Sound at 196 Horton Street, Bronx. The overflow was caused by a blockage in the sanitary sewer line from 7:00 PM to 10:00 PM. BWSO personnel cleared the blockage and proceeded to clean out the sewage line with the use of a vactor truck. A total of 0.00024 MG of discharge was reported to DEC on 07/31/2015.

On July 30, 2015, BWSO personnel, responding to a private citizen complaint, discovered a sanitary sewage overflow from a manhole located at 773 Manor Road, Staten Island in the Port Richmond WWTP drainage. The overflow was caused by a backup of a NYCHA owned sewer line on Todt Hill Houses property. On August 4, 2015, BWSO personnel confirmed the sanitary sewer overflow had ended. A total of 0.6681 MG of discharge was reported to DEC on 08/04/2015.

On November 12, 2015, BWSO personnel, responding to a private citizen complaint, discovered raw sewage overflowing from a manhole into a storm catch basin that drains into Bodine Creek and Kill Van Kull. The sewer overflow was caused by a blockage in the sanitary sewer line located at the intersection of Forest Avenue and Livermore Avenue in Staten Island. BWSO personnel cleared the blockage and abated the discharge. A total of 0.000082 MG of discharge was reported to DEC on 11/17/2015.

During routine monthly inspection at Regulator #RH-18A, CFS personnel found the regulator surcharged and overflowing. The discharge was caused by a blockage in the branch interceptor. The crew contacted CFS headquarters, which dispatched a flusher truck to the site. The crew flushed the branch interceptor and cleared the blockage, thereby abating the discharge. The crew continued to flush the remaining diversion and regulator chambers. A total of 0.00014 MG of discharge was reported to DEC on 12/14/2015.

Additional details on the events, yearly comparisons, and Reports of Non-Compliance Events are listed in **Appendix 5**.

6. Industrial Pretreatment

"The approved Industrial Pretreatment Program shall consider the impacts of discharges of toxic pollutants from unregulated, relocated, or new SIUs tributary to CSOs that were not identified in the report entitled, CSO Abatement in the City of New York: Report on Meeting the Nine Minimum CSO Control Standards. @ The approved Industrial Pretreatment Program shall consider CSOs in the calculation of local limits for indirect discharges. Discharge of persistent toxics upstream of CSOs will be in accordance with guidance under (NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.3.8, New Discharges to POTWs. For industrial operations characterized by use of batch discharge, consideration shall be given to the feasibility of a schedule of discharge during conditions of no CSO. For industrial discharges characterized by continuous discharge, consideration must be given to the collection system capacity to maximize delivery of waste to the treatment plant. Non-contact cooling water should be excluded from the combined system to the maximum extent practicable. Direct discharges of cooling water must apply for a SPDES permit. To the maximum extent practicable, consideration shall be given to maximize the capture of industrial waste containing toxic pollutants and this wastewater should be given priority over residential/commercial service areas for capture and treatment by the POTW. These factors shall be considered in the location and siting of new industrial users with preference to service by areas not tributary to CSOs or having sufficient capacity to deliver all industrial wastewater during all conditions to the POTW. "

This program continues as described in last year's Report. Attached in Appendix 6 Exhibit 1 is the letter to industrial users amending the permit number and a graph of the trends in discharge containing metal going into NYC WWTPs. In 2015, the average daily discharge containing metals by all regulated industries to the NYC WWTPs was 12.2 lb/day. The total amount of metal being discharged by regulated industries remains very low. If the same percentage of CSO bypass (1.5%) from the CSO report is applied to the 2015 data, then on average approximately 0.18 lb/day of total metal would be included in CSO dry weather overflows. Over the years, the total amount of metal being discharged by regulated industries has declined. It should be noted that in Appendix 6, the total metals loadings for 1997–2009 and 2012 were calculated based on monthly metal sampling, and the remaining years were calculated based on annual priority pollutant scans. A list of regulated industries, with average daily wastewater discharge flows and average pollutant loadings is summarized in the 2015 IPP Progress Report.

7. Control of Floatable and Settleable Solids

The discharge of floating solids, oil and grease, or solids of sewage origin which cause deposition in the receiving waters, is a violation of the NYS Narrative Water Quality Standards. The permittee shall implement the following best management practices in order to eliminate or minimize the discharge of these substances:

7a. ***Catch Basin Repair and Maintenance*** *- The permittee shall inspect each catch basin in the tributary collection system a minimum of once every 36 months in accordance with a schedule to be outlined in the first annual CSO BMP report. Catch basins will be cleaned as required based on these inspections and in accordance with the permittee's criteria for catch basin cleaning. The permittee shall replace missing or damaged catch basin hoods within 90 days after the date of inspection for basins known to be hooded upon completion of the catch basin hooding program. For catch basins that have been identified during the catch basin hooding program, and that shall be listed in the annual report as needing extensive repairs before a hood can be installed, the permittee shall repair the catch basin and install a hood. The permittee shall maintain a schedule of repairing and installing hoods at a minimum of 1,000 catch basins per year and all 7,000 catch basins identified as requiring repair and hoods shall be completed by January 1, 2010. For all future basins found by inspection to require extensive repairs before a hood can be installed, the permittee shall repair and install a hood within 24 months.*

7b. ***Catch Basin Retrofitting*** *- For catch basins that have been designed without a hood or which have been identified as unsuitable for installation of a hood, the permittee shall retrofit the basin with a device to effectively reduce the incidence of street litter from entering the combined sewer. The retrofitting may include replacement of street grating, restriction or elimination of curb cuts, installation of an outlet "90 degree elbow" catch basin sieves, or other device to limit street litter from entering the combined sewer system as approved by the Department.*

Catch basin hooding – an important element of NYC's CSO floatables control program and one of EPA's Nine Minimum Controls can significantly reduce the discharge of street litter to combined sewers, storm sewers and receiving waters. Between 1996 and 1999, DEP conducted an initial catch basin program, including inspection, mapping, cleaning and hooding, where possible, of all catch basins in the City. The program was required for certain areas of the City as prescribed in a 1992 CSO Consent Order but was voluntarily extended by DEP as a City-wide program. This program identified approximately 50% of catch basins as missing hoods. As a result of the program, the City's catch basin hooding coverage was increased to approximately 85% at the conclusion of the program

in 1999. As of April 30, 2010, all work identified during the catch basin hooding program at locations requiring extensive repairs before a hood could be installed was completed. The City now tracks catch basin maintenance and repair activities through Hansen, a complaint and work order management system.

Sections 7.1 and 7.2 summarize the inspections, hooding, repair, reconstruction, and retrofitting completed in 2015. The information used to assess the reconstruction originates from DEP's Hansen system and data on catch basin inspections that are conducted by BWSO.

7.1 CATCH BASIN POST-INSPECTION AND HOODING SCHEDULE

Since the completion of the initial program in 1999, catch basin inspection and hooding continued in what is referred to as the "post-inspection" program conducted on a three-year cycle for all areas of the City. The current post-inspection schedule is presented in Table 7.1-1: "Post- Inspection Schedule" in Appendix 7. (DEP BWSO)

Inspections and Cleaning

The provisions of the SPDES permits require that DEP "shall inspect each catch basin in the tributary collection system a minimum of once every 36 months in accordance with a schedule to be outlined in the first annual CSO BMP report." As per the 2003 CSO BMP report, that schedule commenced in October 2002. As reported in the 2009 CSO BMP report, a new post-inspection schedule was presented. As reported in the 2012 CSO BMP report, an updated "Post Inspection" schedule was submitted to reflect new timelines. This current schedule can be found in Appendix 7.

Catch basin maintenance and repair work is a major focus of BWSO daily activities, and BWSO devotes significant resources to these tasks both as part the of programmatic three-year cycle and in response to complaints from the public. BWSO tracks inspection progress in several ways: by Community Board, by managing progress towards the target of inspecting one-third of the catch basins annually, by reviewing the number of basins inspected and cleaned on a regular basis, and by ensuring timely response to any issues reported by the public.

In 2015, 39,793 programmatic catch basin inspections were completed. DEP also cleaned 30,042 catch basins in 2015. Catch basin cleaning is performed both in response to a complaint and on a proactive cleaning schedule. Table 7.1-2: "CY 2015 Catch Basin (CB) Survey& Cleaning" presents a summary of catch basin cleaning as a result of the post-inspection program and other routine maintenance activities during 2015 for each borough. These data are based on Hansen system data retrievals for activities that included catch basin surveys and cleaning.

Hood Replacements

The provisions of the SPDES permits require that DEP *"shall replace missing or damaged catch basin hoods within 90 days after the date of the inspection for the basins known to be hooded upon completion of the catch basin hooding program."*

In 2015, DEP hooded 393 catch basins; one replacement exceeded the 90-day period from the date of inspection. Overall, the average time to install a hood was 10.60 days – significantly lower than the 90-day period allotted.

Tables 7.1-3: CY 2015 Catch Basin Hooding, present a summary of hoods replaced during 2015 for each WWTP drainage area. These data are based on Hansen System data retrievals for repair activities that included hooding.

7.2 CATCH BASIN RETROFITTING, REPAIR AND RECONSTRUCTION

The SPDES permit provisions require that any retrofits for hooding compliance had to be completed by April 1, 2008. The SPDES provisions also require that catch basins requiring extensive repairs before a hood could be installed had to be hooded by January 2010.[1] Pursuant to the SPDES permit, BWSO has used three categories of work to achieve compliance with these requirements: retrofit, repair and reconstruction. As used in this report, these categories are defined as follows:

- Retrofit:[2] As defined in the SPDES permits and previous BMP reports, "retrofitting may include the replacement of street grating; restriction or elimination of curb cuts; installation of an outlet, 90-degree elbow,' catch basin sieves, or other device to limit street litter from entering the combined sewer system as approved by the Department." For practicality and efficiency, the retrofit that DEP has used for compliance with the retrofitting requirement is the restriction (closure or absence) of catch basin curb cuts (curb inlet or curb piece). This action is consistent with the WWTP SPDES permits which recognize that absence or closure of the catch basin curb inlet is an appropriate retrofit that minimizes the amount of street debris entering the basins.

- Repair: The repair category refers to catch basin work done by DEP in-house resources to allow a basin to accept a hood when it cannot in its existing condition do so. Specifically, repairs refer to basin rehabilitation activities including brick work on portions of the basin, and/or

[1] "*The permittee shall maintain a schedule of repairing and installing hoods at a minimum of 1,000 per year and all 7,000 identified as requiring repair and hoods shall be completed by January 2010."*

[2] The definitions have been included to explicitly address the DEC December 1, 2008 comments to "clarify" and "distinguish between retrofits, repairs and reconstruction."

replacement or rehabilitation of particular components of the basin. In the repairs category, the existing catch basin structure and footprint remain largely unchanged.

- Reconstruction: The reconstruction category refers to the complete reconstruction of the basin, including the removal of the existing basin structure, excavation or placement of fill if needed to change the elevation of the basin or reconfigure the basin's connection to the sewer and the construction of an entirely new basin structure that meets all current design standards.

Catch Basin Retrofit and Repair 2015 Work

In the 2010 Report, DEP confirmed that all of the remaining catch basins that were initially identified as requiring extensive repairs before a hood could be installed were repaired by April 30, 2010.

"For all future basins that have found by inspection to require extensive repairs before a hood can be installed, the permittee shall repair and install a hood within 24 months."

The status of these basins is carefully monitored through DEP's Hansen system to ensure compliance within the allotted time period.

7. C. ***Booming, Skimming and Netting*** - *"The permittee shall operate and maintain the floatable containment boom (or floatable containment netting) as applicable for the CSO outfalls listed in this permit. The in-water containment boom shall be inspected within 48 hours of a confirmed CSO event and, if necessary, cleared of floating debris. The permittee shall visually inspect floatable containment netting on a weekly basis and shall replace damaged or full netting bags as necessary."*

The DEP-BWT maintains 22 permanent floatable containment facilities and 1 temporary for a total of 23, corresponding to stormwater and combined sewer drainage areas totaling approximately 60,000 acres. The temporary CSO boom at the Gowanus Canal is also handled by a DEP-BWT.

Floatable containment site locations and offloading facilities are depicted in **Figure 7-2**.

The off loading facility for floatables at Whale Creek is back in service.

The floatable materials contained by the boom and net sites are retrieved by four City-owned skimmer vessels. Offloading currently occurs at two DEP WWTPs. The skimmer vessels are operated by DEP-BWT personnel. The DEP-BWT personnel also provides containment site inspections, maintenance and repair. Skimmer vessel maintenance and repair services are handled either by in-house personnel OR, when deemed necessary, these activities can be accomplished via a marine service contract.

Skimmer vessels are dispatched to retrieve collected floatables from booms and nets based on inspections conducted with small vessels within 24 to 48 hours of significant rain events. The inspection vessels are also equipped with hand netting tools in order to retrieve small amounts of floatables, so that the skimmer vessel use is more focused on containment sites with large amounts of floatables. In dry weather, boom and net inspections occur at least weekly and may occur more often for certain sites where specific tide and wind conditions may cause debris to accumulate outside of rain events.

In 2015, 246.50 cubic yards of floatable material were retrieved from the 23 containment facilities and some minor open water skimming (see **Table 7C-2A**)

Total floatable recovery per each year is provided in **Figure 7-3** and in **Appendix 7-BWT**, **Table 7C-1**.

Floatable recovery totals for 2015 per each of the boom and net sites are included in **Appendix 7-BWT**, **Table 7C-2**.

DEP currently has two self- propelled skimmer vessels (Aquarius Systems Custom Model HSTH235 - High Speed Trash Hunter) and two old vintage skimmer vessels which are required to be towed.

Table 7C-3 reflects NYCDEP CSO Floatable Removal Program via Skimmer Vessels – Collection Summary (Cubic Yards).

Figure 7-4. DEP Skimmer Vessel "Shearwater"

7.d.1 Keep New York City Beautiful Campaign (transitioned from the Street-Litter Working Group)

In 2015, the *Keep New York City Beautiful* organization remained active, focusing on Citywide community-improvement programs such as litter prevention, neighborhood clean-ups, urban greenspace initiatives, tree plantings, and other activities. For a detailed description and history of *Keep New York City Beautiful*, please refer to the CY2008 CSO BMP Annual Report. The following table presents a summary of *Keep New York City Beautiful* activities and impacts during 2015. Through these activities and initiatives, *Keep New York City Beautiful* programs not only increased the public's awareness of the impact of littering, but also directly reduced litter and rainfall runoff through community cleanups and tree planting, all of which works to reduce CSOs and their impacts on New York Harbor.

***Keep New York City Beautiful* - 2015 Activities**

Together with partners from the EPA, NYC Departments of Sanitation (DSNY) and Parks (DPR), DEP launched the 2015 Clean Streets=Clean Beaches campaign with an event at MCU Park in Coney Island on July 13. The Clean Streets = Clean Beaches posters were displayed at area beaches and on approximately 2,000 Sanitation vehicles citywide. In addition, DEP joined with the Department of Youth and Community Development (DYCD) to clean trash and debris from waterfront properties throughout the five boroughs. The program was launched at MCU Park in Coney Island, home of the Brooklyn Cyclones, where staff distributed "Clean Streets = Clean Beaches" flyer toys to approximately 5,000 children attending the Cyclones game from area day camps and the City's Summer Youth Employment Program.

DEP enhanced the collection of floatable litter by conducting cleanups through a DEP initiative, including a Summer 2015 cleanup, which ran every day for six weeks removing approximately 1,400 bags of trash and filling 600 recycling bags from locations in Brooklyn, Queens, Staten Island and the Bronx.

DEP continued its Water-On-the-Go (WOTG) program by setting up 272 fountains at 63 locations during an 88 day period. WOTG provided free, easy access to clean NYC drinking water for hundreds of thousands of people.

Other Citywide cleanup and beautification efforts include:

EVENTS

1. **#** of events held: **53**
2. 2. **#** of volunteers: **4,500**
3. **#** of volunteer hours: **200**

EVENT ACCOMPLISHMENTS

4. Pounds of litter & debris collected:

   (1 bag of litter = est. 20 lbs.): **27,000**

5. Acres of land impacted/cleaned: **120**

6. Miles of waterways cleaned: **28**

7. # of illegal dump sites cleaned: **995**

8. Number of bags of newspaper recycled : **59,500,000**
9. Number of tires collected for recycling
   (1 tire=24 lbs.): **36,396**
10. Number of tonnage of electronics collected: **320,189**

11. Number of trees planted: **95,126**

EDUCATION:

12. Number of training workshops held: **335**

13. Number of people in attendance: **7,400**

    (at above workshops)

14. # of lots cleaned by DSNY: **3,301**
15. **#** of derelict vehicles collected by DSNY: **2,292**

7.d.2 Development of BMP's for the Automotive Industries

DEP continued this program and completed the Automotive booklet in 2013. For a full description of this work, please see the CY 2012 CSO BMP Annual Report.

The "Smart Auto Body, Auto Repair, and Dismantling" Booklet was printed and distributed to major automobile associations in December 2013. It provides auto body, auto repair, and auto salvage and dismantling businesses in NYC with a serviceable and easy-to-use guide for complying with city, state and federal permitting requirements, environmental rules and regulations, and best management practices that are applicable to the Automotive Industry in New York City. Please see the list of automobile associations and auto dealers below to whom were sent copies of the Guide. The Guide also appears on the DEP website: www.nyc.gov/dep.

1)	Gasoline & Automotive Service Dealers Assn. (GASDA), Inwood, NY	100 copies
2)	Long Island Gasoline Retailers Assn. & Allied Trades (LIGRA), Melville, NY (They will send Guide to approx. 200 members)	20 copies
3)	United Auto Merchants Assn., Bronx, NY	100 copies
4)	NY Towing Auto Body & Salvage Assn. aka TABS Consulting, Brooklyn, NY	100 copies
5)	NYS Assn. of Service Stations & Repair Shops Albany, NY	100 copies
6)	Service Stations Dealers of Greater NY Mamaroneck, NY	150 copies
7)	Greater NY Auto Dealers Assn., Whitestone, NY	50 copies
8)	NYS Auto Dealers Assn., Albany, NY	
9)	Automotive Craftsman's Guild Staten Island, NY	40 copies

7.d.3 Development of a New Creek, South Beach, and Oakwood Beach Bluebelt

In 2015, DEP continued its development of the Staten Island Bluebelt system (see Figure right) with an expansion of the Bluebelt program in the New Creek, South Beach and Oakwood Beach sections of Staten Island. For a full description of the Bluebelt programs, please see the CY2009 CSO BMP Annual Report. The following sections describe the status of the programs.

Adopt-a-Bluebelt – This program continued in 2015. The total number of sites adopted and maintained by local community groups, companies, or individuals is 110, covering an area of 33,800 square feet.

Volunteer Cleanups – In 2015, probationers from the NYC Department of Probation and the Federal Community Service Program for Probationers contributed 203 days and 450 hours, respectively, to Bluebelt cleanup efforts.

Catch Basin Outreach and Education – DEP continued catch basin outreach and education.

Floatable Control – Trash booms are cleaned regularly by DEP maintenance staff and have significantly reduced floatable discharges into the storm water system and Raritan Bay.

Illegal Dumping Enforcement – This program continued in 2015.

Youth Conservation Corps – This program continued in 2015 in partnership with United Activities Unlimited (UAU) and the Summer Youth Employment Program (SYEP) in Staten Island. The YCC program's duration was from July 6 to August 3rd and worked with four students in an effort to build community support and stewardship specifically in the management of invasive and exotic plant species of the Bluebelt.

7.d.4 Development of an Expanded Grease Interceptor Program

DEP continues to develop the Expanded Grease Trap Program. For a detailed description of this program, please see the CY2015 CSO BMP Annual Report. The following summarized activities during calendar year 2015:

• 1,221 initial inspections were performed;

• 3,182 follow ups / maintenance inspections were performed;

•1,978 Commissioner's Orders were issued;

• 1,308 Notices of Violation were issued;

•2,968 new grease interceptor installations were required.

In addition, the Bureau of Public Affairs & Communications – Environmental Compliance Outreach (ECO) Unit completed the following activities in 2015. ECO conducted 261 door-to-door visits, of which 221 establishments were provided invitations to a local meeting where they could learn about proper grease management. ECO also initiated an outreach program whereby restaurants and related entities were visited and offered information on proper grease management. Under this program 73 restaurants and 9 restaurant equipment suppliers were visited and also provided a newly developed "Grease Log" to track the cleaning of grease interceptors. In addition, through this effort 27 food-related businesses were also offered telephone consultations on proper grease management.

Further, in conjunction with BWT, ECO conducted four grease-related workshops for the hospitality industry, organized 1 workshop for a plumbing trade group and conducted nine compliance workshops where grease compliance was discussed. ECO also conducted 24 workshops on proper grease management with property managers/residents.

ECO also posted a grease-related notice in the newspaper of the New York City Housing Authority (NYCHA) potentially reaching 178,357 apartment units. Approximately 7016 grease-related mailings such as Cease the Grease posters & flyers, grease compliance information, and "Grease Logs" (see above) were provided (including by hand delivery) to various parties including restaurants, restaurant equipment suppliers, property managers, and residents. ECO also attended nine trade shows and 11 community outreach events where grease awareness literature was distributed.

In 2015 ECO also played a major role in DEP's Southeast Queens Project via (primarily through door-to-door) distribution of proper grease management literature as well as workshops in DEP's targeted areas (namely Queens Community Boards 12 & 13). Under this program three workshops were conducted reaching approximately 275 households and literature was distributed to 19,124 households.

7.d.5 Implementation of a Requirement for Significant Industrial Users to Hold Their Process Wastewater and Non-contact Cooling Water to the Maximum Extent Practicable During Heavy Rains

In 2015, DEP continued to implement this requirement for Significant Industrial Users (SIUs). Please

see the CY2009 CSO BMP Annual Report for more details about this program. Additional information may be found in Section 7.d.7.3 – Industrial Pretreatment and in Appendix 6.

7.d.6 The Educational Campaign Program to Reduce Littering Behavior

In 2015, DEP continued to educate the public and raise awareness about the New York City wastewater treatment and water supply systems, stormwater management (including the Municipal Separate Stormwater System - MS4 - permit, floatable reduction, litter reduction and the proper disposal of grease, and water conservation. DEP developed and implemented through its Bureau of Public Affairs & Communication (BPAC), a comprehensive education and outreach program featuring:

- School programs (grades pre-K-college)
- Visitor Center at Newtown Creek programs
- Professional development for formal and non-formal educators
- Special education programs and events
- Public exhibitions
- Public events
- Volunteer programs
- Multi-media
- Publications
- Promotional items
- Website

The following sections describe the status of these programs during 2015. For a full description of these programs, please see the CY2009 CSO BMP Annual Report.

7.d.6.1 School and Visitor Center Programs, Professional Development, Special Events and Exhibitions

BPAC's education programs and resources continued to reach thousands of young people and adults in 2015. Some specific examples of these programs that occurred in 2015 are presented below.

7.d.6.1. 1 Education Programs and Resources


In 2015, DEP conducted hundreds of education programs with young people and adults through ongoing school visits, field trips, Visitor Center at Newtown Creek presentations, teacher workshops, and other educational programs and events. Education materials, including information about NYC's wastewater treatment and water supply systems, lesson plans and student activities, and education resource guides were also developed and distributed to thousands of recipients throughout NYC. Detailed information on these programs is available from BPAC's Education Office and on DEP's website.

The Visitor Center at Newtown Creek, located at the Newtown Creek Wastewater Treatment Plant in Greenpoint, Brooklyn, provides an important venue for young people and adults to learn about NYC's water supply system and its wastewater treatment system. Exhibitions and programs focus on the city's vital, but hidden, infrastructure; green solutions to stormwater management, including bluebelts, bioswales, green and blue roofs, rain barrels, and permeable pavements; the NYC sewer system, including its municipal separate stormwater system; and harbor water monitoring, including the role of NYC's fleet of vessels and scientific monitoring; and ways to become more effective stewards of the environment by disposing of litter and grease properly and conserving water. The Visitor Center provides the ideal setting for DEP educators to present hands-on, multi-disciplinary lessons for grades pre-K through college, aligning with Common Core State Standards and STEM initiatives. The Visitor Center, open for class visits and teacher professional development workshops five days a week year-round, has become a popular destination for school trips from classes throughout New York City and beyond.

In May 2015, DEP conducted its 29th annual Water Resources Art & Poetry award ceremony to recognize student's knowledge of the city's valuable water resources through their creative expression using art & poetry. Approximately 1,300 students from 2nd through 12th grade from NYC and watershed public, charter, independent, and parochial schools participated in this special program by submitting entries online where their poetry, photographs, digital art, paintings, and crafts were judged based on knowledge and creativity. The winning entries are featured on DEP's website. An award ceremony was held at Tribeca Performing Arts Center in Manhattan to honor the outstanding efforts of all of the students, in the presence of their families, teachers and school administrators.

In 2015, DEP continued to collaborate with Trout Unlimited in the Trout in the Classroom (TIC) program, a watershed environmental education initiative for elementary through high-school students. In October, more than 150 educators from NYC and NYC's east and west of the Hudson River watersheds attended the annual TIC teacher conference, where they participated in workshops presented by DEP professionals and veteran TIC teachers and received trout eggs, distributed by the NYS Department of Environmental Conservation (DEC). Eggs hatched in classroom tanks and trout were raised by approximately 6,000 students in more than 120 schools in NYC and its watersheds. In the spring, more than 1,600 NYC students released their trout into watershed streams and participated in hands-on activities focusing on the importance of forests to water quality and water stewardship.

DEP also participated with DEC during the annual statewide Citizen Science "A Day in the Life: Hudson River Estuary Snapshot" day. DEP hosted 11th grade students from Baruch College Campus High School and 7th graders from Hunter's Point Community Middle School who spent the day making environmental observations, collecting and analyzing water samples, and assessing water quality along the East River, at Gantry Plaza State Park. Students use field techniques to track the river's tides and currents, examined the water's chemistry and identified macro-invertebrates and fish.

Throughout the year, DEP hosted additional professional development workshops for formal and non-formal educators. Workshops that focused on water issues were conducted with the NYC Department of Education and their Sustainability Coordinators, STEM liaisons, New York City Parks, Watershed Agricultural Council, NYC Soil and Water Conservation District, and many other cultural and environmental organizations. Participants learned about creative ways to incorporate the teaching and learning about water into the curriculum.

DEP and Groundswell partnered together for their fourth time to create a series of water related banners. Groundswell with Row New York and DEP worked together to help high school and college age student explore a conservation, environmental stewardship and knowledge of the NYC Water Supply System. A series of three mural banners were created and are now installed at Row New York's three locations – the Worlds' Fair Boathouse in Flushing-Meadow Corona Park, Queens, the Peter Jay Sharp Boathouse in upper Manhattan, and their main office and academic spaces in Long Island City, Queens.

7.d.6.2 Publications

In 2015, DEP expanded the notification process concerning availability of the 2013 Drinking Water Supply and Quality Statement. The agency sent postcards to all of its approximately 840,000 bill-paying customers notifying them of the report's availability on the DEP website, and distributed approximately 8,800 hard copies as follows:

- 4,500 copies of the 2014 Report were sent to NYC libraries.
- More than 1,000 copies of the Report were distributed to teachers and administrators in public, private and parochial schools throughout NYC.
- Copies of the 2014 Report were distributed throughout the five boroughs at community and civic association meetings, outreach events (including trade shows, Greenmarkets, health fairs and street fairs), town halls, and project tours.
- Copies of the 2014 Report were distributed at West and East of Hudson Watershed events, and in NYC, at all DEP-sponsored tabling events and DEP speaking engagements, and to the general public upon request.

In 2015, DEP continued its on-going education outreach efforts through its presence with its Water-On-the-Go (WOTG) program at highly visible locations throughout the city. 279 WOTG fountains were set up at 28 locations during a 75-day period. These fountains provided free, easy access to clean NYC drinking water for hundreds of thousands of people. The fountains were staffed by City Seasonal Aides who served as Ambassadors to the public and were on site to give facts on the benefits of tap water vs. bottled water. The presence at public events and Greenmarkets gave DEP WOTG Outreach Ambassadors the opportunity to interface with the public and respond to questions from the public, as well as to distribute useful promotional items and educational literature that helped to reinforce the message. The staffers performed outreach with the WOTG program from June through Labor Day weekend.

The WOTG Outreach Ambassadors also raised awareness of Clean Streets = Clean Beaches and helped reduce floatables by distributing reusable, BPA-free NYC Water bottles; they encouraged the public to fill the bottles with tap water at the WOTG fountains instead of purchasing bottled water.

In July, DEP partnered with the departments of sanitation, parks and recreation, and youth and community development as well as with the US EPA Region 2 to launch the 2015 "Clean Streets = Clean Beaches" program, a public information campaign and beach clean-up program aimed at improving the cleanliness and aesthetics of New York City beaches by reducing littering. When it rains, trash and debris discarded on city streets and sidewalks washes down storm drains and can end up on beaches. "Clean Streets = Clean Beaches" posters on Sanitation vehicles citywide. In addition,

DEP joined with the Department of Youth and Community Development to clean streets still suffering the effects of Hurricane Sandy in July and August. The program was launched at MCU Park in Coney Island, home of the Brooklyn Cyclones, where staff distributed "Clean Streets = Clean Beaches" flyer toys to approximately 5,000 children attending the Cyclones game from area day camps and the City's Summer Youth Employment Program. During Summer 2014 the Clean Streets = Clean Beaches teams picked up 1000 bags of trash and 490 bags of recycling.

DEP's Rain Barrel Giveaway Program of New York City's Green Infrastructure Plan that aims to capture stormwater before it can ever enter the sewer system and thereby reduce combined sewer overflows into local waterways. The rain barrel program also builds upon DEP's efforts to conserve water. Our giveaway program began as a pilot program in 2008 with the distribution of 250 rain barrels to homeowners in the Jamaica Bay watershed. The program was expanded in 2009 due to the public's overwhelmingly positive response. In 2015 year over five thousand rain barrels were given to NYC building and homeowners, schools, and community gardens in all five boroughs. We partner with elected officials and city agencies to organize distributions events throughout the city.

7.d.6.3 Future Actions

In 2015, DEP continued to engage in and support programs that address CSOs and floatable-litter reduction. For a full description of the Public Education programs, please see the CY2009 CSO BMP Annual Report. The following section describes the status of these programs.

7.d.6.3.1 Program Continuation

In 2015, DEP continued its engagement with the programs described earlier in this Section (and in the CY2009 CSO BMP Annual Report) using the successful approach used since 2000.

The following describes notable plans for several programs in 2016:

- School Programs: In 2015, DEP expanded the Water Resources Art and Poetry Contest to include a new, extremely relevant theme of Climate Change. Themes currently include the importance of New York Harbor, where our water comes from, how the City's wastewater is treated, green solutions to managing stormwater, and stewardship activities such as anti-littering, proper disposal of grease, and water conservation. School programs will increase, presentations at the Visitor Center at Newtown Creek will be enhanced, and more professional development for educators will be conducted. Additional collaborative programs will take place at the Queens Museum where DEP's model of the watersheds is located. DEP's grease awareness campaign continued in schools citywide and in new target communities. A new green-infrastructure online education module for students and teachers was launched during the winter of 2015. A new water-related mural developed in partnership with Groundswell and Row NY was created by high

school students and displayed throughout NYC, with particular emphasis on local water bodies.

- Publications: Documents that received updates in 2015 include the New York Harbor Water Quality Report and the Drinking Water Supply and Quality Report.

7.d.6.4 Conclusions

DEP manages an extensive education and outreach program that targets NYC students, teachers, parents, school administrators, curriculum specialists, non-formal educators, residents, community organizations, businesses, and visitors and internet users. The program is supported through the Visitor Center at Newtown Creek and the Newtown Creek Nature Walk, outreach events at schools and public events, multi-media promotion, exhibitions, publications, promotional item distribution, and the DEP website. In 2015, DEP continued these programs and expanded outreach at the Visitor Center at Newtown Creek.

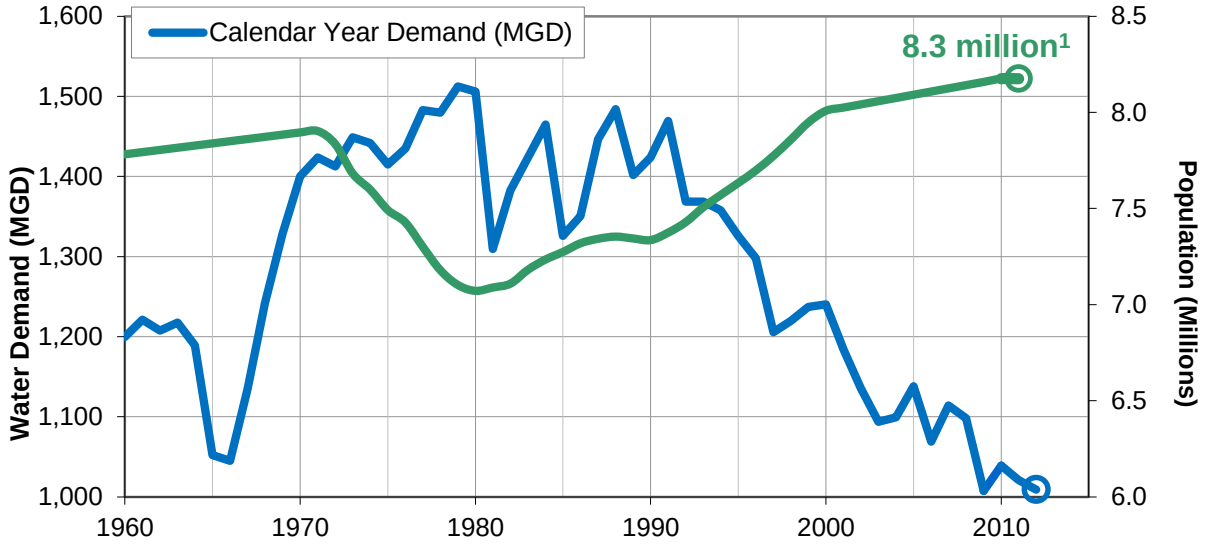
7.d.7 Pollution Prevention Activities Undertaken By DEP and/or Other City Entities

7.d.7.1 Pollution Prevention

- Environmental Compliance Outreach (ECO) Unit
  - Compliance Assistance
  - Infrastructure Assistance & Enhancement
  - Business Development (including Green Business)
  - Financing Incentives
  - Process Streamlining

7.d.7.2 – Water Conservation

DEP values the role of water conservation and demand management in the responsible long-term management of NYC‘s water supply. As a result, despite consistent increases in population, actual water demand is down more than 30% since the 1990s. With predictions of warmer temperatures and greater variability in precipitation due to climate change, however, DEP must consider in its management of the City‘s water supply such increasing uncertainty and the corresponding demand for this resource. Further, the leaking of the Delaware Aqueduct and its planned shut-down and repair in 2022 as part of DEP‘s Water for the Future Program is a near-term certain event that provides an imperative not only to proactively manage, but also to explicitly reduce, existing water demand in order to ensure adequate water supply through this period.



7.d.7.2.1 – Program Description

DEP's water conservation efforts aim to reduce water use in New York City and upstate communities by 5% or 50 million gallons of water per day from the 2012 demand level by the year 2020. The goal of DEP's water conservation efforts, since the release of PlaNYC2030, is to reduce water use in New York City and in upstate communities by a total of five percent, thereby lowering consumption by approximately 50 million gallons of water per day. Using both active and passive conservation, significant reductions have already been achieved since 2010 when demand was 1,039 million gallons per day. In 2015 the demand dropped 30 million gallons per day, at 1,009. The DEP set forth the six major strategies that DEP will implement to reduce water use:

- Municipal Water Efficiency Program, which involves retrofits of city-owned properties. This program will save up to nine million gallons of water per day.
- Residential Water Efficiency Program, which focuses primarily on the Toilet Replacement Program for multi-family buildings and other residential properties. This program has the potential to save up to 30 million gallons per day.
- Non-Residential Water Efficiency Program, involving collaboration with private sector organizations like businesses, hospitals, and universities.
- Water Distribution System Optimization, entailing system repairs and upgrades, managing water pressure, and refining water meter accuracy and leak detection.
- Water Supply Shortage Management, which encompasses the review and revision of plans to prepare for a drought and other water shortages.

- Upstate Wholesale Customers Demand Management Program, which targets demand management planning and implementation for the wholesale customers north of NYC. This program will save five million gallons a day.

The following paragraphs summarize the progress DEP has made during 2015 in designing and implementing efforts to support the teaching of the strategies listed above. Municipal Water Efficiency Program.

Municipal Water Efficiency Program

DEP continues to make significant progress in the Municipal sector, achieving the most work with two established partners—the NYC Department of Education (DOE) and the NYC Department of Parks and Recreation (DPR). The partnership executed 130 schools and 400 individual parks retrofit projects, by replacing running spray showers with push button activated ones. In addition to spray showers, 4 recreation centers under DPR have updated bathrooms and plumbing to reduce water consumption. In fiscal year 2015 DEP funded the replacement of over 11,500 old toilets and urinals with high-efficiency fixtures in 100 buildings in all five boroughs. The total amount of fixtures replaced now stands at 14,800, with an additional 8,300 to be replaced in 100 buildings through FY16. Through our partnership with the City University of New York, DEP funded the replacement of over 800 old toilets and urinals in 10 buildings at the City College of New York campus. DEP will be working to expand to other CUNY campuses in future years. Through a partnership with the New York City Fire Department (FDNY), DEP is partially funding a water recycling capital project for increasing water efficiency at the FDNY Chauffer School on Randall‘s Island. If FDNY receives their portion of funding needed to commence construction this will start in FY17.

In 2015, DEP completed its 2nd Commissioner’s Challenge to Waste Water Treatment Plants, 2 plants succeeded the challenge with the potential and combined were able to save 300,000 gallons per day. The third plant has also shown it has been able to reduce average water consumption through more efficient options. The third challenge will be launch in FY16 with another 3 plants. As part of this program DEP has been working to coordinate water efficient upgrades that normally would have a lower priority of funding to other important upgrades to ensure DEP is leading by example with lowering water consumption in municipal buildings.

Residential Water Efficiency Program

Through 2015, DEP continued running its Toilet Replacement Program, reaching out to qualifying customers to replace old fixtures with newer efficient ones. To comply with requirements set under the Multifamily Conservation Program deadline in June 2016, an aggressive schedule of outreach and meetings are scheduled. Outreach activities in 2015 included: 10 sign-up events, three deadline reminder letters, focused mailings to coops/condos and eligible properties without meters installed, and coordination with several partners like Urban Homesteading Assistance Board (UHAB). In

2015, approximately 400 qualified account applied for the Toilet Replacement Program (4,157 fixtures in total), while another 565 accounts sent in MCP forms claiming that their property already complied with the terms of the MCP billing rate.

In addition to the Toilet Replacement Program, DEP directed its contractor to provide complimentary household water surveys to building owners to promote water conservation at their properties. The surveys help the building owners identify opportunities for water savings, as well as any leaks which may exist. In 2015, the contractor conducted surveys in 9,584 individual apartments in 495 apartment buildings. It also surveyed 2, 095 1-3 unit properties, and 2,756 individual units within these properties. While residential properties are the primary focus of this service, 277 small commercial properties and 17 restaurants were also surveyed in 2015.

Non-Residential Water Efficiency Program

In 2015 thirty restaurants participated in the NYC Water Challenge to Restaurants. At the conclusion of the Challenge in December 2015 the 10 restaurants that achieved the five percent reduction in water consumption conserved roughly 2.6 million gallons of water over the course of the Challenge.

In December 2015 three NYC Hospitals: Memorial Sloan Kettering Cancer Center, Harlem Hospital and Harlem Pathology, and New York-Presbyterian Queens accepted invitations to join the 2016 NYC Water Challenge to Hospitals. The NYC Water Challenge to Hospitals will be the first challenge to span two years, January 2016 thru December 2017, in order to accommodate the larger facility footprints and scopes of conservation work.

DEP is also developing a new cost sharing program for non-potable water reuse and is currently in the process of evaluating and developing criteria. Benefits from incentivizing water reuse and alternative use extend to the deferred capital costs of large-scale water, wastewater, and stormwater infrastructure, reduced loadings to sewers and water bodies, improved environmental stewardship, and increased capability to manage demand on the water supply system. The program will be designed to target water efficiency through a diverse set of water reuse technologies for non-potable applications, such as toilet flushing and irrigation.

Water Distribution System Optimization

Water Distribution System Optimization entails system repairs and upgrades, managing water pressure, and refining water meter accuracy and leak detection. In 2015, DEP surveyed 3,567 miles of water mains for leaks; as a result of leaks proactively found and repaired, the DEP estimates that 3.74 million gallons of water per day were saved. In addition, DEP recently implemented a more strategic approach to leak detection. In this new approach, local, borough-based teams properly trained in leak detection efforts target specific areas known to be served with older network mains that are more likely to need both preventive and corrective maintenance. These teams are able to

respond rapidly to any identified problems, as opposed to the slower response times experienced in many locations when DEP relied upon one consolidated resource center. Leaking and/or vandalized fire hydrants can also result in significant water waste, as an illegally opened fire hydrant can release more than 1,000 gallons per minute and drop pressure. In 2015, DEP repaired 9,374 hydrants, replaced 1,336 and provided other maintenance services to 8,725 more.

DEP‘s efforts to achieve universal metering of all DEP water and sewer accounts are motivated both by efforts to reduce non-revenue water and to promote conservation among water users by providing them with accurate information on their consumption. DEP‘s universal metering initiative is also critical to measuring the success of its many other demand management strategies.

Accurate consumption data provided by newly installed or replaced meters enables DEP to determine whether projected reductions in consumption among target consumer groups have been reached, or if not, how demand management strategies may need to be adapted in order to improve their effectiveness. In 2015, DEP replaced 9,906 large meters (over two inches).

Water Supply Shortage Management

In 2014, DEP completed a fully revised draft of the Emergency Drought Rules. The draft’s proposed regulations address the wider variety of drought and water shortage conditions that New York City could face over the next several years, whether weather-related or otherwise. DEP has proposed that these regulations be referred to as the Water Shortage Rules, replacing the narrower focus of the previous title. The draft rules have been reviewed and approved by the Mayor‘s Office of Operations and the New York City Law Department. DEP has conducted some stakeholder outreach as proposed changes were introduced. DEP has begun its review of the draft rules’ potential environmental impact. DEP anticipates formal approval of the rules in 2016.

Upstate Wholesale Customers Demand Management Program

Wholesale customers make up 10% of the system‘s current consumption with the top ten largest customers accounting for approximately 85% of the total upstate wholesale consumption. By the conclusion of 2015, DEP had signed demand management planning agreements with 8 of the 10 largest wholesale customers it supplies water to outside of New York City and completed Water Conservation Plans for 7 of the 8. In 2016 DEP will begin negotiating, and funding, conservation strategies for each wholesale customer based on their respective conservation plans. Additionally, in November 2015, DEP hosted a WRF Leak Detection Workshop which was well attended by wholesale customers.

Updates to Drought Management Plan 7.d.7.9 PlaNYC (Mayor’s Office of Sustainability and Office of Recovery and Resiliency)

NYC's sustainability agenda prepares our city for a changing climate, a growing population, aging infrastructure, and an evolving economy with increasing inequality. In order to ensure quality of life

for generations of New Yorkers to come, PlaNYC programs help create housing for a growing population, provide clean and reliable energy, and improve transit capacity. The Mayor‘s Office of Sustainability and the Office of Recovery and Resiliency (ORR) lead the City‘s sustainability planning effort, leveraging and expanding upon many DEP programs. In 2014, DEP continued to work to meet PlaNYC milestones that improve the quality of our waterways to increase opportunities for recreation and restore coastal ecosystems, and to ensure high quality and reliability of our water supply system. In March 2014, Mayor Bill de Blasio announced the establishment of ORR to lead the City's efforts to build a stronger, more resilient New York by implementing recommendations laid out in *A Stronger, More Resilient New York*. This plan builds on the foundation of public collaboration and rigorous analysis set forth by PlaNYC. ORR guides the City's work to strengthen coastal defenses, upgrade buildings, protect infrastructure and critical services, and make homes, businesses, and neighborhoods safer and more vibrant. DEP works closely with ORR to incorporate and help implement projects that enhance the City‘s resiliency including protecting wastewater treatment facilities from storms, improving and expanding drainage infrastructure, and promoting redundancy and flexibility to ensure constant supply of high-quality drinking water.

7.d.7.3 Industrial Pretreatment

7.d.7.3.1 Program Description

This program continued in 2015. In 2015, 807 inspections were performed on regulated industries, and 66 Notices of Violation were issued. In 2015 the average total metals discharged by all regulated industries to the NYC Publicly Owned Treatment Works (POTW) was 10.2 lb/day. This corresponds with the trend of declining Industrial User (IU) discharges. If the same percentage of CSO bypass (1.5%) from the CSO report is applied to the current data, then on average, approximately 0.15 lb/day of total metals from year 2015 regulated industries will be bypasses to CSOs. Over the years, the total amount of metals being discharged by regulated IUs continues to decline. It should be noted that in Appendix 6, the total metals loading for 1997 – 2009 and 2012 were calculated based on monthly metal sampling and the remaining years were calculated based on annual priority pollutant scans. For a complete description please see CY2009 CSO BMP Annual Report.

7.d.7.3.2 Potential for Improvement/Expansion

As an alternative means of reducing the likelihood of CSOs during storm events, DEP has required that regulated industries IUs hold their process wastewater and non-contact cooling water to the maximum extent practicable during heavy rains. In 2015, 807 IU inspections were performed, and 66 Notices of Violation were issued to IUs.

7.d.7.4 Water & Sewer Permits

7.d.7.4.1 Program Description:

Any connection to a combined, storm or sanitary sewer requires an application for a permit to either make a new connection or repair/relay an existing sewer connection. A condition for Issuance of a

permit for a new sewer connection is conditioned upon submission of a Certification of a Site Connection Proposal (SCP) or a House Connection Proposal (HCP). Only a NYC Licensed Master Plumber can apply for a sewer connection permit provided there is a certified HCP/SCP submitted by a NYS Licensed Professional Engineer or Registered Architect.

At the end of 2015 and beginning of 2016, under the NYC Build it Back Program, a variance process was established with the Housing Recovery Office, to allow for expedited reconnections of any of the sites within the build-it back program.

7.d.7.4.2 Program Justification:

BWSO is responsible for overseeing the sewer permit process and for approving and inspecting water and sewer connections performed by licensed plumbers and/or authorized contractors. The careful review and certification of SCPs and HCPs allow the Department to ascertain whether the amount of sewage entering the collection system conforms to the City's Drainage Plan and whether the sewage generated will be conveyed to the plants for treatment without fear of sewage back-ups.

7.d.7.4.3 Contextual Characterization:

This program is administered in accordance with several provisions in the Administrative Code and the Rules of the City of New York (RCNY), promulgated pursuant to both State and City laws that govern the proper disposal and treatment of wastewater (sewage) in accordance with the Clean Water Act (federal). The rules addressing the connection process can be found in RCNY Title 15, Chapter 31 entitled, "Rules Governing House/Site Connections to the Sewer System."

It is mandated that the physical connection to any city sewer be inspected by DEP inspectors, and that a connection card or "Certificate of Inspection" be generated; this certification is necessary for the property owner to receive a Certificate of Occupancy from the NYC Department of Buildings (DOB). A record of these connections is kept at the BWSO Borough Water & Sewer Records Offices.

7.d.7.5 Environmental Compliance Outreach (ECO) unit - working with and for the New York City Business Community

ECO is the Environmental Compliance Outreach (ECO) unit of DEP's Bureau of Public Affairs & Communications. In 2015, ECO continued its core programs (primarily for NYC businesses) in compliance, infrastructure assistance and enhancement (e.g., proper grease management), business development (including green business), financing incentives and process streamlining.

Through these programs, ECO continued to work with its primary partners (and their members) including Local Development Corporations (LDCs), Business Improvement Districts (BIDs), Chambers of Commerce, Merchant Associations, and trade associations. ECO provided assistance to these partners via several types of outreach including answering inquiries, on-site visits, dedicated mailings (including via email), and presenting at workshops. In 2015 ECO also continued to enhance compliance with DEP's grease management requirements through workshops (in conjunction with the Bureau of Wastewater Treatment) and on-site visits to food-service establishments as well as

through outreach to NYC property managers. (For further details on ECO's 2015 grease activities see section 7.d.4).

In 2015, ECO also played a major role in DEP's Southeast Queens Project via (primarily through door-to-door) distribution of proper grease management literature and workshops in DEP's targeted areas (namely Queens Community Boards 12 & 13 – see details under separate category below & in section 7.d.4). ECO also continued to work with NYC's Small Business Services to streamline various processes for NYC businesses (e.g. offer online permitting).

The following table summarizes selected ECO's outreach activities during 2015.

Selected ECO Outreach Program Activities[(1)] During 2015

Outreach Type	Compliance Assistance/ Infrastructure	Business Development & Financing	Water Conservation/ Water Bills/ Other	"Consumer Confidence Report" (Water Quality Report)	Estimated Total Unique Contacts
Tel./Email/Walk-in Inquiries (incl.12 counted in > 1 category)	267	30	13		298
On-Site Visits (82=grease on-site visit to business; 165 in CA/I & Bus. Dev.)	343	165			343
Dedicated Mailings (households or businesses; 4 counted in CA/I & Bus. Dev.)[(2)]	10,573	29	1923	24,797	37,318
Articles (total households) [(2)]	178,557			39,267	217, 824
Workshops (8 counted in CA/I and Bus. Dev.)	58	8	2		50
Trade Shows & Community Outreach Events (counted in all categories)	20	20	20		20
Southeast Queens (households)	3 workshops = 275 households + distribution to 19,124 households (mostly door-to-door)				19,399
Grand Total					275,252

(1) Activities include some primarily non-water related outreach (air compliance, Right-to-Know, etc.)
(2) If provided to business group & passed on will result in higher totals than indicated above; in previous years (for properties) could have been counted as total estimated residents in lieu of households

7.d.7.7 Stormwater Regulations and Other Activities

Stormwater Rule

DEP's stormwater performance standard ("Stormwater Rule"), enables the City to manage stormwater runoff more effectively and to maximize the capacity of the City's combined sewer systems to the greatest extent practicable. Promulgated in July 2012, the Stormwater Rule requires any new house or site connections to the City's combined sewer system to comply with stricter stormwater release rates, effectively requiring greater on-site detention. The Stormwater Rule applies to new development or the alteration of an existing development in combined sewer areas of the City. For a new development, the stormwater release rate[3] is required to be 0.25 cubic feet per second (cfs) or 10 percent of the drainage plan allowable flow, whichever is greater.[4] If the allowable flow is less than 0.25 cfs, then the stormwater release rate shall be equal to the allowable flow. For alterations, the stormwater release rate for the altered area will be directly proportional to the ratio of the altered area to the total site area, and no new points of discharge will be permitted.[5]

In conjunction with the implementation of the Stormwater Rule, DEP published a companion document, *Guidelines for the Design and Construction of Stormwater Management Systems*, to assist NYC's development community and licensed professionals in the selection, planning, design and construction of on-site source controls that comply with the rule. DEP provides regular updates on the Stormwater Rule as part of the Green Infrastructure Annual Reports.

Green Roof Tax Abatement

In 2013, DEP worked with the Mayor's Office, the Office of Management and Budget, and the Departments of Buildings and Finance, as well as environmental advocates to extend the NYC Green Roof Tax Abatement (which expired in March 2013) for an additional five years. With some modifications, the property tax abatement continues the previous abatement, which was intended to offset some of the costs associated with green roof installation. Amended in 2013, the tax abatement is now available through March 15, 2018.

As part of the extension, the definition of a green roof now includes native and/or agricultural plant species, in response to increased public interest and enthusiasm for locally produced food crops. Additionally, the tax abatement includes an increase to the value of the abatement from $4.50 to $5.23 per square foot and an increase in the abatement value cap from $100,000 to $200,000 to enable larger green roofs (i.e., up to approximately one acre) to receive the full value of the abatement. Finally, based on the amount allocated for this abatement, the total annual amount available for applicants (i.e., in the aggregate) is $750,000 in the first year, and $1,000,000 in each subsequent year through March 15, 2018. The aggregate amount of abatements will be allocated by the NYC Department of Finance on a pro rata basis.

[3] NYC, N.Y., Rules, Tit. 15, § 31-01(b)
[4] Allowable flow is defined as the storm flow from developments based on existing sewer design criteria that can be released into an existing storm or combined sewer.
[5] NYC, N.Y., Rules, Tit. 15, § 31-03(a)(2)

Parking Lot Stormwater Pilot

First initiated in 2011, DEP's Parking Lot Stormwater Pilot Program generates revenue for operation and maintenance of the City's wastewater system. The program applies a stormwater discharge fee to stand-alone parking lots that contribute runoff to the City's wastewater system, but do not receive (or pay for) City water service. DEP's stormwater charge increased from $0.063 per square foot in 2014 to $0.0647 in 2015, to account for rate structure increases. In 2015, DEP billed 549 accounts for $599,129.95. Parking lot owners who implement green infrastructure practices are exempt from the stormwater discharge fee.

7.d.7.9 PlaNYC (Mayor's Office of Sustainability and Office of Recovery and Resiliency)

OneNYC, NYC's plan for a strong and just city, was issued in April 2015. The plan looks at the future of NYC through the four lenses of growth, equity, sustainability, and resiliency. The Mayor's Office of Sustainability and the Office of Recovery and Resiliency (ORR) lead the City's sustainability planning effort, leveraging and expanding upon many DEP programs. OneNYC pledges to protect and preserve NYC's water from contamination, the risks of aging infrastructure, and the impacts of climate change. Among these initiatives are the expansion of green infrastructure and smart design for stormwater management in neighborhoods across the city and reducing pollution from stormwater runoff. DEP is working to implement these initiatives in conjunction with the City's other goals of reducing greenhouse gas emissions 80% from 2005 levels by 2050, eliminating solid waste sent to landfills, realizing the best air quality of all large cities in the U.S. by 2030, mitigating neighborhood flooding, and creating useful, accessible, and beautiful open spaces.

7.d.7.10 NYC Green Infrastructure Program

The NYC Green Infrastructure Plan was released in September 2010 and lays out a comprehensive strategy to use green infrastructure along with water conservation, system optimization and cost-effective grey infrastructure to improve the quality of the City's waterways. The plan includes a citywide goal of managing one inch of runoff from 10% of impervious surfaces within combined sewer areas by 2030. To achieve these milestones, DEP established the Office of Green Infrastructure (OGI) in January 2011. In March 2012, DEC and DEP signed a modification to the CSO Order on Consent (the "Order"), which incorporates green infrastructure implementation into the regulatory regime governing CSOs.

Within the City's combined sewer watersheds, OGI has coordinated with the Bureau of Environmental Planning and Analysis (BEPA) and BWT to identify target CSI tributary drainage areas ("target areas"). These target areas represent the wet weather drainage areas for the combined sewer outfalls that have the highest volumes, most frequent overflow events, and the worst water quality. OGI uses Area-Wide contracts to build Right of Way (ROW) Bioswales, Stormwater Green streets, and ROW Rain Gardens in the public right of way for an entire CSO tributary area. Built upstream of existing catch basins, these green infrastructure practices manage stormwater flowing along the curb line and capture as much stormwater as possible, diverting it from the catch basins and the larger wastewater system. OGI is also partnering with DPR, NYC School Construction Authority (SCA), DOE, the non-profit Trust for Public Land, and NYCHA to retrofit City-owned

properties with green infrastructure projects such as rain gardens, permeable paving, and subsurface detention, where cost-effective.

Updates to the Green Infrastructure Program can be found in the Green Infrastructure Annual Reports published on the DEP website every year on April 30.

7.d.7.11 Climate Change Resiliency Planning

DEP continues to study climate change and to implement measures to prepare for its impacts, including the testing of future climate scenarios on the water supply system through the Climate Change Integrated Modeling Project; protecting wastewater treatment plants from storm surge as part of the Wastewater Resiliency Program; and reducing urban flooding through cost-effective investments in grey and green infrastructure. In 2015, DEP advanced design contracts as part of a $156 million investment in flood protection at WWTPs and pumping stations. These investments will provide resiliency for future storms including a buffer for sea level rise. Also in 2015, following the success of Copenhagen's Cloudburst Management Plan to reduce urban flooding, DEP Commissioner Lloyd signed a Memorandum of Cooperation with the City of Copenhagen to work together on the theme of "cloudburst management." Over the course of three years, New York City will be working with Copenhagen to transfer methodologies and best practices for urban flood mitigation, considering similarities and differences between the two cities related to governance and regulations, technical constraints, and funding and affordability. As appropriate, these lessons will be incorporated into ongoing planning for stormwater management programs at DEP.

7e. Additional Control of Floatables and Settle able Solids: Floatables Monitoring Program Progress Report

DEP has been tasked through its SPDES permit requirements to implement and maintain a floatables control program as well as a monitoring program to provide a means to assess and measure the effectiveness of the programs. These control and monitoring programs are embodied in the City-Wide Comprehensive CSO Floatables Plan Modified Facility Planning Report (Floatables Plan, July 2005) inclusive of Addendum 1 – Pilot Floatables Monitoring Program Work plan (December 2005)

The Floatables Plan contains a conceptual framework for the monitoring of floatables conditions in the waters of New York Harbor. A pilot program was conducted over the course of 2006 and 2007 to develop and test the monitoring methodology envisioned in the framework, and the full program began in 2008. A progress report, presented in conjunction with the CSO BMP Annual Report under separate cover, describes the progress that DEP has made.

The floatables monitoring program is based on observations of the presence/absence of floatables from monitoring stations throughout the harbor and has developed into one of a number of methods to assess floatables control programs. These basic monitoring data have been used to prioritize and select sites for more comprehensive site-specific investigations focused on priority sites with persistent poor ratings. The site-specific investigations characterize floatables, identify sources of floatables, correlate rating trends to floatables control programs where applicable, and, in conjunction

with CSO LTCP processes, provide the first steps for appropriate remediation planning where feasible.

Since 2006, the program has been grown to monitor most of NYC's regional waters and their near shores and shorelines. NYC DEP Harbor Water Quality Survey (HWQS) and Volunteer Survey Program monitoring stations increased from 25 sites in 2006 to 118 sites in 2015. Over the long term, variations in monitoring sites and locations will likely occur as public participation volunteer interest varies, shoreline cleanup sites change, and HWQS sites change; floatables monitoring at PCM sites will continue to be added as forthcoming LTCP element construction is completed.

As part of the Floatables Monitoring Program, site-specific investigations were conducted for the monitoring sites that had the most persistent poor floatables condition ratings based on monitoring data collected in 2014 (i.e., BS84 Great Kills Beach, BS25 Crescent Beach and NC3 Whale Creek; see Figure 13). The overarching goal of this year's site-specific investigations was to gain insight into the sources of floatables and other debris at the selected sites in order to inform planning within the framework of the City-wide CSOLTCP. The investigations were able to provide a step toward this goal.

In addition to the floatables controls listed in BMP 7a through 7d, the City engages in a street sweeping program to reduce floatable entry into catch basins and the combined sewer system. The program is administered by DSNY and evaluated through systematic street litter monitoring, known as the "Scorecard Program," conducted by the Mayor's Office of Operations. According to the Scorecard Program, City-wide street litter levels have improved somewhat over the past nine years with clear improvements in the percent acceptable and percent filthy ratings. Scorecard Program results for the past forty years are summarized in Appendix 7 (DEP BWT) Figure 7-4.

8. Combined Sewer System Replacement

> *"Replacement of combined sewers shall not be designed or constructed unless approved by NYS Department of Health and specified in the NYCDEP Master Plan for Sewers and Drainage. When replacement of a combined sewer is necessary it shall be replaced by separate sanitary and storm sewers to the greatest extent possible. These separate sanitary and storm sewers shall be designed and constructed simultaneously but without interconnections to maximum extent practicable. When combined sewers are replaced, the design should contain cross sections which provide sewage velocities which prevent deposition of organic solids during low flow conditions."*

Combined Sewer System Replacements are done in conformance with the Master Plan for Sewers and Drainage, DEP, 1985 and approved by NYS Department of Health (DOH).

DEP has finalized the design of a comprehensive amended Drainage Plan in the Fresh Creek/26th Ward drainage area. In accordance with the Master Plan for Sewers and Drainage, one of the components is the Drainage Plan design of a "high level" storm sewer (HLSS) system in this combined sewer area in Brooklyn. To implement these Plans, DEP has initiated a series of capital projects, which are undertaken pursuant to CSO order 602-20110512-25. Once built, the projects will allow for a reduction in CSO volume and a resultant improvement in water quality of Fresh Creek. The first project, SE-851 is in construction procurement, with a Notice to Proceed (NTP) date of March 22, 2016.

DEP has also proposed HLSS in the Gowanus area of Brooklyn. The project is proposed to be completed in 2 phases. The area covered by this project currently consists of combined storm and sanitary sewers that are directed to the Red Hook and Owl's Head WWTPs, and drain to the Gowanus Canal during periods of overflow. Phase I of the HLSS Corridor will extend the entire length of Denton Place between 1st Street and Carroll Street, Carroll Street from the Gowanus Canal to 4th Avenue, 3rd Avenue between Carroll Street and Douglass Street and President, Union, Sackett and Degraw Streets between 3rd Avenue and 4th Avenue in Brooklyn, New York. Phase II of the HLSS Corridor continues northward to include Douglas Street, Butler Street, Baltic Street, St. Mark's Place, Bergen Street, Dean Street, Pacific Avenue, Atlantic Avenue and State Street generally between 3rd Avenue and 4th Avenue in Brooklyn. The new storm sewer will discharge to the Gowanus Canal at Carroll Street. Phase I is currently in construction procurement, with a NTP date of March 15, 2016.

An HLSS is installed to take the street storm water flow, reducing flow to the existing combined sewer. The original combined sewers, when supplemented by an HLSS, would still be classified as combined, since they still take storm flow from adjacent private properties and, in many cases, flow from upstream combined sewers.

In the Rockaway drainage area, the sewer system is undergoing major modifications. Storm Sewer build-out is being done in conformance with the Master Plan for Sewers and Drainage. See amended table, Appendix 1, Exhibit 2, for status of all sewer projects in the Rockaway WWTP drainage area.

The first Capital Project in Coney Island - CONISPH01 is currently in construction and is currently scheduled to be completed in the fall of 2016. The project will include the installation of a new larger outfall at West 15th Street, new storm sewers, replacement of existing sanitary sewers, replacement and upgrading of existing trunk and distribution water mains in West 15th Street between Hart Place and Surf avenue, as well as the replacement of existing storm sewers in a portion of Surf Avenue between Stillwell and W17 Streets.

Phase I, CONISPH2A, is currently under construction and scheduled to be completed in May, 2017. Phase II, CONISPH2B, is currently in construction procurement and scheduled to start construction in April, 2016. Infrastructure work for these two projects will include new/upgraded storm sewers, a new larger storm sewer outfall located at W 21st Street (Phase 2A) and West 12th Street (Phase 2B) and Hart Place and West 15th Street, replacement of existing sanitary sewers, replacement and upgrading of existing trunk and distribution water mains.

Additional phases (CONISPH3A and CONEYWEST) have been funded in FY17. All aforementioned Coney Island projects are being managed by the NYC Department of Design and Construction (DDC), with the exception of CONEYWEST, which is being managed by Economic Development Corporation (EDC).

9. Combined Sewer/Extension

"Combined sewer/extension, when allowed should be accomplished using separate sewers. These sanitary and storm sewer extensions shall be designed and constructed simultaneously but without interconnections. No new source of storm water shall be connected to any separate sanitary sewer in the collection system. If separate sewers are to be extended from combined sewers, the permittee shall demonstrate the ability of the sewerage system to convey, and the treatment plant to adequately treat, the increased dry-weather flows. Upon written notification by the Region 2 Regional Water Engineer, the permittee shall assess the effects of the increased flow of sanitary sewage or industrial waste, on the frequency, flow and pollutant loading on the CSOs including the impacts on the receiving water quality and usage. This assessment should use techniques such as collection system and water quality modeling contained in the Water Environment Federation Manual of Practice FD-17 Combined Sewer Overflow Pollution Treatment."

The construction of four private combined sewers was completed in 2015. These private sewers were constructed to extend the existing City sewer to front the site of the proposed private development. The sewer extension is done in accordance to the City drainage plan. The extension is done within the original drainage boundaries of the City drainage plan.

10. Sewer Connection & Extension Prohibitions

> *"If, there are documented, recurrent instances of sewage backing up into house(s) or discharges of raw sewage onto the ground surface from surcharging manholes, the permittee shall, upon letter notification from DEC, prohibit further connections that would make the surcharging/back-up problems worse. Wastewater connections to the combined sewer system downstream of the last regulator or diversion chamber are prohibited."*

For the calendar year 2014, no letter notification was received from DEC concerning chronic sewer backups or manhole overflows that would prompt NYCDEP to prohibit additional sewer connections or sewer extensions

11. Septage and Hauled Waste

"The discharge or release of septage or hauled waste upstream of a CSO is prohibited."

The septage and hauled waste program has been unchanged since the 2014 Annual BMP Report, issued in April 2015.

12. Control of Run-off

"All sewer certifications for new development shall be consistent with the latest DEP rules and regulations and shall require on-site detention or retention based on the Master Plan for Sewers and Drainage, DEP, 1985, under which the sewers were designed and built. Only allowable flow will be permitted to discharge into the combined or storm sewer system."

A rule to "reduce the release rate of storm flow to combined sewers of from new developments to 10% of the drainage plan allowable or 0.25 cfs, whichever is higher (for cases when the allowable storm flow is more than 0.25 cfs)," was promulgated on January 4, 2012, and has been in effect since July 4, 2012.

All sewer certifications for new development must follow DEP rules and regulations and must be permitted by DEP.

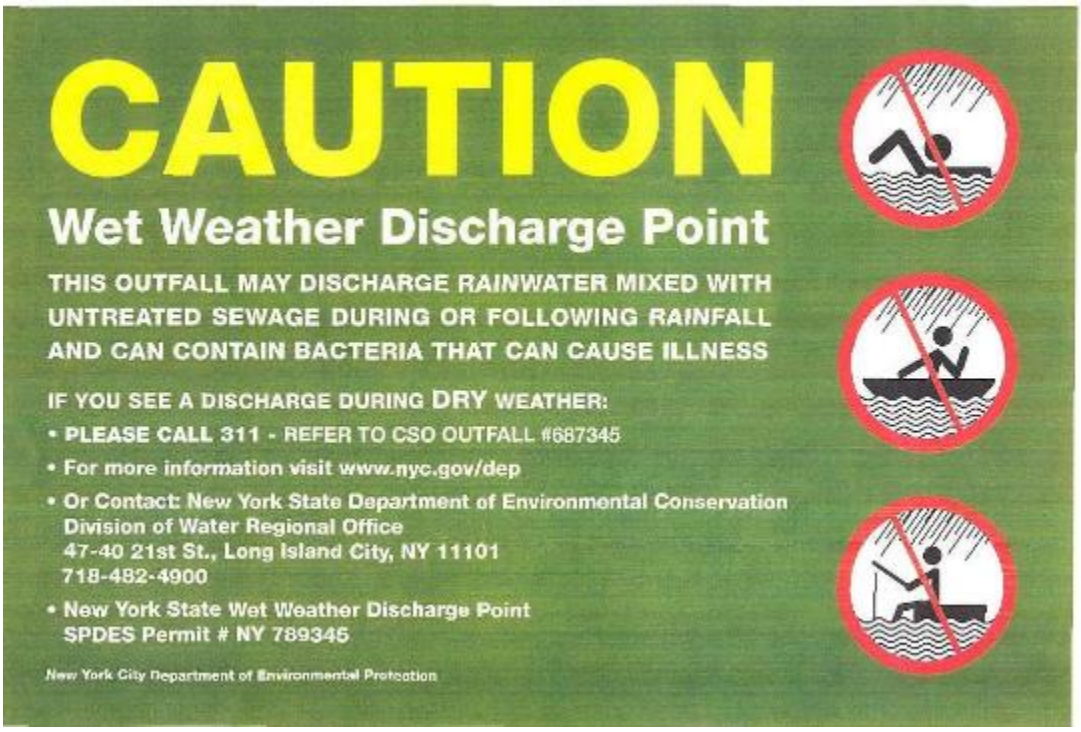
A copy of the Sewer Certification Form and Site Connection Proposal Form that must be filed for new development are attached in Appendix 8.

13. Public Notification

a. *" The permittee shall install and maintain identification signs at all CSO outfalls owned and operated by the permittee as listed on the Additional Combined Sewer Outfall page(s) of this permit. The permittee shall place the signs at or near the CSO outfalls and ensure that the signs are easily readable by the public. The signs shall have minimum dimensions, information and appearance as specified in the Discharge Notification Requirements page of this permit."*

DEP installed signs at all CSO outfalls in 2003. Under the project "Signs Installation Plant-Wide," initiated in November 2005, DEP installed signs at all WWTP outfalls in 2007. The sign panels are 24" x 36" and the plaques are 6" x 9" with white letters on a green background. Each notification sign and plaque asks the public to contact DEP with the depicted Outfall number and SPDES number if they observe dry weather discharge from the outfall.

In 2010, DEP changed the design of the outfall signs at the recommendation of the Floatables Citizens Advisory Committee which requested that we include specific information about the



water quality at these locations. The new design was approved by DEC, the Arts Commission and DPR, as well as Community Boards in the five boroughs. Recommendations were made to include warnings about recreational activities such as swimming, boating and fishing at the outfall locations. The new design emphasizes the word "Caution" in order to alert the public to the fact that the location

is a point of release of wastewater into surface water during wet weather. The signs also provide graphics of non-recommended activities. The replacement of the signs was completed in May of 2011 with the newly designed CSO signs; see **Appendix 10** for the list of installed CSO sign locations.

The signs also provide contact numbers people can call to report discharges during dry weather. The ID number can help a 311 operator or a DEP employee to recognize the location from which someone is reporting discharges and to take immediate action. DEP has received calls prompted by these signs. These calls are handled by a trained group of employees who are aware of related response actions. Calls are evaluated and forwarded to responsible staff who will take the appropriate action.

The knowledge of New York's citizens about their water environment is being expanded with posting of DEP's educational signs. The notice depicts a typical CSO sewer regulator, explains its purpose, and alerts the public to action to be taken in the event of a release of wastewater from an outfall into surface waters during dry weather. The sign also serves a secondary purpose: it involves the citizen in community environmental actions.

Communication with Community Boards was essential to inform them that DEP would be working in their areas in response to the "Fisherman's Right to Know" mandate. The purpose of the Act was explained and specific contact points within DEP were established.

"Waterwalk" Educational Signage

b. "The permittee shall implement a public notification program to inform citizens of the location and occurrence of CSO events. As long as the Department of Health provides a public notification program, the permittee may submit a summary of the DOH program in the annual BMP report, rather than developing their own program. The program shall include a mechanism (public media broadcast, standing beach advisories, newspaper notice etc.) to alert potential users of the receiving waters affected by CSOs and a system to determine the nature and duration of conditions that are potentially harmful to users of these receiving waters due to CSOs. "

The MHDOH *2015 NYC Beach Surveillance and Monitoring Report* can be accessed at: http://www.nyc.gov/html/doh/downloads/pdf/beach/beach-report-2015.pdf

Summary of DOH Report:
Routine Monitoring and Surveillance Procedures

The routine beach monitoring and surveillance procedures consist of the following three major components:

(1) Routine beach water quality monitoring;
(2) Compliance inspections; and
(3) Regulatory surveillance.

DOHMH monitors and samples each beach on a weekly basis with the exception of the Rockaway and Breezy Point beaches, which are sampled biweekly. Additional samples may be collected when necessary. The determining factors for additional sampling may include:

(1) Proximity to suspected pollution sources;
(2) Extent of pollution;
(3) Beach use;
(4) Historical water quality data; and
(5) Other health risk factors.

Prior to sample collection, a visual inspection is performed to identify any existing and/or potential sources of pollution that are likely to affect beach water quality. During a sample event, three samples are collected at each beach. At larger beaches, such as Coney Island and Rockaway, additional samples are taken at multiple locations to ensure adequate representation and reliable data results. Water samples are collected at knee-depth (18 inches) in three feet of water, at the middle of a typical or most highly used area of the beach, or near a potential source of pollution. The collected samples are delivered to the DOHMH Office of Public Health Laboratories (PHL) for analysis. The analytical turnaround time for Enterococci is 24 hours.

Public Notification and Risk Communication

Upon evaluation and assessment of beach water quality as specified above, when beach status changes occur, DOHMH notifies the public via on-site postings, website postings, through 311 (non-emergency government service hotline), Notify NYC, Twitter, RSS, e-mail, SMS and through DOHMH press releases (when necessary). Beach operators are also notified by phone and/or email for onsite postings.

Water Quality and Illness Reporting

Routine water quality monitoring and sample collection was performed at all 23 permitted beaches. Approximately 1620 samples were collected and analyzed from these beaches between April and

September 2015. There was no recreational water illness complaint reported to the Department during the season.

There are 17 private beaches, of which 15 were issued at least one swimming advisory warning or closure notice. Of the private Beaches that exceeded water quality standards there were 327 warning days (41 of which were as a result of wet weather conditions) and 16 closure days. The length of the notifications ranged from two to 28 days. Five (5) out of 8 Public Beaches had no closure days and a total of 16 warning days; the longest extent of the notifications was two days. The specific warning and closure dates for each beach are shown in Appendix 10: 2015 Advisories & Closure Summaries.

Inspections

During the 2015 beach season, a total of 55 inspections were conducted of both Public and Private beaches by the Department at 25 permitted facilities. Seven facilities were cited for either general or public health hazards at the time of inspection as detailed in Appendix 10: Table C – 2015 Inspection Non-compliance Summary.

DOHMH monitors wet weather conditions daily during the bathing season and notifies the public when rainfall intensities exceed the pre-emptive limit. The notification and communication policies and procedures to inform the public of the potential risks associated with CSOs as well as storm water runoff are as follows: onsite postings, announcements through the City Information Hotline 311, and website postings at www.nyc.gov/health/beach and www.nyc.gov(under NYC Right to Know Now).

Preemptive Wet Weather Advisory information is posted by the facility in an area visible and accessible to the public such as at beach entrances, on bulletin boards, or in the general vicinity of the common swimming areas during the entire swimming season. When the beach is under a Wet Weather Advisory, the facility is required to post the additional advisory sign indicating that the Wet Weather Advisory is currently in effect.

Routine water quality testing is carried out at least once a week except at the Rockaways, where sampling is bi-weekly. Additional sampling may be conducted when routine samples exceed applicable standards, when there have been reported sewage spills and pollution events, and following a heavy rainfall event.

14. Additional CSO BMP Special Conditions

5. b. "Key Regulator(s) Monitoring Reporting: Following installation of the CSO monitoring equipment described in Subparagraph 3(a) above, within 45 days after the end of each month, DEP shall provide to DEC, a monthly report of all known or suspected CSO discharges from key regulators outside the period of a critical wet weather event. Such monthly report shall provide an itemized list of such CSO discharges, the approximate start time and end time for each discharge, the corresponding WWTP flow rate and the start time and end time of the critical wet weather event. Within 90 days after the end of each quarter (after the first year, reports shall be filed for each calendar year and shall be submitted with the Annual CSO BMP Report), DEP shall submit for DEC approval an engineering analysis of the cause(s) for each discharge and an analysis of options to reduce or eliminate similar future events. A schedule must be provided for all reasonable and cost effective options which can be completed within two years (exclusive of the time required for procurement) and DEP must complete those projects in accordance with a DEC approved schedule. All other options shall be considered as part of the Long Term Control Plan ("LTCP") process towards achieving the water quality goals of the Clean Water Act, and built into the LTCP hydraulic model per Paragraph 6 below.

First year quarterly reports have been submitted and annual reports to be submitted hereafter with the Annual CSO BMP Reports."

This section is submitted pursuant to Item 5.c. in Appendix B of Additional CSO BMP Special Conditions in the SPDES Permits. Item 5.b requires DEP to submit monthly reports of all known or suspected CSO discharges from key regulators outside the period of a critical wet weather event. For the first year after the effective date of the 2014 CSO BMP Order, Item 5.b also required DEP to quarterly "submit for DEC approval an engineering analysis of the cause(s) for each discharge and an analysis of options to reduce or eliminate similar future events." Subsequent updates of the engineering analyses are to be provided in the CSO BMP Annual Reports, and this section is submitted to fulfill that requirement.

DEP's SPDES permits define a critical wet weather event as "a wet weather event which causes or would cause the influent flow at the WWTP to exceed the wet weather flow identified in the associated SPDES permit." Generally, the wet weather flow identified in the associated SPDES permit of the WWTP is two times the design dry weather flow (2xDDWF), but it may be less than 2xDDWF under certain operational limitations (e.g., when critical equipment has been reported to be out of service and a reduced capacity request has been submitted to DEC). CSO discharges from key regulators that occurred outside of a critical wet weather event were determined based on inference from synoptic data collected from the city telemetry system, meteorological and tidal observations, and plant operational data. Analysis of mitigation strategies to reduce the occurrence of discharges outside the critical wet weather periods is being performed using InfoWorks CS models of the city's collection systems.

This submission evaluates observations from the January 2015 through December Monthly reports of all known or suspected CSO discharges from key regulators outside the period of a critical wet weather event. A discussion of the methodology, calculations and analysis, and potential limitations to mitigation strategies can be found in the quarterly report submittals provided for the first year of analysis.

Engineering Analysis

The SPDES permit requires DEP to evaluate and report on Key Regulators, and stipulates that DEP shall "submit for DEC approval an engineering analysis of the cause(s) for each discharge and an analysis of options to reduce or eliminate similar future events."

To date, the observations that have been collected are not yet adequate to allow us to definitively determine which Key Regulators persistently discharge outside the period of a critical wet weather event. Nonetheless, several strategies have been identified that may alter the timing of regulator discharges so that such discharges occur less frequently. We consider the following strategies to have the greatest potential for success:

- Capital Improvements Already in Development. Capital projects in various stages of planning and development are expected to alter the timing of CSO discharges. These include not only projects directly at the regulator, but also other projects that may influence regulator performance, such as new force mains, the operation of a regional CSO facility, or downstream conveyance enhancements.
- Removal of Existing Elbow in Drop Pipe. In certain locations, vertical pipes convey flow from the regulator to the interceptor. As a result of the historical practice of installing elbows as a means of energy dissipation, vertical pipes are known to have chronic clogging that could contribute to early tipping.
- Enhanced Operations & Maintenance. Regulators can be influenced by the performance of the downstream interceptor, which may be influenced by, among other things, sedimentation or wet well operation at the WWTP.
- Flow Transference**.** The City sewers are divided into several mostly independent service areas. This division suggests there may be potential for diverting flow from an area of limited wet weather capacity to a nearby area with excess wet weather capacity.
- Continued Monitoring. Monitoring over a longer period of time is prescribed where regulator performance is not yet clearly understood, or where a regulator yields a small number of events compared to other Key Regulators. Limited sample sizes increase the risk of misinterpretation of data, and resultant ineffective mitigation strategy or inappropriate action taken at a regulator that is not actually significantly discharging early. A larger data set will allow for more accurate interpretation and better decision-making on future capital commitments.

Results

Potential mitigation strategies were not analyzed for those Key Regulators that are expected to be hydraulically influenced by capital projects already developed to reduce CSO discharges and increase

flow to the WWTP, as required by enforceable milestones under the CSO Consent Order (DEC #CO2-20110512-25). Examples of potential, cost-effective mitigation strategies that will be evaluated as more data are collected to support an analysis include weir modifications, flow transference, enhanced operation and maintenance, and resizing branch interceptors.

Table 14.1 summarizes the observations of Key Regulators during the period of analysis, which includes data from January 2015 through December 2015. Note that three (3) regulators had no occurrences and an additional four (4) locations, where no capital improvements are currently planned, had an average of one or fewer occurrences per month. Evaluations of these regulators will be reserved until more data are collected to better inform the capital decision-making process.

Table 14.1 Key Regulators with Potential CSO Discharges Outside the Period of a Critical Wet Weather Event, January through December 2015

Key Regulator	Number of Occurrences, Jan-Dec 2015													Total Duration (hr)	Results Category **
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	To Date		
26W-01	0	1	0	1	1	2	2	0	2	0	0	1	10	4.00	A
26W-02	1	0	0	1	0	2	1	1	0	1	0	0	7	9.75	A
BBH-02	0	0	0	0	0	1	1	0	0	0	1	0	3	0.50	A
BBH-06	1	0	0	0	0	0	1	0	0	0	0	0	2	0.50	A
BBL-04	2	0	0	1	0	0	4	3	*	*	*	*	10	4.75	A
BBL-22	0	0	1	1	0	1	3	1	0	0	0	0	7	8.25	A
HP-05	2	0	2	1	1	4	5	1	3	2	1	2	24	45.50	A
HP-10	1	0	2	0	1	5	6	1	3	3	1	2	25	32.25	C
HP-13	0	0	0	0	1	2	6	0	0	4	0	1	14	21.75	C
JA-03	5	2	7	3	2	7	6	4	*	*	*	*	36	109.00	A
NCB-01	1	0	0	0	0	2	2	1	1	1	2	0	10	2.50	A
NCB-04	1	0	0	1	1	1	3	3	1	2	0	1	14	10.50	C
NCM-47	1	0	0	0	0	0	5	2	1	1	0	1	11	10.75	B
NR-16	0	0	0	0	0	1	4	4	2	1	0	0	12	4.25	B
NR-23	0	0	0	0	0	0	4	1	1	0	0	1	7	2.50	B
NR-33	0	0	0	0	0	0	3	2	0	0	0	0	5	2.00	B
OH-01	2	1	2	2	0	4	2	0	1	1	0	1	16	13.75	C
OH-06	1	1	7	2	1	4	3	0	1	0	1	1	22	16.75	C
PR-06W	3	2	7	0	2	4	1	2	2	2	2	3	30	59.25	C
PR-13E	3	2	4	1	2	7	5	3	3	3	3	4	40	111.50	C
RH-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	B
RH-20	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	B
TI-09	5	2	6	3	1	7	3	3	3	4	0	3	40	122.50	C
TI-10A	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	B
WIB-53	1	0	2	0	1	0	0	0	1	1	0	0	6	8.50	A
WIB-67	1	0	0	0	0	0	0	0	1	0	0	0	2	2.25	A

WIM-23	0	0	2	0	0	0	1	0	0	0	0	2	5	1.25	A
Count*	16	7	11	11	11	16	22	15	15	13	7	13	24		

*Count of regulators with at least one event

**Results Category

A. Key Regulators that may be influenced by planned capital improvements (Projects are currently in design or construction that may result in CSO reductions and additional wet weather capture);

B. Key Regulators averaging one or fewer potential discharge outside the period of a critical wet weather event per month

C. All other Key Regulators with an average of more than one potential discharge outside the period of a critical wet weather event per month

A. Key Regulators that may be influenced by planned capital improvements (projects are currently in design or construction that may result in CSO reductions and additional wet weather capture)

26W-01

Regulator 26W-01 had ten (10) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 4.00 hours. In addition, there are several planned capital improvements scheduled at the 26th Ward WWTP proceeding pursuant to the CSO Order that may influence the performance of regulator 26W-01:

- Installation of new main sewage pumps in the High Level wet well under Contract 26W-21, currently in construction and scheduled to be completed February 2018;
- Installation of new main sewage pumps in the Low Level wet well under Contract 26W-12, completed in April 2015; and
- Installation of a new primary settling tank under Contract 26W-20, currently in construction and scheduled to be completed April 2020.

Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

26W-02

Regulator 26W-02 had seven (7) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 9.75 hours. There is a high level sewer separation project planned for this drainage area pursuant to the CSO Order. That work, in conjunction with the planned main sewage pump replacement and construction of a fifth primary settling tank, may impact wet weather performance. Once the new facilities are in service, DEP will commence a 12-month

monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

BBH-02

Regulator BBH-02 had three (3) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 0.50 hours. There are several planned capital improvements scheduled that may influence the performance of regulator BBH-02:

- Diversion of low-lying sewers in the local collection system under Contract CS-FB-LLD, currently scheduled to be in construction from December 2014 through December 2016;
- Installation of stop logs in this regulator when the low-lying sewer diversion is completed; and
- Modifications to regulators in the Bowery Bay High Level collection system under Contract CS-FB-BWR, currently scheduled to be in construction from December 2015 through December 2018.

These projects are proceeding pursuant to the CSO Order, Appendix A, V, J and K. Pursuant to the CSO Order, the projects must be complete by June 2018. Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

BBH-06

Regulator BBH-06 had two (2) potential discharges outside the period of a critical wet weather event; the total duration of these periods was only 0.50 hours. The same planned capital improvements that may influence the performance of regulator BBH-02 may also influence BBH-06; in particular, BBH-06 is one of the regulators being modified under Contract CS-FB-BWR, currently scheduled to be in construction from December 2015 through December 2018. Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

BBL-04

Regulator BBL-04 had ten (10) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 4.75 hours. Regulator BBL-04 has a planned capital improvement scheduled: the installation of a bending weir and baffle under Contract CS-NC-REG & FLO. This project is proceeding pursuant to the CSO Order, Appendix A, VIII, K. Pursuant to the CSO Order, the Notice to Proceed to Construction milestone has been extended to May 2015, and construction must be completed by December 2017. Once the bending weir and baffle are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

BBL-22

Regulator BBL-22 had seven (7) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 8.25 hours. Regulator BBL-22 is influenced by the main sewage pump and force main work at the Bowery Bay WWTP. Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

HP-05

Regulator HP-05 had 24 potential discharges outside the period of a critical wet weather event; the total duration of these periods was 45.50 hours. Regulator HP-05 has a planned capital improvement scheduled: the installation of the Pugsley Parallel Interceptor upstream of this regulator under Contract CS-ER-WCP. The parallel interceptor is being designed by the Department of Design and Construction (DDC). This project is proceeding pursuant to the CSO Order, and construction is to be completed by December 2019. Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

JA-03

Regulator JA-03 had 36 potential discharges outside the period of a critical wet weather event. The total duration of these periods was 109.00 hours. There are two planned capital improvements scheduled that may influence the performance of regulator JA-03:

- Installation of a bending weir on the overflow weir under Contract CS-JA-BWR, currently scheduled to be in construction from December 2014 through June 2016; and
- Installation of a parallel interceptor downstream of JA-03 under Contract CS-JA-BBS, currently in construction and scheduled to be completed by December 2018.

Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

NCB-01

Regulator NCB-01 had ten (10) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 2.50 hours. Each of these discharges may be considered an anomaly until additional data are collected. In addition, regulator NCB-01 has a planned capital improvement governed by the CSO Order: the installation of a bending weir and baffle under Contract CS-NC-REG & FLO. The Notice to Proceed to Construction milestone is December 2014. In accordance with the CSO Order, this project must be completed by December 2017. Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

WIB-53

Regulator WIB-53 had six (6) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 8.50 hours. WIB-53 is about 1,000 feet from the Bronx Grit Chamber, where all four bar screens are to be replaced. In addition, the main sewage pumps at the Wards Island WWTP are being replaced. It is anticipated that both projects will improve conveyance to the Wards Island WWTP, which could reduce the occurrence of discharges outside the period of a critical wet weather event at WIB-53. The replacement of the bar screens and the main sewage pumps is governed by a pending modification to the CSO Order. The contracts for the bar screen replacement and the main sewage pumps have commenced. Pursuant to the proposed 2016 CSO Order, the MSP work must be completed by December 2017 and the bar screen replacement work must be completed by June 2018. The Order to Commence Work was issued on November 17, 2014. Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

WIB-67

Regulator WIB-67 had only two (2) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 2.25 hours. WIB-67 is influenced by the Bronx Grit Chamber and main sewage pump work at the Wards Island WWTP, activities that will be ongoing through June 2018. Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

WIM-23

Regulator WIM-23 had five (5) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 1.25 hours. Regulator WIM-23 is influenced by ongoing capital improvements at the Wards Island Manhattan Grit Chamber and the main sewage pump work at the Wards Island WWTP noted under WIM-02B. Engineering analysis will be performed once sufficient post-construction monitoring data are collected. Once the new facilities are in service, DEP will commence a 12-month monitoring period, and provide an engineering analysis in the applicable CSO BMP Annual Report following that 12-month monitoring period.

B. Key Regulators Averaging One Discharge or Fewer per Month

NCM-47

Regulator NCM-47 had eleven (11) potential discharges outside the period of a critical wet weather event; the total duration of these was 10.75 hours. DEP will continue to monitor and report in accordance with DEP's SPDES permits.

NR-16

Regulator NR-16 had twelve (12) potential discharges outside the period of a critical wet weather event; the total duration of these periods was 4.25 hours. DEP will continue to monitor and report in accordance with DEP's SPDES permits.

NR-23

Regulator NR-23 had seven (7) potential discharges outside the period of a critical wet weather event; the total duration of these events was only 2.50 hours. DEP will continue to monitor and report in accordance with DEP's SPDES permits.

NR-33

Regulator NR-33 had only five (5) potential discharges outside the period of a critical wet weather event; the total duration of these periods was only 2.00 hours. DEP will continue to monitor and report in accordance with DEP's SPDES permits.

RH-02

Regulator RH-02 had no potential discharges outside the period of a critical wet weather event. DEP will continue to monitor and report in accordance with DEP's SPDES permits.

RH-20

Regulator RH-20 had no potential discharges outside the period of a critical wet weather event. DEP will continue to monitor and report in accordance with DEP's SPDES permits.

TI-10A

Regulator TI-10A had no potential discharges outside the period of a critical wet weather event. DEP will continue to monitor and report in accordance with DEP's SPDES permits.

C. Key Regulators Averaging More than One Discharge per Month

HP-10

Regulator HP-10 had 25 potential discharges outside the period of a critical wet weather event; the total duration of these periods was 32.25 hours. The evaluation for Regulator HP-10 was previously submitted to DEC in the Quarterly Key Regulator Monitoring Reports; it was identified as requiring further consideration as part of the LTCP process.

HP-13

Regulator HP-13 had 14 potential discharge outside the period of a critical wet weather event; the total duration was these periods was 21.75 hours. Regulator HP-13 had previously been in Category

B with one or fewer discharges per month. DEP will continue to monitor Regulator HP-13, we will use the recently installed inclinometer to more accurately identify the number of discharges. If this regulator consistently discharges more than once per month, it will be considered for further evaluation as part of the LTCP process.

NCB-04

Regulator NCB-04 had 14 potential discharges outside the period of a critical wet weather event; the total duration of these periods was 10.50 hours. Regulator NCB-04 had previously been in Category B with one or fewer discharges per month. DEP will continue to monitor Regulator NCB-04, we will use the recently installed inclinometer to more accurately identify the number of discharges. If this regulator consistently discharges more than once per month, it will be considered for further evaluation as part of the LTCP process.

OH-01

Regulator OH-01 had 16 potential discharges outside the period of a critical wet weather event; the total duration of these periods was 13.75 hours. The evaluation for Regulator OH-01 was previously submitted to DEC in the Quarterly Key Regulator Monitoring Reports; it was identified as requiring

OH-06

Regulator OH-06 had 22 potential discharges outside the period of a critical wet weather event; the total duration of these periods was 16.75 hours. The evaluation for Regulator OH-06 was previously submitted to DEC in the Quarterly Key Regulator Monitoring Reports; it was identified as requiring further consideration as part of the LTCP process.

PR-06W

Regulator PR-06W had 30 potential discharges outside the period of a critical wet weather event; the total duration of these periods was 59.25 hours. The evaluation for Regulator PR-06W was previously submitted to DEC in the Quarterly Key Regulator Monitoring Reports; it was identified as requiring further consideration as part of the LTCP process.

PR-13E

Regulator PR-13E had 40 potential discharges outside the period of a critical wet weather event; the total duration of these periods was 111.50 hours. The evaluation for Regulator PR-13E was previously submitted to DEC in the Quarterly Key Regulator Monitoring Reports; it was identified as requiring further consideration as part of the LTCP process.

TI-09

Regulator TI-09 had 40 potential discharges outside the period of a critical wet weather event; the total duration of these periods was 122.50 hours. Regulator HP-13 had previously been in Category

A, regulators potentially influenced by planned capital improvements. DEP has been working to maximize wet weather flow to the Tallman Island WWTP and the projects associated with this may also result in the WWTP's achieving its permitted wet weather capacity (2xDDWF) earlier in wet weather events, thus reducing the potential discharges outside the period of a critical wet weather event. The Whitestone Interceptor project proceeding pursuant to the CSO Order includes modifications to regulators TI-10, TI-10A, and TI-13, along with disconnecting the Whitestone Interceptor from the Main Interceptor and constructing a new 2,100 foot interceptor from the disconnection point to the WWTP. Construction activities may have influenced observed water levels in Regulator TI-09. Once 12 months of monitoring data under normal operation are collected, DEP will provide an engineering analysis in the 2016 CSO BMP Annual Report.

Next Steps

Based on the data collected to date, supplemented with InfoWorks modeling and review of regulator drawings, the following next steps are proposed:

1. All **Category A** regulators will be monitored further. Once the capital project influencing the regulator is complete, DEP will commence 12 months of data collection and analysis similar to that which is described in the present document. Progress on these regulators will be reported in the SPDES CSO BMP Annual Report.
2. All **Category B** will continue to be reported on a monthly basis as per the SPDES permit.

The following **Category C** regulators will be considered for incorporation into the LTCP program for consideration for more capital-intensive improvements: HP-10, OH-01, OH-06, PR-06W, and PR-13E. The anticipated June 2018 Report required pursuant to the proposed 2016 CSO Order will focus on these regulators for further improvements. The following **Category C** regulators require additional monitoring using the recently installed inclinometer to more accurately identify the number of discharges: HP-13 and NCB-04. The following **Category C** regulator requires additional monitoring following the completion of planned capital improvements which may have potentially influenced the regulator's performance: TI-09.

15. Annual Report

"The permittee shall submit an annual report summarizing implementation of the above best management practices (BMPs). The report shall list existing documentation of implementation of the BMPs and shall be submitted by April 1st of each year to the offices listed on the Recording, Reporting and Additional Monitoring page of this permit. Examples of recommended documentation of the BMP's are found in Combined Sewer Overflows, Guidance for Nine Minimum Controls, EPA, 1995. The actual documentation shall be stored at a central location and be made available to DEC upon request."

This report is the 13th annual report summarizing the implementation of the BMP's performed by DEP in calendar year 2015.

Field inspection logs, maintenance and repair schedules, summaries and analysis of performance are stored at DEP's Lefrak City office and respective crew quarters and are available to DEC upon request.

Appendix 1:

Exhibit 1 – CSO Maintenance Program

Exhibit 2 – Rockaway Sanitary and Storm Sewer Projects

Table 1 – CY'15 Chloride Concentrations Rolling Average Summary

Table 2 – Yearly Average Tidal Inflow Comparison for CY'14-'15

Exhibit 1

August 14, 2003

Mr. Robert Elburn
Regional Water Engineer
New York State Department of
Environmental Conservation, Region 2
Division of Water
47-40 21st Street - 2nd Floor
Long Island City, New York 11101

Re: NY0026131 NY0026115
NY0026191 NY0026239
NY0026204 NY0026158
NY0026182 NY0026221
NY0026166 NY0026107
NY0026212 NY0026247
NY0027073

Dear Mr. Elburn:

The attached CSO Maintenance and Inspection Program is submitted in compliance with the CSO Best Management Practice #1 contained in the SPDES permits for the following New York City WPCPs: Bowery Bay (Section XV(e)), Coney Island (Section XV(d)), Tallman Island (Section XV(e)), Jamaica (Section XIV(d)), Newtown Creek (Section XIV(e)), 26th Ward (Section XIV(e)), Hunts Point (Section XIV(e)), Rockaway (Section XIV(e), Owls Head (Section XIII(e)), Port Richmond (Section XIII(c)), Red Hook (Section XIII(e)), Wards Island (Section XIII(c)) and North River (Section XII(e)).

Sincerely yours,

Alfonso R. Lopez, P.E.
Deputy Commissioner

SR/fk

xc: Quinn/Sapienza/Rozelman/Volgende/Eckels/Hammerman/Kulcsar

76

CSO MAINTENANCE & INSPECTION PROGRAM
BEST MANAGEMENT PRACTICE #1 SPDES PERMIT

Section VIII (26W, HP, JA, NC, RK);
Section IX (BB, CI, TI);
Section VI (NR);
Section VII (OH, PR, RH, WI)

(a) *The permittee shall develop and implement a written maintenance and inspection program for all CSO's listed beginning on page 3 of this permit. This program shall include all regulators tributary to these CSOs. This is to insure that no discharge or leakage occurs during dry weather and that the maximum amount of wet weather flow is conveyed to the WPCP for treatment. This program shall consist of scheduled inspections with required repair, cleaning and maintenance performed as needed to prevent dry weather overflow and leakage and ensure maximum wet weather flow is conveyed in accordance with CSO BMP#4. Inspection reports shall contain a record of visual inspections, any observed flow, incidence of rain or snowmelt, condition of equipment and work required.*

Regulator / Tide Gate Maintenance Inspection Schedule

High priority regulators shall be inspected four times per month.
High Priority Regulators are regulators that convey at least five million gallons per day and / or inherently require high maintenance, or pose a threat to beaches because of their locations.

Normal priority regulators shall be inspected once per month.

Items of Inspection

The field crews inspect the entire regulator including, tide gates, sluice gates, access ways, electrical controls and any mechanical equipment and instrumentation located within each site. An inspection report must be completed for each CSO facility. This form is attached in appendix A.

During the inspection, the crews are responsible for correcting any conditions that they encounter which may have adverse effects on the proper operation of the regulator. Examples of these conditions include blockages or obstructions caused by debris that may result in partial or full dry weather bypassing.

Any blockage that the crew is not capable of removing is referred to an emergency Contractor, who is retained by the NYC DEP for such cases. The contractor is required to respond to the site within twenty-four hours of notification.
Furthermore, any structural damage noticed during the inspections upstream of the

regulators is referred to the appropriate group within DEP for repairs.

(b) *The permittee shall include in the maintenance and inspection program a plan to maintain CSO tide gates to prevent infiltration of seawater into the collection system such that the WPCP influent concentration of chlorides does not exceed a twelvemonth rolling average of 400 mg/l. The maintenance and inspection program shall specify corrective actions to be taken within twelve months of the influent chloride exceedance of 400 mg/l.*

CSO Tide Gate Maintenance Program

All tide gates are maintained and inspected on the same schedule as regulators. Antiquated tide gates are earmarked for replacement or reconstruction.

The maximum twelve-month rolling average of influent chloride concentration in the SPDES permits at all the applicable WPCPs except North River is 400-mg/L. The influent chloride concentration in the SPDES permit for North River WPCP is 250-mg/L.

In order to maintain CSO tide gates to prevent inflow of seawater into collection system the crews are responsible for correcting any conditions that they encounter during the inspections that may have adverse effects on the proper operation of the tide gates.

DEP is responsible for developing a drainage area evaluation program to identify possible sources of seawater infiltration. Chloride sampling and tide gate repairs are performed immediately by the CFO crews when seawater inflow is discovered and result in elevated levels of chlorides at the WPCPs. Corrective actions are taken within twelve months of influent chloride exceedance of 400 mg/l.

(c) *The permittee shall include in the maintenance and inspection program a schedule for telemetering regulators and a plan to report the telemetering results. Within six months after the completion of the telemetering of regulators required in the NYSDEC/NYCDEP Omnibus IV Consent Order Compliance Schedule (as noted in the outfall description page) the permittee shall record and report the number and duration of events that cause a discharge at an outfall during dry weather conditions.*

Regulator Telemetering

The installation of the telemetering equipment at one hundred and two regulators was completed in May, 2001 in accordance with the compliance schedule in Schedule B to the Omnibus IV Order on Consent.

The system is currently maintained through a service contract. The contractor is responsible for all maintenance work.

DEP records and reports the number and duration of events that cause a discharge during dry weather conditions.

(d) CSO maintenance and inspection program reports shall be available for DEC review no later than 9 AM on the day following the day of the inspection was conducted and shall be available for DEC review at the associated WPCP no later than 30 days following the inspection

Maintenance and Inspection Reports

The CSO maintenance and inspection program reports are kept at each respective crew quarters and are available for DEC by 9:00 AM on the day following an inspection. Rather than store these reports at WPCP's where they may get misplaced, we have centralized the storage into 5 collection crew quarters.

These crew quarters are located as follows:

Tallman Island WPCP
Wards Island WPCP
Paedergat Pump Station
Gowanus Pump Station
Oakwood Beach WPCP

We believe this record storage policy is more condusive to record retention and retrieval than storing at WPCP's, many of which are undergoing massive upgrades.

REGULATOR and TIDE GATE Inspection Log

Regulator Truck # : _____ Backup Truck # : _____

DATE: _____ RUN : _____ WEATHER : _____

	Regulator Tide Gate Number	Inspection Level 1 / 2 / 3 ?	Inspection y / n Diversion	Inspection Of y / n Regulator	Inspection y / n Tide Gate
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Reporting System for Regulator and Tide Gate Locations

INSPECTION LEVEL :

LEVEL 1):	Diversion, Regulator and Tide Gate Manhole Inspections performed from above ground which DO NOT involve entry into regulator or tide gate chambers
LEVEL 2) :	FULL ENTRY Regulator and Tide Gate inspections which DO NOT involve the use of back - up trucks
LEVEL 3) :	FULL ENTRY Regulator and Tide Gate inspections which DO involve the use of back - up trucks

REGULATOR CHAMBERS :

A 1):	Regulator flow O.K. No visible flow obstruction through regulator. Gate operational in automatic mode.
A 2):	Regulator flow O.K. No visible flow obstruction through regulator. Gate operational in manual mode ONLY ! **Explanation of problem required on log sheet**
A 3):	Regulator flow O.K. No visible flow obstruction through regulator. Gate NOT OPERATIONAL ! **Explanation of problem required on log sheet**
A 4):	Partial Blockage in Regulator. When flow through regulator is partially obstructed by debris, which may result in dry weather by-passing **Explanation required**
A 5):	Blockage in Regulator causing partial or full dry weather by-passing. **Explanation of problem required on log sheet**

TIDE GATE CHAMBERS :

INSPECTIONS DURING HIGH TIDE :

B 1):	No leak from TIDE GATE. When the gate is properly closed and there is no tidal flow
B 2):	Minor leak from TIDE GATE. When tidal inflow is small and acceptable.
B 3):	Mild leak from TIDE GATE. When tidal inflow is noticeably higher than a Minor leak.
B 4):	MAJOR LEAK from TIDE GATE. When tidal inflow is significantly high and may impact treatment plant processes with high chlorides

INSPECTIONS DURING LOW TIDE :

C 1):	No leak from TIDE GATE. When the gate is properly closed and there is no evidence of any potential tidal inflow problem.
C 2):	TIDE GATE is visibly held open by DEBRIS or FROZEN HINGES etc. **Explanation of problem required on log sheet**
C 3):	TIDE GATE Vulnerable to inflow. When gate is closed, damaged seals, warping or other factors likely to allow leakage. **Explanation of problem required on log sheet**

S.S.T.W. : _____ S.E.E. : _____ S.S.E.E. _____ CHIEF : _____

Appendix A

Exhibit 2: Rockaway Sanitary and Storm Sewer Projects

Project No. Locations Status

SE 378A/379A B. 130th Street, etc. Completed in March 1989

SE 378B/379B Rockaway Beach Blvd. etc. Completed in November 1988

SE 422A/423A B. 121st Street, etc. Completed in June 1989

SE 422B/423B B. 123rd Street, etc. Completed in April 1990

SE 422C/423C B. 127th Street, etc. Completed in April 1991

SE 424A/425A B. 132nd Street, etc. Completed in April 1993

SE 426A/427A B. 135th Street, etc. Completed in December 1990

SE 426B/427B B. 138th Street, etc. Completed in November 1990

SE 426C/427C B. 140th Street, etc. Completed 2003

SE 196/372 Camp Road, etc. Completed in June 1991

SE-772/87HW Beach 71st Str. Completed 12/30/2004

Formerly SEQ200350

SEQ-002355 B. 43rd Street, etc. Completed in April 1991

SEQ-200239 Rockaway Freeway, etc. Completed 08/21/1996

SEQ-200240 Rockaway Freeway, etc. Completed 08/21/1996

SEQ-002348 Rockaway Blvd., etc. Completed in May 1997

SEQ-002363 B. 37th Street, etc. Completed in April 1996

SEQ-002380 Rockaway Beach Blvd. Completed in November 1996

SEQ-200251 Rockaway Beach Blvd. Completed in July 1997

SEQ-200254 Beach 108th Street, etc. Completed in November 1998

SEQ-002402 Beach 45th Street, etc. Completed in September 1997

SEQ-002413/ 200275 R Collier Avenue, etc. Completed March 2005

SEQ-002426 Bay 25th Street, etc. Completed in September, 1998

SEQ-002427 Cold Spring Road, etc. Completed in May, 1998

SE-424B/425B B. 134th Street, etc. Completed in August, 1999

SEQ-002453 B. 47th Street, etc. Project cancelled 12/1/97

SEQ-002428 Healy Avenue, etc. Completed 1/21/2000

SEQ-200305 Amstel Blvd, etc. Completed May 2000

SEQ-002460 WestBourne Ave, etc. Completed November 2000

SEQ-002499 B 61st St. Completed July 2000

SEQ200523 - Actual Construction Start 1/2012, Completed on 8/2013

SEQ-200311 B 35th St. Edgemere Project Completed April 2002

SEQ-002507/ Beach 69th St. Canceled; Included 200356 in HWQ631 completed 12/31/2004

SEQ- 200358 Beach 87th St. Completed October 2002

SEQ200533 - Actual Construction Start 06/07/2010, Completed on 6//2012

SEQ-002511/ 200347 Beach 36th St. Completed April 2002

SE-426C/427C Beach 69th St. Completed Jan 2003

SEQ-002571/ 200412 Hope VI Phase A Completed – 04/20/2004

SEQ-002538/ 200371 Beach 18th St. Completed in August 2003

SEQ- 002546/ 200425 Grandview Terrace Completed in 2003

SEQ- 200368 Redfern Ave. Completed 06/27/2006

SEQ- 200381 Beach 53th St. Scheduled for FY 2002 Cancelled due to LIPA issues

SEQ002550/ 200390Beach 40 St. (Edgemere Phase HD153B) Completed 4/10/2006

SEQ002516/ 200352 Cornaga Ave. Part of QED965 complete

SEQ200508 - Actual Construction Start 5/14/12 ,Project completion 6/30/2015

SEQ002511/ 200347 Beach 36 St. Completed

SEQ200378 Seagirt Blvd. Completed September 2002

SEQ002551/ 200398 (HD153B1) Edgemene Phase B1. In Construction complete 6/07

SEQ-200453 Thursby Ave. In Construction – subs comp 8/07

SE-789 / HWQ631B1 Sommerville Area Actual Construction Start

01/2009 Projected finish -2/2012 – actual completion date 5/16/2014

Start 04/2009

SEQ-200426 (HWQ1126B) Hope VI Phase B On Hold

SEQ-02479/QED-983/SEQ-200341 Rockaway Bch. Blvd Projected

Construction Start 9/19/11 project completion date 1/31/2015

SEQ-200508 BEACH 32nd St. Actual construction start – 5/14/12 and project completion date 6/30/15

SEQ200523 New Haven Avenue, etc. Actual construction start date – 1/2/12 and completion date 8/22/13

SEQ200533 Beach 42nd Street Actual Construction Start date 6/7/2010 and completion date 6/15/12

SE-817 Beach 29th St. Substantially completed on 8/5/15

HD153C1 / SEQ002562/SEQ200406 Edgemere C1 – construction start-2009, Construction completion date 11/30/16

HD153C2/SEQ200421/SEQ002576 Edgemere C2 - Actual Construction Start 09/2011,

Projected completion 11/30/2016

SE795 - Projected Construction Start 4/2014, Projected completion 6/2016

HWQ631B1/SE-789 - Actual Construction Start 01/22/2009, actual construction completion – 5/16/14

HD153C1/SEQ200406/2562/Edgemere C1 - Actual Construction Start 04/2009, Projected Finish 11/2015

QED-1007 Rockaway Beach Blvd. & B. 49 St. construction to start shortly and construction completion date of 9/2016

SEQ200524 B. 21st St. Construction start 1/2016 and construction completion date of 7/2017

HWQ1079/SE-830/SE-886/SE-887 – Far Rockaway Business District –construction start date of 3/2017 and completion date of 3/2020

SE-828 Nameoke Ave. construction start date of 7/2018 and end date of 10/2019

SE-829 Brunswick Ave. – construction start date of 10/2019 and end date of 10/2021

QED982/SANDHW13- Rockaway Beach Blvd. & B. 73rd St. - Projected Construction Start 9/2016 and completion date of 9/2018

SEQ002681/HWQ631B2 – Somerville Area. Project on hold. Projected Construction Start 2024

SEQ200550 – Beach 99th St. – construction start date of 7/2017 and end date of 7/2018

Table 1: 2015 12 Month Rolling Average Influent Chlorides (mg/L)

	Jan-2015	Feb-2015	Mar-2015	Apr-2015	May-2015	Jun-2015	Jul-2015	Aug-2015	Sep-2015	Oct-2015	Nov-2015	Dec-2015
Wards Island	430	430	440	450	450	450	460	450	430	420	430	440
North River	300	310	330	330	330	340	350	350	350	350	350	360
Hunts Point	310	300	310	310	300	290	290	290	270	280	290	300
26th Ward	300	330	360	370	360	400	400	410	400	410	410	400
Coney Island	800	820	820	800	760	750	770	750	740	750	760	740
Owls Head	240	260	270	280	280	270	270	250	250	250	250	240
Newtown Creek	650	660	660	660	660	670	680	690	680	680	690	680
Red Hook	430	420	420	410	410	410	410	410	410	410	420	420
Jamaica	240	230	240	240	240	240	240	230	230	240	240	240
Tallman Island	310	310	320	320	310	320	320	320	320	320	330	330
Bowery Bay	440	430	440	420	400	400	400	370	350	370	360	340
Rockaway	2,430	2,430	2,390	2,380	2,380	2,400	2,430	2,480	2,470	2,480	2,500	2,520
Oakwood Beach	330	330	330	320	290	290	290	290	280	280	280	280
Port Richmond	440	440	450	450	440	450	470	470	480	470	460	460

(*) The chloride concentration limit for WWTPs is 400mg/L.

Table 2: YEARLY AVERAGE TIDAL INFLOW COMPARISON FOR CY '14-'15

WPCP	JANUARY - DECEMBER '14		JANUARY - DECEMBER '15		VARIANCE		REMARKS*
	INFLOW (MGD)	% DWF	INFLOW (MGD)	% DWF	INFLOW (MGD)	%	
WARDS ISLAND	8.245	4.1%	8.064	4.1%	0.181	0.08%	2.20% DECREASE
NORTH RIVER	3.937	3.6%	4.662	4.3%	-0.726	-0.67%	18.44% INCREASE
HUNTS POINT	2.104	1.9%	2.306	2.0%	-0.202	-0.10%	9.61% INCREASE
26th WARD	0.721	1.8%	1.086	2.8%	-0.365	-1.04%	50.59% INCREASE
CONEY ISLAND	3.957	4.9%	3.003	3.8%	0.955	1.09%	24.12% DECREASE
OWLS HEAD	1.326	1.5%	1.308	1.5%	0.018	0.01%	1.32% DECREASE
NEWTOWN CREEK	10.844	5.4%	11.192	5.7%	-0.348	-0.32%	3.21% INCREASE
RED HOOK	0.820	3.3%	0.831	3.3%	-0.011	-0.02%	1.32% INCREASE
JAMAICA	1.324	1.8%	1.120	1.5%	0.204	0.27%	15.38% DECREASE
TALLMAN ISLAND	1.105	2.0%	1.112	2.1%	-0.008	-0.04%	0.68% INCREASE
BOWERY BAY	2.897	3.0%	2.468	2.6%	0.429	0.45%	14.81% DECREASE
ROCKAWAY	2.956	18.7%	2.762	17.9%	0.194	0.80%	6.56% DECREASE
OAKWOOD BEACH	0.625	2.3%	0.508	2.0%	0.117	0.29%	18.79% DECREASE
PORT RICHMOND	1.192	4.3%	1.048	4.1%	0.144	0.22%	12.09% DECREASE

Tidal Inflow (MGD) seasonal percentage change.

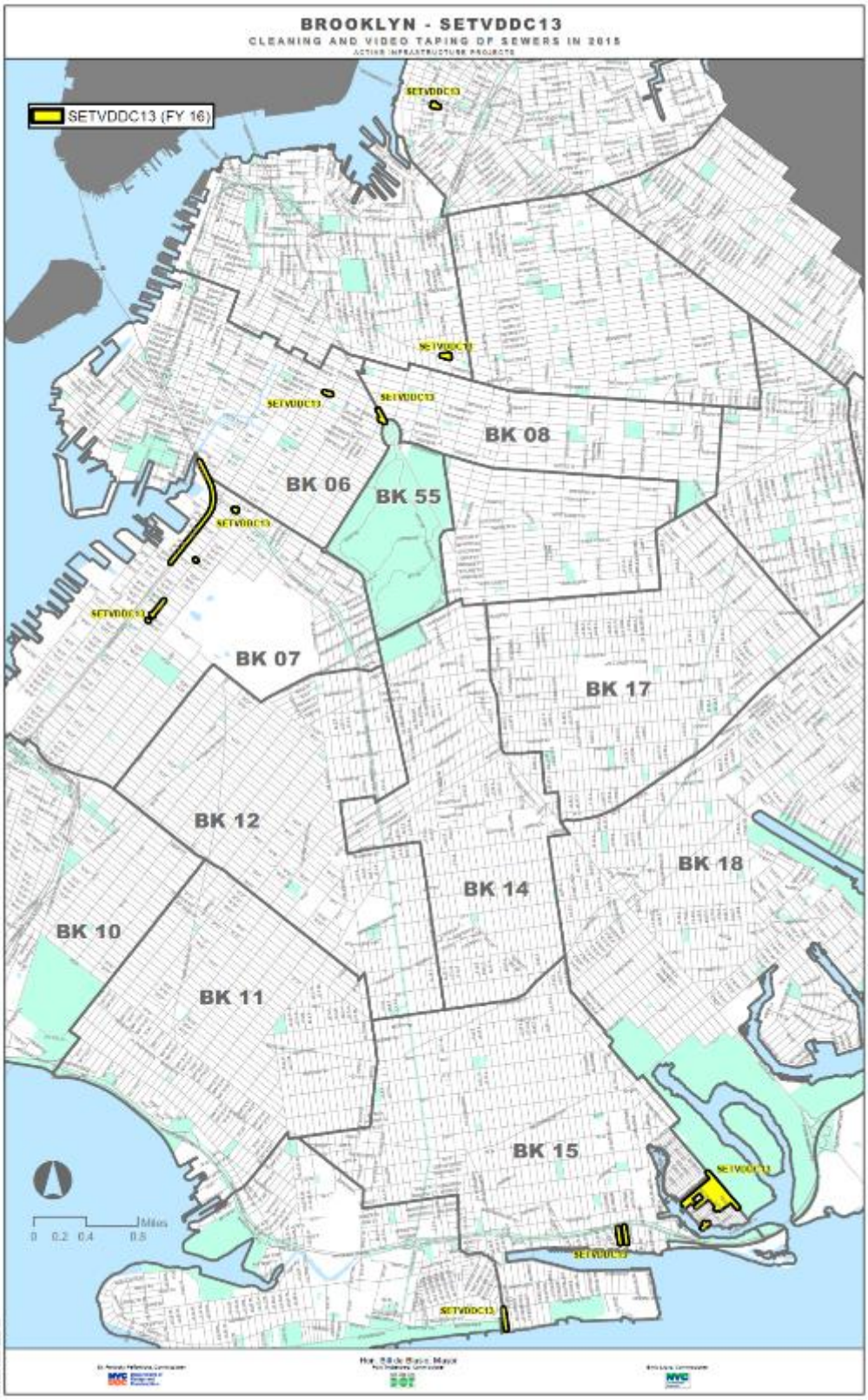
Appendix 2 – BWSO

Maps of Cleaning Activities for NYC DDC: TV Inspection and Cleaning (Borough Map 1-5)

Maps of Cleaning Activities for CMOM Section: NYC Public Sewers Inspected, Cleaned or Televised in CY2013 (Borough Map 1-6)

Maps of Cleaning Activities for CMOM Section: NYC Public Sewers Inspected, Cleaned or Televised in CY2013 (Community Board Map 1-59)

CMOM Section Inspected Locations


BROOKLYN - SETVDDC13
CLEANING AND VIDEO TAPING OF SEWERS IN 2015
ACTIVE INFRASTRUCTURE PROJECTS
SETVDDC13 (FY 16)
SETVDDC13
BK 08
BK 06
BK 55
BK 07
BK 17
BK 12
BK 18
BK 14
BK 10
BK 11
BK 15
Miles
0 0.2 0.4 0.8


BRONX - SETVDDC13
CLEANING AND VIDEO TAPING OF SEWERS IN 2015
SETVDDC13
BX 28
BX 26
BX 12
BX 08
BX 07
BX 11
BX 10
BX 27
BX 06
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SETVDDC13
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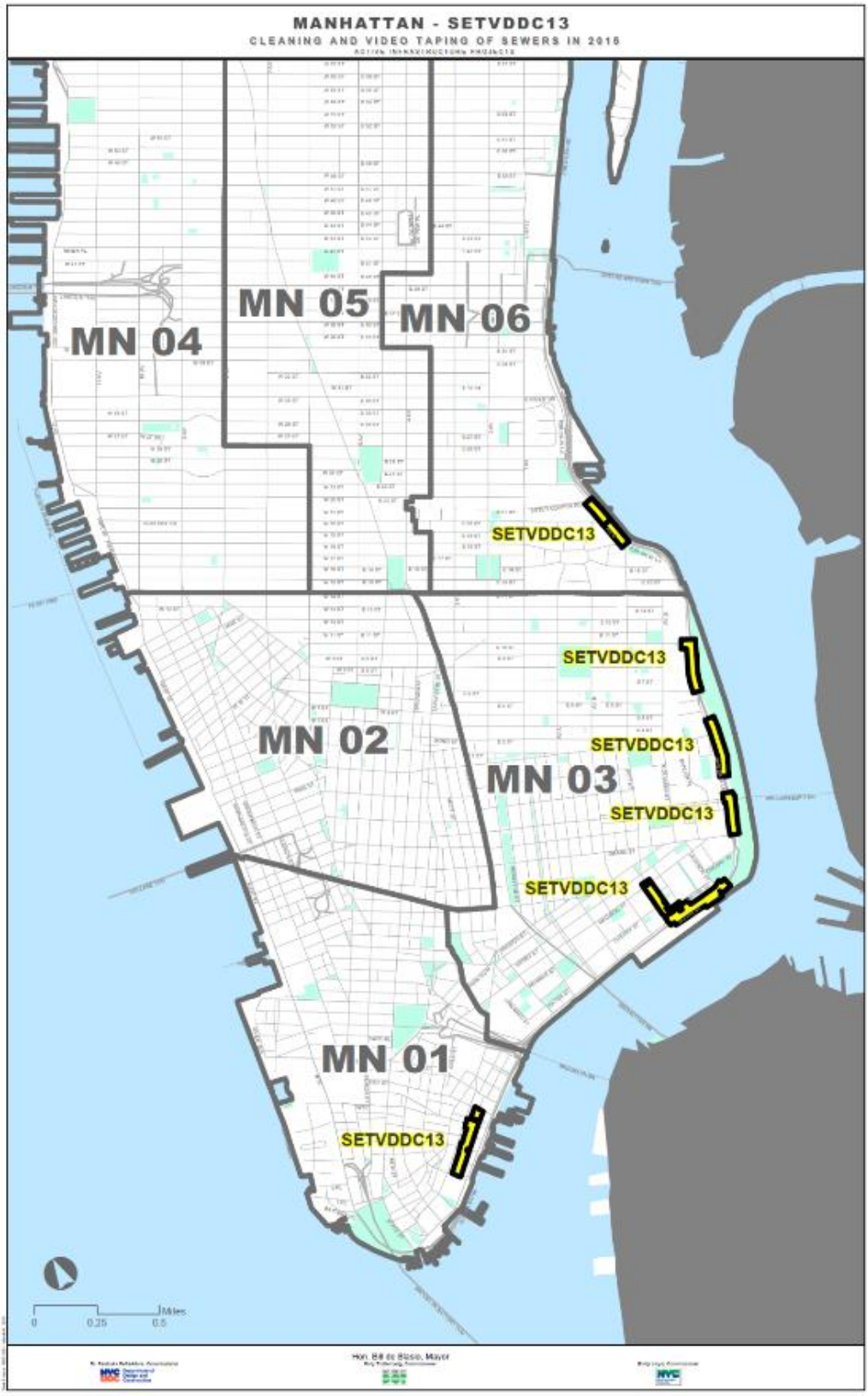
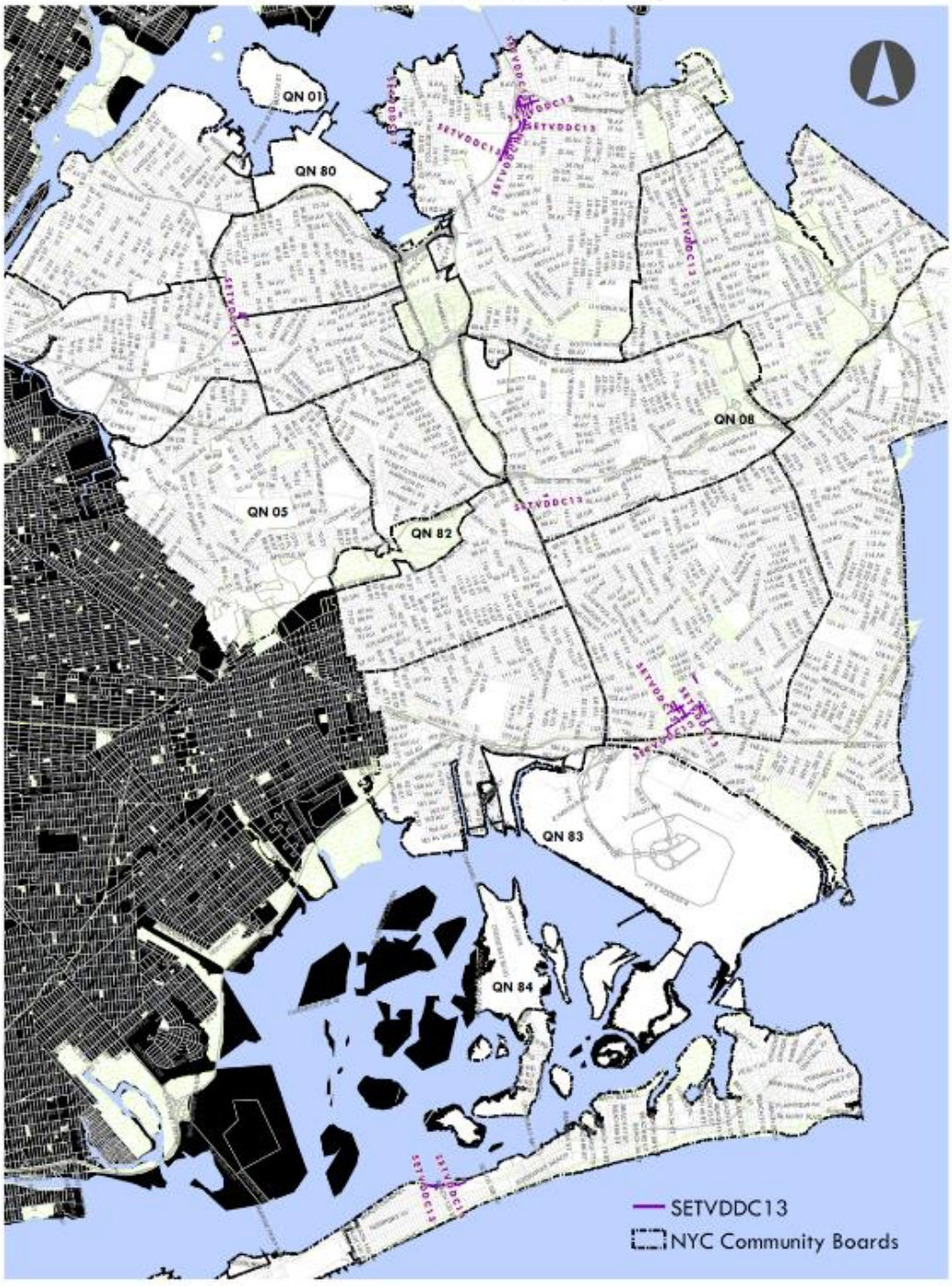
0.5
1
Miles


MANHATTAN - SETVDDC13
CLEANING AND VIDEO TAPING OF SEWERS IN 2015
MN 04
MN 05
MN 06
MN 02
MN 03
MN 01
SETVDDC13
SETVDDC13
SETVDDC13
SETVDDC13
SETVDDC13
SETVDDC13
0
0.25
0.5
Miles

QUEENS
SETVDDC13
TELEVISED SEWERS (2015)

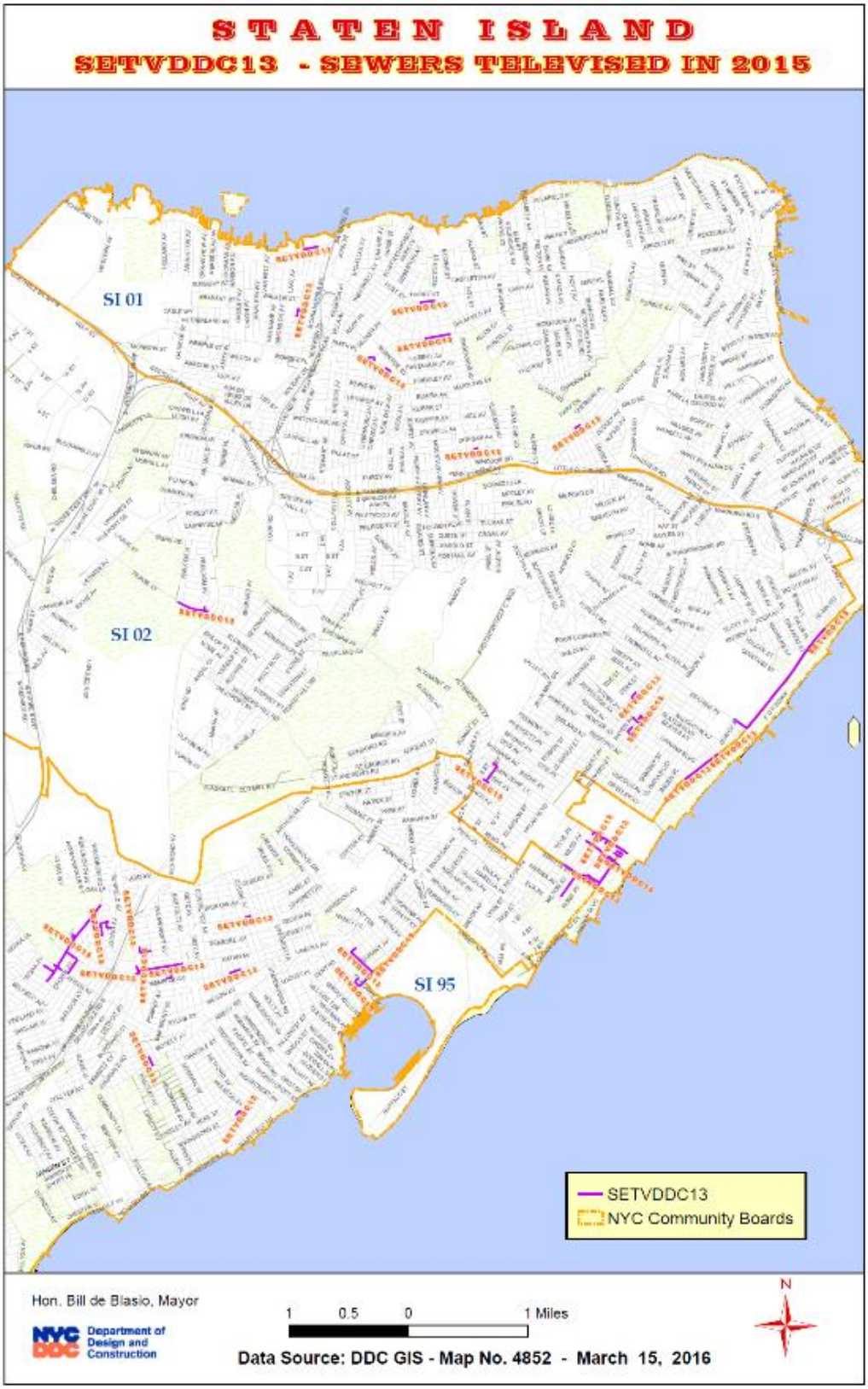


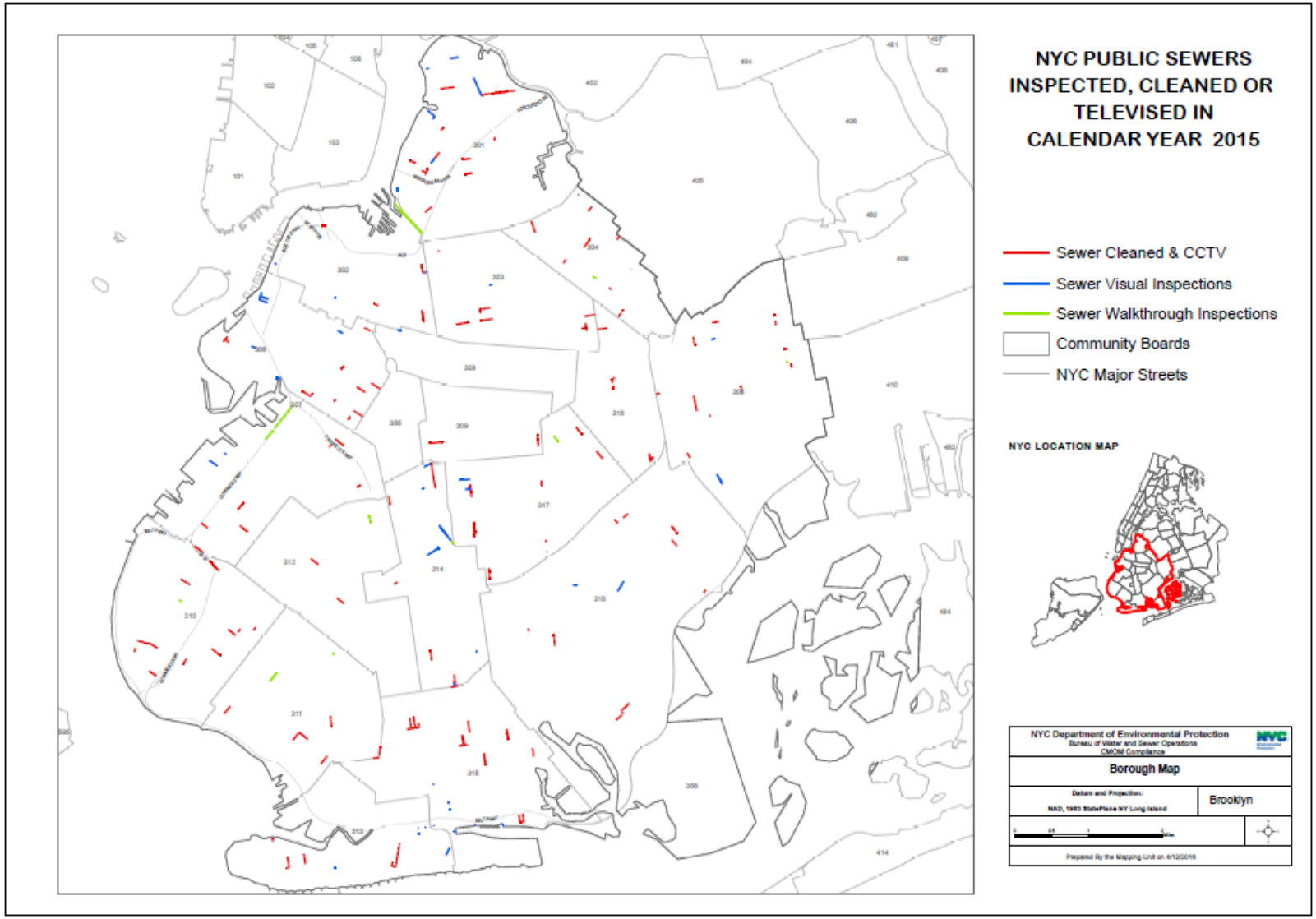
Hon. Bill de Blasio, Mayor

NYC DDC Department of Design and Construction

2 1 0 2 Miles

Data Source: DDC GIS - Map No. 4852 - March 15, 2016


STATEN ISLAND
SETVDDC13 - SEWERS TELEVISED IN 2015
SI 01
SI 02
SI 95
SETVDDC13
NYC Community Boards
Hon. Bill de Blasio, Mayor
Department of Design and Construction
1 0.5 0 1 Miles
N
Data Source: DDC GIS - Map No. 4852 - March 15, 2016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Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
NYC Major Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Borough Map
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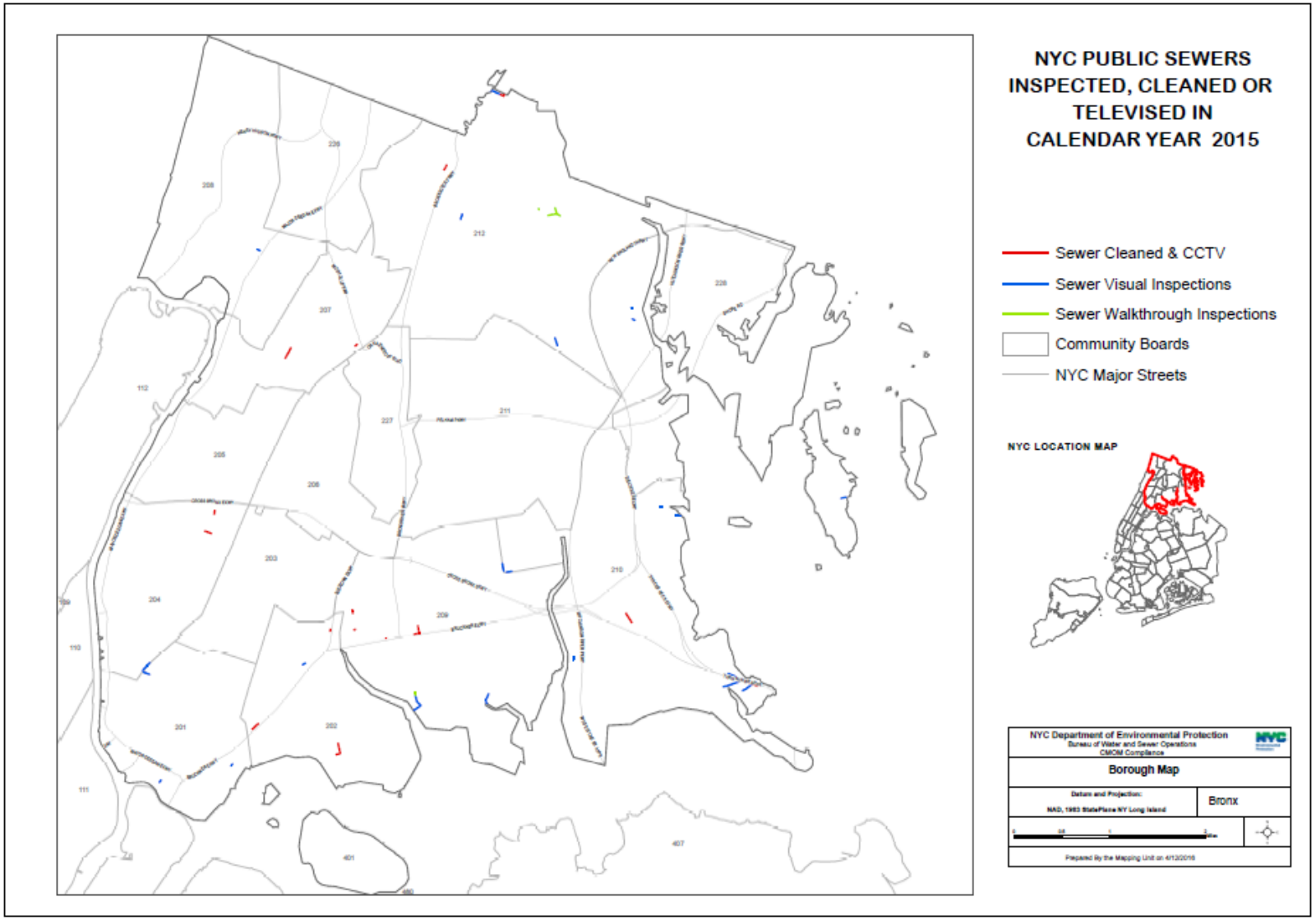
Brooklyn
Prepared By the Mapping Unit on 4/12/2016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Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
NYC Major Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Borough Map
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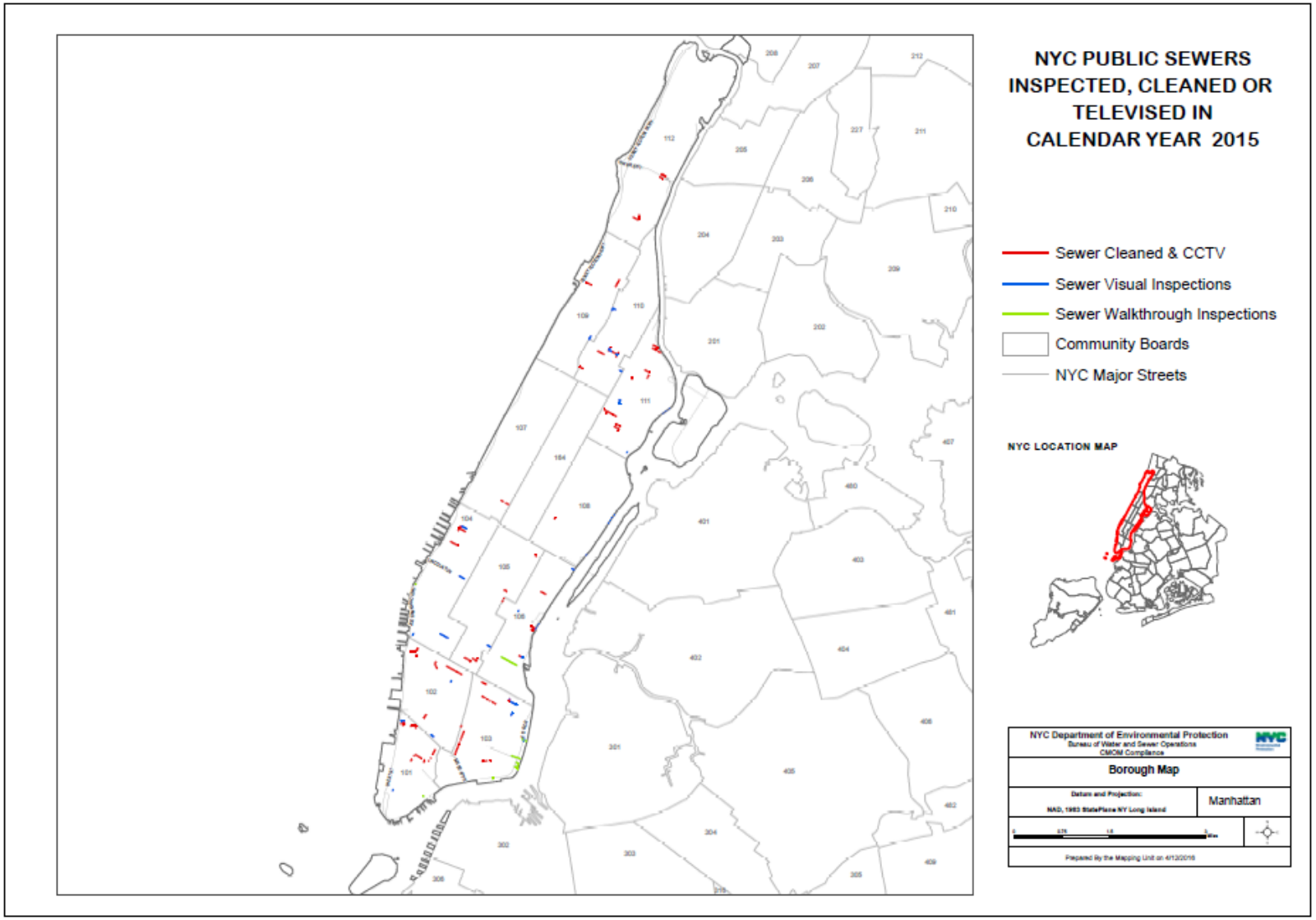
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Sewer Walkthrough Inspections
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NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Borough Map
Datum and Projection:
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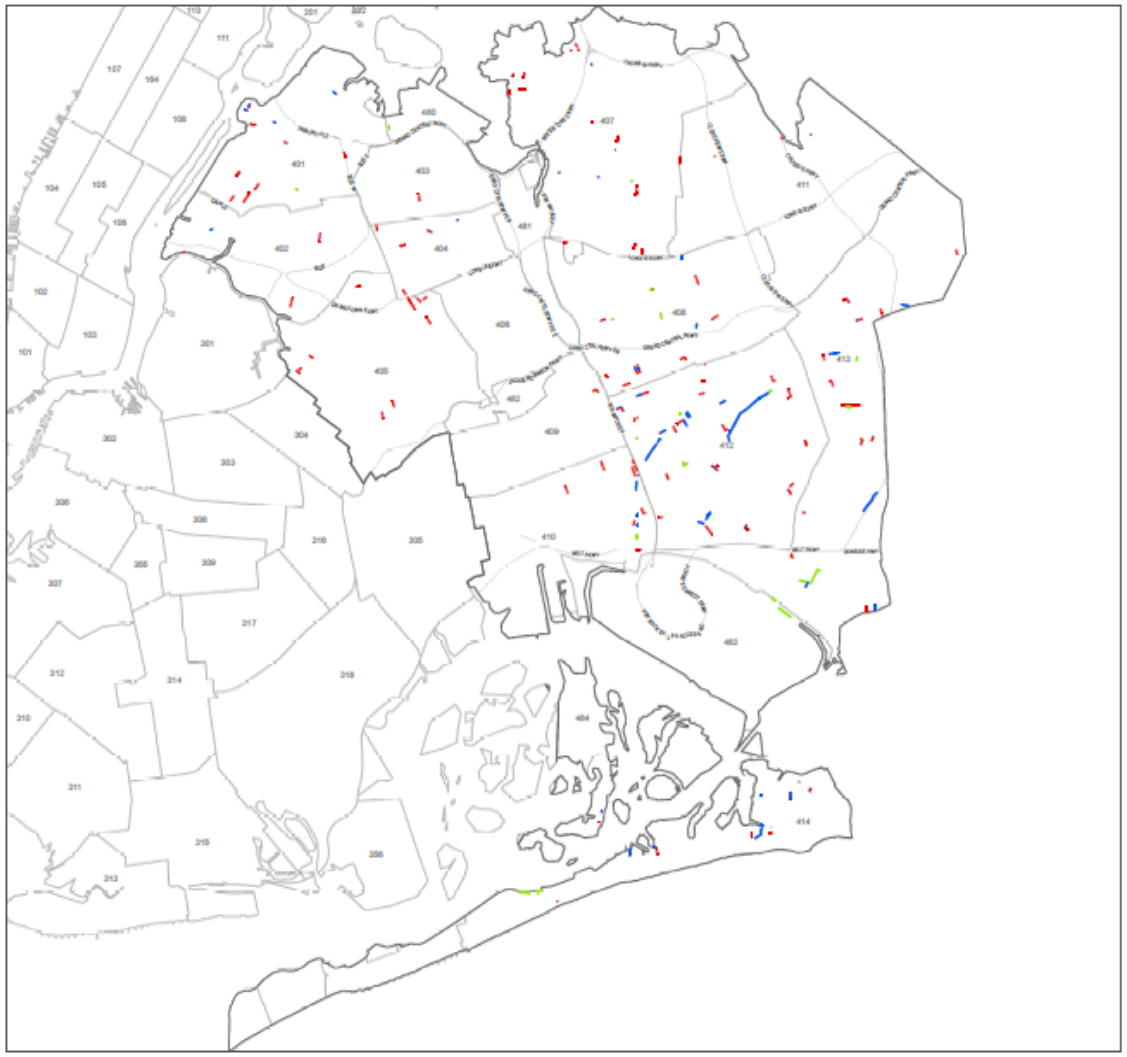
Manhattan
Prepared By the Mapping Unit on 4/13/2016



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2015

- Sewer Cleaned & CCTV
- Sewer Visual Inspections
- Sewer Walkthrough Inspections
- Community Boards
- NYC Major Streets

NYC LOCATION MAP

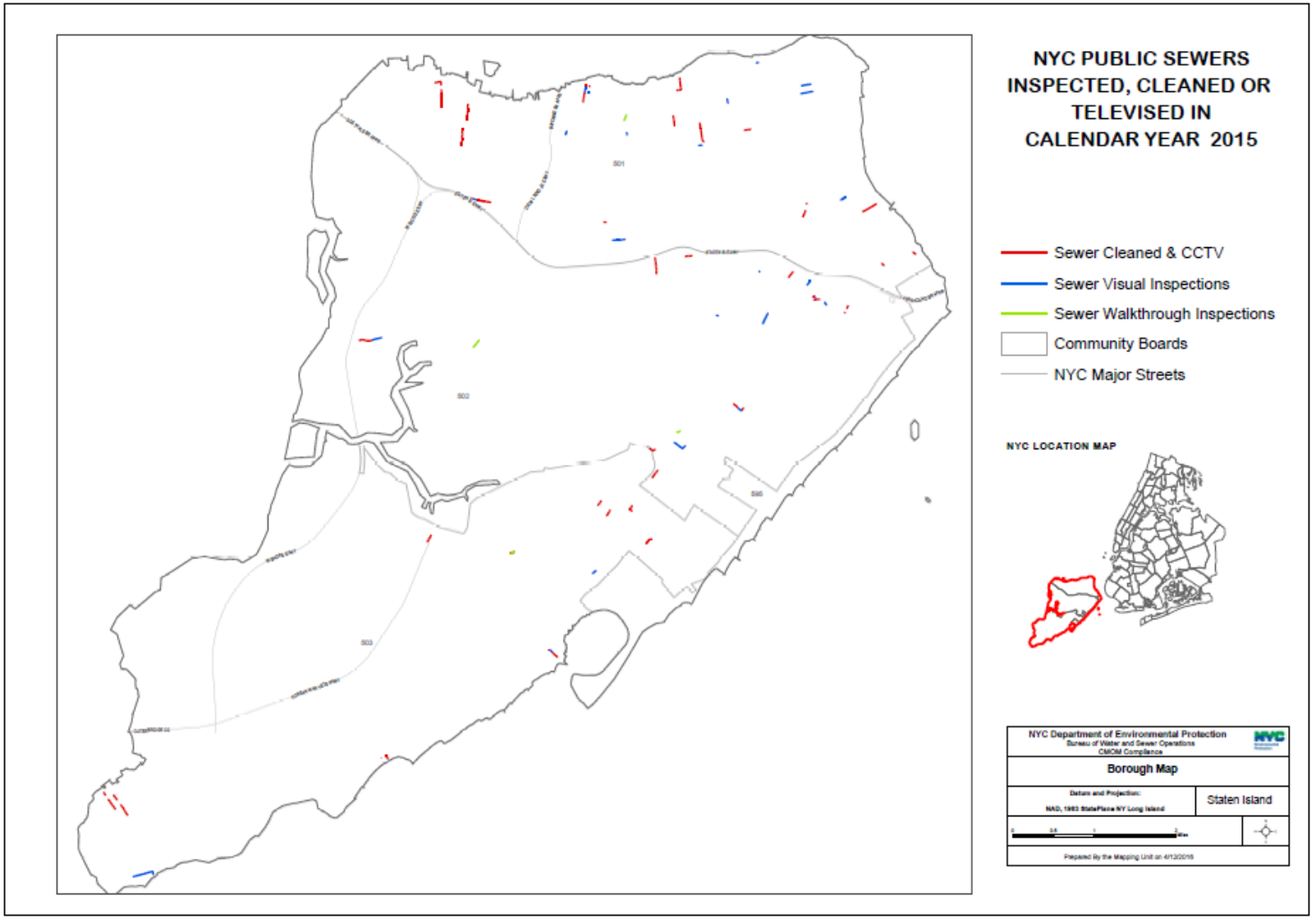
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance

Borough Map

Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Queens

Prepared By the Mapping Unit on 4/13/2016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Borough Map
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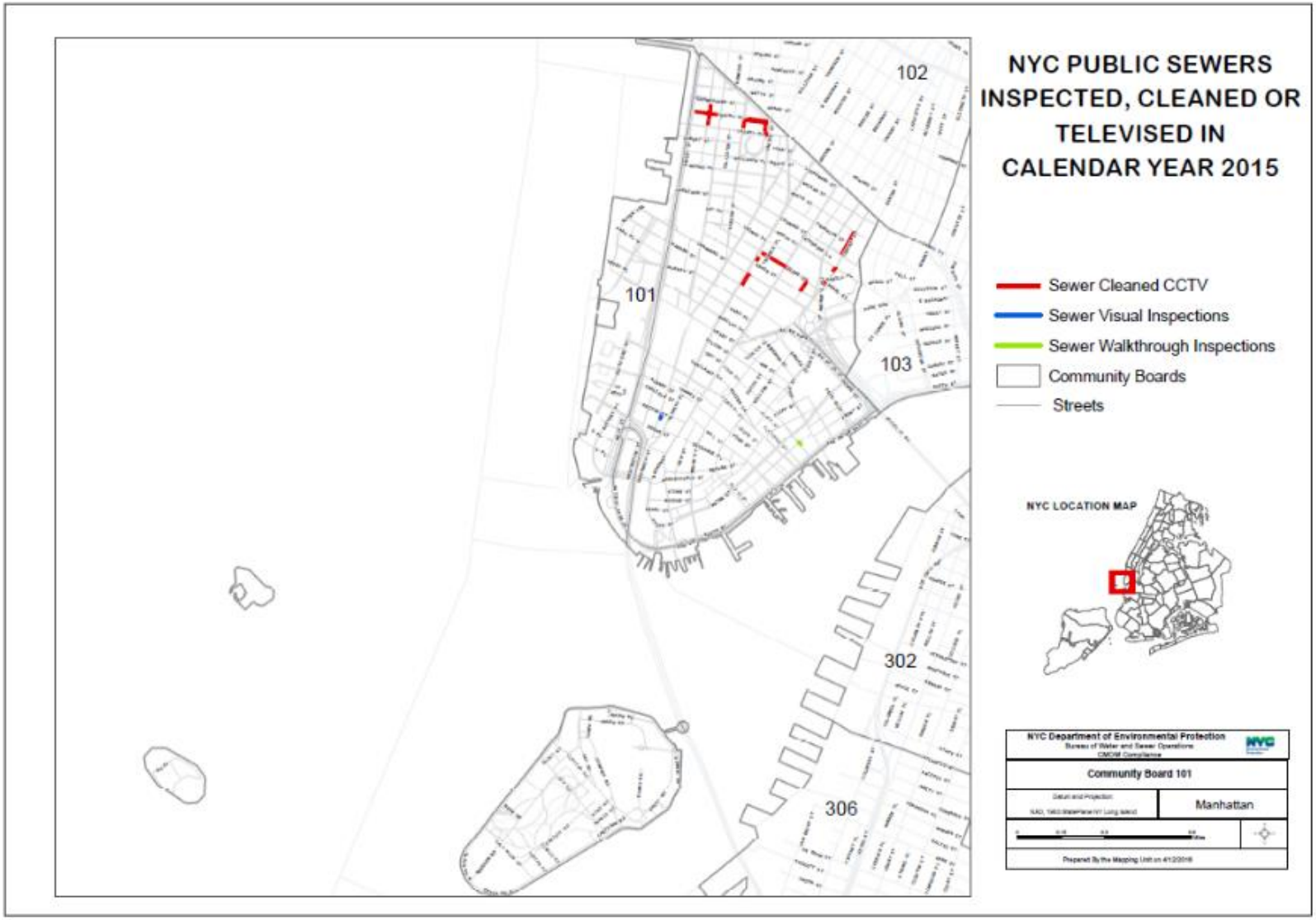
NAD, 1983 StatePlane NY Long Island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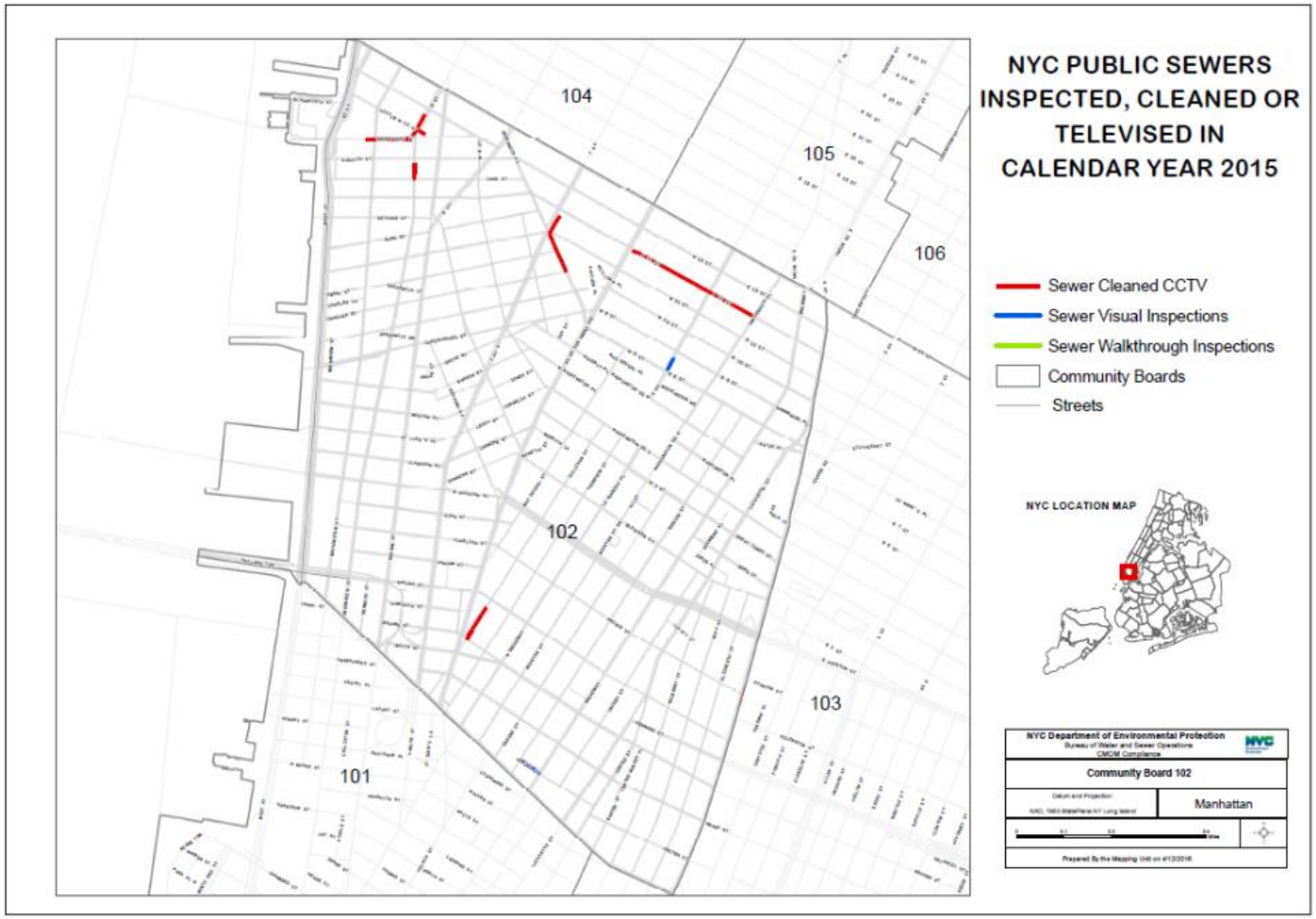
NYC Department of Environmental Protection
Community Board 101
Manhattan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Community Board 102
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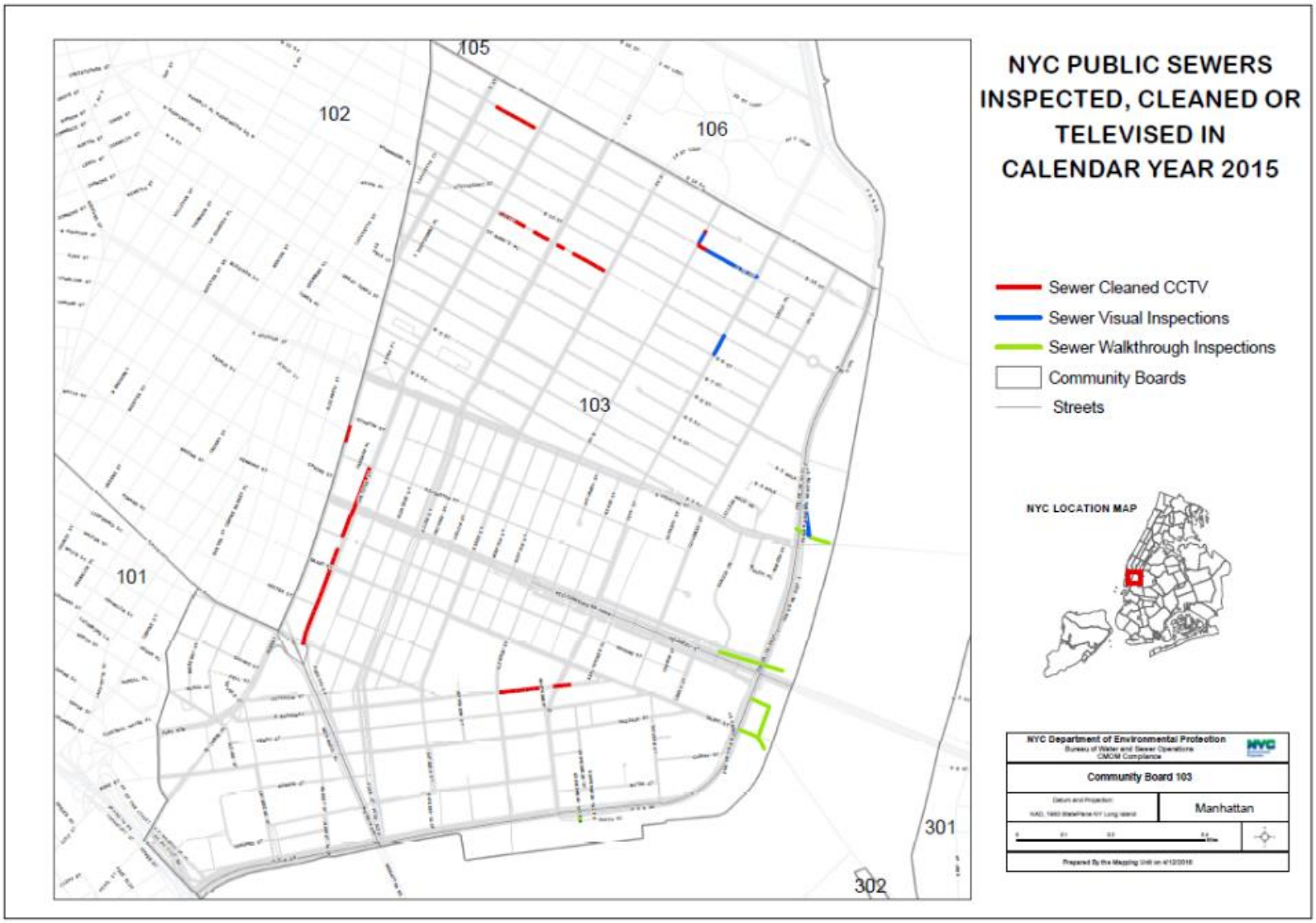
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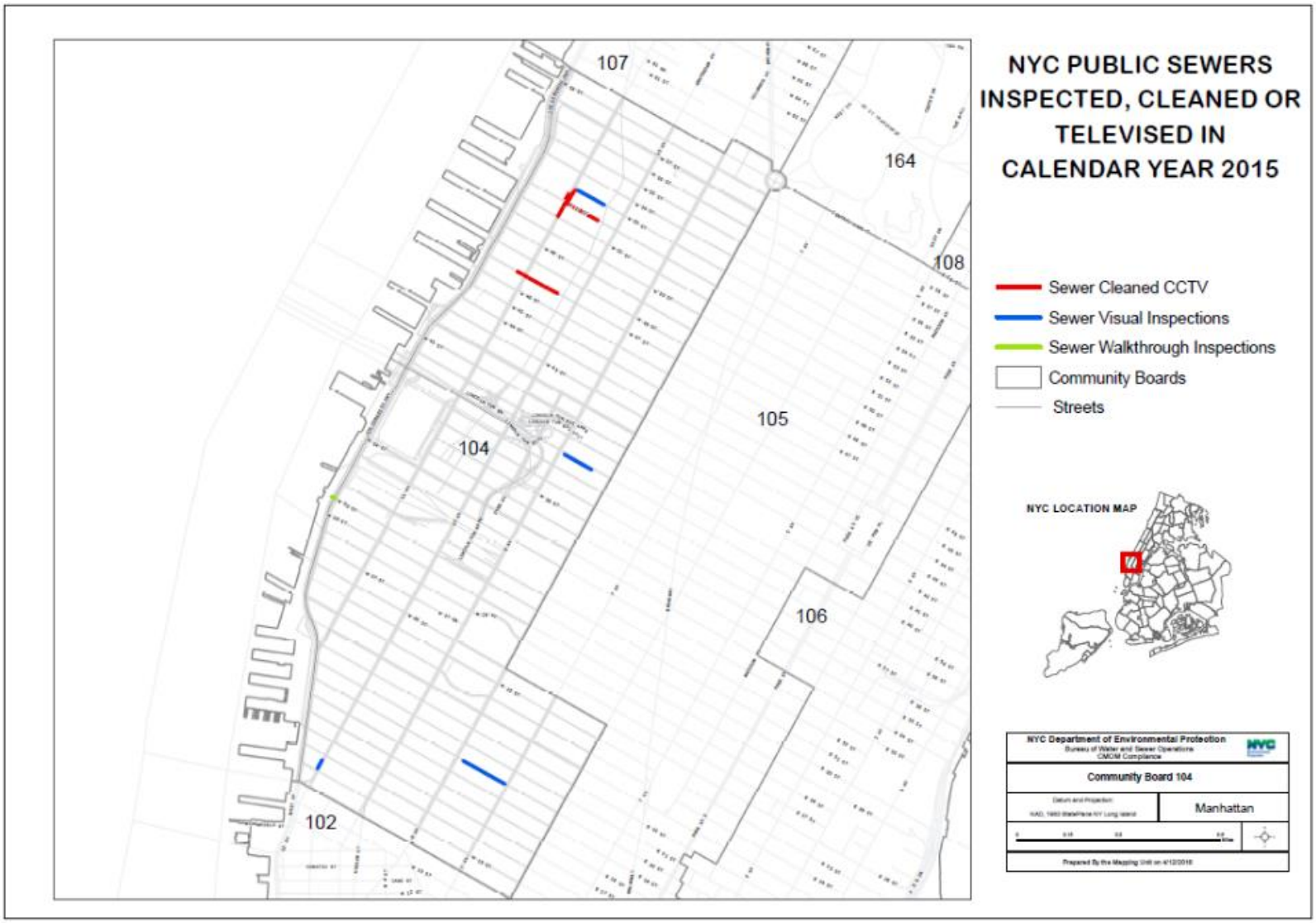
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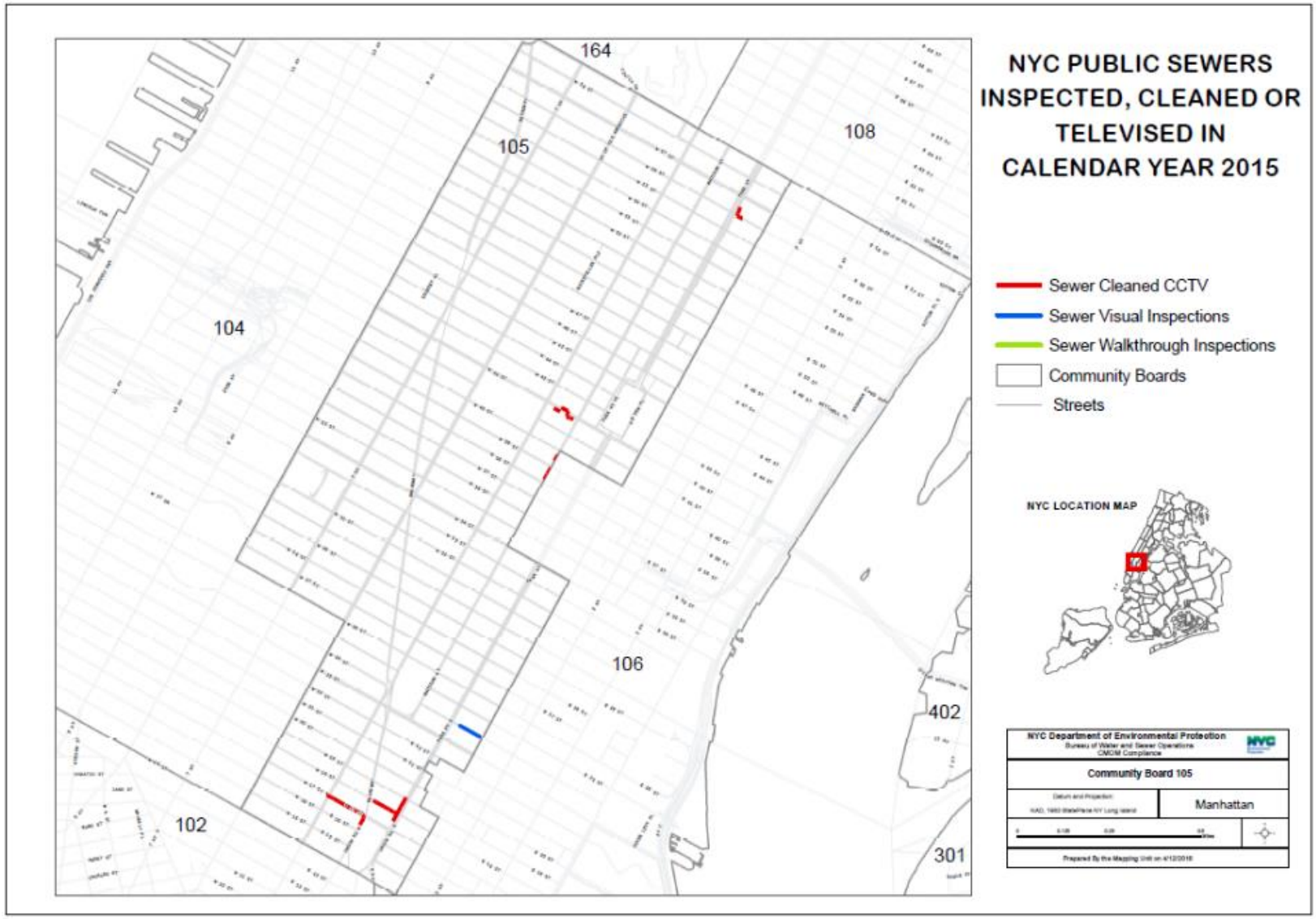
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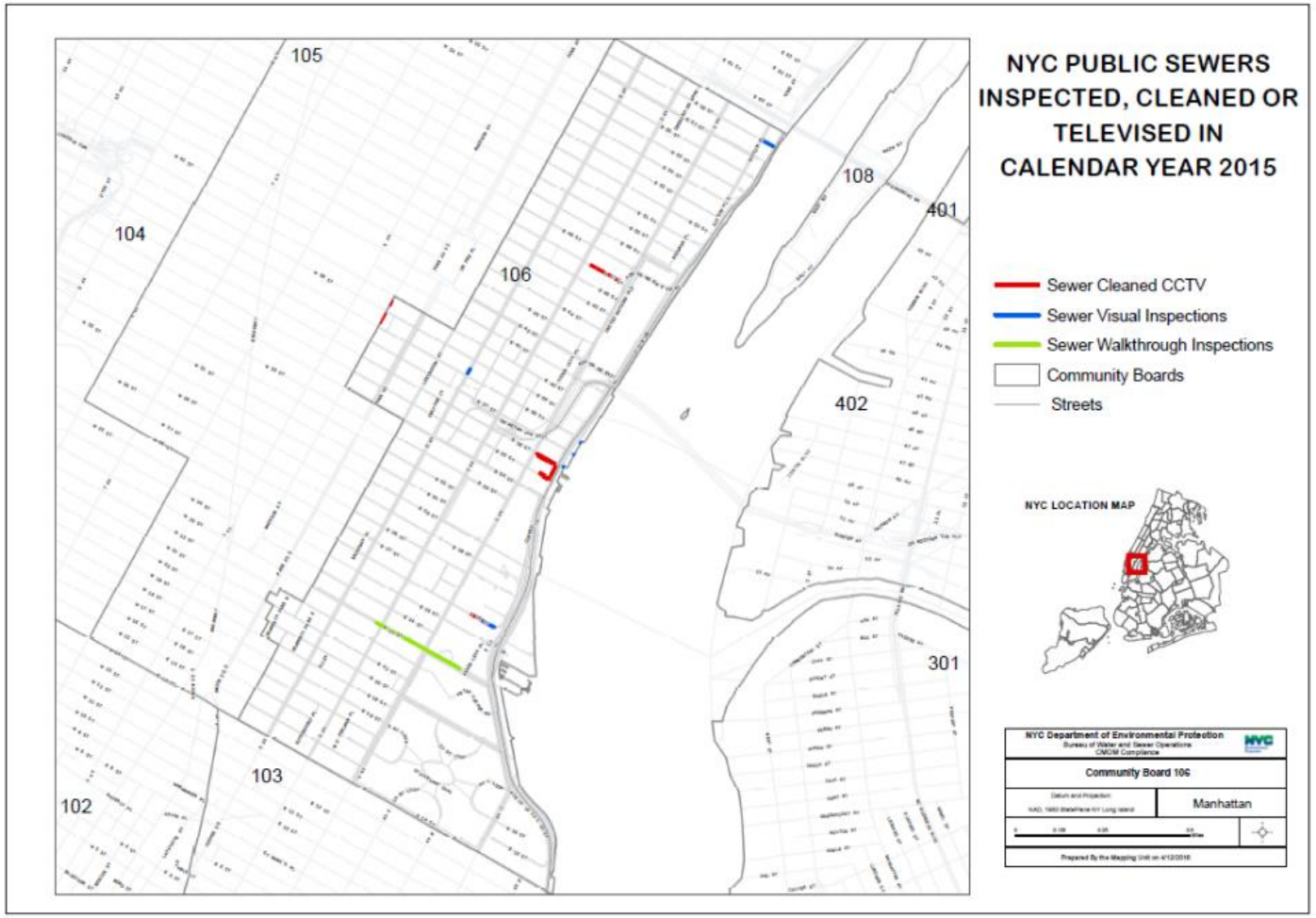
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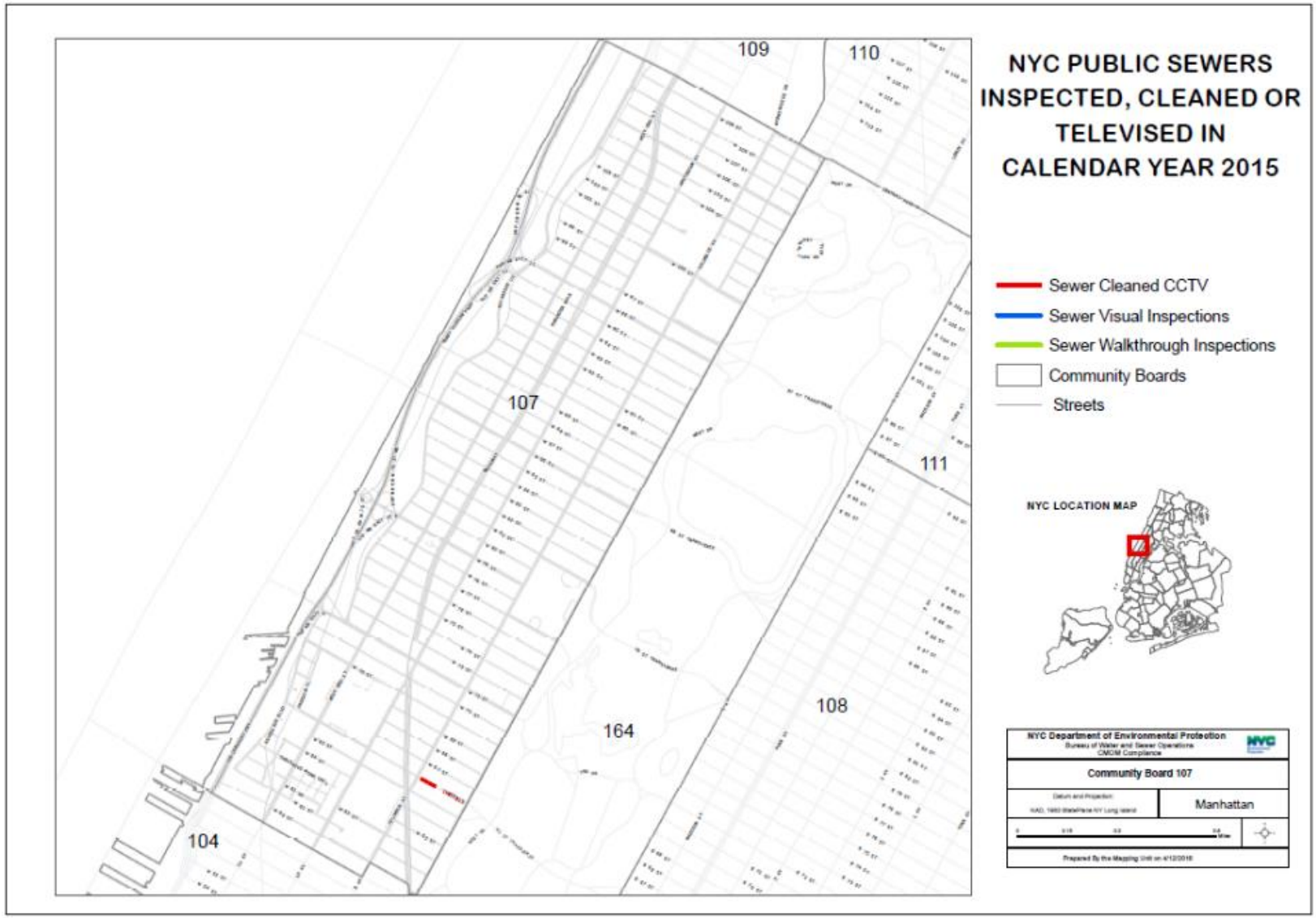
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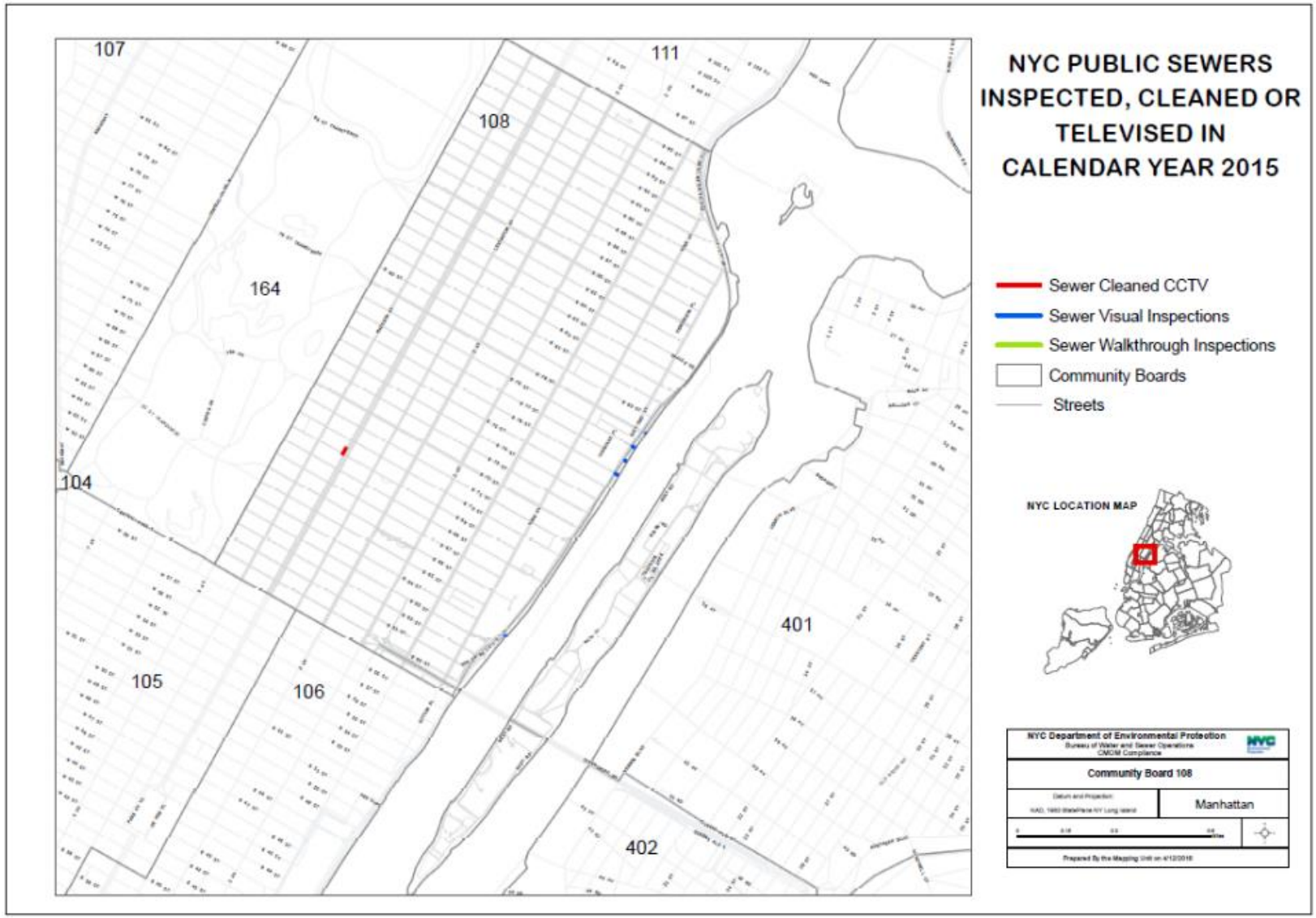
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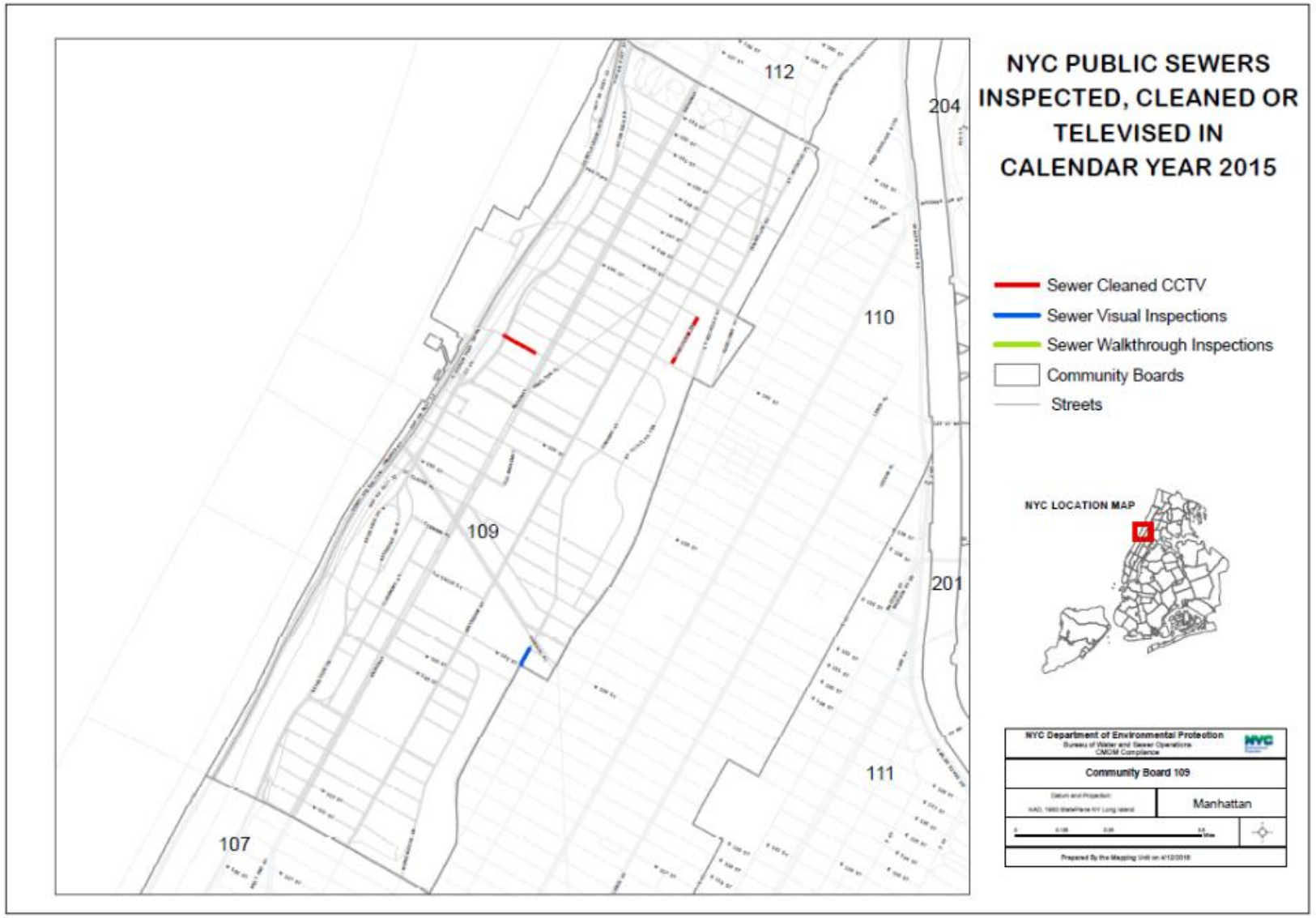
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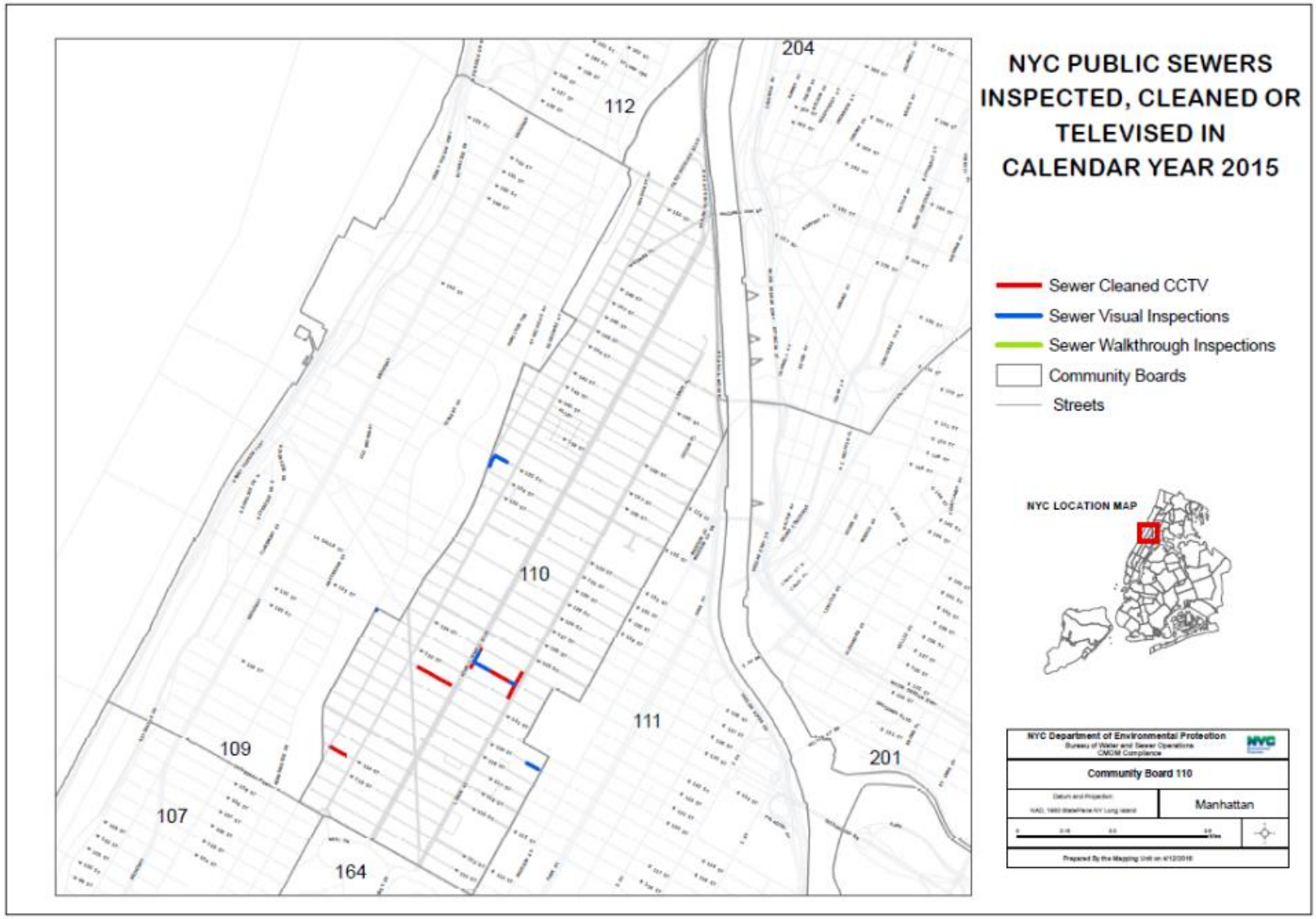
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Bureau of Water and Sewer Operations
CMOM Compliance
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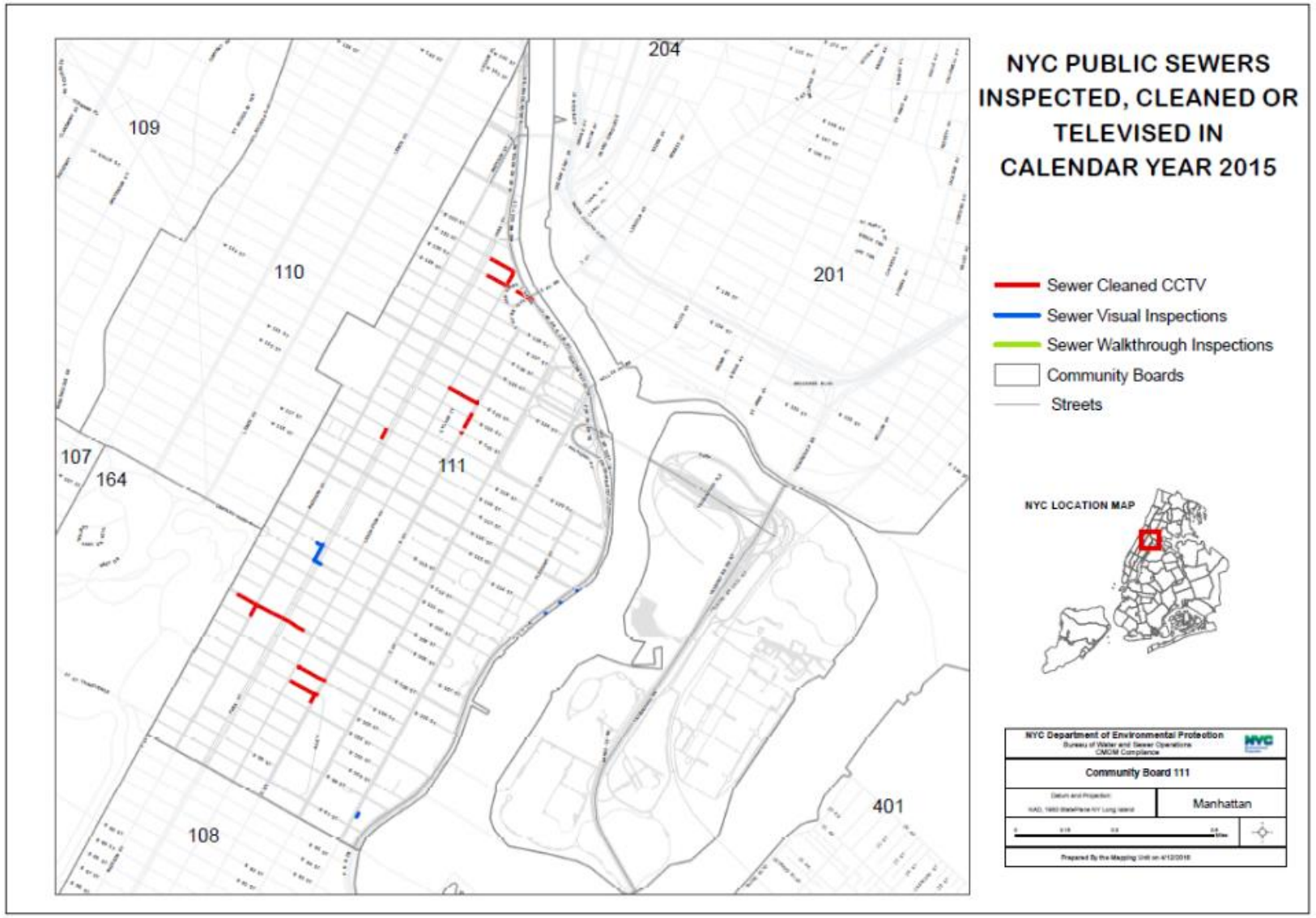
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Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
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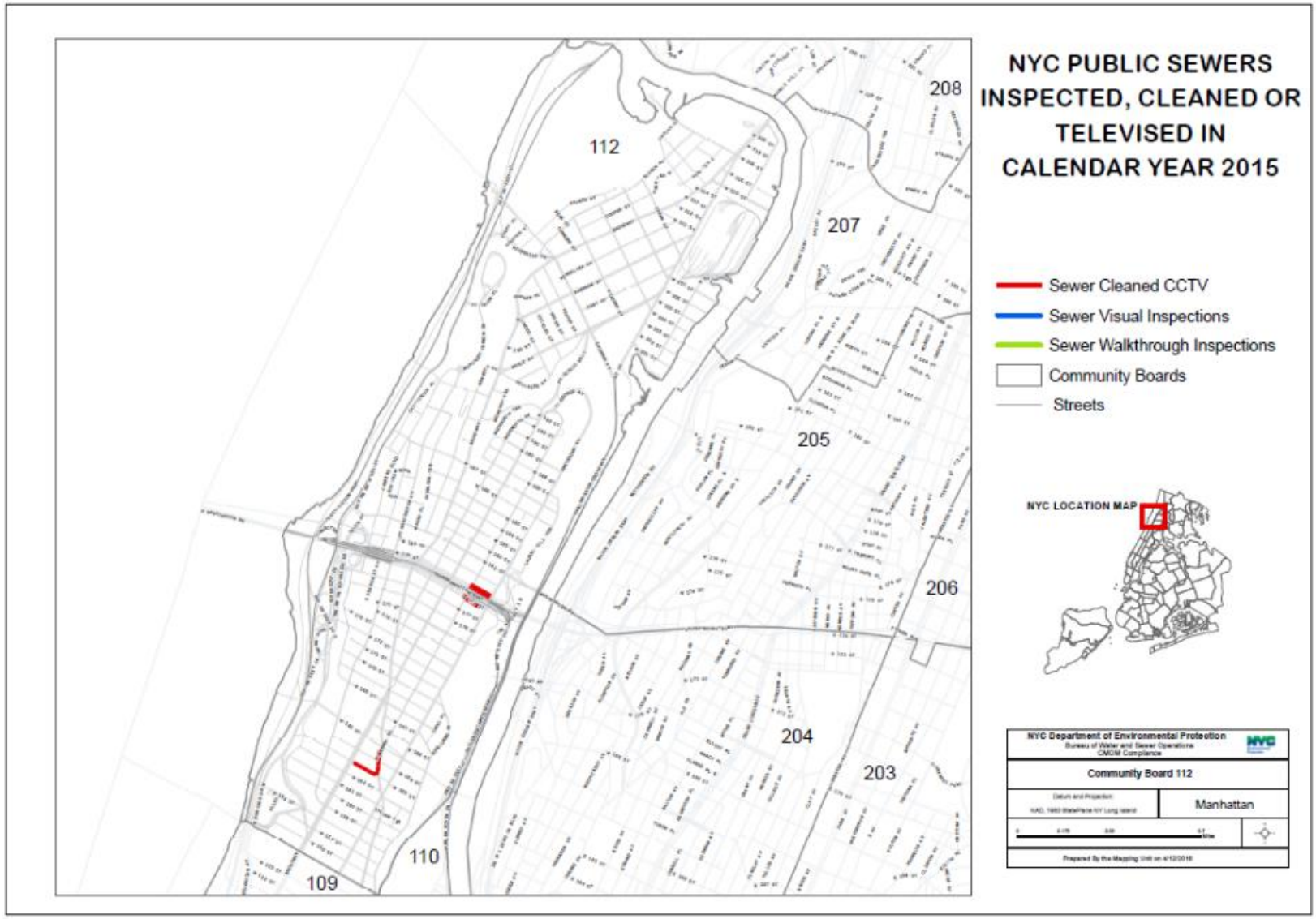
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Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
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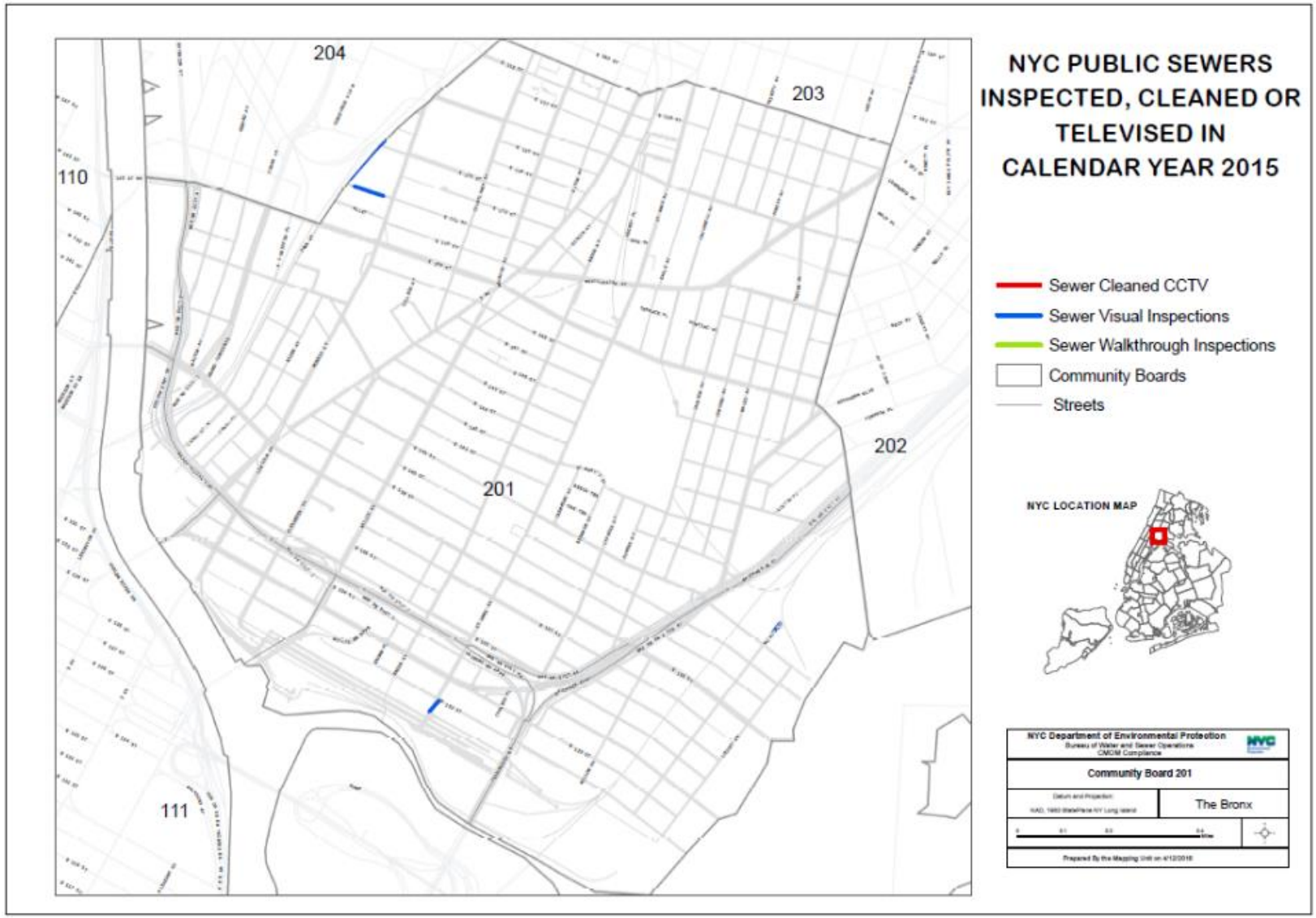
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Streets
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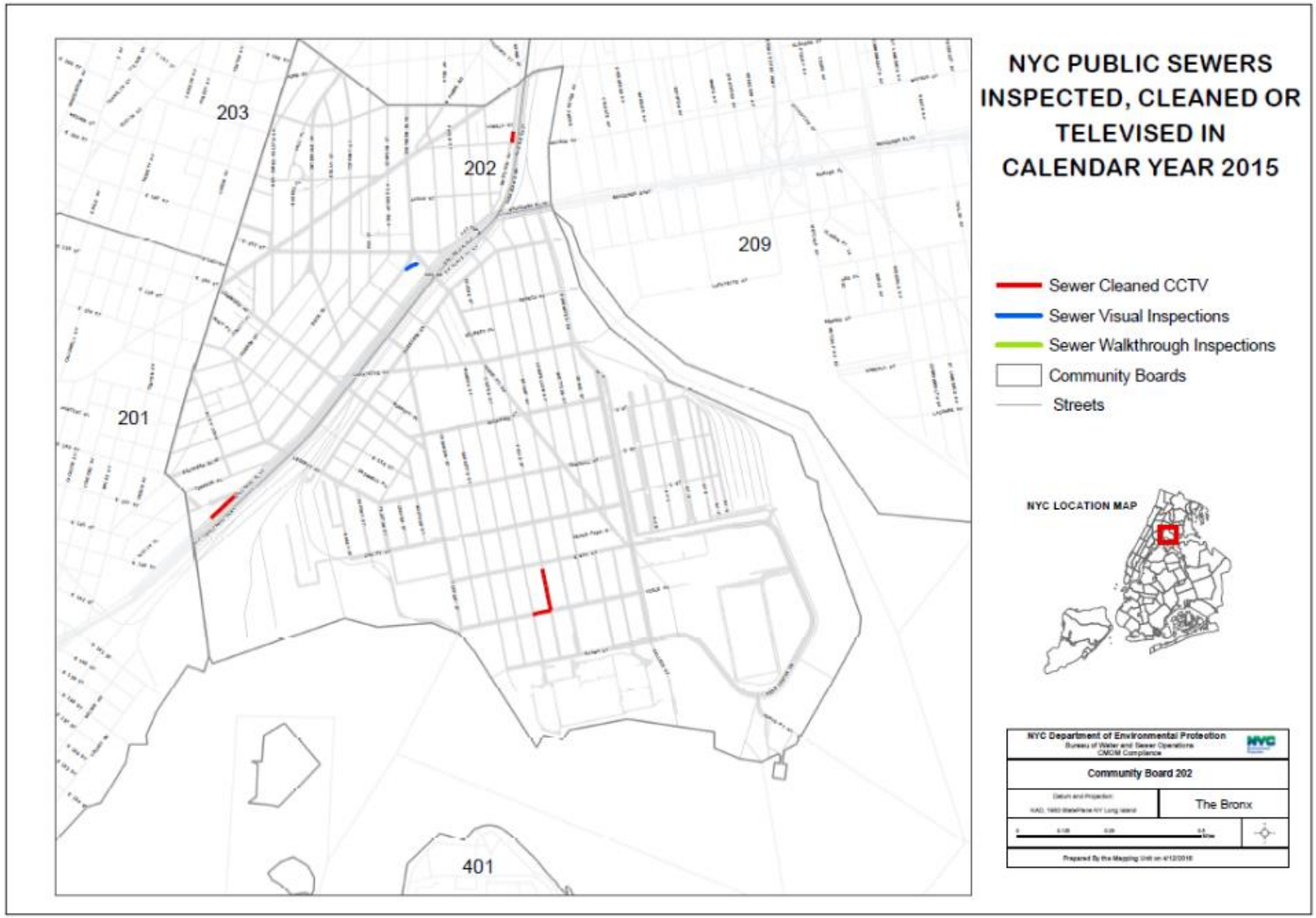
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 201
The Bronx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Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 202
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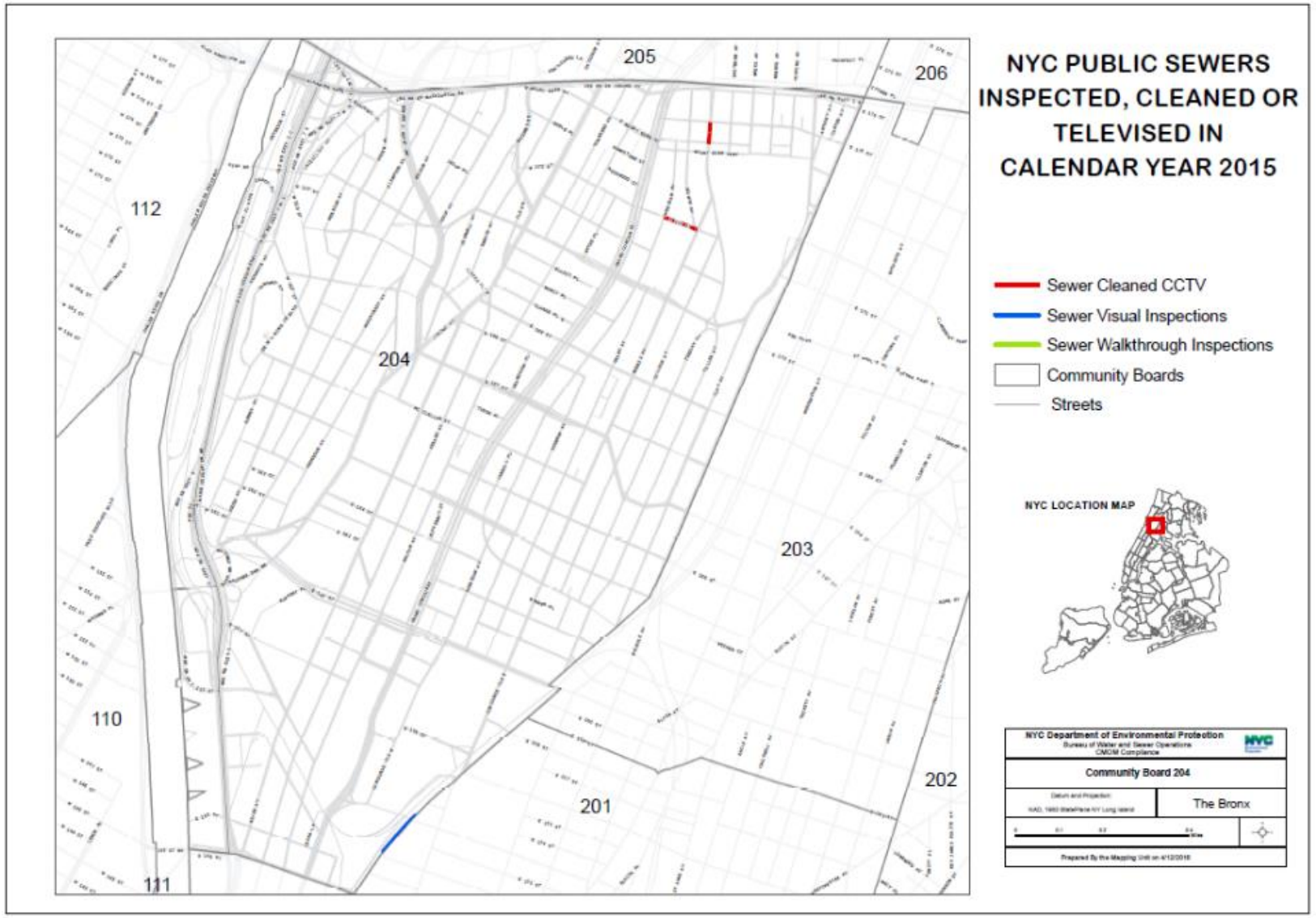
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Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Community Board 204
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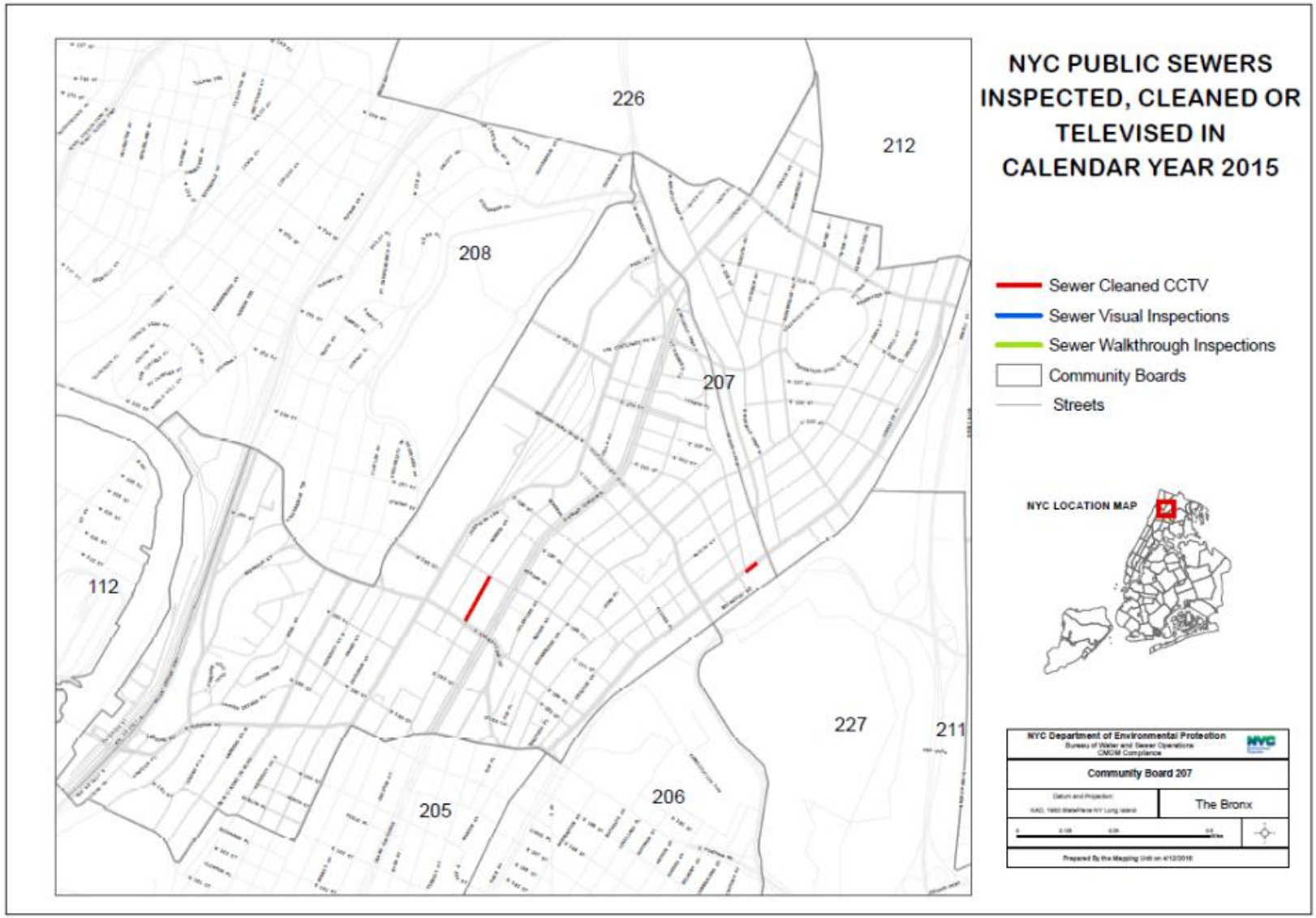
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Community Boards
Streets
NYC LOCATION MAP
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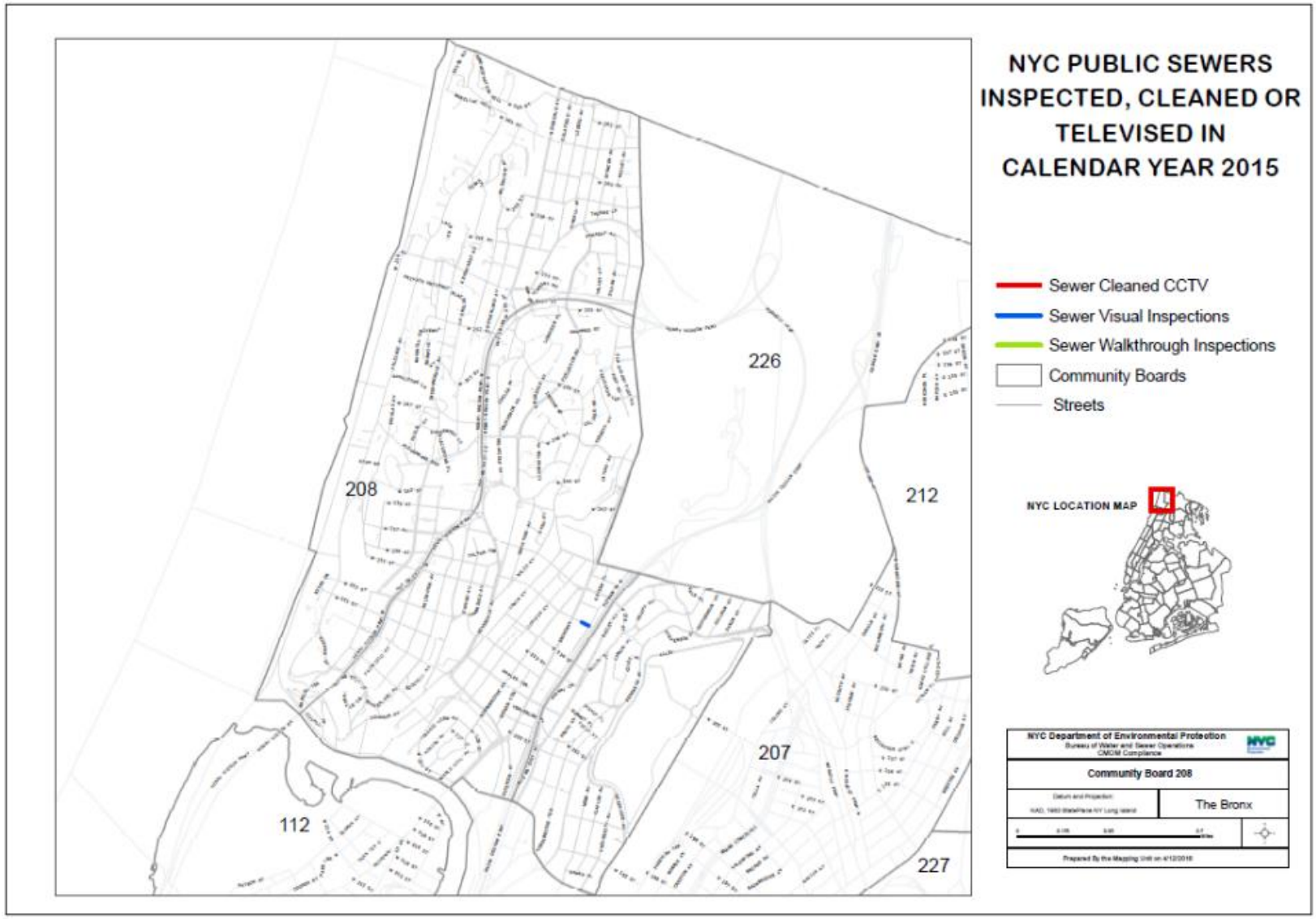
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 207
The Bronx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Community Boards
Streets
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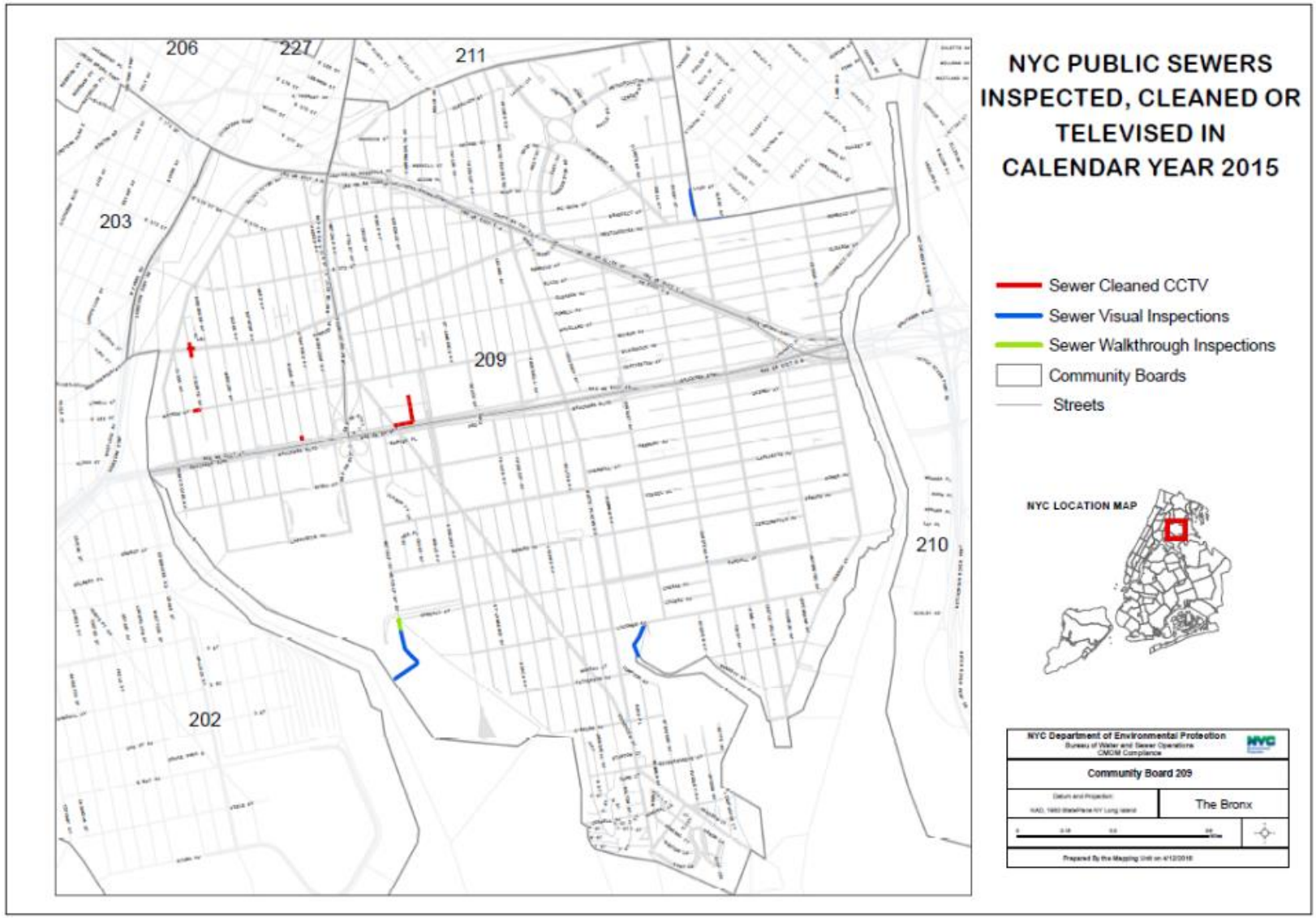
227
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 208
The Bronx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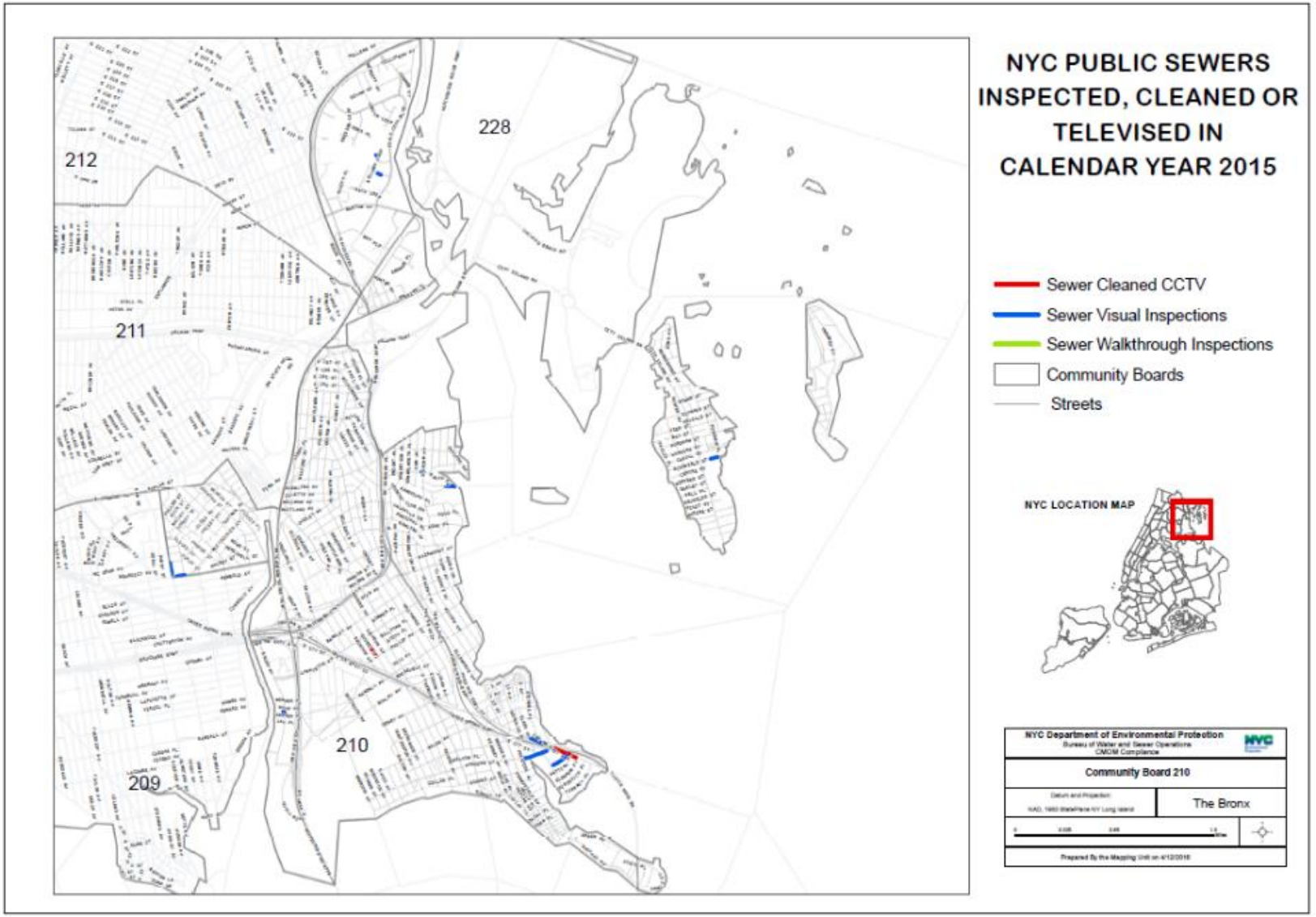
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 209
The Bronx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Sewer Walkthrough Inspections
Community Boards
Streets
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209
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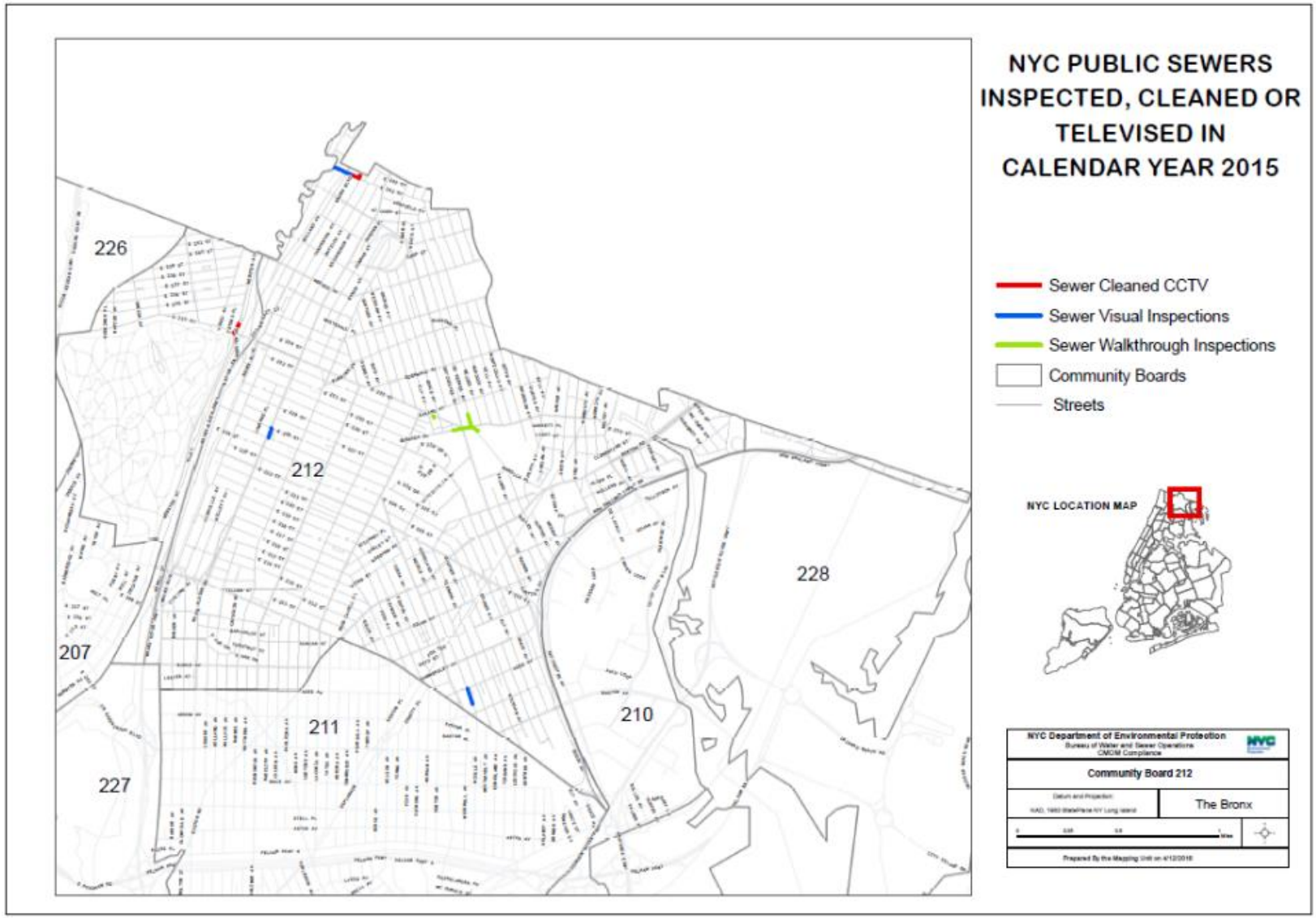
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 210
The Bronx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Community Boards
Streets
NYC LOCATION MAP
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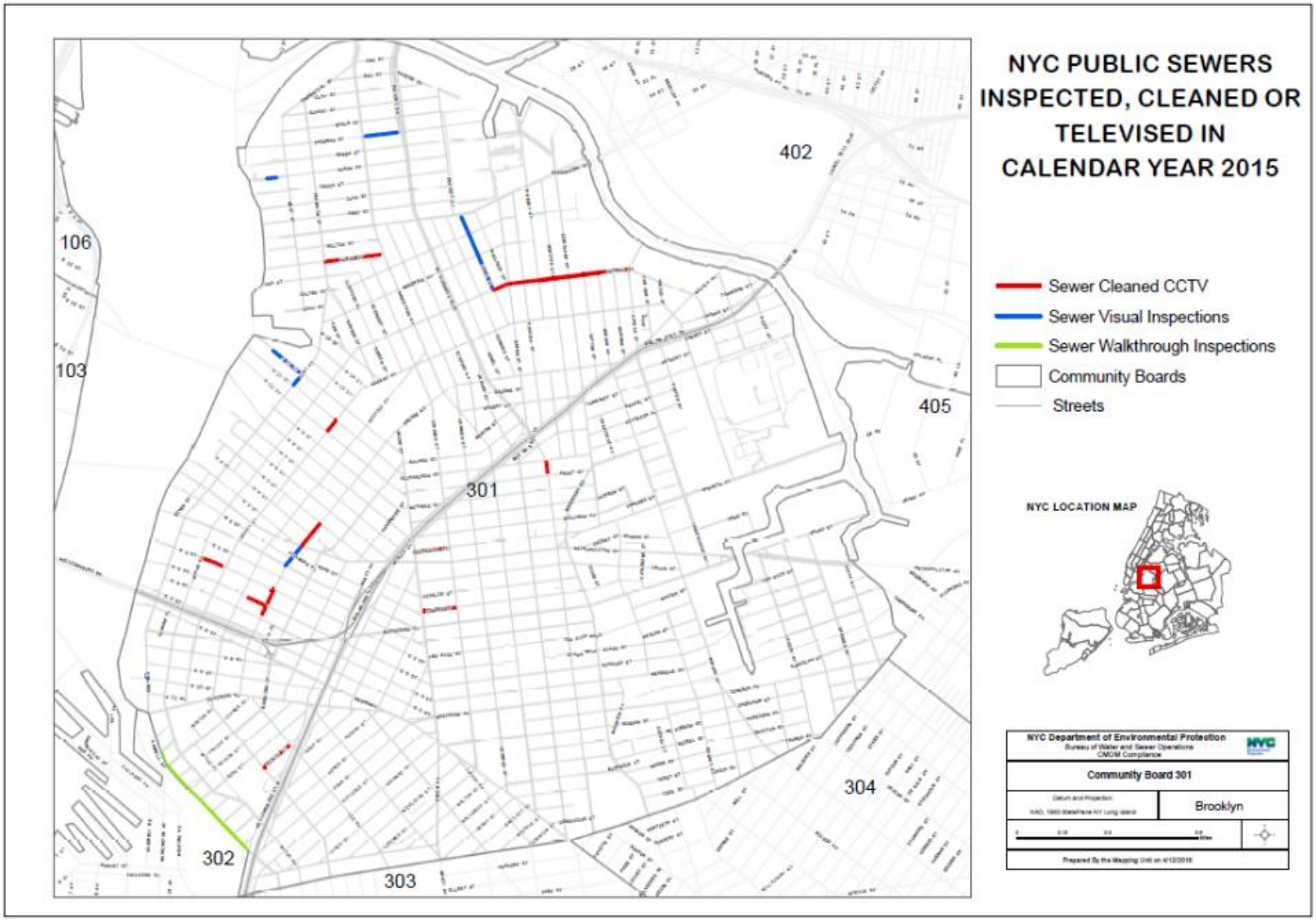
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 212
The Bronx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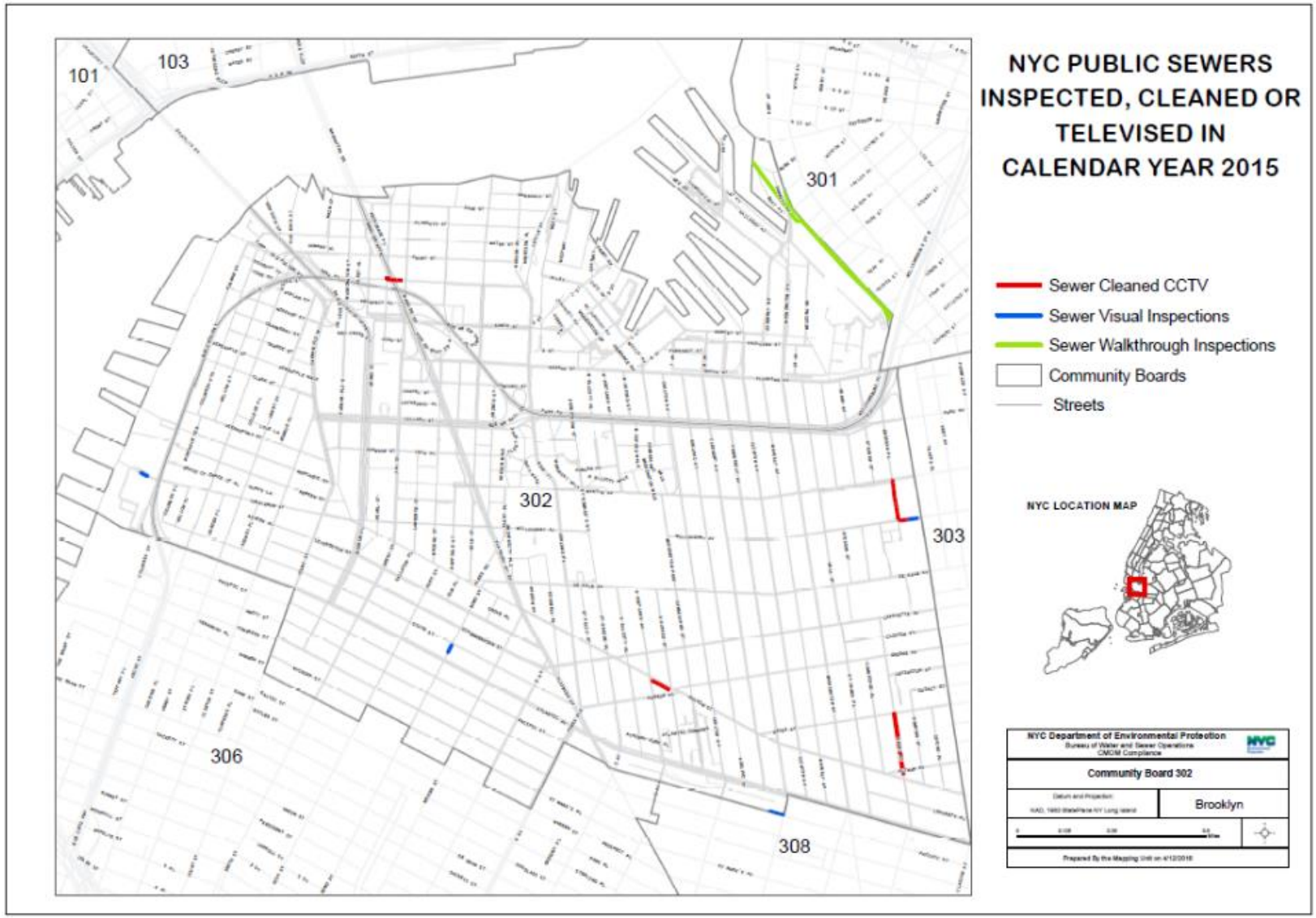
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Community Board 301
Brooklyn
106
103
402
405
301
304
302
303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Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
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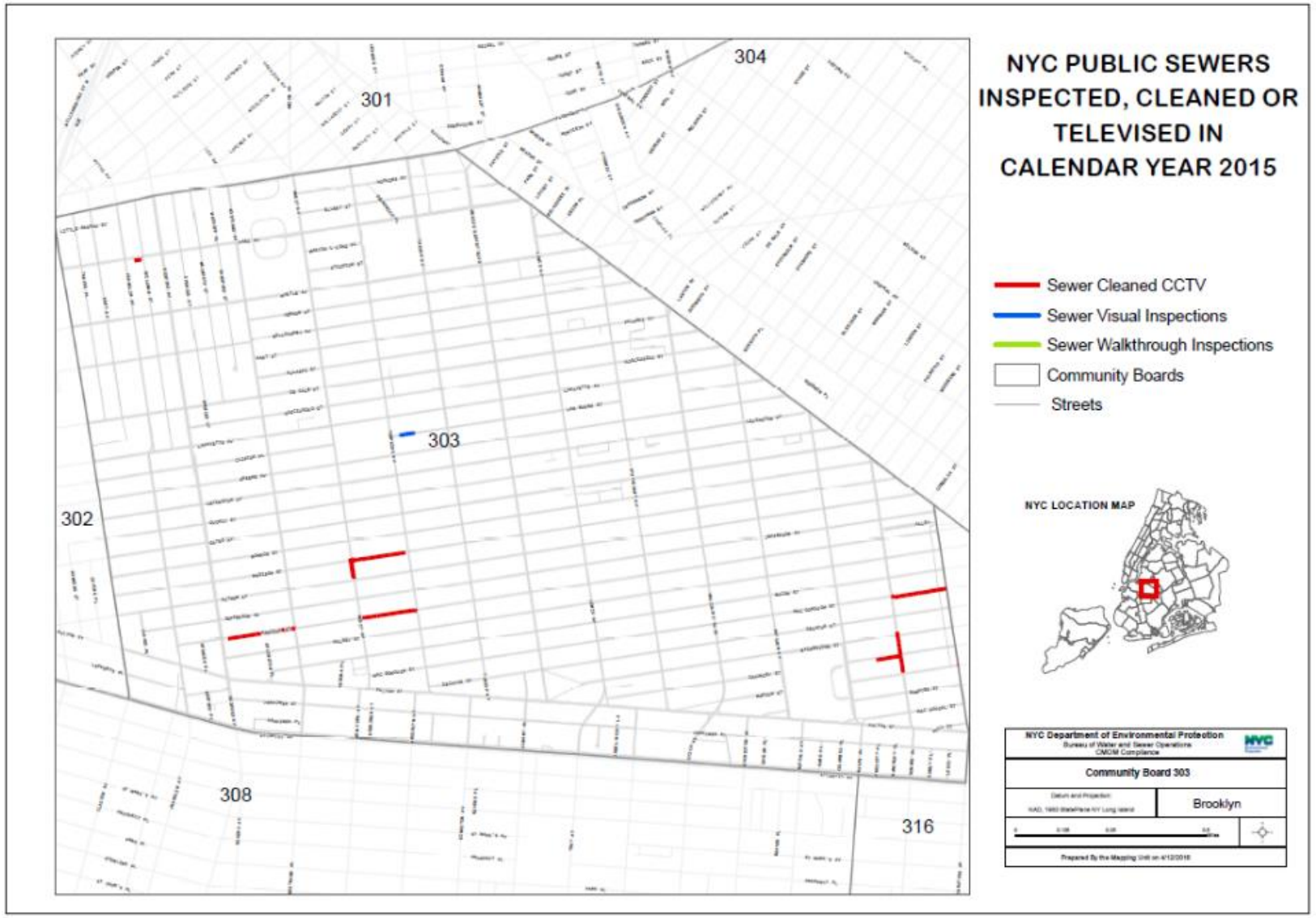
308
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 302
Brooklyn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Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 303
Brooklyn
Prepared By the Mapping Unit on 4/12/2016
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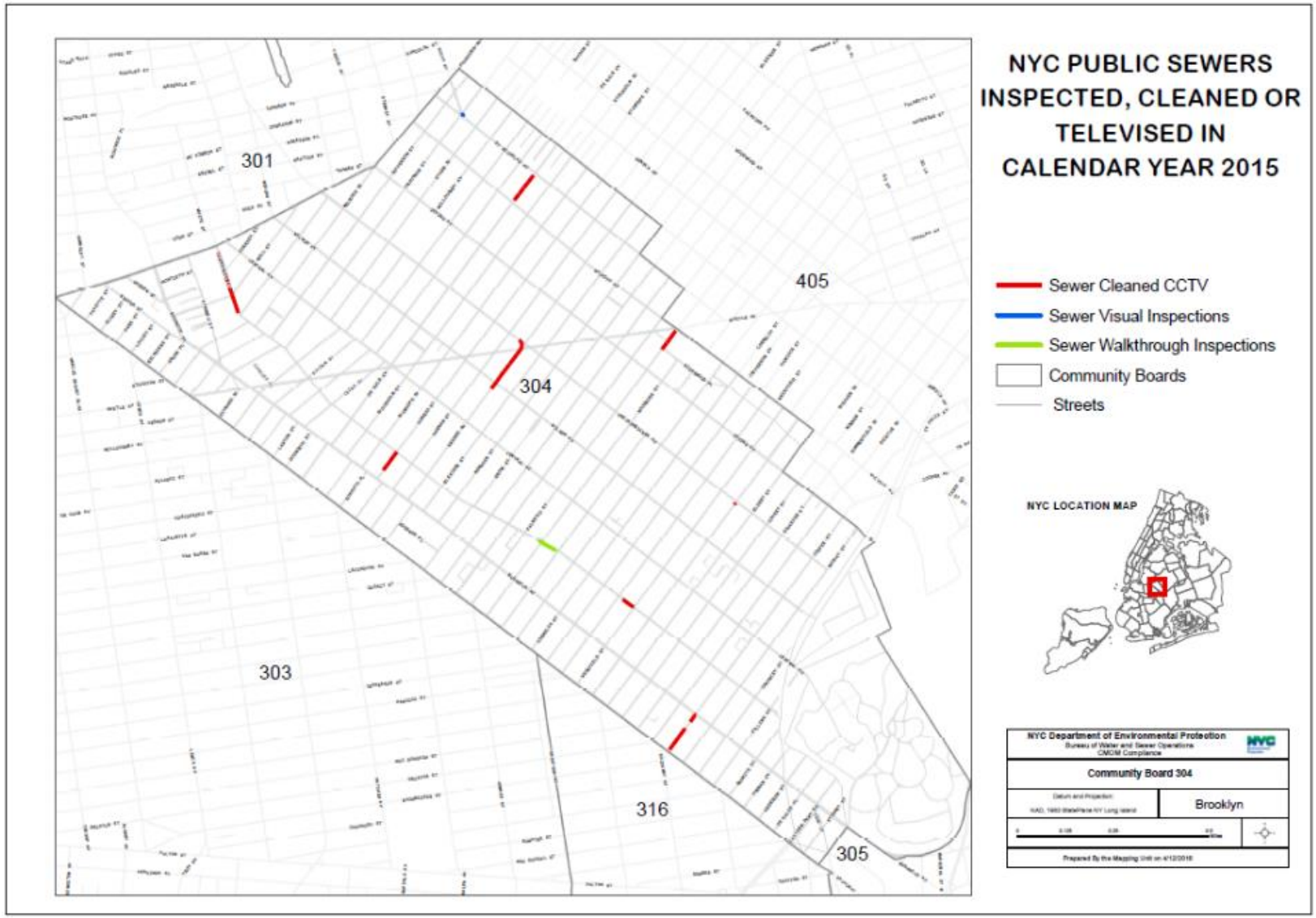
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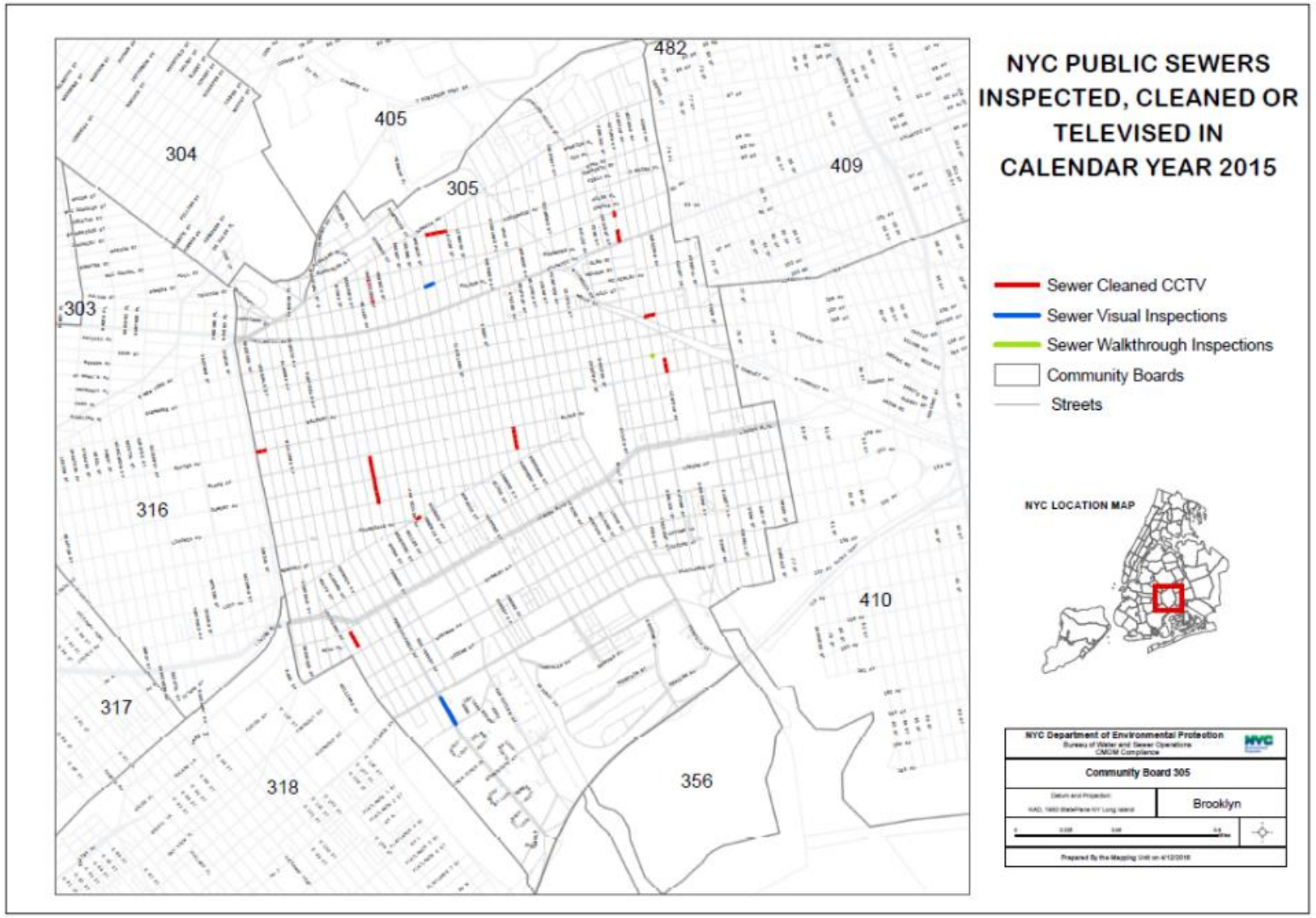
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Community Board 304
Brooklyn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Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 305
Brooklyn
482
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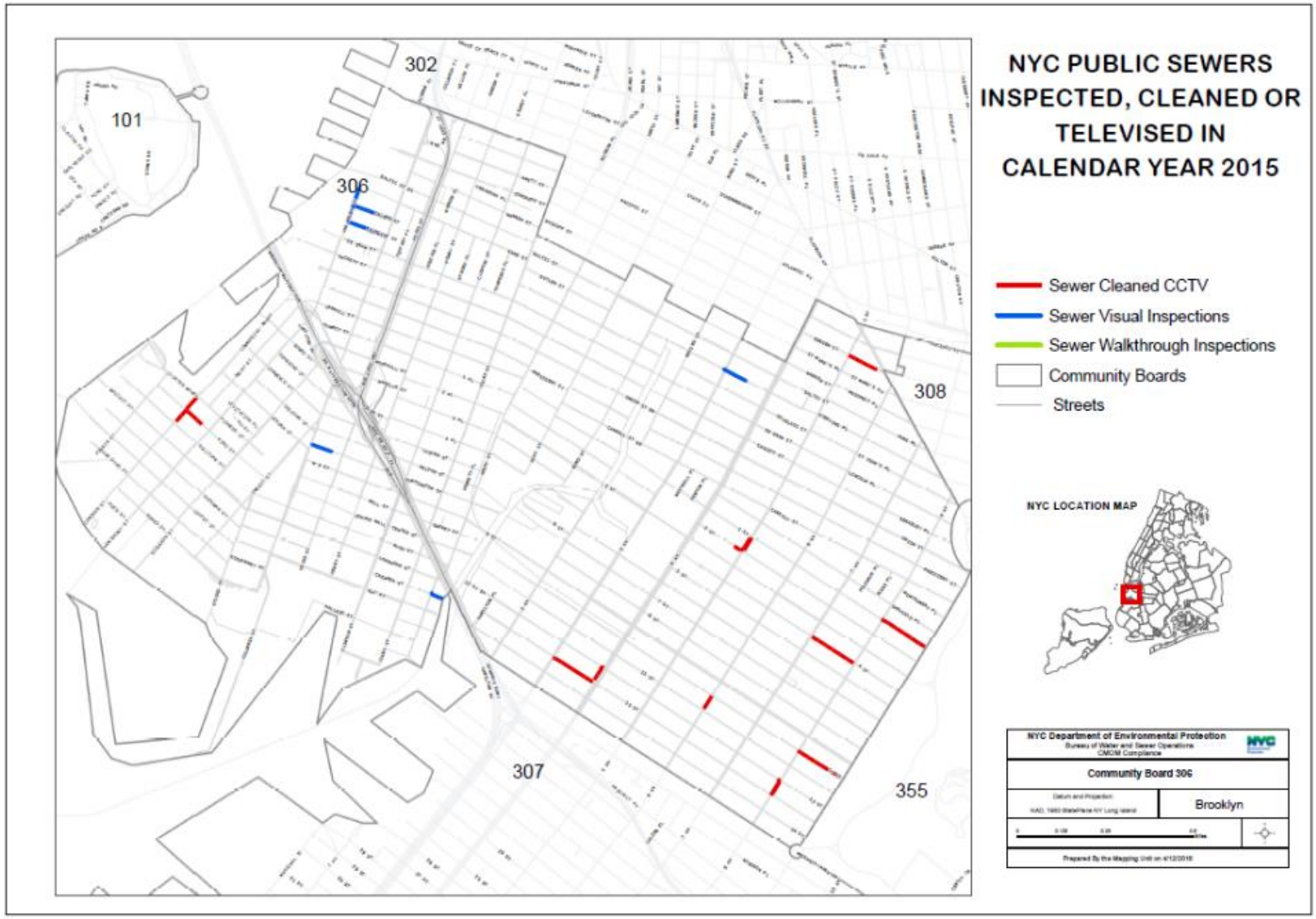
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Community Boards
Streets
NYC LOCATION MAP
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O&M Compliance
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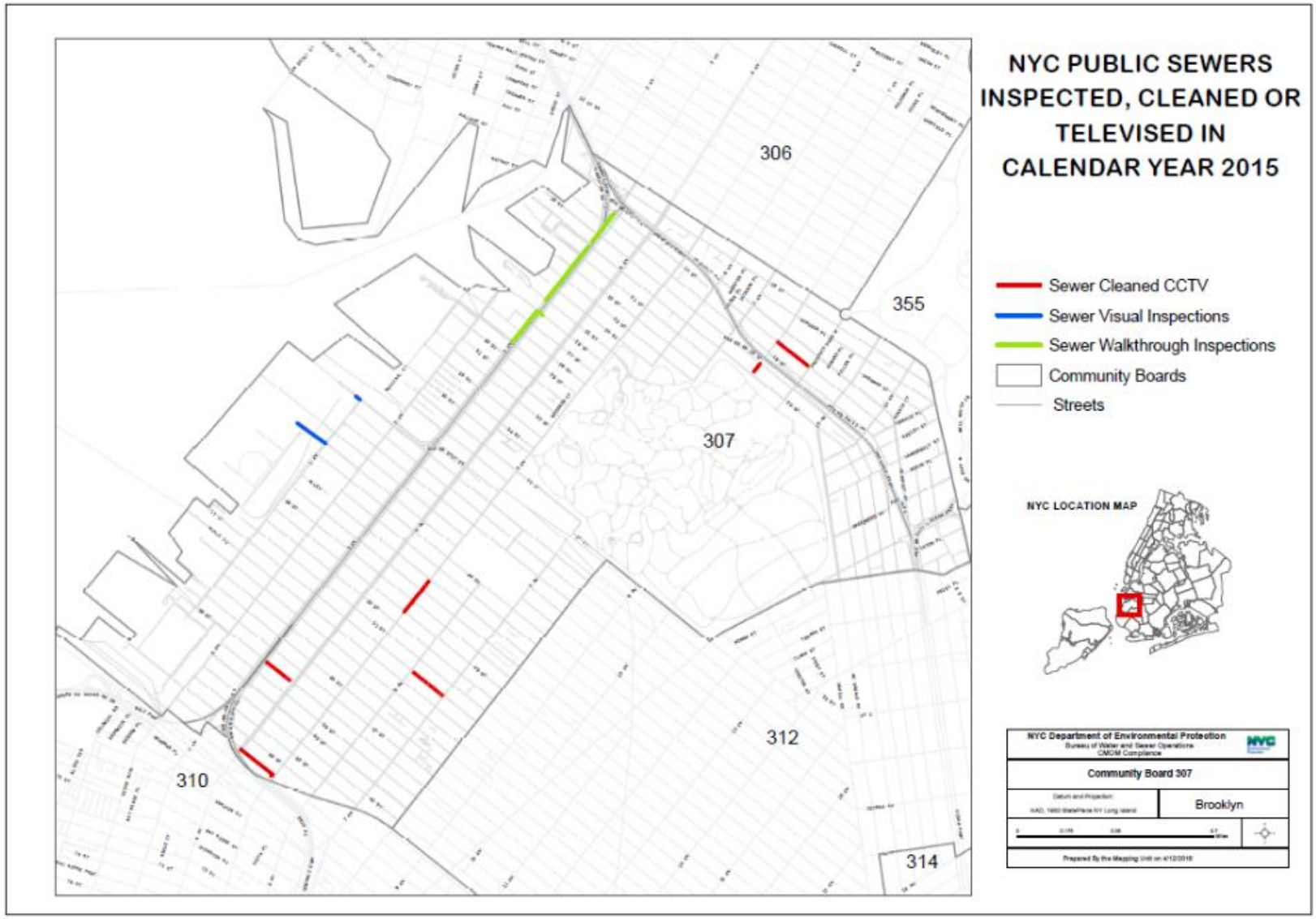
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Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 307
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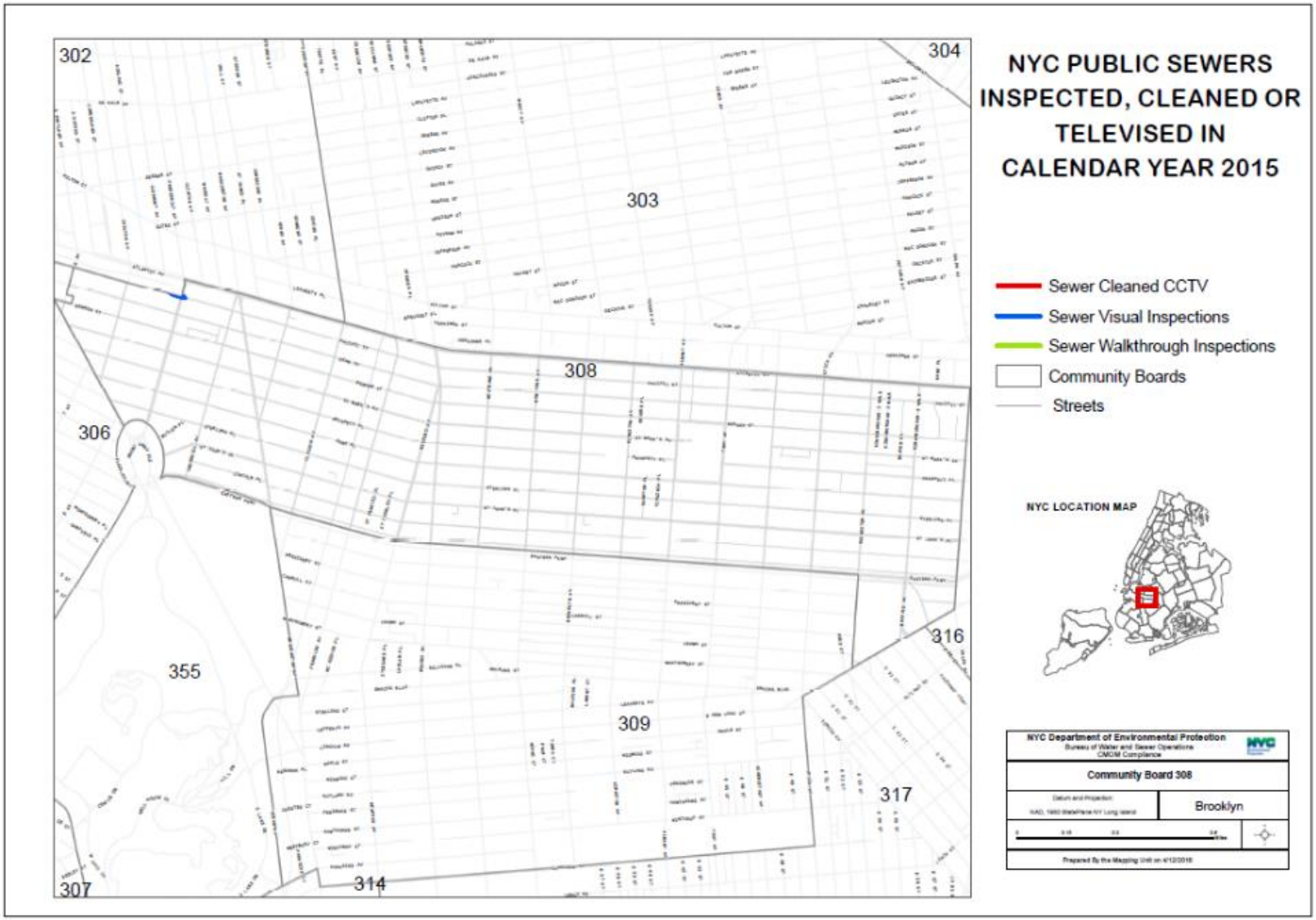
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Sewer Visual Inspections
Sewer Walkthrough Inspections
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Streets
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Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 308
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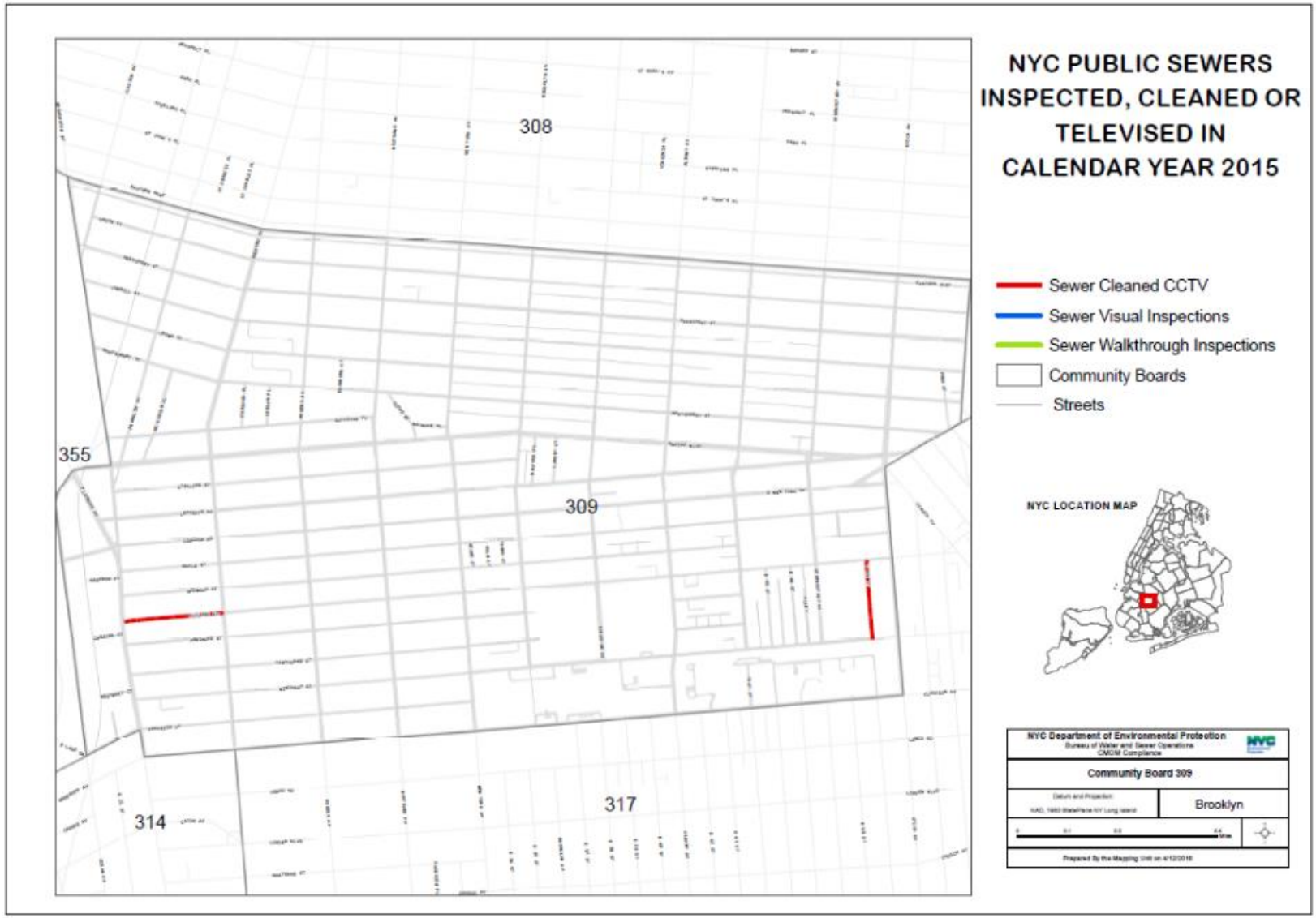
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Sewer Walkthrough Inspections
Community Boards
Streets
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Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 309
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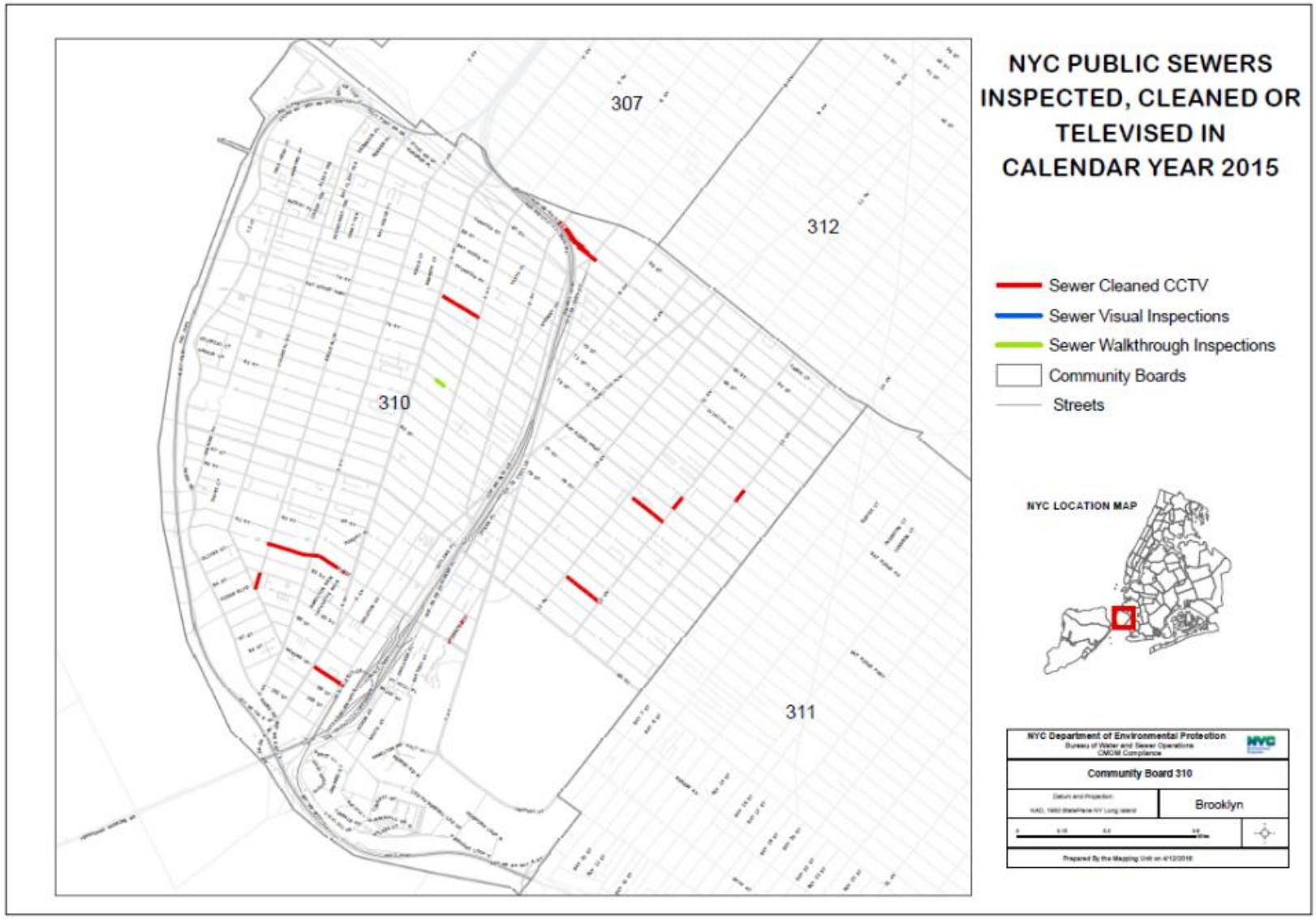
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Streets
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NYC Department of Environmental Protection
Community Board 310
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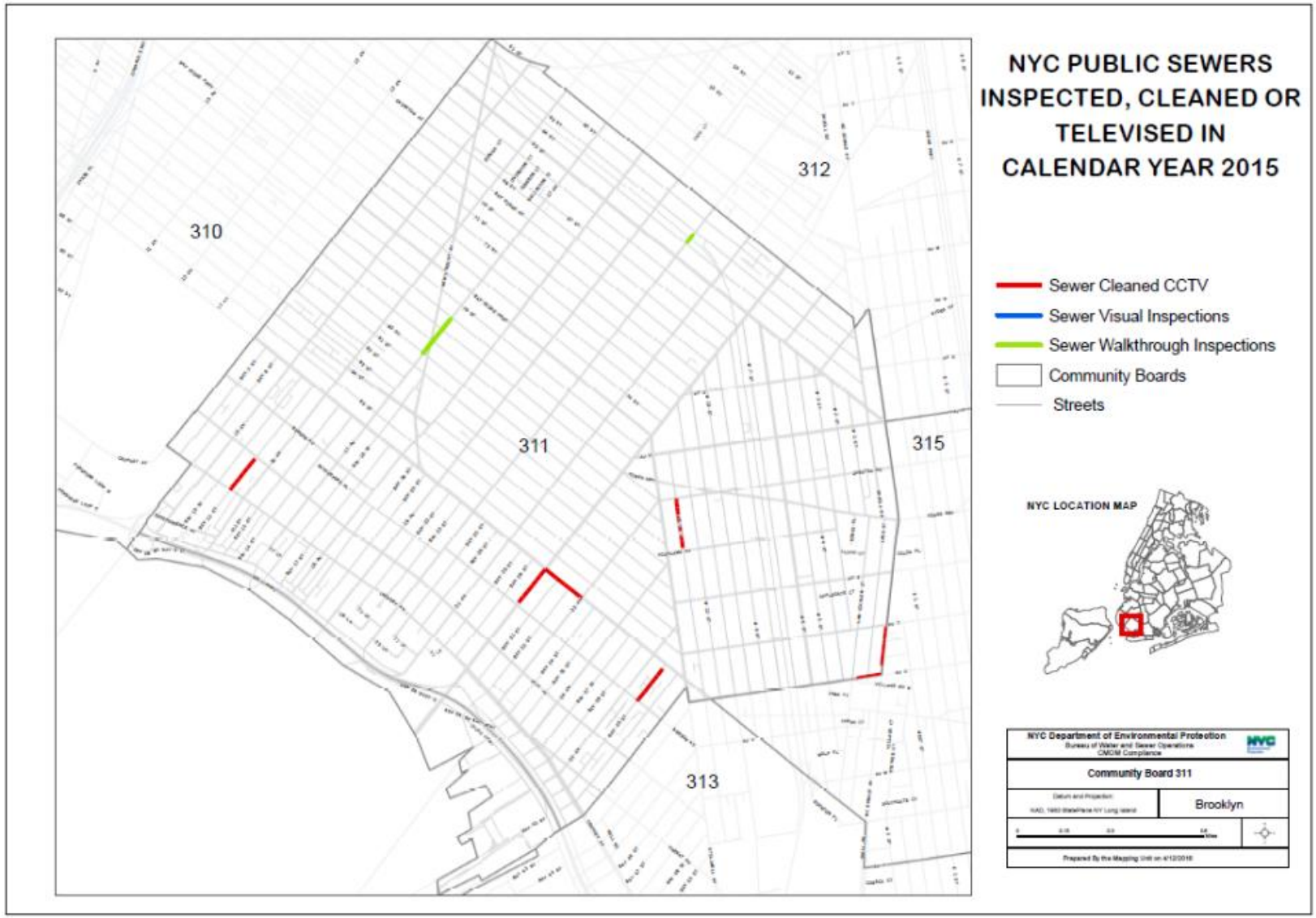
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Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 311
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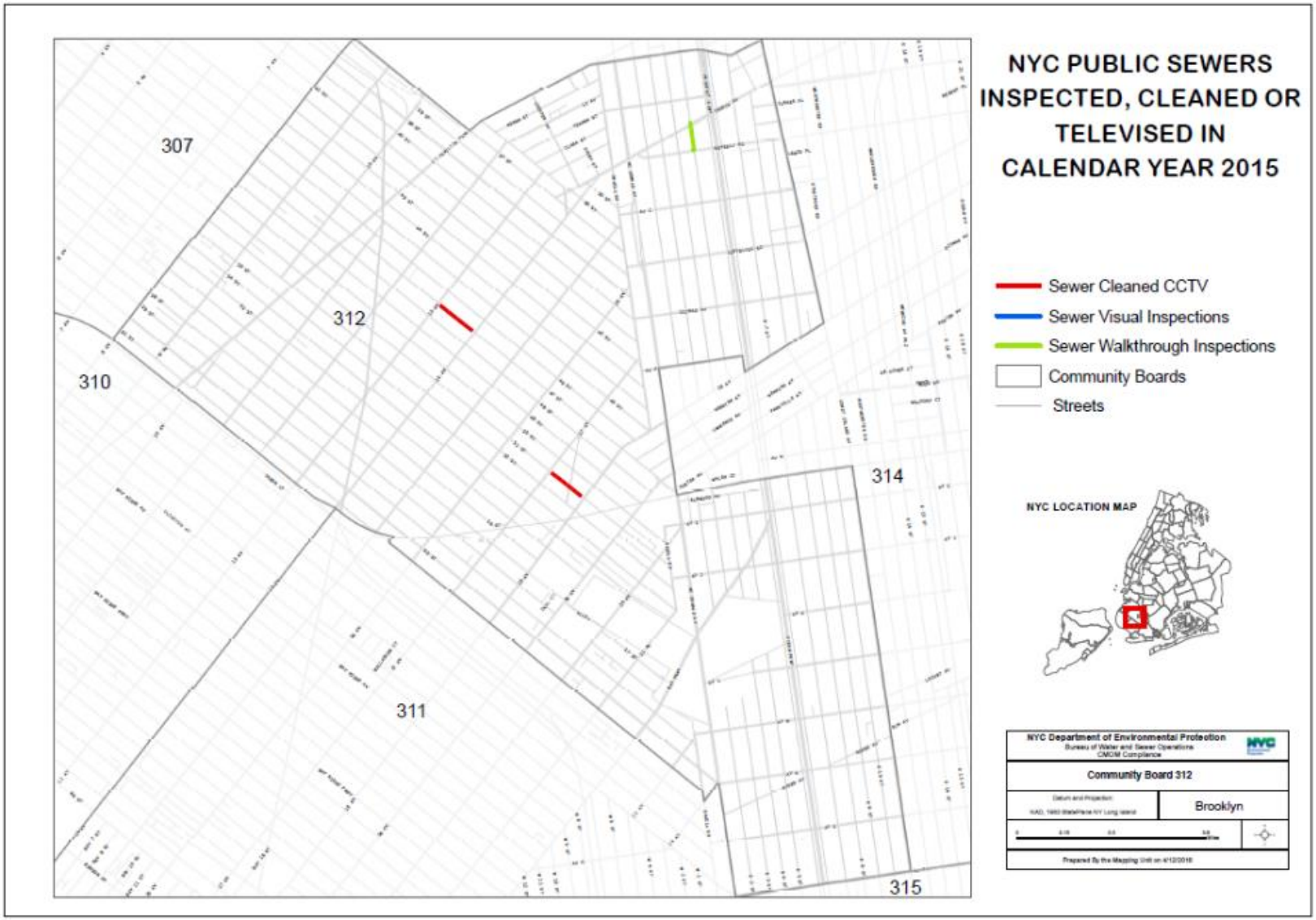
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Community Boards
Streets
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Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 312
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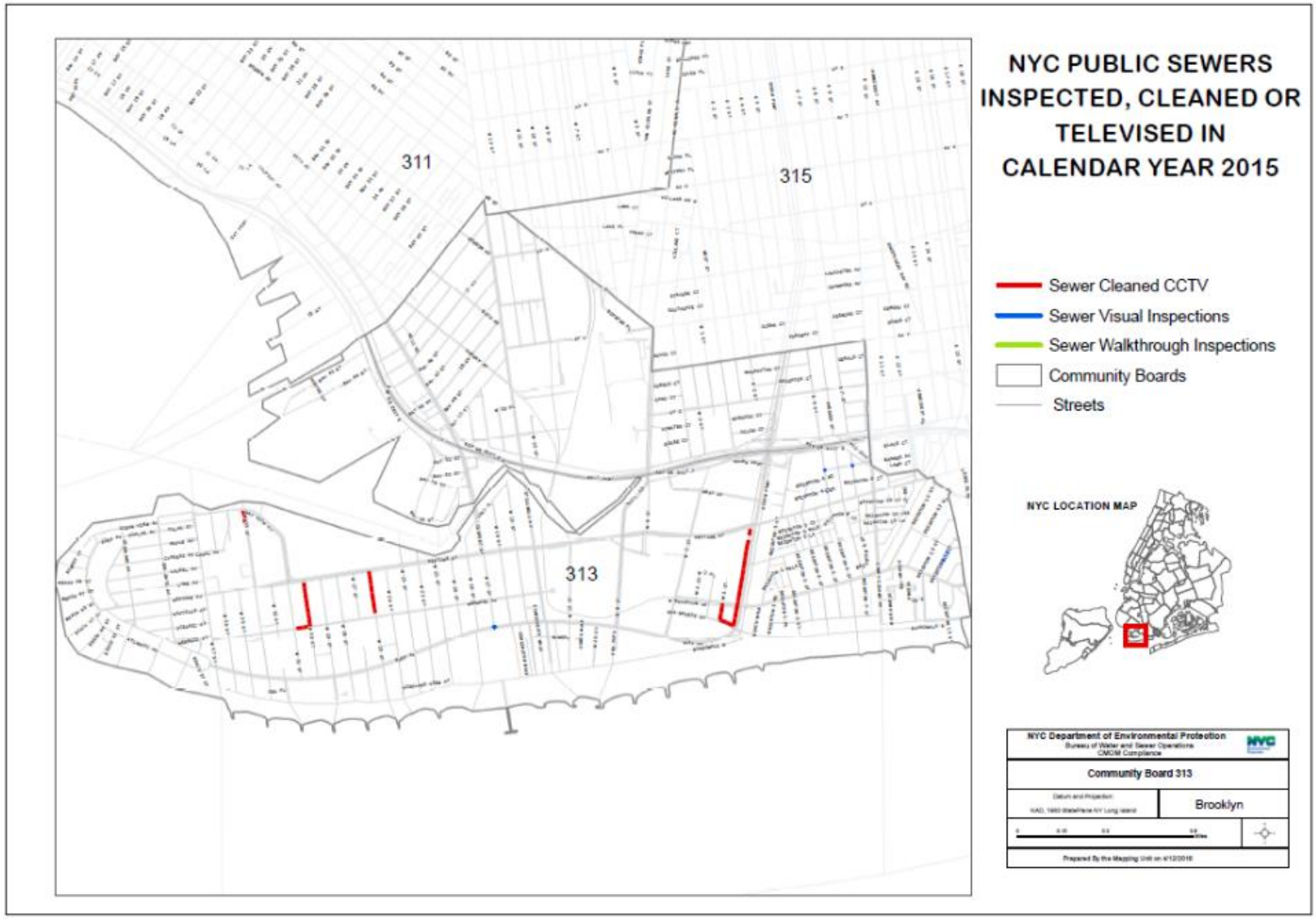
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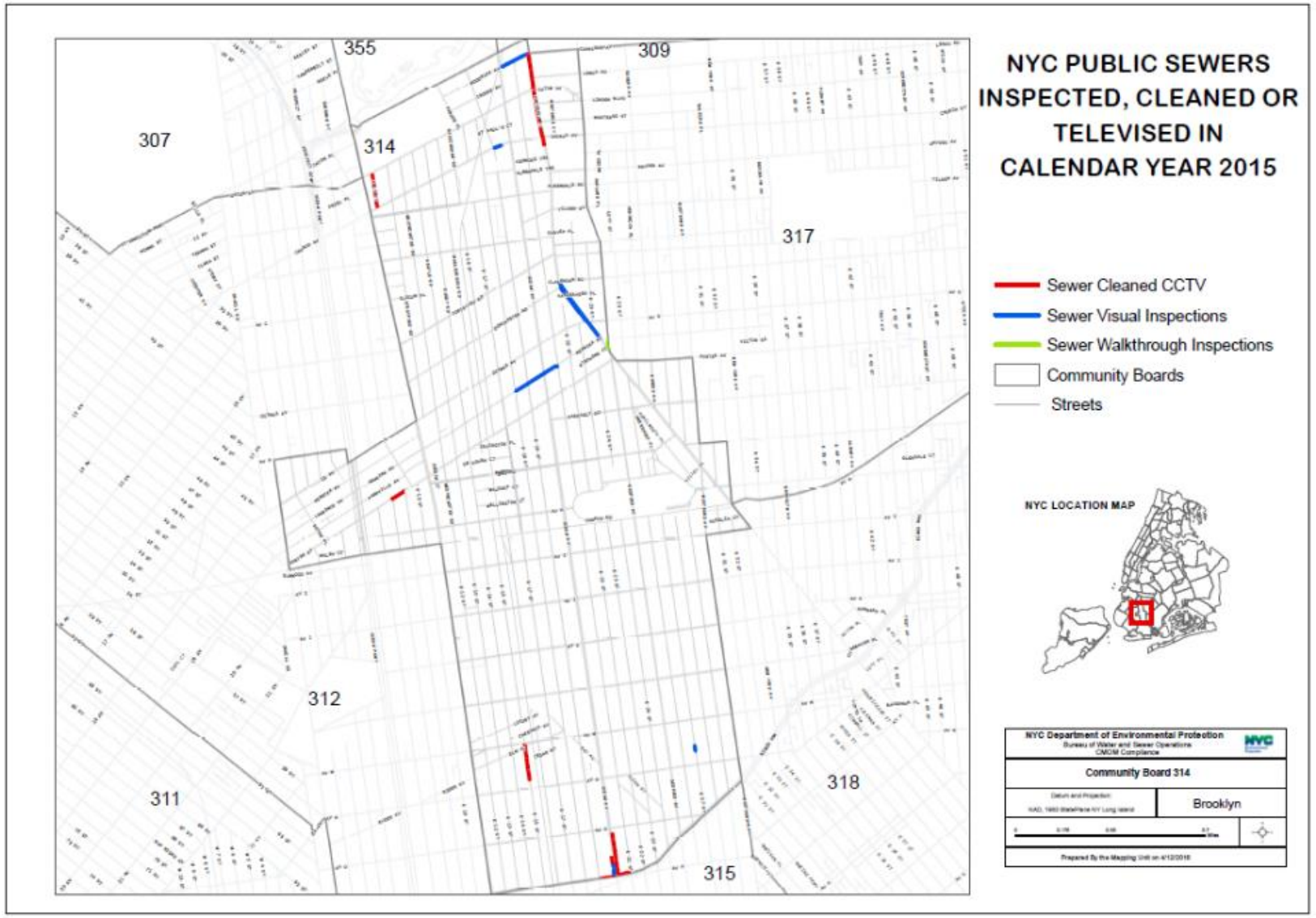
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 313
Brooklyn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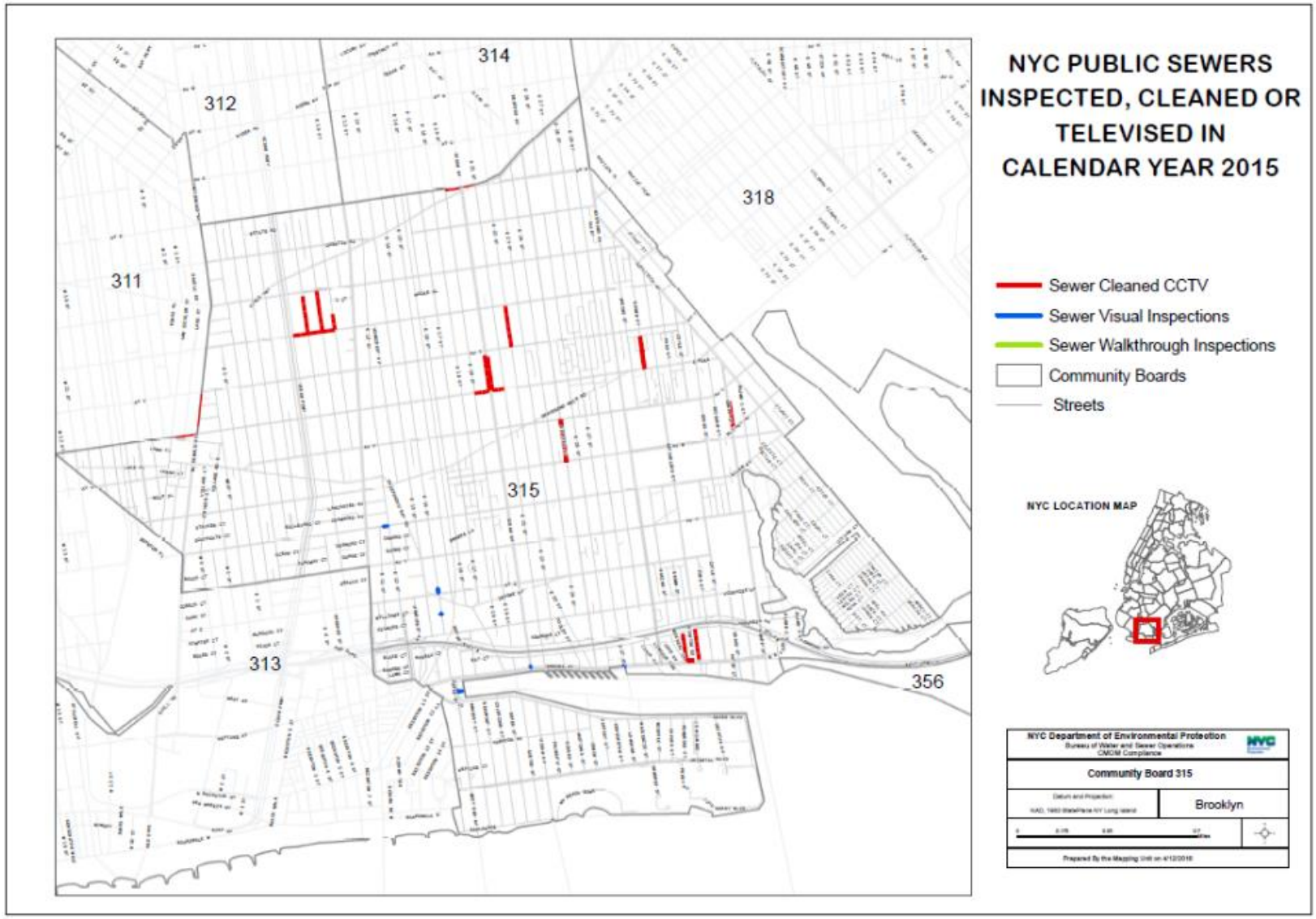
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 314
Brooklyn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Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 315
Brooklyn
Prepared By the Mapping Unit on 4/12/2016
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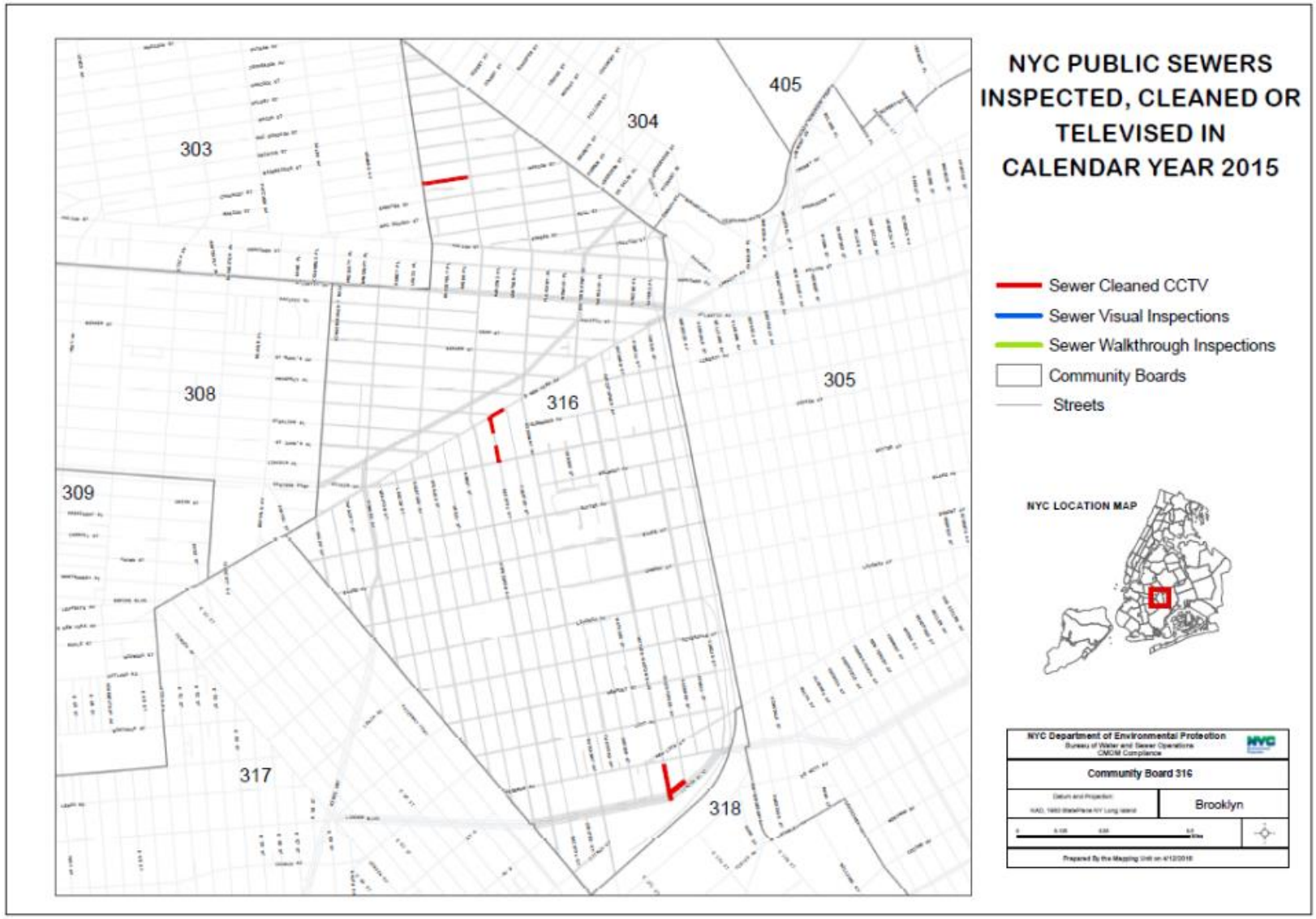
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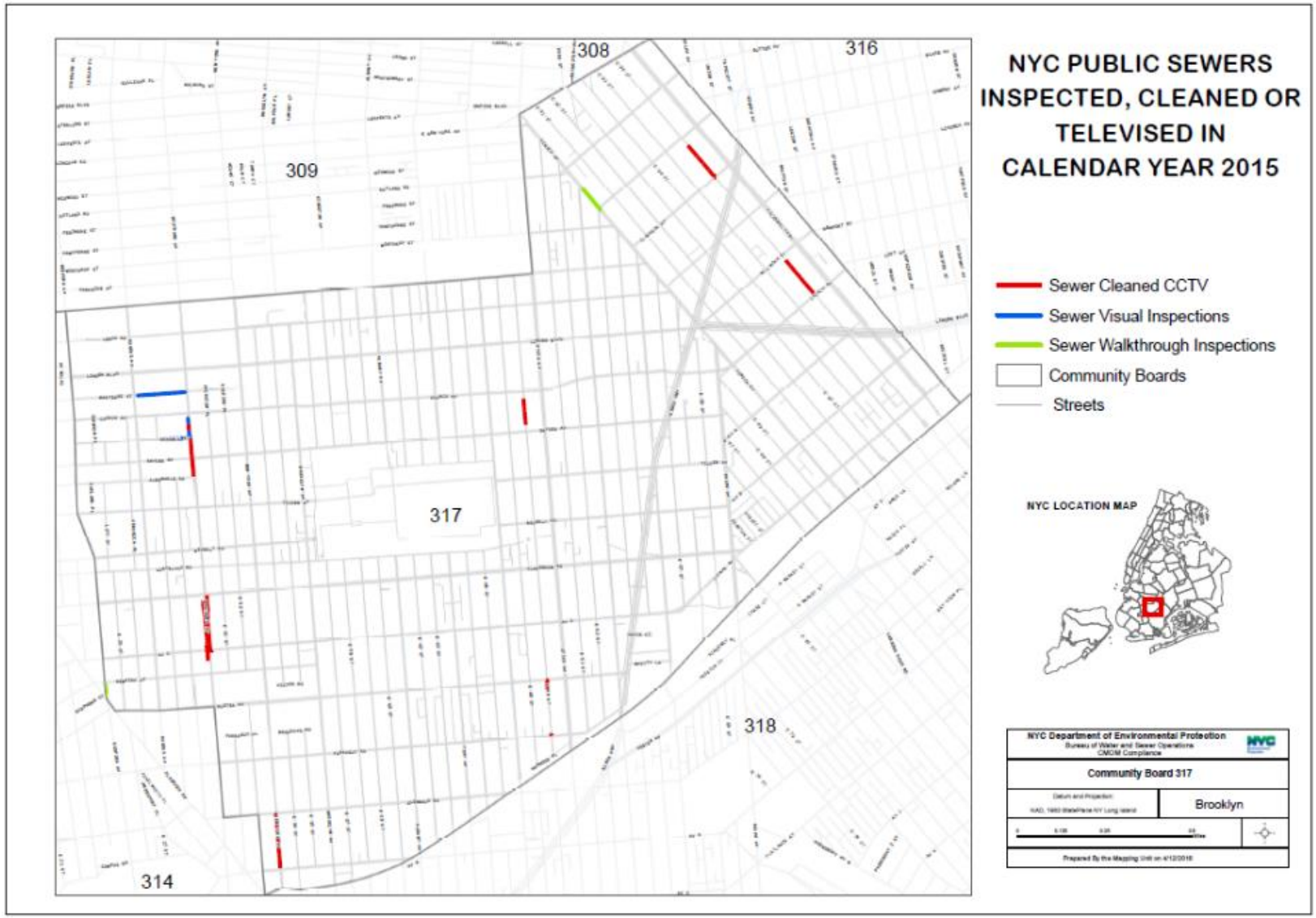
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Community Board 316
Brooklyn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Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 317
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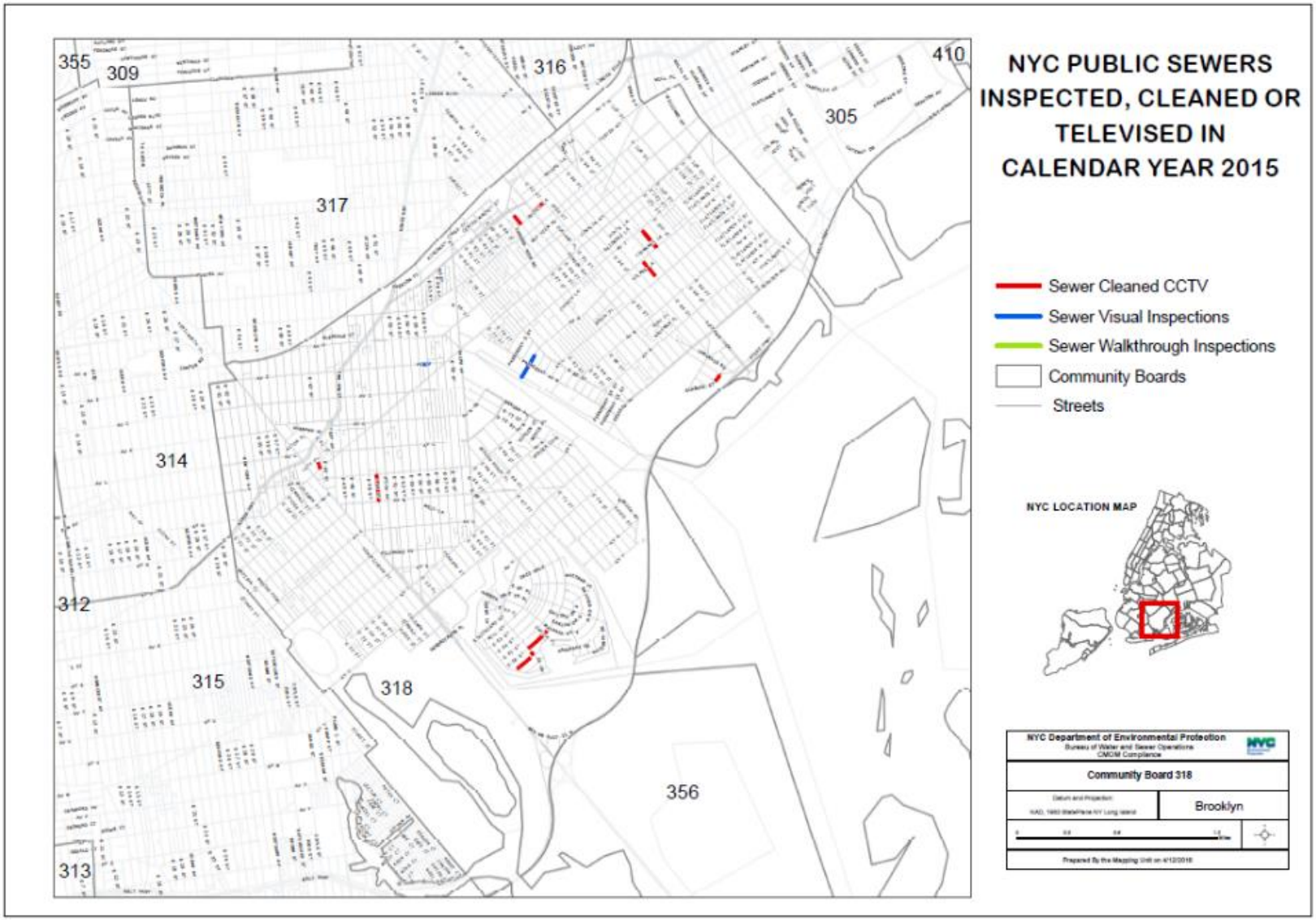
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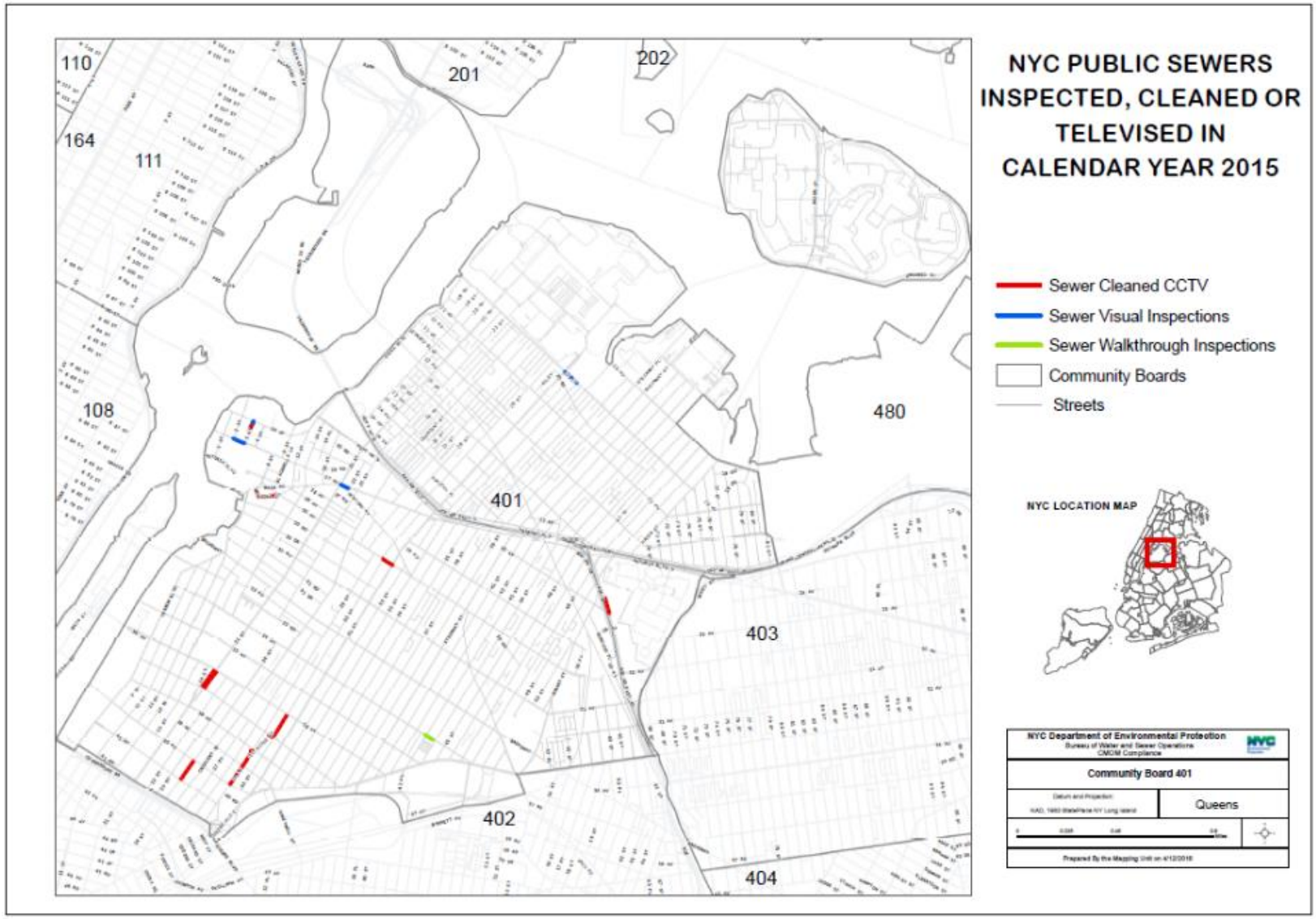
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 318
Brooklyn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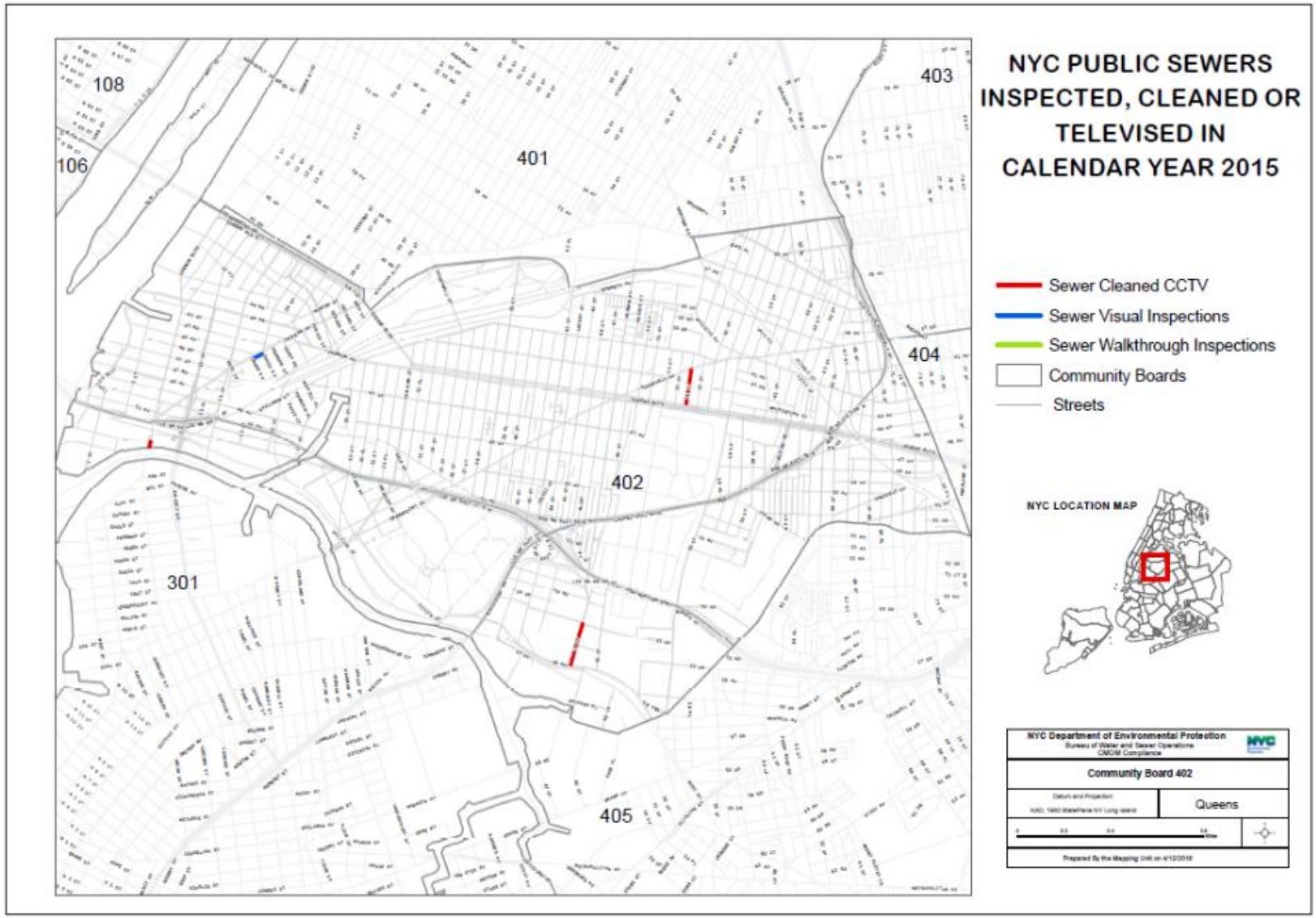
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 401
Queens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Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 402
Queens
108
106
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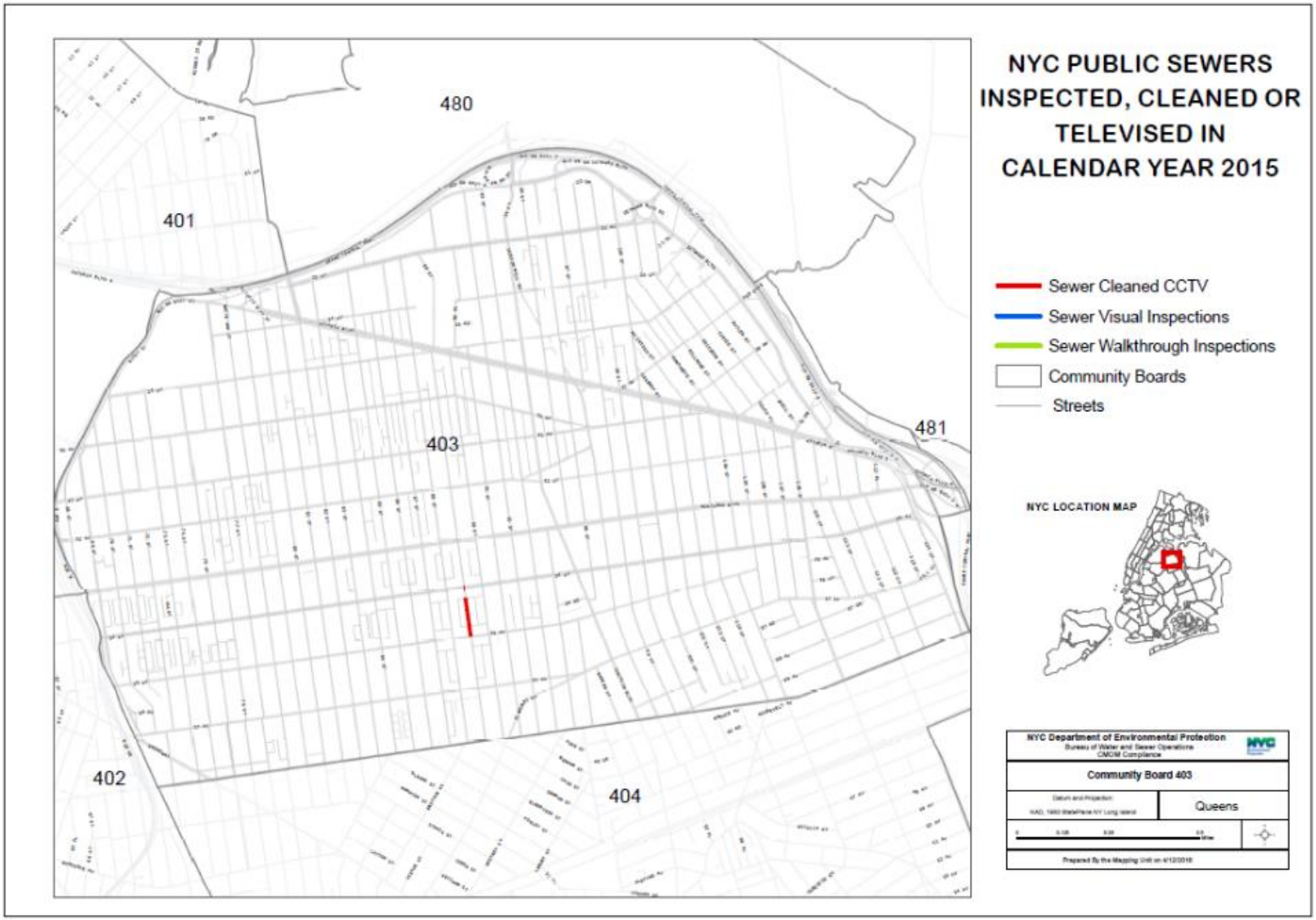
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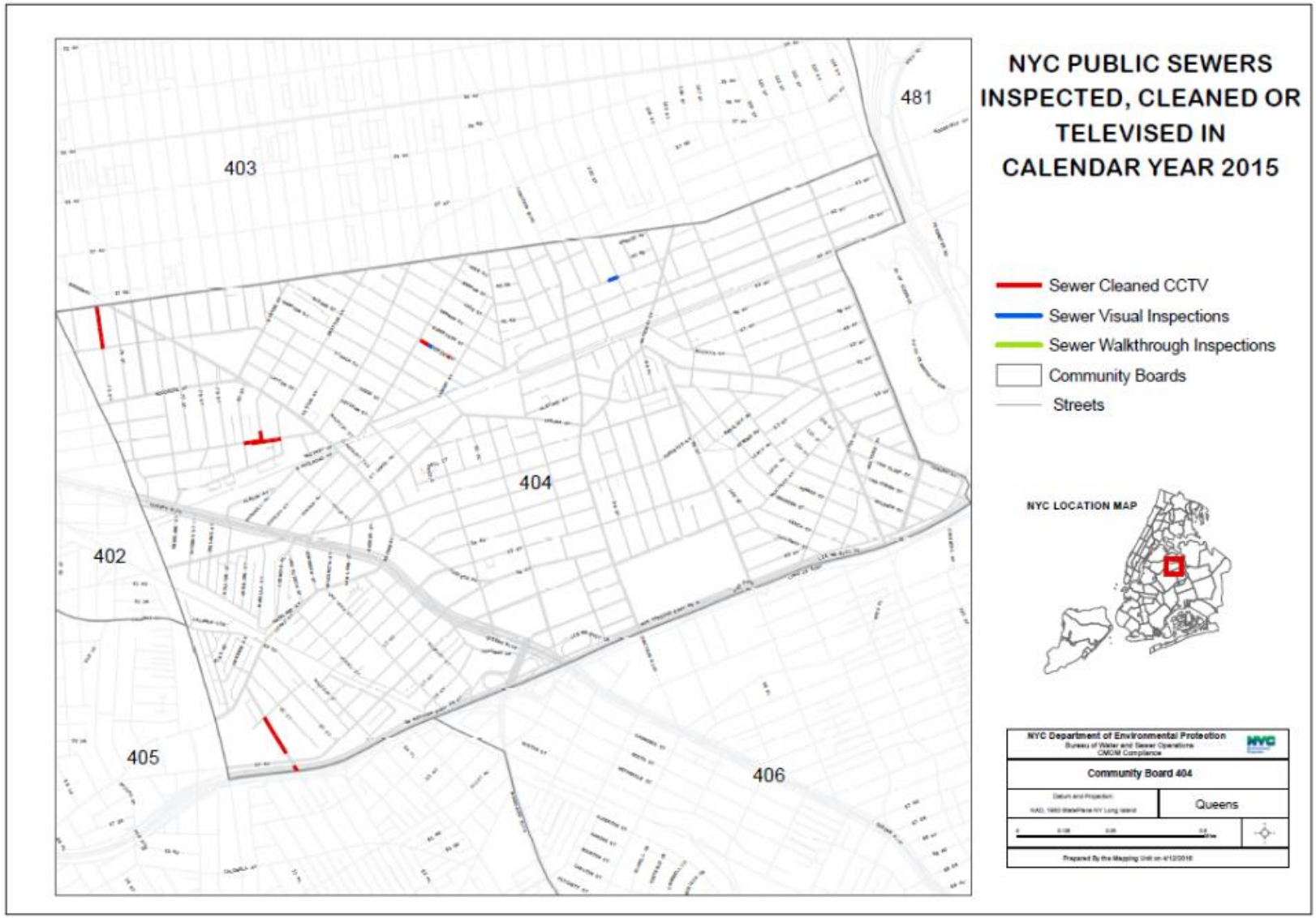
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Community Board 403
Queens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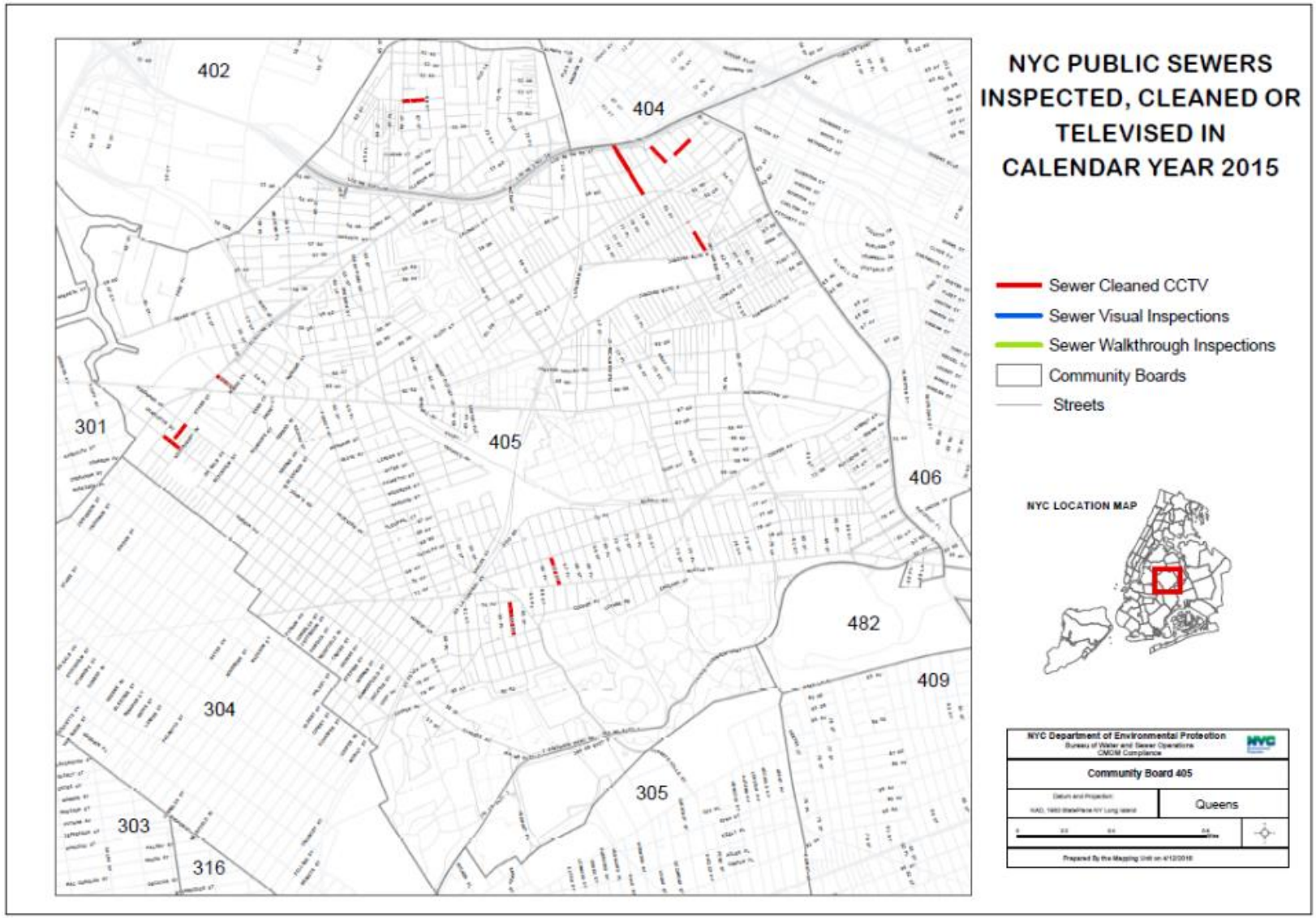
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
403
481
404
402
405
406
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 404
Queens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Streets
NYC LOCATION MAP
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NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 405
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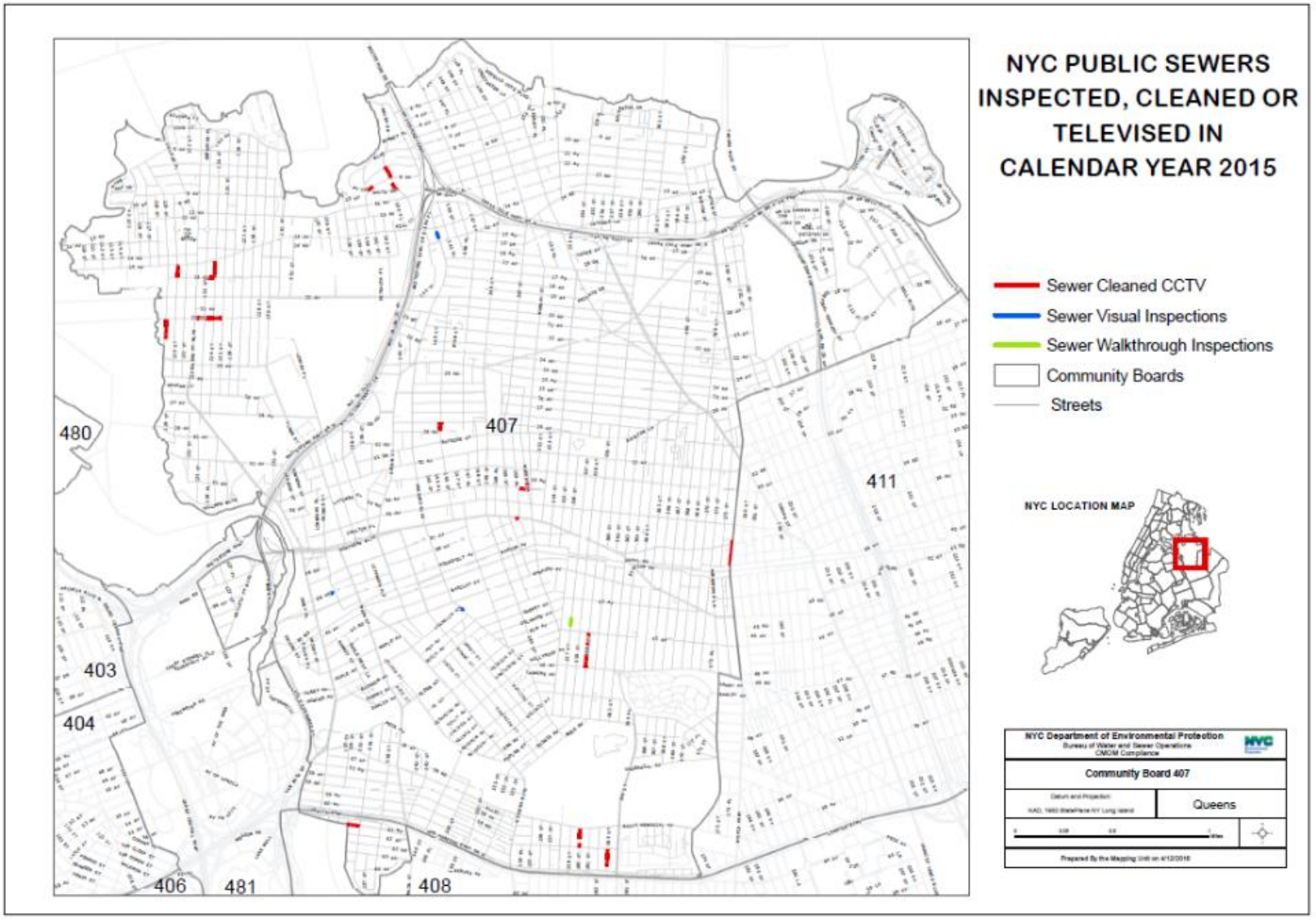
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Community Boards
Streets
NYC LOCATION MAP
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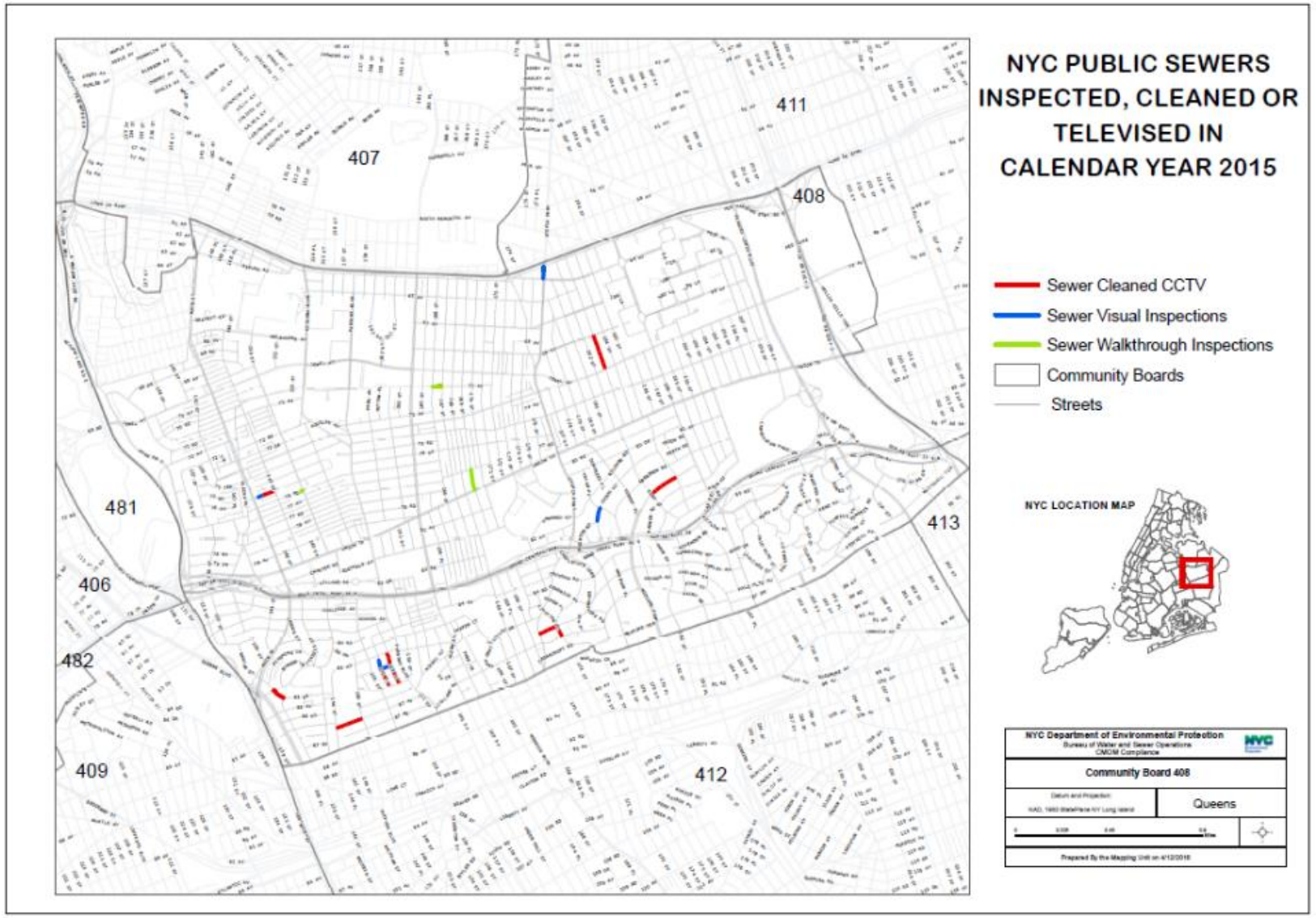
CMOM Compliance
Community Board 407
Queens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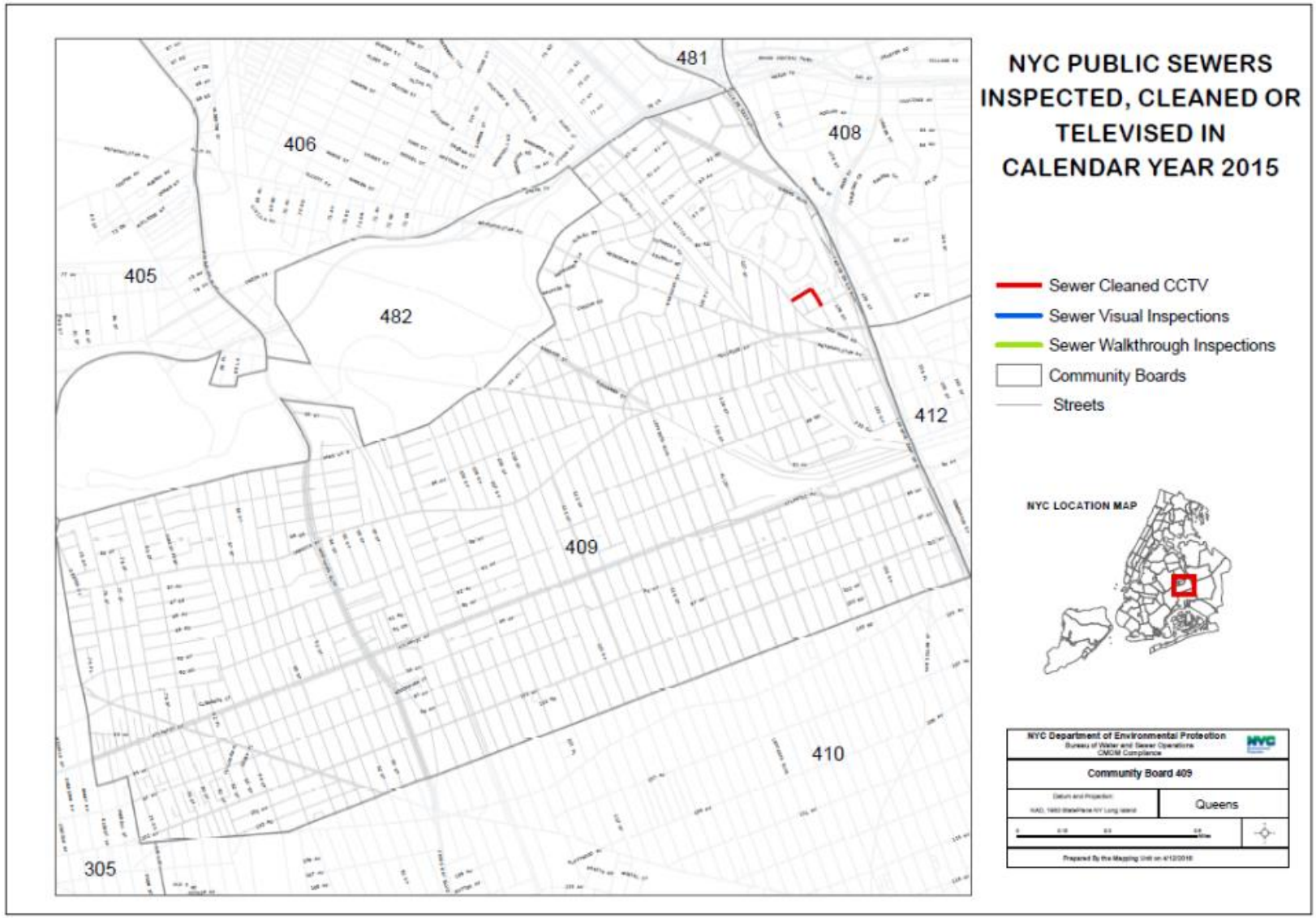
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Streets
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NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 409
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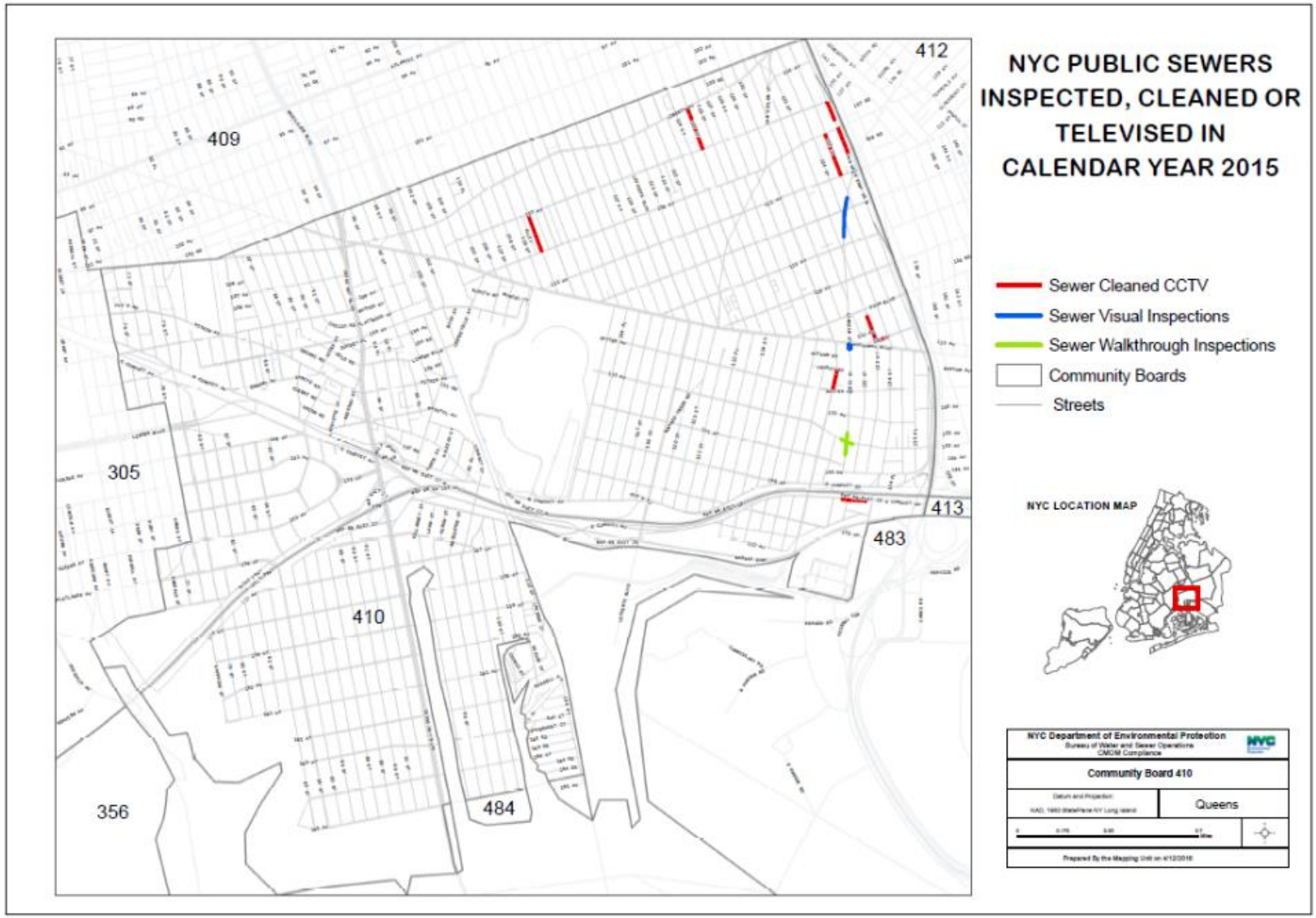
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Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 410
Queens
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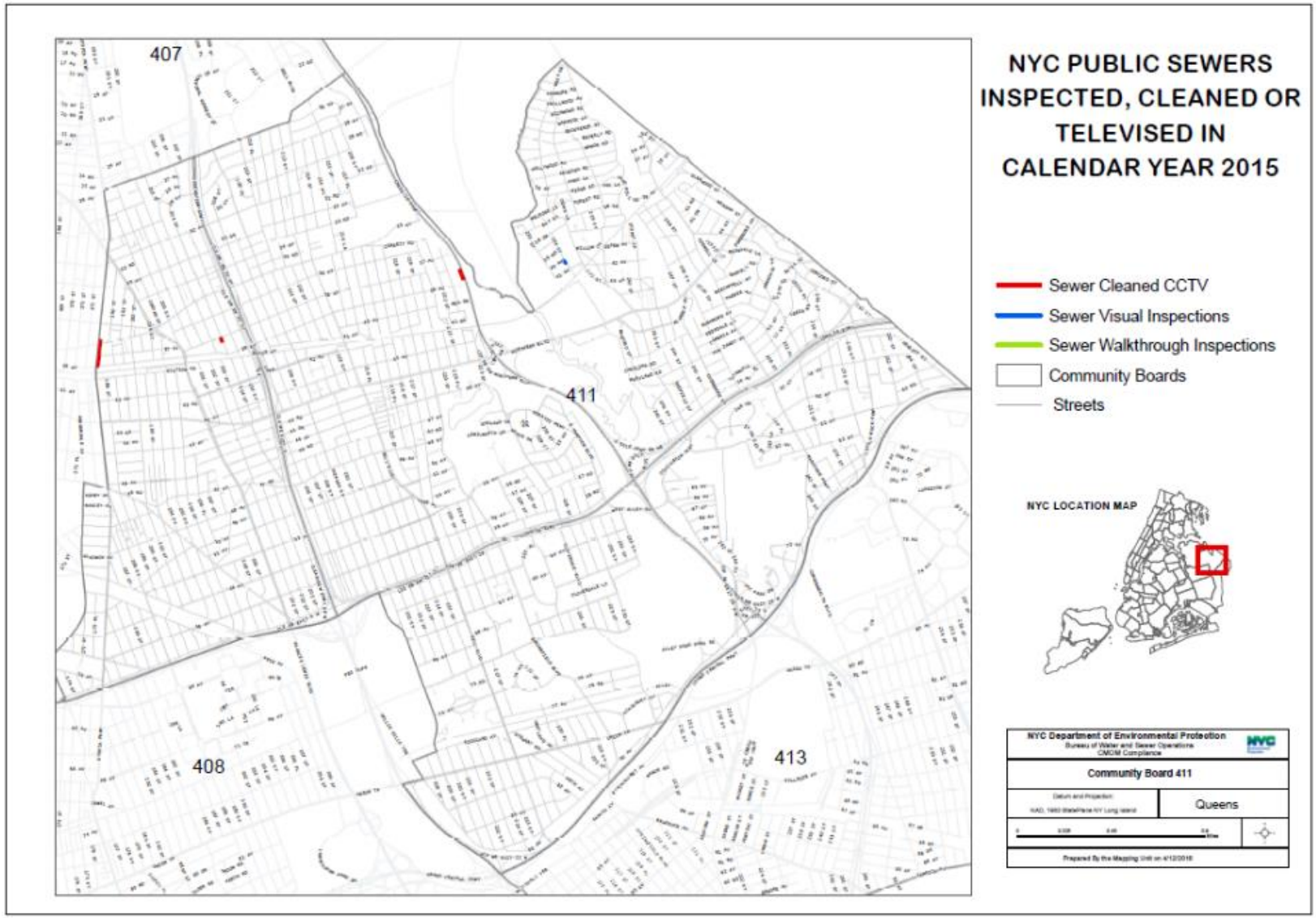
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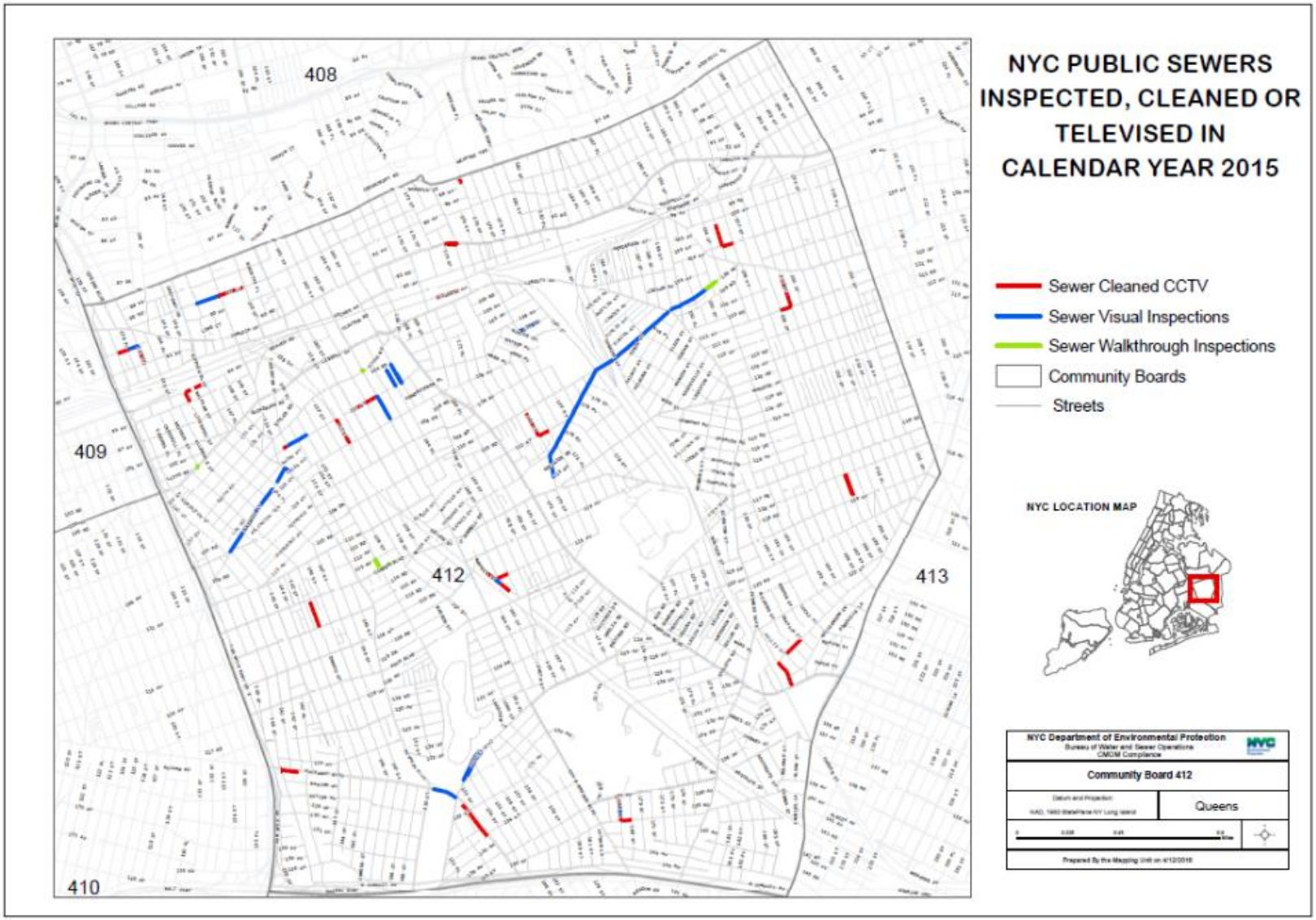
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 411
Queens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Community Boards
Streets
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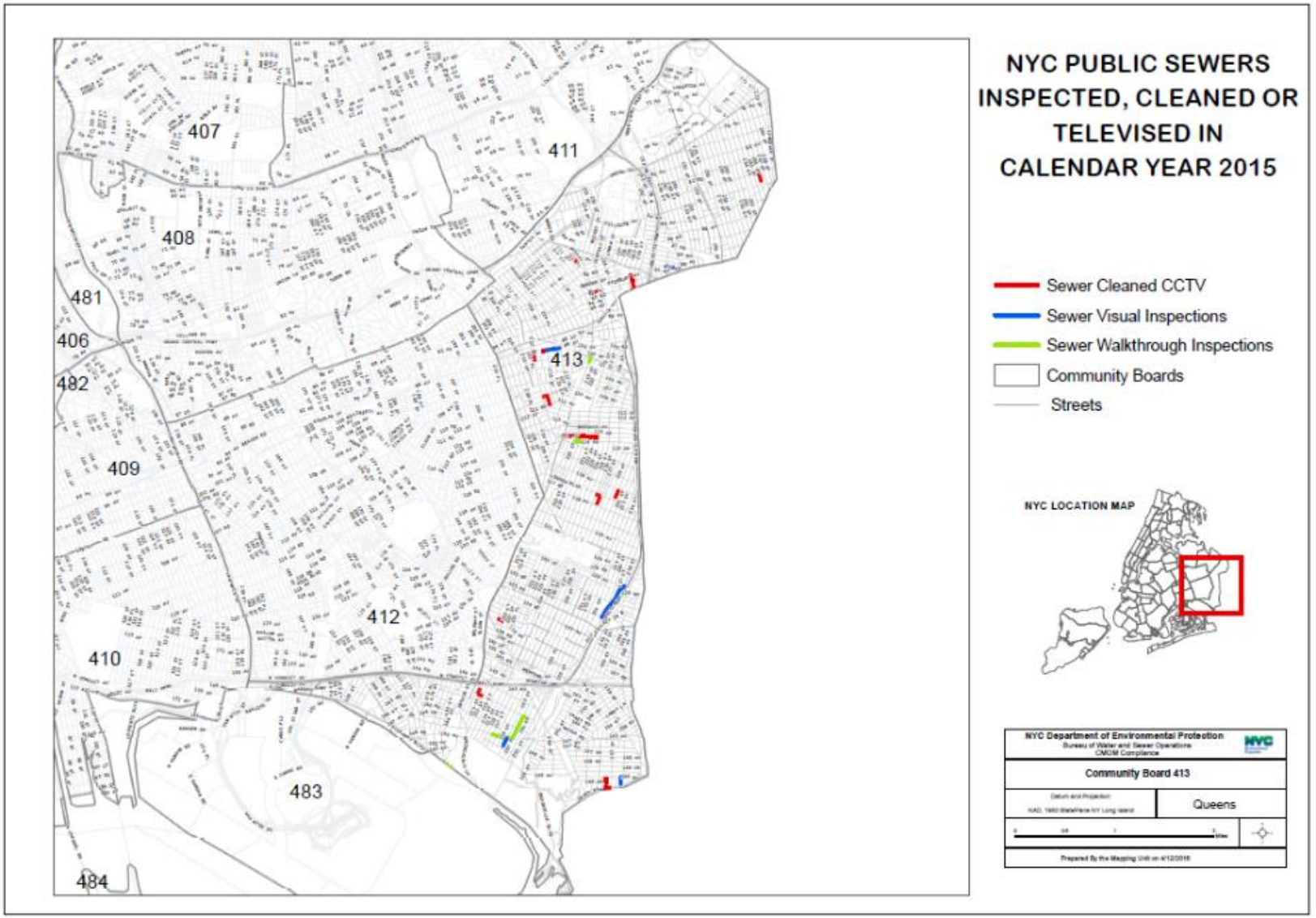
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 412
Queens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Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 413
Queens
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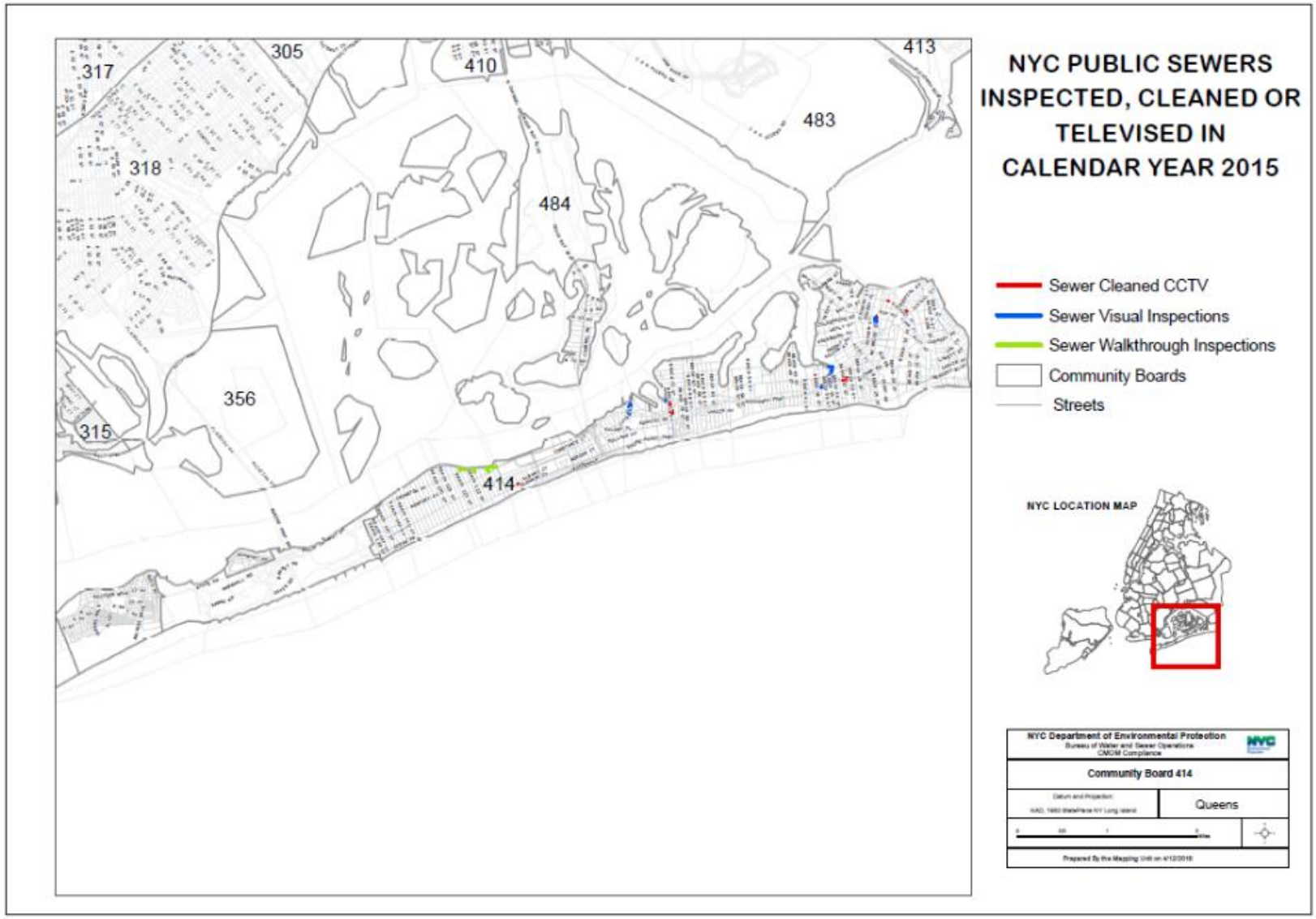
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Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
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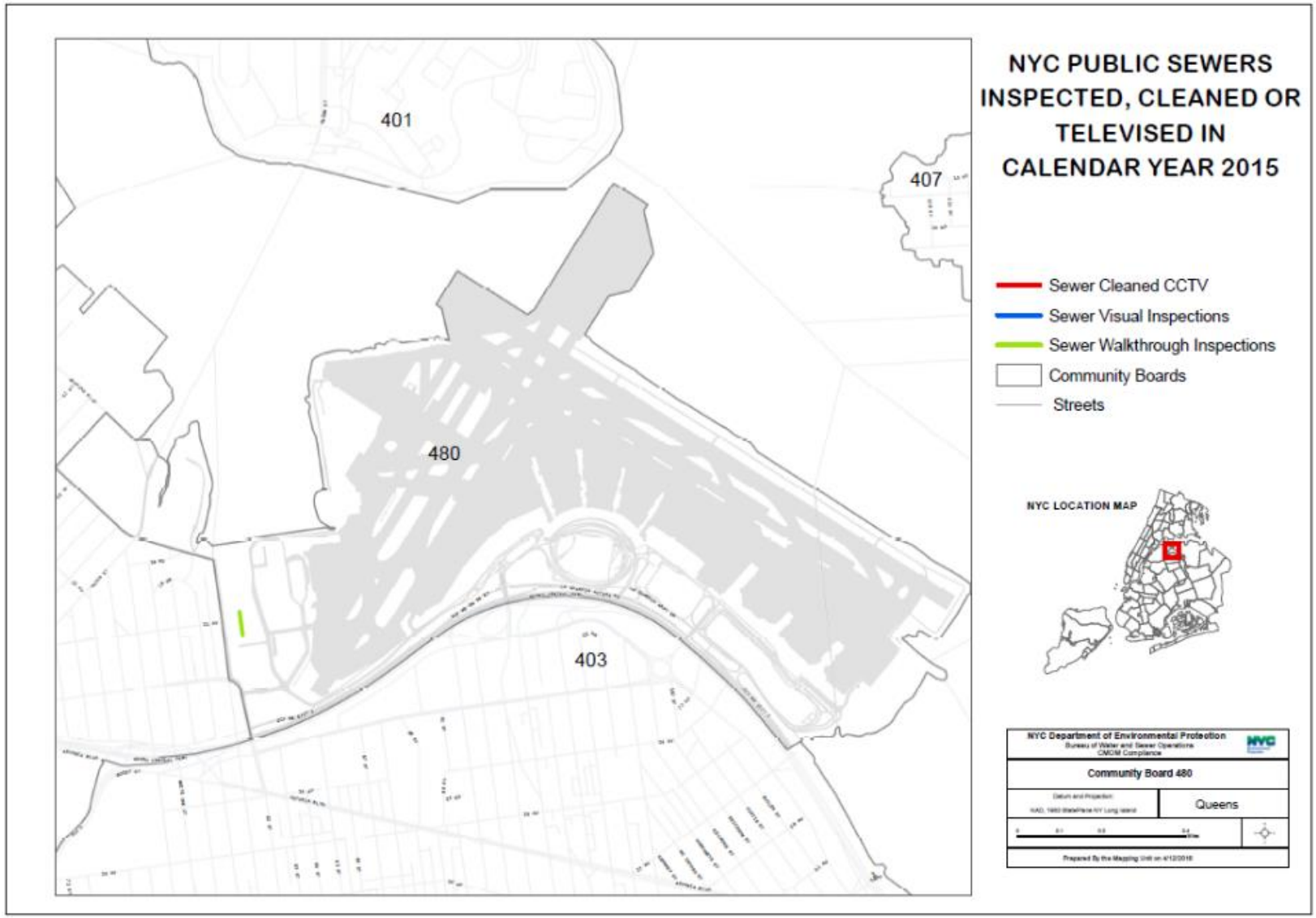
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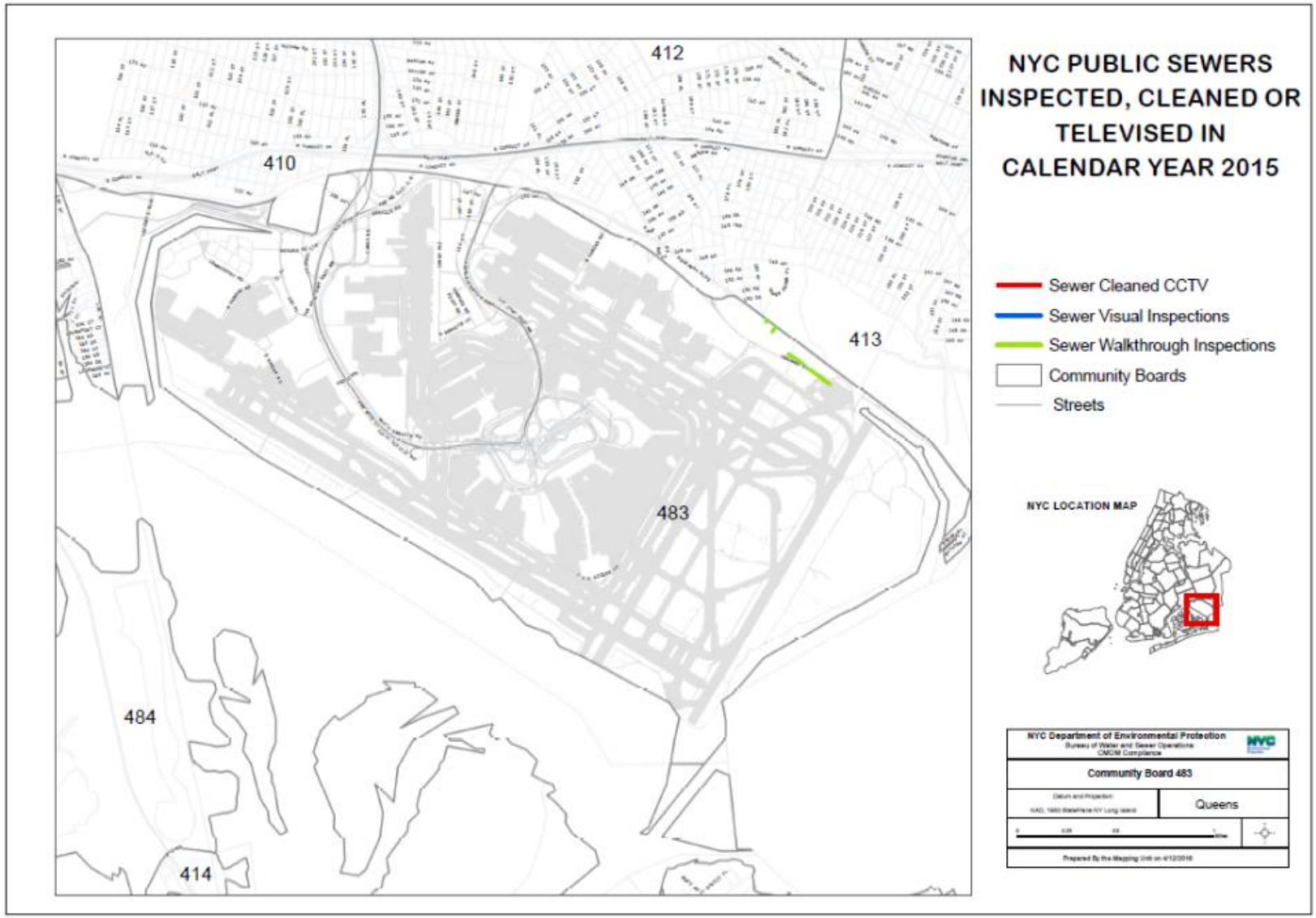
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 480
Queens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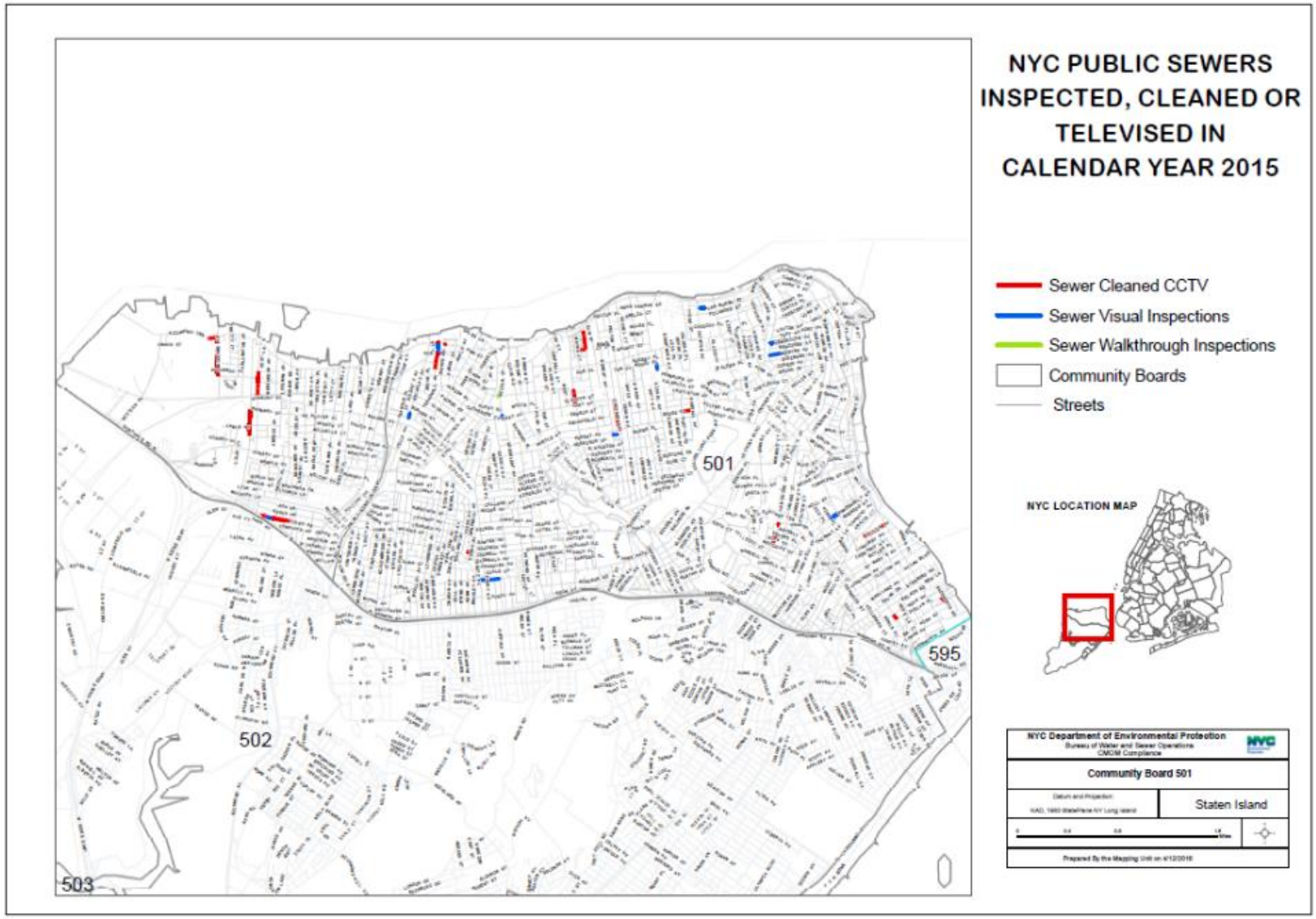
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 483
Queens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Streets
NYC LOCATION MAP
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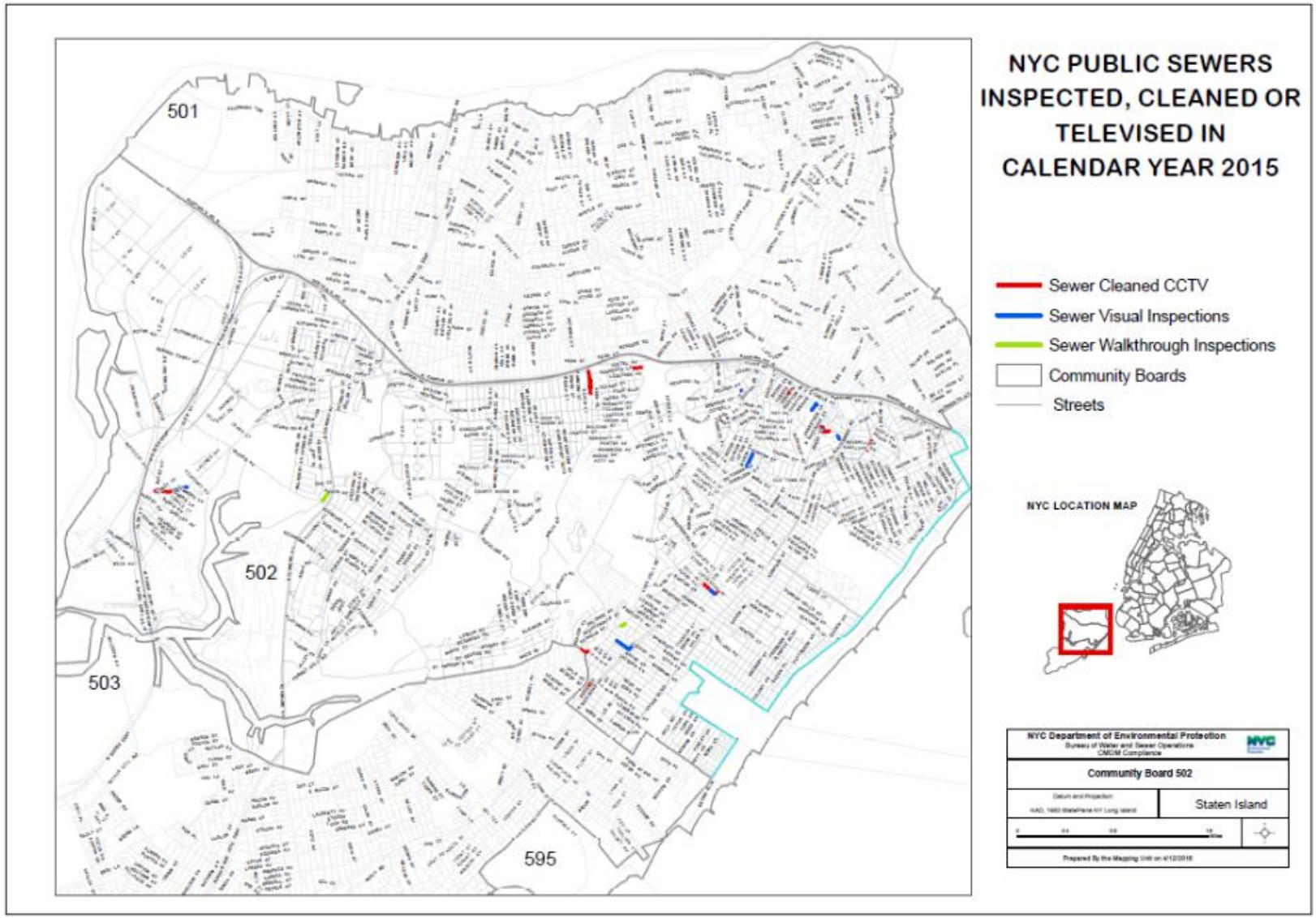
Community Board 501
Staten Island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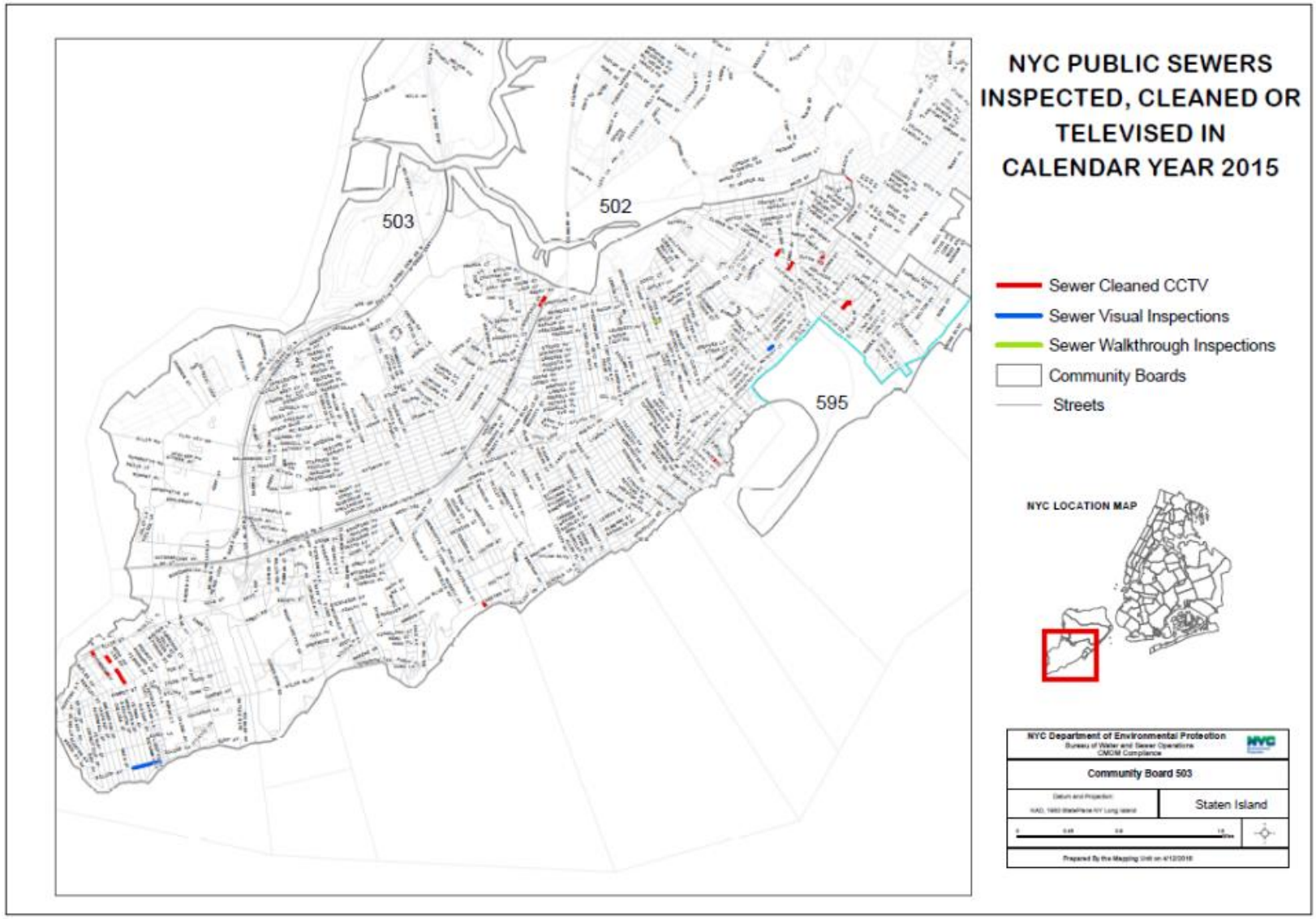
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 502
Staten Island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Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 503
Staten Island

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER AND SEWER OPERATIONS
CMOM SECTION

Inspected Locations

2015

In-House Survey

Brooklyn

N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF) Cleaned	Surveyed	Walked
1	06-332	Sterling Pl (279)	RB		12/11/2015	3/10/2016			
2	11-075	Glenwood Rd and E 24 St	RB		9/18/2012	3/9/2015			
3	11-154	Jefferson Av (195) affected by Jefferson (193) bt Nostrand Av and	IS		1/8/2015	1/8/2015			
4	11-370B	Coney Island High Chloride Investigation	MS		11/2/2015	11/2/2015		1,046	
5	12-082	Van Sicklen St (228) bt Av T and Av U	IS		1/2/2013	3/25/2015			
6	12-344	E 17 St (629) bt Newkirk Av and Foster Av	NG		10/1/2015	10/1/2015			200
7	13-004	Flatlands Av (101-13)	IS		1/16/2013	1/26/2015			
8	13-143	Greene Av (741)	IS		3/5/2013	7/15/2015			
9	13-474	Smith St (187) bt Wyckoff St and Warren St	IS		7/2/2013	1/2/2015			
10	13-579	Herkimer St (1069) bt Dewey Pl and Louis Pl	IS		8/16/2013	3/3/2015			
11	14-053	Hoyt St (232)	IS		8/5/2015	8/5/2015			
12	14-054	Lexington Av (465)	IS		8/5/2015	8/5/2015			
13	14-075	4 Av (948)	IS		2/26/2014	2/26/2016			
14	14-137	24-29 Gerritsen Av	GT		2/24/2015	2/24/2015			
15	14-161	Aberdeen St (74) and Bushwick Av	IS		3/25/2014	9/23/2015			
16	14-253	Seaview Av (10503) bt E 105 St and E 108 St	RB		5/12/2014				
17	14-324	Av L (9525) bt E 95 St and E 96 St	IS		8/27/2014	4/23/2015			
18	14-325	Albany Av (47) bt Fulton St and Herkimer St	IS		6/4/2014	2/10/2015			
19	14-328	Wilson Av (634) bt Cooper St and Moffat St	IS		12/2/2014	7/10/2015			
20	14-353	E 78 St (641)	IS		1/13/2015	1/13/2015			
21	14-354	Autumn Av (426)	IS		12/11/2014	1/6/2015			
22	14-355	Fountain Av (40) K	IS		2/6/2015	2/6/2015			
23	14-485	Surf Av (2007) bt W 20 St and W 21 St	IS		8/27/2014	1/13/2015			
24	14-521	Herkimer St (1360) bt Monaco Pl andEastern Pkwy	IS		2/6/2015	7/15/2015			
25	14-596	17 Av (7815) bt 78 St and 79 St	MS		1/6/2015	1/6/2015			800
26	14-602	Ocean Av (2044) bt Ave O and Ave P	DE		8/20/2015	8/20/2015		244	
27	14-603	Degraw St (132) bt Columbia St and Tiffany Pl	IS		12/30/2014	2/5/2015			
28	14-605	Sunset Park North	CJ		4/29/2015	6/10/2015		519	3,020
29	14-614	39 St (116)	AQ		1/22/2015	2/25/2015		124	
30	14-622	Hill St (75) bt Crescent St and Autumn Ave	IS		12/3/2014	2/5/2015			
31	14-643	Kent Ave (South Waterfront Greenway)	DE		1/29/2015	3/18/2015			6,302
32	14-727	Van Buren St (27)	LJ		2/10/2015	2/10/2015		261	
33	14-740	Brighton St (30-70)	AQ		2/26/2015	2/26/2015		558	
34	15-028	S10 ST (23-29-37 and 43)	LJ		3/18/2015	3/18/2015		56	
35	15-033	E 27 St Outfall ; CI-610	NG		1/17/2015	4/9/2015		133	
36	15-036	Shore Blvd Outfall ; CI-659	DE		1/17/2015	4/9/2015		100	
37	15-037	W 15 St Outfall ; CI-664	NG		1/17/2015	1/17/2015		20	
38	15-080	Metropolitan Av & Scott Av ; NCB-083	NG		1/16/2015	1/16/2015		20	
39	15-124	43 St Outfall (Reg# 7D) ; OH-004	DE		1/16/2015	1/16/2015		519	
40	15-137	Kane St Outfall (Reg#R-11) ; RH-018	DE		1/16/2015	1/16/2015		1,728	
41	15-140	Creamer St Outfall ; RH-031	DE		1/17/2015	1/17/2015		240	
42	15-141	Grafton St (301) btLivonia Av and Bend	IS		2/26/2015	2/26/2015			
43	15-186	Fulton St (2926)	LJ		1/25/2015	1/25/2015		245	
44	15-190	20 Av (63-22)	CJ		1/20/2015	1/20/2015		159	

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							Cleaned	Surveyed	Walked
45	15-198	E 91 St bt Av J AND Church Ln	RB		1/30/2015	6/18/2015			
46	15-199	Strauss St (2049) bt Blake Av and Dumont Av	IS		1/26/2015	1/26/2015			
47	15-210	Huron St and West St	NA		2/27/2015	2/27/2015		177	
48	15-213	Classon Av (230)	NG		2/13/2015	2/13/2015		115	
49	15-220	E 19 St (27)	LJ		3/29/2015	3/29/2015		163	
50	15-231	Flatlands Av (120-20)	LJ		4/1/2015	4/1/2015		1,121	
51	15-239	Norman Av bt Appollo St and Jewel St	MS		3/5/2015	3/5/2015		1,361	
52	15-290	Stanton Rd (18) bt Gunnison Ct and Losee Ter	IS		4/14/2015				
53	15-296	Erashus (136)	LJ		5/13/2015	5/13/2015		440	
54	15-336	Shore Pkwy (5935) bt Belt Pkwy WB Exit and E 102 St	IS		5/11/2015	8/5/2015			
55	15-339	Remsen Av (185) bt E 53 St and E 54 St	MS		5/8/2015	5/8/2015			422
56	15-342	Herkimer St (913)	IS		5/8/2015	6/26/2015			
57	15-410	Butler St (337)	AQ		8/12/2015	9/2/2015		707	
58	15-416	Stanhope St (192)	IS		6/24/2015	7/10/2015			
59	15-417	82 St (2127) bt 21 Av and Bay Pkwy	IS		6/26/2015	10/6/2015			
60	15-419	Woodbine St and Evergreen Av	CJ		8/12/2015	8/12/2015			69
61	15-443	Nostrand Av (1761)	AQ		9/1/2015	9/1/2015			
62	15-447	Cedar St (1611)	LJ		8/4/2015	8/4/2015		278	
63	15-557	Hntington St (20,22,24)	LJ		8/11/2015	8/11/2015		350	
64	15-560	Bay Pkwy and Corbin Pl	NG		7/28/2015	7/28/2015		60	
65	15-561	Bond St (73.75.75A,77 AND 79)	LJ		7/25/2015	7/25/2015		119	
66	15-573	Av L (101-09)	IS		7/14/2015	9/21/2015			
67	15-574	84 St (1932) bt 19 Av and 20 Av	IS		7/14/2015	11/5/2015			
68	15-575	53 St (1029) bt Ft Hamilton Pkwy and 11 Av	IS		7/20/2015	9/18/2015			
69	15-576	18 Av (3841) bt E 7 St and Ocean Pkwy	IS		7/16/2015	9/23/2015			
70	15-580	W 11 St (2063) bt Av T and Av U	CJ		7/23/2015	7/23/2015			115
71	15-581	Martense St (245) bt Rogers Av and Nostrand Av	CJ		9/16/2015	9/16/2015		719	310
72	15-584	78 St (469) bt 4 Av and 5 Av	TB		8/4/2015	8/4/2015			50
73	15-602	Jewel (120) St	LJ		8/5/2015	8/5/2015		206	
74	15-620	Flushing Av and Willamsburg St W	NG		8/19/2015	8/19/2015			25
75	15-626	Driggs Av (667)	DE		8/20/2015	8/20/2015		443	
76	15-630	Woodruff Av (146)	DE		8/20/2015	8/20/2015		569	
77	15-631	Church Av (2848)	DE		8/20/2015	8/20/2015		311	
78	15-662	Kent Av (50)	AQ		9/23/2015	9/28/2015		823	
79	15-669	Paerdgat Av N and Paerdegate 4 St	RF		8/27/2015	10/8/2015		828	734
80	15-670	Slocum Pl (16) bt Coney Island Av and E 11 St	IS		8/24/2015	1/27/2016			
81	15-671	Coney Island Av (1078) bt Glenwood Rd and Av H`K`	IS		8/24/2015	9/24/2015			
82	15-673	Belmont Av (630) bt Jerome St and Warwick St	IS		8/28/2015				
83	15-674	Rockaway Pkwy (1309) bt Rockaway Av and Farragut Rd	IS		9/3/2015	9/3/2015			
84	15-676	Manhattan Av (1133)	AQ		9/22/2015	10/15/2015			
85	15-683	Bond St (64) bt Schermerhorn St and State St	IS		9/9/2015	9/9/2015			
86	15-699	Vicinity of Newkirk Av bt E 18 St and E 21 St	MS		9/15/2015	10/7/2015		3,765	
87	15-700	E 27 St (1346)	LJ		12/10/2015	12/10/2015		101	
88	15-701	Freeman St (196, 197)	LJ		10/15/2015	10/15/2015		575	
89	15-704	Warwick St (646)	IS		9/17/2015	9/24/2015			
90	15-705	Hancock St (113) bt Bedford Av and Nostrand Av	IS		9/22/2015				
91	15-711	Saratoga Av (33)	LJ		9/11/2015	9/11/2015			
92	15-712	Brooklyn Bridge Park Marina	LJ		10/8/2015	10/8/2015		127	
93	15-742	23 Ave (8630)	IS		10/1/2015	10/23/2015			
94	15-755	Lefferts Av (344)	IS		10/9/2015	1/27/2016			
95	15-756	Av Z (1407) BT E 14 St and E 15 St	IS		10/7/2015	11/19/2015			
96	15-757	7 Av (18) bt Park Pl and Sterling Pl	IS		10/15/2015	11/23/2015			
97	15-758	Bedford Av (1430)	IS		10/7/2015	10/7/2015			
98	15-759	E 94 St (1271) bt Av J and Av K	IS		10/7/2015	11/19/2015			
99	15-790	Glenmore Av (898)	IS		10/14/2015	2/2/2016			
100	15-791	Conklin Av (130) bt E94 St and E 95 St	IS		10/15/2015				
101	15-796	Autumn Av (576) bt Pitkin Av and Belmont Av	NG		11/10/2015	11/10/2015			220

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							Cleaned	Surveyed	Walked
102	15-804	E 5 St (359) bt Beverly Rd and Church Av	MS		12/16/2015	12/16/2015			230
103	15-812	Vermont St (702)	IS		10/23/2015	10/23/2015			
104	15-815	Degraw St (134) bt Columbia St and Tiffany Pl	IS		11/4/2015	2/4/2016			
105	15-880	Vanderbilt Av and Pacific St	RB		11/25/2015	12/10/2015		728	
106	15-885	Marginal St W (2)	IS		11/30/2015	11/30/2015			
107	15-886	Vermont St (403)	IS		11/27/2015	11/27/2015			
108	15-887	58 St (1248) bt 12 Av and 13 Av	IS		11/30/2015				
109	15-901	Lafayette Av 9474) bt Franklin Av and Skillman St	IS		12/10/2015	12/10/2015			
110	15-902	42 St (317) bt 3 Av and 4 Av	IS		12/14/2015	12/14/2015			
111	15-903	Pennsylvania Av bt Fulton St and Atlantic Av	IS		12/10/2015	2/11/2016			

Manhattan

112	10-050	W 30 St bt 10 Av and 12 Av	TB		6/3/2015	6/3/2015			60
113	14-617	First Ave (1918) (DT1)	LJ		1/30/2015	1/30/2015		79	
114	14-638	First Ave (1918) DT2	LJ		1/30/2015	1/30/2015		79	
115	14-642	E 23 St and Montgomery Ave (Area 1)	CJ		12/3/2014	1/15/2015		1,702	1,585
116	14-718	Fulton St (118)	NA	3	1/11/2015	1/11/2015			
117	15-002	10 Av and W 15 St	LJ		3/3/2015	3/3/2015		160	
118	15-067	Avenue B (205)	CP		2/27/2015	2/27/2015		905	
119	15-068	W 123 St (136)	CP		2/27/2015	2/27/2015		1,252	
120	15-182	E 23 St from 1 Av to 2 Av	MS		3/10/2015	3/10/2015			747
121	15-217	W 53 St (548)	LJ		2/15/2015	2/15/2015		482	
122	15-258	W 20 St (217)	LJ		4/11/2015	4/11/2015		747	
123	15-269	E 24 St (111-115)	LJ		4/13/2015	4/13/2015		321	
124	15-275	W 119 St (15-19)	LJ		4/15/2015	4/15/2015		230	
125	15-277	John St and Front St	MS		4/8/2015	4/8/2015			70
126	15-279	Park Av (1516)	AQ		4/28/2015	5/28/2015		408	
127	15-281	Ave C (137)	LJ		4/7/2015	4/7/2015		260	
128	15-295	Morningside Av (101)	AQ		4/9/2015	5/21/2015		317	
129	15-308	E 38 St and East River NCM-040	CJ		4/6/2015	5/26/2015		40	
130	15-309	E 63 St and East River NCM-005	CJ		4/7/2015	5/27/2015		90	
131	15-310	E 76 St and East River WIM-005	CJ		4/7/2015	5/27/2015		150	
132	15-311	E 77 ST AND East River WIM-006	CJ		4/7/2015	5/27/2015		96	
133	15-312	E 79 St and East River WIM-008	CJ		4/7/2015	4/16/2015		60	
134	15-313	E 78 St and East River WIM-313	CJ		4/7/2015	5/27/2015		90	
135	15-315	E 90 St and East River WIM-013	CJ		4/7/2015	6/8/2015			
136	15-317	E 114 St and East River wim-025	CJ		4/6/2015	6/8/2015		90	
137	15-318	E 115 St and East River WIM-026	CJ		4/6/2015	6/8/2015		90	
138	15-319	E 116 St and East River WIM-027	CJ		4/6/2015	6/8/2015		90	
139	15-320	E 37 St and E 38 St and The East River	CJ		4/6/2015	5/27/2015		130	
140	15-323	W 39 St (338)	LJ		5/9/2015	5/9/2015		477	
141	15-326	E 16 St (750)	LJ		6/6/2015	6/6/2015		224	
142	15-330	3 Av (587)	LJ		5/10/2015	5/10/2015		222	
143	15-401	Trinity Pl (50)	LJ		6/6/2015	6/6/2015		100	
144	15-412	Sutton Square (6)	LJ		6/20/2015	6/20/2015		183	
145	15-740	St.Nicholas Av (492)	LJ		10/11/2015	10/11/2015		441	
146	15-834	Washington St (432-440)	LJ		12/10/2015	12/10/2015		601	
147	15-866	5 Av (14)	LJ		11/29/2015	11/29/2015		141	

Queens

148	11-053	Seagirt Av (29-21) bt B 30 St and B 31 St	IS		2/25/2015	2/25/2015			
149	11-233	157 St (43-66) bt 43 Av and 45 Av	CJ		6/9/2015	6/9/2015			100
150	11-325	114 Rd and 219 St	MS		3/31/2015	3/31/2015			324
151	11-363	155 St and Linden Blvd	MS		3/11/2015	3/11/2015			450
152	11-430	76 Rd (147-57)	MS		4/10/2015	4/10/2015			158
153	11-433	34 Av bt 44 St and 43 St	CJ		6/10/2015	6/10/2015			150
154	13-121	130 Av (145-19)	IS		3/6/2013	9/22/2015			

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
155	13-129	Central Av (12-56)	RB		5/20/2015	5/20/2015			
156	13-197	B 32 St (333)	IS		7/22/2013	1/23/2015			
157	13-954	82 St (58-14)	IS		12/9/2013	1/21/2015			
158	14-062	80 St (86-24)	IS		2/4/2015	2/4/2015			
159	14-115	196-28 Foothill Av	IS		2/24/2015	2/26/2015			
160	14-117	80-32 89 Av	IS		2/24/2015	2/26/2015			
161	14-196	Nadal Pl (164-52)	IS		4/7/2014	5/7/2015			
162	14-395	170 St (49-32)	IS		2/3/2015	2/3/2015			
163	14-404	Poplar St (239-16)	IS		8/15/2014	1/21/2015			
164	14-544	Delong St (40-70)	AQ		11/12/2014	11/12/2014			
165	14-574	57 Dr (57-37)	LJ		9/11/2015	9/11/2015			
166	14-637	De Costa Ave and Almeda Ave between B 63 St and B 64 St	IS		4/7/2015	12/2/2015			
167	14-655	Beach 84 St bt Beach Channel Dr and Dead End	NG		10/23/2015	10/23/2015		3,656	
168	14-709	Roosevelt Ave (98-02) P.S. 19 Marino Jeantet	LJ		1/5/2015	1/5/2015		128	
169	14-724	Liberty Ave and Brisbin St	TB		12/22/2014	1/2/2015		70	
170	15-001	Rockaway Beach Blvd (50-01)	RB		1/20/2015	2/24/2015			
171	15-004	South Rd and Guy Brewer Blvd	TB		1/2/2015	1/2/2015		20	
172	15-005	193 St and 109 Av	TB		1/2/2015	1/2/2015		140	
173	15-006	169 St bt 77 Rd and Union Tpke	MS		2/5/2015	2/5/2015			540
174	15-069	Forely St (42-27)	NG		2/13/2015	2/13/2015		133	
175	15-070	Parsons Blvd (14-16)	NG		2/13/2015	2/13/2015		110	
176	15-071	Main St5 (75-23)	NG		2/13/2015	2/13/2015		142	
177	15-075	151 St (85-11)	CP		2/26/2015	2/26/2015		831	
178	15-076	90 Av (138-33)	NG		2/13/2015	2/13/2015		243	
179	15-078	107 Av (153-15)	CP		2/26/2015	2/26/2015		488	
180	15-079	Guy R Brewer Blvd (107-43)	CP		2/27/2015	2/27/2015		787	
181	15-083	89 Av (148-25)	CP		2/26/2015	2/26/2015		570	
182	15-091	168 St (137-33)	NG		2/26/2015	2/26/2015		127	
183	15-092	106 Rd (177-54)	CP		2/26/2015	2/26/2015		547	
184	15-096	Marsden St (115-64)	NG		2/26/2015	2/26/2015		135	
185	15-097	99 Av (212-08)	CP		2/27/2015	2/27/2015		1,234	
186	15-099	93 Av (220-05)	CP		2/27/2015	2/27/2015		409	
187	15-106	90 Av (247-67)	CP		2/27/2015	2/27/2015		694	
188	15-123	154 (118-46)	IS		2/18/2015	3/16/2015			
189	15-134	Baisley Blvd and Rockaway Blvd	MS		2/17/2015	2/24/2015		2,172	1,086
190	15-153	B 74 St Outfall; ROC-633	NG		1/28/2015	1/28/2015		120	
191	15-174	Thurston Basin Outfall JFK Airport	MS		2/26/2015	2/26/2015			7,079
192	15-178	39 Av Outfall ; TI-656	NG		1/30/2015	1/30/2015		95	
193	15-187	230 St bt 147 Av and 148 Av	RB		1/20/2015	1/20/2015		475	
194	15-188	193 St and 109 Av to Baisley Blvd and Rockaway	CJ		1/16/2015	1/16/2015		6,081	256
195	15-209	Jackson Av and Crane St	NA		2/11/2015	2/11/2015		261	
196	15-250	Beach Channel Dr from Marin Pkwy Bridge to B 149 St	TB		3/12/2015	3/12/2015		4,350	
197	15-253	LGA Culvert Inspection (Building 28)	MS		3/24/2015	3/24/2015			262
198	15-254	Ridge RD (141) bt 236 St and Center Dr	IS		3/13/2015	4/23/2015			
199	15-256	165 St (104-74)	LJ		5/14/2015	5/14/2015		1,708	
200	15-257	Horace Harding Expy (175-22)	AQ		4/16/2015	4/16/2015		290	
201	15-291	Seneca Av (989) bt Centre St and George St	IS		4/8/2015	9/3/2015			
202	15-292	256 St and 81 Av	RB	6	5/5/2015	8/7/2015			
203	15-293	Channel Rd (16-06) bt E 16 Rd and E18 Rd	RB		5/7/2015				
204	15-297	Parsons Blvd (41-97)	LJ		4/13/2015	4/13/2015		145	
205	15-307	39 Av (133-21)	AQ		5/19/2015	5/19/2015		493	
206	15-321	B Channel Dr from B 108 St to B 144 St	MS		4/28/2015	5/12/2015		622	962
207	15-322	7 ft dia(84 inch) combined in Laurelton Pkwy	RB		5/1/2015	5/5/2015		2,093	
208	15-356	Springfield Blvd and Hempstead Av	MS		5/5/2015	5/5/2015			200
209	15-357	Center Dr and Malba Dr	IS		7/2/2015	7/22/2015			
210	15-360	Tryon Pl (82-06)	LJ		6/10/2015	6/10/2015		348	
211	15-372	McBride St (11-29)	CP		5/27/2015	5/27/2015		480	

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							Cleaned	Surveyed	Walked
212	15-374	Bayport Pl (13-06)	CP		5/27/2015	5/27/2015		470	
213	15-411	36 St (133-20)	LJ		7/7/2015	7/7/2015			
214	15-421	Wheatley St and Augustina Av	RB		6/29/2015				
215	15-442	229 St and 147 Av and Vicinity	CJ		7/9/2015	8/13/2015			2,724
216	15-577	20 Av bt 31 St and 33 St	AQ		8/25/2015	8/25/2015		410	
217	15-591	North Dr bt 141 St and Malba Dr	LJ		7/20/2015	7/22/2015		548	
218	15-593	Lakewood Av Lincoln St and 131 St	RB		7/30/2015	11/19/2015		5,355	450
219	15-601	Coldspring Rd (2924)	LJ		8/10/2015	8/10/2015		41	
220	15-605	Church Rd (16-02)	LJ		8/3/2015	8/3/2015		165	
221	15-677	SEQ002708-81 St and 19 Av	NG		10/15/2015	10/15/2015			170
222	15-710	43 Av (90-22)	LJ		9/11/2015	9/11/2015			
223	15-726	Gipson St (11-21)	IS		9/29/2015	10/2/2015			
224	15-737	164 Pl (110-07) bt Brinkerhof Av and 110 Rd	RB		12/2/2015				
225	15-745	196 St (118-41) bt 118 Av and 119 Av	IS		10/29/2015				
226	15-746	108 Dr bt 164 Pl and 167 St	RB		12/2/2015				
227	15-792	157 Sr (144-41)	RB		10/29/2015				
228	15-806	Verification of Storm Sewer Invert Elevation -Rosedale Area	RB		10/26/2015	12/10/2015		493	
229	15-810	71 Av (166-11)	NG		10/29/2015	10/29/2015			250
230	15-814	41 Dr (58-59)	IS		10/27/2015	10/27/2015			
231	15-820	Edgemere Av From B 35 St to B37 St	MS		10/23/2015	10/28/2015		3,684	
232	15-838	3 St bt 26 Av and 27 Av	CJ		11/5/2015	11/5/2015		155	
233	15-843	Astoria Blvd (21-03)	LJ		12/14/2015	12/14/2015		226	
234	15-864	27 Av (2-21)	LJ		12/11/2015	12/11/2015		313	
235	15-872	189 St and 81 Av	RB		12/2/2015	12/14/2015			
236	15-873	199 St and 113 Av	RB		12/2/2015	3/3/2016			
237	15-879	Springfield Ln (147-30)	AQ		12/10/2015	12/18/2015		884	
238	15-905	Dry Harbor Rd (62-82)	RB		12/18/2015	2/9/2016			

Staten Island

239	11-043	Larkin St (52) bt Faber St and Sharpe Av	IS		2/27/2015	2/27/2015			
240	11-178	Wakefield Av and Shenandoah Av	IS		5/4/2012				
241	11-315	Howard Av (28) and Louis Av	IS		4/4/2012	1/30/2015			
242	12-104B	Leslie Av (24)	IS		5/29/2012	4/13/2015			
243	13-296	Crescent Av (140) bt Bismark Av and Jersey St	IS		4/25/2013	1/22/2015			
244	13-790	Benton Av (2) and Cooper Av	RB		4/15/2014	7/21/2015			
245	13-809	Heberton (54) bt Bend and Ann St	IS		10/29/2013	1/26/2015			
246	13-820	N Mada Av (2)	IS		10/25/2013	1/23/2015			
247	14-055	Sherman Av (38)	IS		8/6/2015	8/6/2015			
248	14-056	Townsend Av (29)	IS		8/6/2015	8/6/2015			
249	14-057	Beechwood Av (171)	IS		8/6/2015	8/6/2015			
250	14-058	Forest Av (1825)	IS		8/6/2015	8/6/2015			
251	14-059	Benziger Av and Sherman Av	IS		8/27/2015	8/27/2015			
252	14-061	Hampton Pl (98)	IS		8/31/2015	8/31/2015			
253	14-063	Dixon Ave (202)	IS		9/30/2015	9/30/2015			
254	14-125	13 Lake Av	IS		9/30/2015	9/30/2015			
255	14-126	237 Freeborn St	IS		10/19/2015	10/19/2015			
256	14-146	Westport St and Westport Ln	IS		4/4/2014	1/30/2015			
257	14-147	Richmond Av (1410) bt Lamberts Ln and Lander Av	IS		3/25/2014	8/28/2015			
258	14-182	Sheridan Av (80) bt Crist St and Fingerboard Rd	IS		4/1/2014	1/16/2015			
259	14-183	Phelps Pl (7) and Hamilton Av	IS		12/29/2014	3/13/2015			
260	14-399	Billop Av bt Brighton St and Chelsea St	NG		11/17/2014	10/22/2015		1,584	1,584
261	14-609	Victory Blvd and Speedwell Av	RB		11/17/2014	5/8/2015			
262	14-732	Winter Av (127)	AQ		1/21/2015	1/21/2015		721	
263	14-733	Hendriks Av	AQ		1/21/2015	1/21/2015		539	
264	14-734	Hendriks Av(133)	AQ		1/21/2015	1/21/2015		539	
265	15-003	Forest Av (642)	AQ		1/13/2015	1/13/2015		204	
266	15-010	Cornelia Ave (272)	AQ		2/19/2015	2/19/2015			

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							Cleaned	Surveyed	Walked
267	15-011	Cornelia Ave (275)	AQ		2/19/2015	2/19/2015			
268	15-012	Cornelia Ave (281)	AQ		2/19/2015	2/19/2015			
269	15-014	Cornelia Ave (282)	AQ		2/19/2015	2/19/2015			
270	15-015	Cornelia Av (285)	AQ		2/19/2015	2/19/2015			
271	15-019	Cornelia Ave (286)	AQ		2/19/2015	2/19/2015			
272	15-107	Hull Av (130)	NG		2/27/2015	2/27/2015		260	
273	15-108	Wiman Av (191)	NG		2/27/2015	2/27/2015		253	
274	15-109	Grasmere Av (68)	NG		2/27/2015	2/27/2015		200	
275	15-112	Goethals Rd N (827)	NG		2/27/2015	2/27/2015		182	
276	15-117	Arthur Kill Rd & Page Av Vicinity Outfall ; OB-685	NG		2/10/2015	2/10/2015		30	
277	15-119	Meisner Av & Lighthouse Av Outfall ; OB-697	NG		2/10/2015	2/10/2015			
278	15-177	Leslie Av (29)and Clove Rd	RB		3/17/2015	3/19/2015		163	
279	15-184	Victory Blvd and Perry Av	AQ		3/19/2015	3/19/2015		535	
280	15-191	Churchill Av (50) and Ambassaddor	IS		1/20/2015	3/24/2015			
281	15-212	Driprock St (215)	AQ		3/19/2015	3/19/2015		146	
282	15-242	Cambridge Av (261) bt AUBURN Av and Nina Av	RB		3/12/2015				
283	15-244	Crystal Av (404)	IS		3/10/2015	4/2/2015			
284	15-273	Nicholas Avv (342)	LJ		4/17/2015	4/17/2015		416	
285	15-303	Bidwell Av (247)	AQ		12/17/2015	12/17/2015		287	
286	15-334	Armstrong Av and Oakdale St	RB		5/13/2015				
287	15-335	Brandis Av (89) bt Brandis Ln and Drumgoole Rd E	RB		5/13/2015	12/17/2015			
288	15-340	Richmond Rd (2300) bt Bryant Av and Otis Av	CJ		5/14/2015	5/14/2015			100
289	15-341	Leverett Av bt E lverton Av and Stieg Av	CJ		5/14/2015	5/14/2015			260
290	15-385	Byrne Av (80)	AQ		7/1/2015	7/1/2015	300	300	
291	15-386	Prospect Av (14) bt York Av and Harvard Av	IS		6/22/2015	1/28/2016			
292	15-389	Chester Av SE-751	CJ		6/11/2015	6/11/2015			6
293	15-423	Creston Pl (190	AQ		7/29/2015	7/29/2015	297		
294	15-448	Forest Hill Rd (1380)	IS		7/6/2015	12/4/2015			
295	15-449	Journeay St (39)	RB		7/15/2015				
296	15-558	SE751 Chester Av	RB		7/17/2015	8/24/2015			
297	15-559	Durant Av bt Bay Terr and Taunton St	AQ		8/6/2015	8/25/2015		530	
298	15-583	Halpin Av and Carlton Blvd	RB		9/18/2015	9/29/2015			
299	15-590	Clinton Pl and Treadwell Av	LJ		8/6/2015	2/5/2016		343	
300	15-592	Circle Rd (101)	AQ		9/1/2015	9/1/2015		679	
301	15-603	Travis Ave (1305) bt Victory Blvd and South Av	IS		7/29/2015	2/19/2016			
302	15-604	Manor Rd (773) bt Schmidts La & Westwood Av	IS		7/31/2015	8/5/2015			
303	15-606	Van Buren St	RF		9/1/2015	9/1/2015		327	
304	15-609	Douglas Rd (225)	AQ		10/6/2015	10/7/2015		48	
305	15-619	Mason St Area -SER200249	RB		9/1/2015	9/8/2015		785	
306	15-654	Cannon Av (25)	DE		8/25/2015	8/25/2015		630	
307	15-655	Sharpe Av (78)	DE		8/25/2015	8/25/2015		614	
308	15-656	Burbank Av (104)	DE		8/25/2015	8/25/2015		878	
309	15-679	Bard Av (355)	LJ		10/7/2015	10/7/2015		266	
310	15-738	Park Hill Court & Vanderbilt Ave (SER-200269)	RB		11/2/2015	11/19/2015		693	
311	15-821	Maine Av and Willard Av	AQ		11/5/2015	11/5/2015			
312	15-833	Elbe Av (873)	LJ		11/12/2015	11/12/2015		322	
313	15-846	Greeley Av (324)	LJ		11/16/2015	11/16/2015			
314	15-870	Draper Pl bt Travis Av and Knapp St	CJ		12/8/2015	12/8/2015			533
315	15-871	Rector St bt Castleton Av and Hutst St	CJ		11/23/2015	11/23/2015			770

The Bronx

316	10-335	Elder Av (1151) bt Watson Av and Westchester Av	IS		1/8/2015	1/8/2015			
317	11-084	Jerome Av (1183) affected by Shakespear Av (1172)	IS		2/27/2015	2/27/2015			
318	13-1014	Randall Av (bend) Soundview Park HP-10 CSO25	CJ		8/4/2015	8/27/2015		1,248	600
319	13-374	Locust Point	MS		11/20/2015	11/20/2015		2,092	
320	14-051	St Lawrence Av (1149)	IS		7/30/2015	7/30/2015			
321	14-052	Mosholu Ave (5615)	IS		7/29/2015	7/29/2015			

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
322	14-060	Morris Av (2255)	IS		7/29/2015	7/29/2015			
323	14-118	539 Wales Av	IS		10/2/2015	10/2/2015			
324	14-121	Osborne Pl and 179 St	IS		10/1/2015	10/1/2015			
325	14-122	5 W Burnside Av	IS		8/7/2015	8/7/2015			
326	14-123	3249 Eastchester Rd	IS		8/7/2015	8/7/2015			
327	14-234	Hunts Point Av (925)	AQ		5/9/2014	5/9/2014			
328	14-416	Prospect Av (1410)	IS		2/3/2015	2/3/2015			
329	14-520	Edward Av (1426)	IS		1/16/2015	1/16/2015			
330	14-526	St Ann's Av (2)	AQ		10/29/2014	1/12/2015		173	
331	14-591	Westchester Av (2211-2215)	AQ		11/12/2014	12/10/2014		752	
332	14-616	W 254 St (373-377)	AQ		11/26/2014	11/26/2014			
333	14-618	Bruckner Blvd (955)	IS		11/25/2014	5/7/2015			
334	14-619	Grant Ave (1052)	IS		11/25/2014	2/3/2016			
335	14-621	Huntington Ave (364)	IS		1/16/2015	1/16/2015			
336	14-661	Longfellow Av (1144)	IS		1/15/2015	1/15/2015			
337	14-717	St. Anns Ave and E 132 St	AQ		1/12/2015	1/12/2015		52	
338	14-726	E 156 St (601)	LJ		1/6/2015	1/6/2015			
339	15-045	Newman Av Outfall (CS0 #24) ; HP-013	DE		2/18/2015	2/18/2015		596	
340	15-047	Bellamy Loop Outfall (North) ; HP-031	NG		1/26/2015	1/26/2015		85	
341	15-050	Schofield St Outfall (City Island PS) ; HP-036	DE		2/18/2015	2/18/2015		200	
342	15-051	Orchard Beach Pump Station Outfall ; HP-037	DE		2/18/2015	2/18/2015			
343	15-054	242 St Outfall ; HP-626	DE		2/18/2015	2/18/2015		792	
344	15-056	Rywa Av Vicinity Outfall ; HP-630	DE		2/18/2015	2/18/2015			
345	15-058	Randall Av Outfall ; HP-635	NG		1/26/2015	1/26/2015		131	
346	15-060	Bellamy Loop Outfall (South) ; HP-638	NG		1/26/2015	1/26/2015		160	
347	15-062	Lucerne St Outfall ; HP-643	DE		2/18/2015	2/18/2015		266	
348	15-063	Layton Av Outfall ; HP-648	NG		1/26/2015	1/26/2015		41	
349	15-120	E 161 St (221-265)	AQ		4/21/2015	4/21/2015			
350	15-203	Mickle Av and Arnow Av	LJ		3/4/2015	3/4/2015		149	
351	15-211	Broadway (5740)	LJ		5/28/2015	5/28/2015		543	
352	15-241	E 163 St and Hunts Point Av	RB		3/31/2015	4/8/2015			
353	15-251	St.Ann's Av (820)	AQ		3/13/2015	3/16/2015			
354	15-278	E 233 St bt Ely Av and Grace Av	CJ		6/3/2015	7/7/2015			1,041
355	15-289	Gleason AV (2254)	IS		4/8/2015	4/8/2015			
356	15-298	Buhre Av (3064)	AQ		4/14/2015	4/14/2015			
357	15-299	E 214 St (789)	AQ		4/14/2015	4/14/2015			
358	15-337	Hill Av (3933) bt E 233 St and Strang Av	IS		5/7/2015	12/4/2015			
359	15-338	Rosedale Av (1502)	IS		5/11/2015	7/24/2015			
360	15-403	Boynton Rd (875)	AQ		6/17/2015	6/17/2015			
361	15-404	Boynton Rd (875)	AQ		6/17/2015	6/25/2015			
362	15-414	Barnes Av (2935)	IS		6/24/2015	11/12/2015			
363	15-415	E 230 St (7233)	IS		6/26/2015	11/18/2015			
364	15-672	White Plains Rd (3899)	AQ		9/27/2015	9/27/2015		307	
365	15-702	Prospect Park (196,197)	IS		9/15/2015	11/20/2015			
366	15-703	Grand Concourse (2104)	IS		9/15/2015	2/22/2016			
367	15-706	Oakley St (1168)	IS		9/14/2015	11/18/2015			
368	15-714	Bronxwood Av (4011)	LJ		9/25/2015	9/25/2015			
369	15-832	Park Av (2950)	AQ		11/10/2015	11/19/2015		706	
370	15-835	E 153 St bt MORRIS Ave and Park Ave	AQ		11/10/2015	11/19/2015		871	
371	15-875	Webster Av (2008) bt Alden Pl and E 179 St	IS		11/23/2015	12/8/2015			
372	15-889	Walnut Av (327)	AQ		12/31/2015	12/31/2015		145	
373	15-892	Unionport Rd (1657) bt Meada St and Baker St	IS		12/3/2015	1/4/2016			

2015 In-House Survey Total, LF:	**130,650**	(24.74 mi)	**9**	**1/2/2015**	**12/31/2015**	**597**	**95,039**	**35,014**
Operating Expenses, $								

* No footage indicates investigations where inspection of sewers was not required or completed

N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked

CITYWIDE

Brooklyn

374	12-344	E 17 St (629) bt Newkirk Av and Foster Av	RF		9/20/2013	7/2/2015	311		222
375	12-453	Greene Av bt Myrtle Av and Wilson Av	DL		4/15/2015	4/22/2015	712		
376	13-145	Jay St and Pearl St	KD		1/26/2015	1/26/2015	246		
377	13-720	312 Chauncey St bt Ralph Av and Howard Av	JL		10/1/2014	3/18/2015	903		
378	14-083	Linden Blvd (1515)	DL		4/7/2015	4/10/2015	1,781		
379	14-109	Av L (9525) bt E 95 St and E 96 St	JL		7/24/2014	1/23/2015	607		
380	14-271	Conover St (150) bt Sullivan St and King St	JL		7/28/2014	3/25/2015	812		
381	14-594	Halsey St (1250) bt Wilson Av and Knickerbocker Av	DL		11/25/2014	1/26/2015	27		
382	14-602	Ocean Av (2044) bt Ave O and Ave P	KD		9/14/2015	9/15/2015	1,678		
383	14-662	S 3 St (154)	EC		1/15/2015	1/16/2015	539		
384	14-663	Himrod St (21)	DL		1/23/2015	1/26/2015	312		
385	14-666	Hemlock St (282)	DL		12/31/2014	1/2/2015	459		
386	14-701	McDonald Ave (2238)	DE		1/5/2015	4/6/2015	1,237		
387	14-704	E 7 St (1960	KD		1/2/2015	1/2/2015	1,100		
388	14-705	Avenue S (801)	DL		1/7/2015	3/30/2015	1,804		
389	14-706	Gunnison Ct (35)	JL		3/2/2015	3/3/2015	1,362		
390	14-707	Nostrand Ave (1773)	JL		3/31/2015	4/23/2015	1,926		
391	14-711	Knapp St (2229)	JL		6/17/2015	6/18/2015	948		
392	14-714	16 St (91) 3 Ave and 4 Ave	DL		3/2/2015	3/2/2015	419		
393	14-716	Marion St bt Saratoga Ave and Hopkins Ave	DL		1/20/2015	1/20/2015	723		
394	15-007	Driggs Av b/t S 2 St and S 3 St	CP		1/14/2015	1/15/2015	310		
395	15-021	W 25 St (2838) bt Neptune Av and MERMAID Av	CP		2/2/2015	2/2/2015	767		
396	15-022	Bergen St (480) bt Bend and Flatbush Av	JL		2/4/2015	2/4/2015	490		
397	15-023	Flatbush Av (866) bt Mrtense St and Church Av	EC		3/10/2015	3/20/2015	1,112		
398	15-024	E 22 St (1951) bt Av S and Av T	JL		2/6/2015	2/6/2015	875		
399	15-025	E 15 st (1331) bt Elm Av and Av N	DL		2/5/2015	2/5/2015	739		
400	15-027	Palmetto St and Myrtle Ave	JL		4/20/2015	4/20/2015	320		
401	15-030	Wyona St (438)	JL		3/27/2015	3/27/2015	1,120		
402	15-034	E New York Av (1491)	JL		3/23/2015	3/23/2015	935		
403	15-057	Ocean Av (2474)	DE		4/6/2015	4/8/2015	2,053		
404	15-164	6 Av (458) bt 10 St and 11 St	JL		12/21/2015	12/21/2015	257		
405	15-173	Glenmore Av (1110) bt Autmn Av and Lincoln Av	DL		4/15/2015	4/15/2015	260		
406	15-213	Classon Av (230)	CP		3/26/2015	3/26/2015	866		
407	15-214	51 St (1742)	DL		4/13/2015	4/13/2015	681		
408	15-215	Grant Av (311)	NG		2/18/2015	4/8/2015			
409	15-239	Norman Av bt Appollo St and Jewel St	JL		3/9/2015	3/17/2015	3,511		
410	15-255	VanSinderen Av bt Belmont Av and Sutter Av	DL		3/16/2015	3/16/2015	254		
411	15-288	Ridgewood Av (83) bt Cleveland St and Elton St	DL		4/15/2015	4/15/2015	260		
412	15-300	1 St (566) bt 8 Av and Prospect Park W	DL		4/14/2015	4/14/2015	781		
413	15-344	N 11 St bt Wythe Av and Berry St	JL		5/14/2015	5/14/2015	268		
414	15-345	13 Av bt 71 St and 72 St	JL		5/13/2015	5/13/2015	261		
415	15-351	Mermaid Av (3002) bt W 30 St and W 31 St	JL		6/12/2015	6/16/2015	1,057		
416	15-353	52 St (624) bt 6 Av and 7 Av	JL		5/14/2015	5/15/2015	755		
417	15-355	Licoln Av bt Belmont Av and Sutter Av	JL		12/21/2015	12/21/2015	344		
418	15-393	Whitman Dr (2755) bt 56 Dr and National Dr	RB		6/2/2015	6/11/2015	1,905		
419	15-418	Hancock St bt Tompkins Av and Marcy Av	JL		7/7/2015	7/22/2015	1,599		
420	15-422	Noble St (139)	JL		10/26/2015	10/26/2015	997		
421	15-428	Marine Av (420) bt 4 Av and Ft Hamilton Pkwy	JL		8/19/2015	8/20/2015	575		
422	15-429	83 St (1148) bt 11 Av and 12 Av	JL		12/22/2015	12/22/2015	752		
423	15-434	10 St (652) btProspect Park W and 8 Av	JL		9/14/2015	9/14/2015	764		
424	15-436	Hancock St (60) bt Bedford Av and Nostrand Av	JL		10/27/2015	10/27/2015	933		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
425	15-437	4 Av (500) bt 12 St and 13 St	DE		12/22/2015	12/22/2015	231		
426	15-563	SE-853 Fresh Creek HLS Phase 2A	JL		9/22/2015	9/22/2015	532		
427	15-565	Park Av (470) bt Franklin Av and Skillman St	DL		7/27/2015	7/27/2015	216		
428	15-567	Bay Pkwy (8629)	DL		7/28/2015	7/28/2015	722		
429	15-569	8 Av bt 19 St and 20 St	DL		7/27/2015	7/27/2015	224		
430	15-570	E 49 St (454) bt Church Av and Snyder Av	JL		8/19/2015	8/19/2015	708		
431	15-572	Grand Av (373) bt Gates Av and Putnam Av	DE		12/7/2015	12/8/2015	1,666		
432	15-579	New Lots Av (559) bt Riverdale Av and Hendrix St	DL		8/3/2015	8/3/2015	264		
433	15-582	E 98 St (1218) bt Av J AND Av K	JL		8/4/2015	8/4/2015	1,477		
434	15-585	E 88 St (528) bt Foster Av and Bedell Ln	JL		8/10/2015	8/17/2015	596		
435	15-586	Evergreen Av bt Noll St and Flushing Av	DL		7/30/2015	7/30/2015	990		
436	15-589	Dekalb Av (1667) bt Wyckoff Av and St Nicholas Av	DE		7/31/2015	7/31/2015	420		
437	15-594	S 2 St (87) bt Wythe Av and Berry St	DE		12/1/2015	12/1/2015	423		
438	15-597	Shepherd Av (605) bt Blake Av and Dumont Av	JL		11/30/2015	11/30/2015	546		
439	15-598	17 St (462) bt 8 Av and Prospect Park W	DL		9/11/2015	9/11/2015	793		
440	15-599	8 Av (1214) bt 12 St and 13 St	DL		9/9/2015	9/10/2015	462		
441	15-612	64 St and 5 Av	DL		8/6/2015	8/6/2015			
442	15-613	5 Ave and 2 St	NA		8/6/2015	8/7/2015	696		
443	15-626	Driggs Av (667)	EC		9/22/2015	9/28/2015	970		
444	15-628	86 St (2202)	JL		10/5/2015	10/5/2015	1,502		
445	15-629	47 St (1325)	JL		10/15/2015	10/15/2015	706		
446	15-630	Woodruff Av (146)	KD		12/23/2015	12/28/2015	1,158		
447	15-631	Church Av (2848)	KD		12/28/2015	12/28/2015	888		
448	15-660	Ocean Pkwy (3100)	JL		8/26/2015	8/26/2015	2,346		
449	15-667	73 St (428) bt 4 Av and 5 Av	JL		10/19/2015	10/19/2015	768		
450	15-682	65 St (605) bt 6 Av bt 7 Av	DE		8/31/2015	9/2/2015	2,103		
451	15-685	4 St bt 7 Av and 8 Av	DL		9/9/2015	9/9/2015	748		
452	15-687	12 Av (7406) bt 74 St and Ridge Pkwy	JL		11/5/2015	11/5/2015	264		
453	15-688	Parrott Pl (102) bt 90 St and 92 St	JL		11/12/2015	11/13/2015	544		
454	15-689	Fulton St (775) bt S Portland Av and Greene Av	DE		9/4/2015	9/22/2015	746		
455	15-690	Evergreen Av (624) bt Hancock St and Weirfield St	JL		11/16/2015	11/16/2015	198		
456	15-691	Ridge Blvd (9410)	JL		11/16/2015	11/16/2015	309		
457	15-692	W 33 St bt Bayview Av and Neptune Av	NG		9/14/2015	9/22/2015	872		
458	15-695	Harden St (14) bt Lott Pl and Flatlands Av	JL		10/15/2015	10/15/2015	199		
459	15-696	E 49 St (1691) bt Av M and Av N	JP		11/10/2015	11/12/2015	871		
460	15-697	Schenck Av bt E 92 St and E 93 St	JL		11/17/2015	11/17/2015	271		
461	15-707	New York Av (1610) bt Glenwood Rd and Av H	JC		11/25/2015	11/27/2015	840		
462	15-723	Cooper St bt Broadway and Bushwick Av	JL		9/30/2015	9/30/2015	562		
463	15-724	58 St (327) bt 3 Av and 4 Av	JL		11/23/2015	11/24/2015	622		
464	15-725	Humboldt St (480) bt Frost St and Richardson St	JL		12/1/2015	12/1/2015	238		
465	15-734	Van Siclen Av (76) bt Arlington Av and Fulton Av	JL		12/18/2015	12/18/2015	612		
466	15-735	Ridgewood Av (61) bt Ashford St and Cleveland St	DE		12/21/2015	12/21/2015	284		
467	15-754	Greenwood Av bt E 3 St and E 4 St	JL		10/8/2015	10/8/2015	290		
468	15-793	13 St (178) bt 3 Av and 4 Av	DE		12/3/2015	12/3/2015	706		
469	15-794	Conselyea St (47) bt Union Av and Lorimer St	JL		12/3/2015	12/3/2015	612		
470	15-795	Power St (39) bt Hope St and Lorimer St	DE		12/2/2015	12/2/2015	572		
471	15-802	Brown St 2053 bt Av T and Av U	JL		12/1/2015	12/2/2015	1,363		
472	15-809	76 St (1138) bt 11 Av and 12 Av	RB		10/22/2015	10/22/2015	686		
473	15-813	Marcy Av and Madison St	JL		10/29/2015	10/29/2015	1,361		
474	15-817	Bay 40 St (35) bt 86 St and Benson Av	JP		11/9/2015	11/10/2015	695		
475	15-818	E 10 St (65) bt Caton Av and Church Av	DE		12/4/2015	12/4/2015	676		
476	15-819	Bay 11 St (225)bt Bath Av and Crospey Av	JL		11/5/2015	11/5/2015	668		
477	15-823	E 96 St bt Clarkson Av and Winthrop St	JL		12/11/2015	12/11/2015	650		
478	15-824	E 49 St (953) bt Foster Av and Farragut Rd	JL		12/8/2015	12/9/2015	874		
479	15-825	E 96 St (442) bt Willmohr St and Church Av	JL		12/10/2015	12/10/2015	696		
480	15-827	Mac Donough St (677) bt Howard Av and Saratoga Av	DE		12/18/2015	12/18/2015	739		
481	15-839	E 49 St (86) and Ruland Rd	JL		11/6/2015	11/6/2015	832		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
482	15-840	92 St bt 4 Av and Ridge Blvd	EC		11/9/2015	11/13/2015			
483	15-856	Bedell Ln (9126) bt Remsen Av and E 92 St	DE		12/21/2015	12/22/2015	443		
484	15-858	W 13 St (1749) bt Quentin Rd and Highland Av	JL		11/20/2015	11/23/2015	844		
485	15-877	5 Av (4719)	EC		12/17/2015	12/18/2015	809		
486	15-878	Bedford Av (4281)	DE		12/9/2015	12/17/2015	1,747		
487	15-907	Rutland Rd (116) bt Flatbush Av and Bedford Av	JL		12/14/2015	12/14/2015	1,054		
488	15-920	Rodney St bt Lee Av and Bedford Av	DE		12/23/2015	12/23/2015	648		

Manhattan

489	13-949	Vestry St bt Hudson St and Varick St	EC		5/4/2015	5/14/2015	1,610		
490	13-960	3 Av (1864)	EC		7/8/2015	7/8/2015	675		
491	14-017	W 12 St bt 5 Av and 6 Av	EC		9/18/2015	9/21/2015	1,540		
492	14-541	Clarkson St and Washington St	DE		10/9/2014	4/1/2015			
493	14-567	Park Av WS bt E 118 St and E 119 St	YL		10/14/2014	5/26/2015	252		
494	14-631	Bowery St (227) bt Rivington St and Prince St	EC		3/9/2015	4/23/2015			
495	15-008	7 Av bt W 11 St and W 12 St	EC		1/12/2015	1/14/2015	675		
496	15-026	Lexington Ave bt E 130 St and E 131 St	YL		5/18/2015	6/15/2015	1,332		
497	15-066	Union Square West SQ W	EC		3/20/2015	3/24/2015	766		
498	15-067	Avenue B (205)	DE		3/23/2015	3/31/2015	908		
499	15-068	W 123 St (136)	EC		4/27/2015	5/5/2015	1,724		
500	15-122	W 114 St (301) bt 8 Av and Manhattan Av	EC		3/19/2015	3/19/2015	316		
501	15-189	Chrystie St bt Rivington St and Cannal St	EC		1/20/2015	3/9/2015	1,933		
502	15-197	E 36 St bt 1 Av and FDR Service Rd	EC		1/21/2015	3/13/2015	1,218		
503	15-200	W 138 St bt Broadway and 12 Av	YL		4/24/2015	4/24/2015	540		
504	15-276	11 Av bt w 52 St and 53 St	EC		4/1/2015	6/15/2015	1,366		
505	15-284	9 Av (3) at Gansevoort St	EC		4/9/2015	4/20/2015	1,036		
506	15-285	Washington St and Vestry St	EC		4/21/2015	5/14/2015	834		
507	15-286	E 26 St bt 1 Av and FDR Drive	RF		6/3/2015	1/19/2016			
508	15-364	Third Av (2262)	DE		1/5/2016		1,333		
509	15-387	1 Av (142) bt St Marks Pl and E 9 St	KD		5/27/2015	7/30/2015	1,378		
510	15-391	Centre St from Canal St to Duane St	EC		6/15/2015	6/15/2015	2,367		
511	15-392	Hamilton Terr (45) bt W 141 St and W144 St	JL		6/1/2015	6/1/2015	790		
512	15-400	Madison Av bt E38 St and E 39 St	EC		6/2/2015	6/3/2015	412		
513	15-441	W 66 St and Central Park W NWC	EC		6/26/2015	6/26/2015	884		
514	15-446	Sullivan St (79) bt Broome St and Spring St	EC		7/2/2015	7/2/2015	448		
515	15-564	Church St (14) bt Warren St and Chamber St	EC		7/20/2015	8/27/2015	590		
516	15-596	E 13 St from 3 Av to 2 Av	DE		9/3/2015	9/3/2015	656		
517	15-611	Madison Av and E 42 St	JL		8/5/2015	8/5/2015	310		
518	15-614	W 121 (264) bt 7 Av and St. Nicholas Av	EC		8/10/2015	8/11/2015	651		
519	15-633	5 Av (1249)	EC		10/8/2015	10/8/2015	1,426		
520	15-657	E 47 St bt 1 Av and 2 Av	EC		8/20/2015	8/21/2015	706		
521	15-658	E Broadway bt Clinton St and Montgomery St	EC		8/24/2015	8/24/2015	802		
522	15-666	Park Av (710) bt E 69 St and E 70 St	DE		8/28/2015	8/28/2015	215		
523	15-684	Park Av (222) bt E 18 St and E 19 St	EC		9/8/2015	9/17/2015	898		
524	15-693	E 104 St bt 3 Av and Lexington Av	KD		9/10/2015	9/11/2015	546		
525	15-786	Park Av (445) bt E 56 St and E 57 St	EC		10/8/2015	10/8/2015	216		
526	15-788	Greenwich St (828) bt Horatio St and Jane St	EC		10/9/2015	10/13/2015	175		
527	15-798	St.Nicholas Av bt W 165 St and W 163 St	DE		10/16/2015	10/22/2015	1,010		
528	15-881	W 47 St bt 10 Av and 11 Av	EC		11/30/2015	12/8/2015	769		
529	15-926	W 179 St and Amsterdam Av	EC		12/29/2015	1/7/2016	1,417		

Queens

530	11-270	53 Av (66-09) bt 66 St and 68 St	JL		6/19/2015	6/19/2015	529		
531	13-517	178 St (88-10) bt 88 Av 7 89 Av	JL		12/4/2015	12/4/2015	218		
532	13-687	73 St bt Roosevelt Av and 41 Av	DE		5/11/2015	5/11/2015	596		
533	13-812	108 St bt 64 Rd and Horace Harding Exp	TB		10/23/2013	4/14/2015	3,407		
534	13-902	Hillside Av (268-05)	JL		2/26/2015	2/26/2015	532		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
535	13-914	110 Av (212-20)	DL		4/16/2015	4/20/2015	849		
536	14-460	B 32 St (232)	DL		4/16/2015	4/16/2015	227		
537	14-625	30 Ave (30-19)	EC		10/5/2015	10/6/2015	334		
538	14-627	53 St (60-31)	JL		12/15/2015	12/15/2015	485		
539	14-689	125 St (104-66)	JL		2/18/2015	2/23/2015	888		
540	14-690	195 St (100-30)	JL		2/4/2015	2/12/2015	1,351		
541	14-691	114 Ave (221-37)	CP		2/9/2015	2/11/2015	1,805		
542	14-692	227 St (117-39)	NG		1/15/2015	1/15/2015	769		
543	14-696	67 St (71-25)	JL		1/14/2015	1/14/2015	638		
544	14-697	3 St (26-24)	JL		4/14/2015	4/14/2015	364		
545	14-699	Utopia Pkway (36-11)	JL		1/12/2015	1/13/2015	1,434		
546	14-739	24 St and 40 Av	RB		4/23/2015	4/23/2015	596		
547	15-009	SB Cross Island Pkway from 37 Av to 39 Av	JL		1/13/2015	1/13/2015	299		
548	15-069	Forely St (42-27)	DL		2/27/2015	2/27/2015	414		
549	15-070	Parsons Blvd (14-16)	JL		2/26/2015	2/26/2015			
550	15-071	Main St5 (75-23)	JL		2/26/2015	2/27/2015	439		
551	15-075	151 St (85-11)	DL		4/20/2015	4/20/2015	1,647		
552	15-076	90 Av (138-33)	DL		4/23/2015	4/24/2015	945		
553	15-079	Guy R Brewer Blvd (107-43)	DE		11/12/2015	11/13/2015	1,268		
554	15-083	89 Av (148-25)	JL		12/16/2015	12/17/2015	1,168		
555	15-091	168 St (137-33)	JL		9/15/2015	9/15/2015	765		
556	15-092	106 Rd (177-54)	DL		4/24/2015	4/24/2015	557		
557	15-096	Marsden St (115-64)	JL		5/21/2015	5/21/2015	1,072		
558	15-097	99 Av (212-08)	JL		5/26/2015	5/27/2015	1,613		
559	15-099	93 Av (220-05)	JL		5/20/2015	5/20/2015	660		
560	15-106	90 Av (247-67)	NG		5/19/2015	5/19/2015	700		
561	15-113	22 Ave bt 124 St and College Point Blvd	JL		2/10/2015	2/10/2015	734		
562	15-121	30 Av and 49 St (BQE W Sr)	EC		5/6/2015	5/6/2015	458		
563	15-153	B 74 St Outfall; ROC-633	NG		5/11/2015	7/10/2015	768		
564	15-176	35 Av Outfall ; TI-624	YL		5/8/2015	5/8/2015	151		
565	15-221	221 Pl (90-33)	DE		2/22/2015	2/22/2015	725		
566	15-287	159 St (45-05)	RB		4/24/2015	4/24/2015	960		
567	15-306	159 St bt 107 Av and 108 Av	RB		4/21/2015	4/21/2015	653		
568	15-349	135 St and 87 Av	JL		5/27/2015	5/28/2015	747		
569	15-350	Vernon Blvd (54-08) bt 54 Av and Body of Water	JL		5/20/2015	6/4/2015	106		
570	15-354	230 St (116-51) bt 116 Av and Linden Blvd	NG		5/18/2015	5/18/2015	528		
571	15-365	S Conduit Av (132-10)	EC		11/23/2015	11/23/2015	554		
572	15-366	133 St (117-30)	JL		7/29/2015	7/29/2015	814		
573	15-368	107 Av (150-21)	JP		8/14/2015	8/14/2015	113		
574	15-369	Rockaway Blvd (141-30)	JL		7/31/2015	8/13/2015	366		
575	15-370	Rockaway Blvd (152-34)	JL		7/30/2015	7/30/2015	949		
576	15-371	170-29 Henley Rd	DL		8/3/2015	8/4/2015	814		
577	15-372	McBride St (11-29)	DL		9/8/2015	9/8/2015	648		
578	15-373	174 St (110-16)	JL		7/28/2015	7/28/2015	881		
579	15-374	Bayport Pl (13-06)	DE		11/27/2015	11/27/2015	447		
580	15-375	256 St (149-74)	JL		7/16/2015	7/17/2015	891		
581	15-376	30 St (36-06)	JL		6/25/2015	6/29/2015	914		
582	15-377	34 Av (89-04)	JL		6/29/2015	6/30/2015	1,575		
583	15-378	265 St (76-08)	JL		7/16/2015	7/16/2015			
584	15-379	Hollis Av (199-10)	JL		8/11/2015	8/12/2015	1,039		
585	15-380	Beach 113 St (196)	JL		9/4/2015	9/4/2015	715		
586	15-388	Northern Blvd (150-24)	EC		6/4/2015	6/4/2015	284		
587	15-394	183 St (69-22)	NG		6/19/2015	6/24/2015	925		
588	15-395	130 St (119-75)	JL		6/25/2015	6/25/2015	489		
589	15-427	61 Rd (135-22)	NG		12/7/2015	12/7/2015	382		
590	15-430	45 Av and 81 St	JL		8/21/2015	8/25/2015	920		
591	15-431	124 St (15-34)	DE		11/25/2015	11/25/2015	697		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
592	15-435	8 Av (26) bt 141 St and 144 St	JL		7/2/2015	7/6/2015	1,756		
593	15-438	60 Av and 84 St	JL		8/12/2015	8/12/2015	512		
594	15-440	110 St (107-47)	DE		12/30/2015	12/31/2015	982		
595	15-566	Parsons Blvd (42-07)	DL		8/14/2015	8/18/2015	224		
596	15-568	Manton St (85-02)	DL		7/29/2015	7/29/2015	747		
597	15-587	119 St (22-05)	DL		8/18/2015	8/18/2015	514		
598	15-607	Nasville Blvd bt Grayson St and Nellis St	DL		8/4/2015	8/14/2015	482		
599	15-618	Demerest Rd	JL		8/13/2015	8/13/2015	153		
600	15-634	29 St (38-26)	DE		11/19/2015	11/20/2015	1,030		
601	15-635	34 Av (150-36)	DE		11/18/2015	11/18/2015	772		
602	15-636	148 St (86-10)	DE		10/21/2015	10/21/2015	976		
603	15-637	Midland Pkwy (184-27)	DE		10/23/2015	10/23/2015	750		
604	15-641	135 St (109-27)	DE		10/20/2015	10/20/2015	935		
605	15-642	Van Wyck Expy (109-70)	EC		10/1/2015	10/2/2015	1,474		
606	15-644	94 Av (144-02)	KD		9/29/2015	9/30/2015	666		
607	15-645	Inwood St (114-37)	DE		10/16/2015	10/16/2015	637		
608	15-647	Douglas Av (172-06)	YL		12/21/2015		377		
609	15-648	Jamaica Av (173-16)	DE		10/7/2015	10/23/2015	1,206		
610	15-649	199 St (118-45)	DE		11/9/2015	11/10/2015	1,052		
611	15-650	Montauk St (123-27)	DE		11/23/2015	11/23/2015	650		
612	15-651	240 St (92-70)	JL		10/28/2015	10/28/2015	826		
613	15-652	S Conduit Av (219-10)	DE		11/17/2015	11/17/2015	648		
614	15-653	B 31 St (327)	DE		11/27/2015	11/30/2015	462		
615	15-659	163 St (59-42)	DL		8/25/2015	8/25/2015	482		
616	15-675	83 St bt 58 Av and 60 Av	JL		11/17/2015	11/18/2015	493		
617	15-681	64 Ln (74001)bt 74 Av and Cooper Av	JL		9/1/2015	9/1/2015	739		
618	15-728	21 St (36-07)	KD		10/15/2015	11/20/2015	1,043		
619	15-729	80 St and 54 Av	JL		10/9/2015	10/14/2015	2,738		
620	15-731	Welling Ct (11-47)	JL		11/19/2015	11/20/2015	699		
621	15-733	54 St (41-48)	JL		12/30/2015	12/30/2015	836		
622	15-736	Pinson Av and Nameoke St	JL		10/19/2015	10/19/2015	15		
623	15-748	160 St (57-37)	JL		11/19/2015	11/19/2015	522		
624	15-750	146 St (29-05)	DE		12/28/2015	12/28/2015	273		
625	15-751	82 St (62-63)	JL		12/15/2015	12/16/2015	756		
626	15-799	120 St (15-15)	DE		11/25/2015	11/25/2015	340		
627	15-800	125 St (18-32)	JL		12/4/2015	12/4/2015	530		
628	15-801	137 Rd (218-11)	NG		12/7/2015	12/7/2015	300		
629	15-810	71 Av (166-11)	JL		11/18/2015	11/18/2015	37		
630	15-874	B 38 St bt Rockaway B Blvd and B Channel Dr	DE		11/24/2015	11/24/2015	498		
631	15-904	Marsden (116-15)	DE		12/29/2015	12/30/2015	1,087		
632	15-917	48 St and 55 Av	JL		12/23/2015	12/28/2015	1,243		
633	15-919	Starr St bt Woodward Av and Onderdonk Av	DE		12/24/2015	12/28/2015	1,046		

Staten Island

634	13-847	Amboy Rd (3130) bt Montreal Av and Clark Av	DE		4/3/2015	4/3/2015	468		
635	14-439	Broadway (332) bt South St and Cary Av	JL		6/9/2015	6/9/2015	695		
636	14-686	Oder Ave (466)	CP		1/9/2015	1/9/2015	518		
637	14-687	Van Duzer St (893)	DE		4/2/2015	4/2/2015	988		
638	14-688	N Burgher Ave (79)	JL		1/8/2015	1/9/2015	1,079		
639	14-725	Pendale St (569)	JL		5/7/2015	5/11/2015	806		
640	15-107	Hull Av (130)	DL		5/4/2015	5/4/2015	964		
641	15-108	Wiman Av (191)	JL		5/19/2015	5/29/2015	963		
642	15-109	Grasmere Av (68)	JL		3/4/2015	3/4/2015	859		
643	15-112	Goethals Rd N (827)	JL		5/5/2015	5/7/2015	1,958		
644	15-243	Gregg Pl (15) bt Randall Av and Hart Blvd	JL		7/9/2015	7/9/2015	468		
645	15-245	Willow Av (66) bt Bay St and Langere Pl	JL		5/1/2015	5/1/2015	1,069		
646	15-246	Yetman Av (158) bt Arthur Kill Rd and Crag Av	JL		4/30/2015	4/30/2015	1,595		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
647	15-259	Wilder Av (297)	JL		5/18/2015	5/18/2015	424		
648	15-261	Johnson Av (117)	RB		4/27/2015	4/28/2015	1,381		
649	15-262	Behan Ct (25)	JL		4/29/2015	4/29/2015	647		
650	15-266	Cedarview Av (126)	JL		5/12/2015	5/12/2015	810		
651	15-341	Leverett Av bt E lverton Av and Stieg Av	JL		5/11/2015	5/11/2015	529		
652	15-343	Shore Acres Rd (55)	JL		5/8/2015	5/8/2015	262		
653	15-347	Drumgoole Rd W (460) BT Korean WAR Vets Pkwy and Dorval A	JL		6/8/2015	6/9/2015	547		
654	15-348	Richmond Rd (3014) bt Bend and Geldner Av	JL		5/19/2015	5/19/2015	483		
655	15-352	Markham Pl (62) bt Dakota Pl and Deems Av	JL		7/24/2015	7/24/2015	30		
656	15-381	South Av (383)	JL		7/9/2015	7/10/2015	1,142		
657	15-382	Grandview Av (174)	JL		7/8/2015	7/8/2015	1,014		
658	15-384	Tompkins Av (751)	JL		7/20/2015	7/20/2015	300		
659	15-389	Chester Av SE-751	JL		5/28/2015	5/29/2015			
660	15-450	Manor Rd (740)	JL		7/24/2015	7/27/2015	1,108		
661	15-552	Holland Av (152) bt Macormac Pl and Arlington Pl	DL		7/13/2015	7/24/2015	2,184		
662	15-553	Steuben St (591) bt Fingerboard Rd and Beverly Rd	JL		7/17/2015	7/20/2015	570		
663	15-556	Victory Blvd bt Wooley Av and Martin Av	DL		7/15/2015	7/15/2015	274		
664	15-558	SE751 Chester Av	JL		10/15/2015	10/15/2015	12		
665	15-600	Page Av bt Amboy Rd and Creek SE-812	JL		9/24/2015	9/24/2015			
666	15-616	Schmidts Ln bt DE and Melhorn Rd	JL		9/16/2015	9/16/2015	464		
667	15-654	Cannon Av (25)	JL		10/1/2015	10/5/2015	1,543		
668	15-655	Sharpe Av (78)	JL		9/17/2015	9/24/2015	2,250		
669	15-656	Burbank Av (104)	JL		9/29/2015	9/29/2015	918		
670	15-698	Oakland Av bt Forest Av and Cary Av	JL		9/24/2015	9/28/2015	1,460		
671	15-744	SE-818 Sinclair Av bt Huguenot Av and Nippon Av	DE		10/23/2015	10/23/2015	85		
672	15-816	Jewett Av and Bond St	DE		12/11/2015	12/16/2015	337		
673	15-882	Forest Av bt Livermore Av and Barrett Av	YL		12/4/2015	12/4/2015	443		

The Bronx

674	13-1007	Quincy Av (821) bt Philip Av and Lafayette Av	JL		2/25/2015	2/25/2015	739		
675	13-1014	Randall Av (bend) Soundview Park HP-10 CSO25	YL		5/15/2014				
676	13-374	Locust Point	RF		12/29/2015	1/20/2016	1,298		
677	14-364	Webster Av and E 69 St (Project HWX100SBS)	DE		8/18/2014	9/26/2014			
678	14-720	Bruckner Blvd (515)	JL		1/5/2015	3/19/2015	610		
679	14-737	Westchester Av and Colgate Av	JL		1/7/2015	4/15/2015	531		
680	15-054	242 St Outfall ; HP-626	YL		5/7/2015	5/8/2015	1,021		
681	15-055	233 St Vicinity Outfall ; HP-627	YL		5/7/2015	5/7/2015	356		
682	15-144	Morris Av and Mount Eden Pkwy	CP		4/14/2015	4/14/2015	268		
683	15-252	E 172 St and Sheridan Av	CP		3/20/2015	3/20/2015	435		
684	15-283	Bruckner Blvd (1725)	JL		4/9/2015	4/16/2015	807		
685	15-420	Bruckner Blvd and Manor Av	JL		7/31/2015	8/3/2015	650		
686	15-625	Creston Av (2707)	JL		10/6/2015	10/6/2015	708		
687	15-665	Faile St and Viele Av	JL		10/7/2015	10/8/2015	878		
688	15-709	Watson Av bt Close Av and Colgate Av	DE		11/19/2015	11/19/2015	25		
689	15-822	Whitlock Av and E 165 St	YL		10/27/2015	10/27/2015			

2015 CITYWIDE Total, LF:	**243,502** (46.12 mi)			**1/2/2015**	**12/31/2015**	**243,280**		**222**
Operating Expenses, $	**2,946,503.43**							

* No footage indicates investigations where inspection of sewers was not required or completed

N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
2015 CMOM Grand Total, LF:		**374,152** (70.86 mi)		**9**	**1/2/2015**	**12/31/2015**	**243,877**	**95,039**	**35,236**
Operating Expenses, $		**2,946,503**							

* No footage indicates investigations where inspection of sewers was not required or completed

Appendix 2 – BWT

Table 1 – Summary of 101 Telemetered Regulators

Table 2 – BWT CY2015 Wastewater Collection Systems Cleaning Locations

Map 1 – BWT CY2015 Wastewater Collection Systems Cleaning Locations

Map 2 – BWT CY2015 Inspected Interceptors

Summary of 101 Telemetered Regulators

= 17 with Inclinometers
= 27 Key Regulators*
= 3 additional Key Regulators

05/01/16

No.	WPCP	Reg. No.	Regulator Location	Outfall SPDES No.	Reg. Type	Flow Compartment	Weir Data		Hydraulic Capacity	Flow Data	
							Length (ft)	Elev. (ft)	(mgd)	Peak (mgd)	Mean DWF (mgd)
1	26W	01	TIDE GATE (26 WARD WPCP)	004	TG.	S.G./72"x56"			N/A	21.71	19.15
2	26W	02	WILLIAMS & FLATLANDS AVES.	003	HYD.	S.G./48"x36"	68'-0"	-6.00	32.85	11.34	9.80
3	26W	03	CRESENT ST. & FLATLANDS AVE.	005	HYD.	S.G./48"x36"	76'-0"	-6.85	38.53	29.72	24.64
3 Subtotal											
1	BBL	L-04	47th AV. BETW. 28th & 29th ST.	026	HYD	SG/36"x30"	9'-0"	-2.50	24.46	9.57	6.67
2	BBL	L-21	37th AVE. & VERNON BLVD.	028	HYD	SG/30"x24"	22'-6"	-4.00	20.00	14.50	11.19
3	BBL	L-22	VRNON BLVD. & BROADWAY	029	HYD	SG/30"x24"	12'-0"	-5.00	19.72	12.18	9.06
4	BBL	L-23	30th RD. & VERNON BLVD.	030	DC/TG	FO/12"DIA.	2'-0"	-1.75	1.36	N/A	0.21
5	BBL	L-30	ASTORIA PARKS E/O SHORE BLVD.	034	HYD	SG/24"x24"	13'-0"	-0.25	12.67	15.48	12.28
6	BBH	02	45th ST. & PLANT	002	DC/TG	AT THE PLANT	9'-0"	-3.50	N/A	89.08	61.32
7	BBH	03	HAZEN ST. & 19th ST. AVE.	003	DC/TG	FO /18" DIA.	5'-6"	+4.00	7.45	2.16	1.54
8	BBH	06	108th ST. & DITMARS BLVD.	008	DC	FO,DP	4'-0"	+9.00	94.94	N/A	33.29
9	BBH	09	108th ST. & 43rd. AVE.	008	DC	FO,DP	5'-0"	+14.80	99.58	49.71	40.27
9 Subtotal											
1	HP	01	E.177th ST. E/O TIERNEY PL.	022	HYD.	S.G./18"x12"	9'-2"	-5.00	4.35	1.52	0.61
2	HP	02	SHORE DR. S/O PENNYFIELD AVE.	021	HYD.	S.G./30"x30"	8'-0"	-4.77	13.17	6.56	5.61
3	HP	03	CALHOUN AVE. S/O SCHURZ AVE.	019	HYD.	S.G./12"x12"	8'-0"	-2.88	2.71	1.84	1.30
4	HP	04	BRUSH AVE. & BRUCKNER BLVD.	016	HYD.	S.G./30"x30"	8'-10"	-4.50	9.84	4.18	3.18
5	HP	05	WHITE PL. RD. S/O RIVER AVE.	011	HYD.	S.G./18"x12"	26'-0"	-4.50	1.87	N/A	0.50
6	HP	06	WHITE PL. RD. & O'BRIEN AVE.	011	HYD.	S.G./2EA.72"x48"	8'-0"	-5.00	150.13	81.41	66.49
7	HP	08	TRUXTON ST. & OAKPOINT AVE.	025	HYD.	S.G./24"x24"	9'-0"	-2.92	15.27	6.86	5.30
8	HP	09	TIFFANY ST. & EAST BAY AVE.	002	HYD.	S.G.48"x36"	12'-0"	-3.60	52.54	15.41	11.94
9	HP	10	HUNTS POINT AVE. & RYAWA AVE.	003	HYD.	S.G./2EA.36"x30"	15'-0"	-3.65	56.38	18.01	15.58
10	HP	11	EMERSON & SCHURZ AVENUES	017	HYD.	S.G.18"x18"	16'-6"	-4.00	5.58	2.33	1.40
11	HP	12	ROBINSON & SCHURZ AVENUES	018	HYD.	S.G./12"x12"	4'-0"	-2.72	3.48	0.17	0.09
12	HP	13	METCALF AVE. & SOUNDVIEW PARK	009	HYD.	S.G./2EA.36"x30"	21'-0"	-5.00	51.37	44.07	21.63
13	HP	14	EDGEWATER PARK	026	TG.	F.O.			N/A	N/A	N/A
13 Subtotal											
1	JA	01	JFK AIRPORT	006	DC/TG.	F.O.	12'-0"	+1.00	N/A	N/A	53.95
2	JA	02	79th ST. N. CONDUIT AVE.	26W-005	HYD. MAN	S.G./36"x24" S.G./36"x48"	5'-0"	-0.21	23.14	N/A	2.82
3	JA	03	123rd. PLACE & 150th AVE.	003	HYD.	S.G./36"x48"	16'-3"	+3.15	40.92	14.20	11.06
4	JA	09	LINDEN BLVD. & SPRINGFIELD BLVD.	005	DC.	F.O.	22'-0"	+27.77	N/A	N/A	8.30
5	JA	14	124th ST. & N.CONDUIT AVE.	003a	HYD.	S.G./24"x18"	30'-0"	-1.35	N/A	3.70	2.69
5 Subtotal											
1	NC(Q)	Q-01	RUST ST. & 56th ST.	077	HYD.	S.G./24"x24"	16'-0"	+1.00	15.14	8.07	4.92
2	NC(B)	B-01	JOHNSON AVE. W/O PORTER AVE.	015	HYD.	S.G./2ea.48"x36"		-4.68	157.45	44.53	36.57

3	NC(B)	B-04	KENT AVE. & TAYLOR ST.	014	HYD.	S.G./48"x36"	12'-3"	-8.57	41.08	47.68	40.91
4	NC(B)	B-05	DIVISION AVE. W/O KENT AVE.	013	HYD.	S.G./48"x36"	12'-0"	-4.59	52.86	20.17	17.27
5	NC(B)	B-06	S.5th AVE. W/O KENT AVE.	012	HYD.	S.G./36"x24"	16'-6"	-2.59	20.95	15.99	11.98
6	NC(B)	B-09	N.12th ST. & KENT AVE.	006	HYD.	S.G./36"x24"	22'-0"	-5.84	33.10	17.07	12.07
7	NC(M)	M-01	CLARKSON ST. & WEST ST.	076	HYD	SG/30"x18"	14'-0"	-3.75	14.49	17.89	13.99
8	NC(M)	M-02	N/O CANAL ST. & WEST ST.	075	HYD	SG/30"x24"	16'-0"	-3.92	18.99	23.15	21.56
9	NC(M)	M-10	SOUTH ST. N/O BROAD ST.	069	HYD	SG/24"x24"	7'-6"	-4.50	11.57	6.55	4.64
10	NC(M)	M-16	SOUTH ST. N/O DOVER ST.	078	TG	AT REG. M-17	25'-0"	-6.10	14.53	N/A	N/A
11	NC(M)	M-17	SOUTH ST. & ROBERT WAGNER SR. PL.	066	HYD	SG/24"x12"	7'-6"	-3.79	6.37	9.54	6.00
12	NC(M)	M-19	SOUTH ST. S/O CATHERINE SLIP	050	HYD	SG/24"x24"	5'-6"	-3.13	12.75	15.00	11.50
13	NC(M)	M-21	SOUTH ST & JEFFERSON ST.	063	HYD	SG/24"x18"	14'-0"	-3.71	8.71	6.84	5.00
14	NC(M)	M-36	FDR DR. & E.14th ST.	052	HYD	SG/36"x24"	12'-0"	-3.83	22.61	N/A	7.43
15	NC(M)	M-37	E.18th ST. & AVE.C	049	HYD	SG/30"x24"	13'-0"	-4.00	19.15	12.22	6.30
16	NC(M)	M-40	FDR DR. & E.26th ST.	045	HYD	SG/24"*24"	19'-6"	-3.45	15.88	10.82	8.09
17	NC(M)	M-42	E.33rd ST. E/O 1st AVE.	041	HYD	SG/24"x18"	19'-6"	-4.00	12.96	10.00	6.80
18	NC(M)	M-44	E.41st ST. E/O 1st AVE.	037	HYD	SG/30"x24"	12'-0"	+2.85	28.82	12.05	6.62
19	NC(M)	M-47	FDR DR. & E.49th ST.	036	HYD	SG/42"x36"	12'-0"	-0.85	49.82	34.73	15.99
20	NC(M)	M-50	FDR DR. & E.61st ST.	032	HYD	SG/2ea. 36"x24"	18'-0"	-1.35	48.30	26.76	16.65
20 Subtotal											
1	NR	N-03	W.201st ST. & HARLEM RIVER	017	HYD	SG/30"x24"	6'-0"	-2.60	17.82	27.54	11.85
2	NR	N-16	DYKMAN ST. & HENRY HUDSON PKWY.	006	HYD	SG/30"x24"	18'-0"	-1.28	22.19	9.51	3.94
3	NR	N-18	RIVERSIDE DR. & W.172nd. ST.	004	HYD	SG/30"x30"	5'-0"	+39.00	25.51	8.84	7.17
4	NR	N-23	ST.CLAIR PLACE & 12th AVE.	043	HYD	SG/36"x24"	18'-0"	-3.40	50.04	53.32	35.11
5	NR	N-26	RIVERSIDE PARK & W.96th ST.	040	HYD	SG/2ea. 30"x24"			68.55	7.85	4.82
6	NR	N-28	RIVERSIDE PARK & W.80th ST.	038	HYD	SG/42"x36"	9'-6"	+14.80	45.16	18.62	15.69
7	NR	N-29A	FREEDOM PL. & W.66th ST.	046	HYD	SG/36"x24"	5'-6"	+10.00	32.48	N/A	7.45
8	NR	N-33	TWELFTH AVE. & W.48th ST.	033	HYD	SG/2ea. 42"x30"	9'-0"	-2.41	96.25	29.24	23.71
9	NR	N-45	TWELFTH AVE. & W.30th ST.	027	HYD	SG/2ea. 30"x24"	25'-6"	-3.90	49.89	N/A	8.47
10	NR	N-50	ELEVENTH AVE. & W.18th ST.	023	HYD	SG/36"x30"	11'-0"	-3.49	31.65	8.95	6.09
10 Subtotal											
1	OH	01	92nd ST. & BELT PKWY	017	HYD.	S.G/2ea.72"x48"	18'-0"	-1.34	116.79	46.11	36.85
2	OH	03	79th ST. E/O BELT PKWY (IN PARK)	018	HYD.	S.G/1ea.36"x24"	11'-0"	-3.24	9.89	0.04	0.03
3	OH	04	71st ST. E/O BELT PKWY (IN PARK)	019	HYD.	S.G/1ea.24"x18"	4'-6"	-3.84	6.07	2.77	1.94
4	OH	06	64th ST. IN RR YARD	002	HYD.	S.G/2ea.66"x36"			151.70	118.28	70.33
5	OH	07	49th ST. & 1st AVE.	003	HYD.	S.G/1ea.60"x36"			41.41	22.59	19.35
6	OH	10	23st AVE. & 82rd ST.								0.25
7	OH	11	AVE. V & W.11th ST.	N/A	HYD MAN	S.G./30" x 30" S.G./54" x 32"					
8	OH	07D	43nd ST. & 1st AVE.	004	TG.	F.O.	NO	WEIR	N/A	N/A	N/A
9	OH	09A	17th AVE. & BATH AVE.	015	DC.	80" INT.SEWER			N/A	53.03	36.10
10	OH	09B	17th AVE. & 72nd ST.	015	DC.				N/A	N/A	N/A
10 Subtotal											
1	PR	R-13E	CANAL ST. & FRONT ST	031	HYD.	S.G./30"x30"	21'-0"	-4.35	34.85	N/A	N/A
2	PR	R-35W	BODINE ST. & RICHMOND TERR.	035	MECH.	S.G./12"DIA.	18" DIA	-0.58	57.47	30.87	21.55
3	PR	R-06W	RICHMOND TERR. & NICHOLAS AVE.	029	HYD.	S.G./30x24"	24" DIA	3.35	26.37	10.90	7.90

3 Subtotal											
1	RH	R-02	WOLCOTT ST. & CONOVER ST.	028	HYD.	S.G./2EA.36"x24"	11'-0"	-2.74	37.85	17.67	11.49
2	RH	R-20	GOLD ST. @ PLYMOUTH ST.	004	HYD.	S.G./2EA.48"x36"	13'-6"	-4.57	109.70	43.70	26.23
3	RH	R-21	HUDSON AV.@ PLYMOUTH ST.	003	HYD.			-2.07	2.84	11.00	6.92
3 Subtotal											
1	RK	01	B.106th ST. & BEACH CHANNEL DR.	029	MECH.	.G./2EA.40.75"x20	5'-6"	-6.00	103.98	13.89	10.99
1 Subtotal											
1	TI	09	LINDEN PL & 32nd AVE.	011	HYD.	F.O. 60"DIA.	15'-9"	+4.75	103.40	46.74	32.56
2	TI	10A	144th ST. & 7th AVE.	003	DC.	F.O./12"DIA.	5'-0"	+8.50	30.34	9.89	N/A
3	TI	13	15th DR. & WILLETS POINT BLVD.	023	HYD.	S.G./24"x18"	9'-0"	+24.65	12.78	3.87	2.81
4	TI	30	QUINCE AVE. & KISSENA BLVD.	010	MECH.	S.G./9"x33"	10'-0"	+1.88	5.45	5.27	2.10
5	TI	40	FRESH MEADOW LA. & PECK AVE.	010	HYD.	S.G./36"x28"	11'-6"	+19.05	24.31	7.56	5.00
6	TI	46	210 th ST. & LIE (N.S)	008	DC.	F.O./30"DIA.	12'-0"	+51.10	15.91	4.90	2.54
7	TI	47	218th ST & LIE (N.S)	008	DC.	F.O.	7'-6"	+69.40	12.48	0.80	0.61
8	TI	49	220th PL. & 46th AVE.	008	DC.	F.O./12"DIA.	6'-6"	+44.50	1.57	0.43	0.23
8 Subtotal											
1	WI(M)	02B	N/O E. 74th ST. & FDR DR.	003	HYD.	S.G./30"x24"			26.00	N/A	N/A
2	WI(M)	07	E.79th ST. & FDR DR.	008	HYD.	S.G./30"x24"	4'-4"	-2.14	22.27	11.98	8.00
3	WI(M)	23	E.106th ST. & FDR DR.	023	HYD.	S.G./30"x24"	15'-0"	-3.82	16.84	10.17	6.81
4	WI(M)	24	E.110th ST. & FDR DR.	024	HYD.	S.G./48"x36"	17'-0"	-4.57	38.28	14.63	10.70
5	WI(M)	38	E.135th ST. & E/O HARLEM R. DR.	038	HYD.	S.G./24"x24"	5'-0"	-4.30	15.36	13.38	10.63
6	WI(M)	45	W.147th ST. & IRT YARD	045	MAN.	S.G./18"x18"	7'-6"	-4.47	7.29	6.88	5.28
7	WI(M)	46	W.151st ST. & PLAYGROUND	046	HYD.	S.G./30"x24"	13'-0"	-3.50	19.36	11.37	10.20
8	WI(M)	51	N/S HARLEM R. DR. (W.167th ST.)	051	HYD.	S.G./18"x18"	3'-6"	+9.80	10.81	5.69	3.98
9	WI(M)	52	N/S HARLEM R. DR. (W.176th ST.)	052	HYD.	S.G./18"x18"	7'-0"	+43.88	8.32	6.20	3.94
10	WI(B)	53	BRUCKNER BLVD. & BROOK AVE.	068	HYD.	S.G./42"x42"	25'-0"	-7.42	248.67	62.39	52.64
11	WI(B)	58	MAJOR DEEGAN S/S 138th ST.	075	HYD.	S.G./30"x24"	11'-2"	-3.75	16.06	17.47	7.79
12	WI(B)	60	JEROME AVE. & McCOMBS DAM PARK	062	HYD.	S.G./42"x42"	9'-3"	-2.81	67.29	16.10	13.42
13	WI(B)	62	UNDERCLIFF & SEDGEWICK AVE.	060	HYD.	S.G./30"x24"	12'-8"	-3.83	16.36	36.24	22.66
14	WI(B)	67	E.192nd ST. W/O BAYLEY AVE.	056	HYD.	S.G./48"x36"	28'-0"	-3.55	57.85	49.05	36.38
15	WI(B)	68	E.149th ST. & EAST RIVER	072	HYD.	S.G./24"x24"	8'-0"	-3.00	13.6	9.14	8.27
15 Subtotal											
100 Total											

*Original count of 28 Key Regulators temporaily included PR-35W while PR-13E and PR-06W were out of service for repair.

Table 2 – CY'14 Wastewater Collections Systems Cleaning Locations

Appendix 2 Table 2

Drainage Area	Asset Type	Asset	Volume Removed (cu yds.)
26W	Plant	FM	10.62
26W	Sewer	Septic Pump Pit	6.7
26W	Sewer	Septic Pump Pit	7.33
BB	Plant	Splitter Box	7.85
BB	Plant	Splitter Box	5.77
BB	Plant	Splitter Box	8.83
BB	Plant	PT#4	10.34
BB	Plant	PT#4	10.54
BB	Plant	PT#4	10.54
BB	Plant	PT#4	3
BB	Plant	PT#3	3
BB	Plant	PT#2	3
BB	Plant	PT#3	8.66
BB	Plant	PT#5	9.98
BB	Plant	PT#6	9.77
BB	Plant	Influent Channel	8.32
BB	Plant	PT#6	10.66
BB	Plant	Influent Channel	7.83
BB	Plant	Channel Bldg #7	9.32
BB	Plant	Pre-Tank #6	10.28
BB	Plant	Pre-Tank #6	10.66
BB	Plant	Pre-Tank #6	9
BB	Plant	Pre-Tank #6	2.77
BB	Plant	Pre-Tank #6	10.92
BB	Plant	Pre-Tank #6	9.59
BB	Pump Station	Rikers Island North	5.43
BB	Pump Station	Park Dr. East	6.27
BB	Pump Station	Park Dr. East	5.58
BB	Pump Station	Park Dr. East	7.41
BB	Pump Station	Park Dr. East	2.7
BB	Pump Station	108th St.	6.32
BB	Pump Station	108th St.	6.85
BB	Pump Station	108th St.	6.29
BB	Pump Station	108th St.	5.16
BB	Pump Station	Roosevelt Island North	1.8

BB	Pump Station	Roosevelt Island South	1.8
BB	Pump Station	Roosevelt Island Main	1.8
BB	Pump Station	Rikers Island South	7
BB	Pump Station	67th Rd.	8
BB	Pump Station	67th Rd.	10
BB	Regulator	BBLL 29A	5
BB	Regulator	BBLL 42	4
BB	Regulator	BBLL 11	3.5
BB	Regulator	BBLL 3	3.5
BB	Regulator	BBLL 3	8
BB	Regulator	67th Rd.	9
BB	Regulator	BBLL21	3
CI	CSO	CSO Tank	10.28
CI	CSO	CSO Tank	7.59
CI	CSO	CSO Tank	9.28
CI	CSO	CSO Tank	9.24
CI	CSO	CSO Tank	8.86
CI	CSO	CSO Tank	10.39
CI	CSO	CSO Tank	8.99
CI	CSO	CSO Tank	6.54
CI	CSO	CSO Tank	9.23
CI	CSO	CSO Tank	9.59
CI	CSO	CSO Tank	9.92
CI	CSO	CSO Tank	9.91
CI	CSO	CSO Tank	10.56
CI	CSO	wet well	9.55
CI	CSO	holding tank	8.61
CI	CSO	CSO Tank	10.15
CI	CSO	Pit	6.81
CI	Pump Station	Paerdegat	4.47
CI	Pump Station	Paerdegat	2.76
CI	Pump Station	Paerdegat	6.7
CI	Pump Station	Paerdegat	6.7
CI	Pump Station	Av M	3.65
CI	Pump Station	Paerdegat	8.53
CI	Pump Station	Paerdegat	4.17
HP	Plant	HP	3.79
HP	Plant	HP	7.99
HP	Pump Station	Rikers Island North	6.85
HP	Pump Station	Rikers Island North	6.54
HP	Pump Station	Rikers Island North	3.88

HP	Pump Station	Rikers Island North	4.3
HP	Pump Station	Rikers Island North	7.52
HP	Pump Station	Rikers Island North	6.23
HP	Pump Station	Rikers Island North	4.61
HP	Pump Station	Rikers Island North	6.23
HP	Pump Station	Rikers Island North	5.65
HP	Pump Station	Ely Ave	7
HP	Pump Station	Ely Ave	5
HP	Pump Station	Co-op City South	8
HP	Pump Station	Co-op City South	8
HP	Pump Station	Co-op City South	10
HP	Pump Station	Co-op City South	10
HP	Pump Station	Co-op City South	10
HP	Pump Station	Hollers Ave	10
HP	Pump Station	Hollers Ave	6
HP	Pump Station	Hollers Ave	5
HP	Pump Station	Rikers Island North	6.52
HP	Pump Station	Gildersleeve Ave	12
HP	Pump Station	Hunts PT Market	10
HP	Pump Station	Hunts Pt. Market	6
HP	Pump Station	Hunts Pt. Market	8
HP	Pump Station	White Plains RD	5
HP	Pump Station	White Plains RD	8
HP	Pump Station	White Plains RD	7
HP	Pump Station	White Plains RD	8
HP	Pump Station	Hunts Pt Market	10
HP	Pump Station	Hunts Pt Market	8
HP	Pump Station	Hunts Point Market	7
HP	Pump Station	Hunts Point Market	8
HP	Regulator	HP5	4.5
HP	Regulator	HP13	6
HP	Regulator	HP13	10
HP	Regulator	HP-1	5
HP	Regulator	HP-2	5
HP	Regulator	HP-3	4
HP	Regulator	HP 5	5
HP	Regulator	HP 15C	5
HP	Regulator	HP-1	3
HP	Regulator	HP-1	3
HP	Regulator	HP 15C	3
HP	Regulator	HP5	4

HP	Regulator	Hunts PT Market	5
HP	Regulator	HP 13	4
HP	Regulator	HP1	4
HP	Regulator	HP2	4
HP	Regulator	HP1	4
HP	Regulator	HP1	5
HP	Regulator	HP2A	3
HP	Regulator	HP 5	3.5
HP	Regulator	HP05	4
HP	Regulator	HP07	6
HP	Regulator	HP-07	5
HP	Regulator	HP 1C	8
HP	Regulator	HP 1	3
HP	Regulator	HP 5	3
HP	Regulator	HP 5	3
HP	Regulator	HP2	3
HP	Regulator	HP2	3
HP	Regulator	HP-11	10
HP	Sewer	HP 1A	7
HP	Sewer	HP 1A	8
JA	Pump Station	Howard Beach	5.61
JA	Pump Station	Howard Beach	5.61
JA	Pump Station	Howard Beach	4.25
JA	Pump Station	Howard Beach	8.05
NC	Regulator	NCM-35	5
NC	Regulator	NCM 31	6
NC	Regulator	NCM 35	7
NC	Regulator	NCM 32	4
NC	Regulator	NCM 51	4
NC	Regulator	NCM 32	4
NC	Regulator	NCM 35	4
NC	Regulator	NCM 35	5
NC	Regulator	NCM 35	6
NC	Regulator	NCM 35	7
NC	Regulator	NCM 35	5
NC	Regulator	NCM 35	6
NC	Regulator	NCM 35	6
NC	Regulator	NCM 51C	4
NC	Regulator	NCM 35	6
NC	Regulator	NCM 35	6
NC	Regulator	NCM 35	5

NC	Regulator	NCM 35	6
NC	Regulator	NCM 35	5
NC	Regulator	NCM 51C	4
NC	Regulator	NCM 35	4
NC	Regulator	NCM 35	4
NC	Regulator	NCM 35	4
NC	Regulator	NCM 35	3
NC	Regulator	NCM4	4
NC	Regulator	NCM 35	5
NC	Regulator	NCM 38A	3
NC	Regulator	NCM4	4
NC	Regulator	NCM-4	4
NC	Regulator	NCM 04	7
NC	Regulator	NCM 35	3
NC	Regulator	NCM 35	5
NR	Regulator	NR-20	5
NR	Regulator	NR 2	4
NR	Regulator	NR3	3
NR	Regulator	NR 4	3.5
NR	Regulator	NR02	6
NR	Regulator	NR 20	5
NR	Regulator	NR 20	4
NR	Regulator	NR 30	5
NR	Regulator	NR 5	3
NR	Regulator	NR 5	5
NR	Regulator	NR-20	4
NR	Regulator	NR-24	4
NR	Regulator	NR-2A	5
NR	Regulator	NR 2	3
NR	Regulator	NR 2	4
NR	Regulator	NR 2B	6
NR	Regulator	NR 2	4
NR	Regulator	NR 3	4
NR	Regulator	NR 2C	7
NR	Regulator	NR03	6
NR	Regulator	NR 3	2.5
NR	Regulator	NR 4	2.5
NR	Regulator	NR 6	6
NR	Regulator	NR 40	2
NR	Regulator	NR-20	2
OB	Plant	Split Box	6.38

OB	Plant	Split Box	4.61
OB	Plant	Split Box	6.78
OB	Plant	South Beach	7.77
OB	Pump Station	South Beach	6.32
OB	Pump Station	South Beach	5.89
OB	Pump Station	South Beach	7.61
OB	Pump Station	Richmond Ave	7.57
OB	Pump Station	Richmond Ave	7.1
OB	Pump Station	Richmond Ave	6.26
OB	Pump Station	Richmond Ave	6.65
OB	Pump Station	Mayflower Ave	6.06
OB	Pump Station	Mayflower Ave	7.17
OB	Pump Station	Mayflower Ave	8.3
OB	Pump Station	Mayflower Ave	6.62
OB	Pump Station	Richmond Hill Rd	5.72
OB	Pump Station	Eltingville	6.94
OB	Pump Station	Mayflower Av	5.59
OB	Pump Station	Mayflower Av	6.74
OB	Pump Station	Mayflower Av	5.85
OB	Pump Station	South Beach	8.52
OH	Pump Station	2nd Ave	6.82
OH	Pump Station	Bush Terminal	4.1
OH	Pump Station	Prospect Expwy	4.64
OH	Pump Station	Prospect Expwy	5.23
OH	Pump Station	Prospect Expwy	6.25
OH	Pump Station	Ave U	2.86
OH	Pump Station	2nd Ave	2.33
PR	Plant	Influent Channel	7.29
PR	Plant	Influent Channel	8.84
PR	Plant	MSP Influent Channel	10.81
PR	Pump Station	Nautilus Court	4.73
PR	Pump Station	Hannah St	5.14
PR	Pump Station	Hannah St	5.39
PR	Pump Station	Hannah St	6.55
PR	Pump Station	Mesereau Av	5.74
PR	Pump Station	Mesereau Av	7.19
PR	Pump Station	Mesereau Av	6.06
PR	Pump Station	Mesereau Av	6.32
PR	Pump Station	Nautilus Court	5.15
PR	Pump Station	Hannah St.	5.23
PR	Pump Station	Hannah St.	5.35

PR	Pump Station	Hannah St.	4.03
PR	Pump Station	Hannah St.	8.26
PR	Pump Station	Hannah St.	7.85
PR	Pump Station	Hannah St.	7.81
PR	Pump Station	Hannah St.	8.3
PR	Pump Station	Mesereau Ave	9.75
PR	Pump Station	Mesereau Ave	8.23
PR	Pump Station	Mesereau Ave	9.05
PR	Pump Station	Mesereau Ave	8.6
PR	Pump Station	Mesereau Ave	7.26
PR	Pump Station	Arlene Av	2.17
PR	Pump Station	Cannon Av	2.17
PR	Pump Station	Victory Blvd	2.17
PR	Regulator	PRE03	3.32
PR	Regulator	PRE34-TG Chamber	3.32
PR	Regulator	PRE01	8.02
PR	Regulator	PRE15	9.75
PR	Regulator	PRE15	9.09
RH	Pump Station	Kane St.	5.34
RH	Pump Station	Kane St.	5.97
RH	Pump Station	Kane St.	7.1
RH	Pump Station	Van Brunt	5.96
RH	Pump Station	Van Brunt	2.33
RH	Regulator	RH21	4.46
RK	Plant	C-Battery RAS Chnnl	7.36
RK	Plant	C-Battery RAS Chnnl	8.55
RK	Plant	C-Battery RAS Chnnl	8.59
RK	Plant	C-Battery RAS Chnnl	8.23
RK	Pump Station	Seagirt Ave	1.15
RK	Pump Station	Seagirt Ave	6.5
RK	Pump Station	Seagirt Ave	6.65
RK	Pump Station	Seagirt Ave	5.59
RK	Pump Station	Nameoke Av	4.09
RK	Pump Station	Seagirt Ave	5.5
RK	Pump Station	Seagirt Ave	6.7
RK	Pump Station	Borden Ave	5.46
RK	Pump Station	Seagirt Ave	6.97
RK	Pump Station	Broad Channel	5.55
RK	Regulator	RK-1	2.66
RK	Regulator	RK-2	2.66
RK	Regulator	Seagirt Ave	8.97

RK	Sewer	M4071339	4.05
RK	Sewer	M4069340	4.05
RK	Sewer	M40722919	4.42
RK	Sewer	M4073961	4.42
RK	Sewer	M4071339	4.62
RK	Sewer	M4069340	4.62
RK	Sewer	M40722919	5.43
RK	Sewer	M4073961	5.43
RK	Sewer	S42834	3.71
RK	Sewer	M4073711	3.71
RK	Sewer	M4074082	4.83
RK	Sewer	M4073734	4.83
RK	Sewer	M4073637	4.13
RK	Sewer	M4072919	4.13
RK	Sewer	M4074082	4.58
RK	Sewer	M4073734	4.58
RK	Sewer	S42834	4.47
RK	Sewer	M4073711	4.47
RK	Sewer	M4073637	3.84
RK	Sewer	M4072919	3.84
RK	Sewer	M4073814	8.38
RK	Sewer	M4072705	8.28
RK	Sewer	M4073816	9.75
RK	Sewer	M4074307	8.27
RK	Sewer	M4070764	9.41
RK	Sewer	S42857	8.25
RK	Sewer	M4073816	4.08
RK	Sewer	M4073708	4.08
RK	Sewer	S42576	4.27
Rk	Sewer	M4072705	4.27
RK	Sewer	M4074082	4.4
RK	Sewer	M4073814	4.4
RK	Sewer	S42857	9.27
RK	Sewer	M4073735	4.6
RK	Sewer	M4073816	4.6
RK	Sewer	M4074307	8.52
TI	CSO	Flushing Bay	10
TI	CSO	CSO	10
TI	CSO	Alley Creek	8
TI	CSO	Alley Creek	10
TI	CSO	Alley Creek	10

TI	Pump Station	Linden PL	5.14
TI	Pump Station	Linden PL	6.74
TI	Pump Station	37 Ave	4
TI	Pump Station	15th Ave	4
TI	Pump Station	15th Ave	4
TI	Pump Station	15th Ave	3
TI	Pump Station	15th Ave	2
TI	Pump Station	15th Ave	4
TI	Pump Station	67th RD	5
TI	Pump Station	154th St	20
TI	Pump Station	154th St	20
TI	Regulator	TI-30	5.86
TI	Regulator	TI 7	6
TI	Regulator	TI 7	3.5
TI	Regulator	TI 6	3.5
TI	Regulator	TI 7	2
TI	Regulator	TI 6	2
TI	Regulator	TI 6	2
TI	Regulator	TI 7	2
TI	Regulator	WIM44	4.5
TI	Regulator	TI-6	4
TI	Regulator	TI-6	6
TI	Regulator	TI-6	5
TI	Regulator	TI-6	4
TI	Regulator	TI-57	3
TI	Sewer	M4022272	5.95
TI	Sewer	M4016785	11.17
TI	Sewer	MH401553 to MH 401678	11.89
TI	Sewer	M4016785	5.53
TI	Sewer	M4016786	5.52
TI	Sewer	M4016785	3.86
TI	Sewer	M4016796	3.87
TI	Sewer	M4016787	3.87
TI	Sewer	M4015553	11.45
TI	Sewer	MH 4016784A	10.11
TI	Sewer	MH4015553	11.44
TI	Sewer	MH4015553	11.26
	CSO	Channel #3	7.97
	CSO	Channel #3	8.26
	CSO	Channel #3	6.65
	CSO	Channel #3	8.22

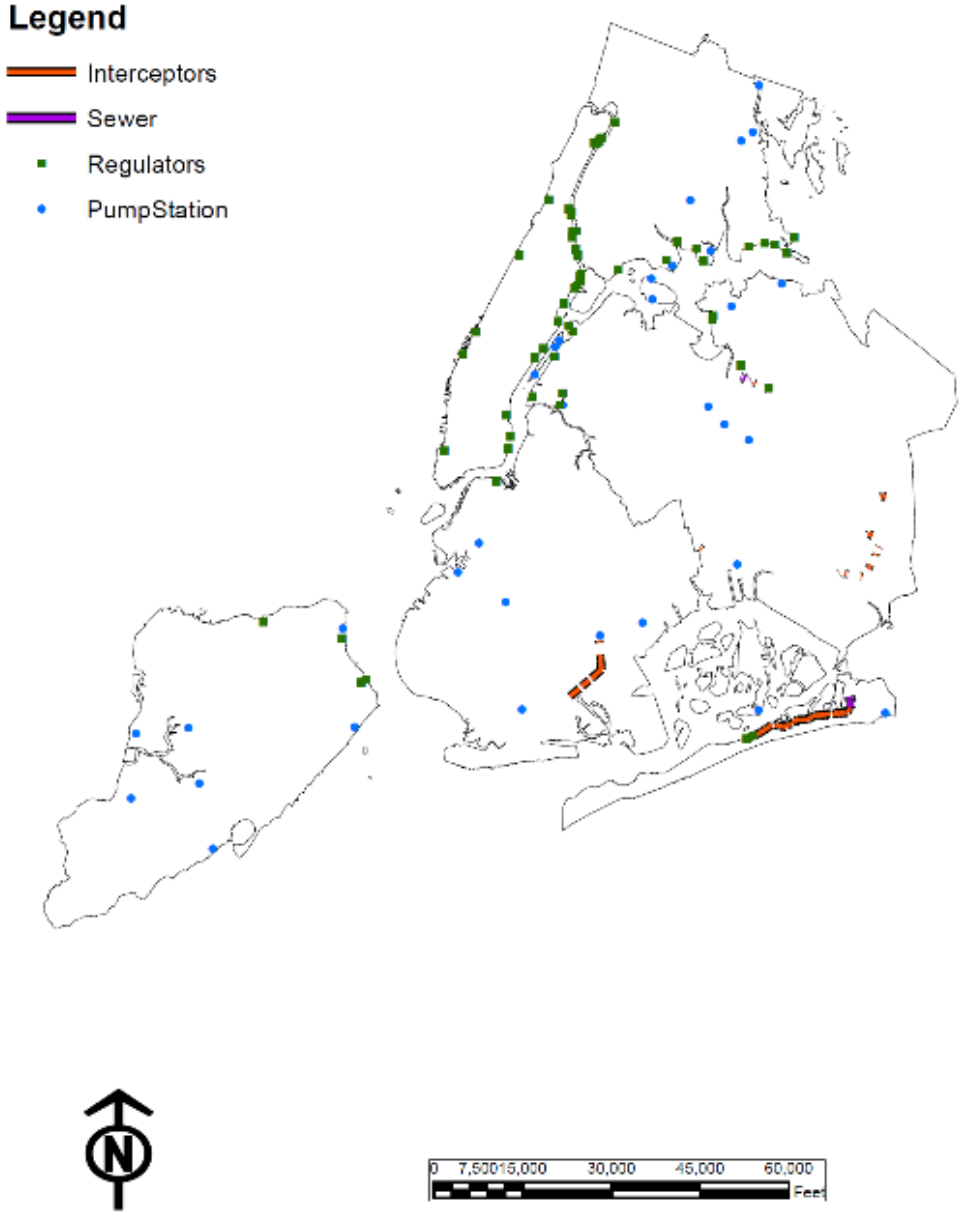
	CSO	Channel #3	6.88
	CSO	Channel #1	6.91
	CSO	Channel #1	7.64
	CSO	Channel #1	9.23
	CSO	Channel #1	8.31
WI	CSO	Channel #1	8.55
WI	CSO	Channel #1	8.68
WI	CSO	Channel #1	0
WI	CSO	Channel #1	9.32
WI	Plant	FST	4.52
WI	Plant	Sharon Bldg Tank	7.42
WI	Plant	Digester #4	5.97
WI	Plant	Digester #4	0
WI	Plant	Crew Quarters	10
WI	Plant	FST	7.61
WI	Plant	FST	9.15
WI	Plant	FST	7.85
WI	Plant	FST	7.52
WI	Plant	Cross Collector	4.07
WI	Plant	FST	4.07
WI	Plant	Cross Collector	4.18
WI	Plant	FST	4.18
WI	Plant	Crew Quarters	3
WI	Plant	B-Battery RAS Chnnl	5.09
WI	Plant	B-Battery RAS Chnnl	7.06
WI	Plant	FST#34	6.12
WI	Plant	B-Battery RAS Chnnl	7.71
WI	Plant	B-Battery RAS Chnnl	7.39
WI	Plant	FST#34	7.08
WI	Plant	FST#34	8.58
WI	Plant	B-Battery RAS Chnnl	7.42
WI	Plant	Dewatering Bldg #136	8.6
WI	Plant	FST#34	7.38
WI	Plant	B-Battery RAS Chnnl	8.39
WI	Plant	B-Battery RAS Chnnl	8
WI	Plant	FST#34	7.68
	Plant	FST#34	8
	Plant	B-Battery RAS Chnnl	7.68
	Plant	FST#34	7.35
	Plant	C-Battery RAS Chnnl	7.71
	Plant	C-Battery RAS Chnnl	7.35

	Plant	C-Battery RAS Chnnl	8.23
	Plant	C-Battery RAS Chnnl	8.55
	Plant	C-Battery RAS Chnnl	8.23
	Plant	C-Battery RAS Chnnl	7.71
	Plant	C-Battery RAS Chnnl	7.59
	Plant	D-Battery RAS-WAS Chnnl	11.13
	Plant	D-Battery RAS-WAS Chnnl	10.16
	Plant	D-Battery RAS-WAS Chnnl	9.9
	Plant	D-Battery RAS-WAS Chnnl	11.48
	Plant	D-Battery RAS-WAS Chnnl	9.73
	Plant	D-Battery RAS-WAS Chnnl	9.25
WI	Plant	D-Battery RAS-WAS Chnnl	10.3
WI	Plant	D-Battery RAS-WAS Chnnl	9.55
WI	Plant	D-Battery RAS-WAS Chnnl	10.39
WI	Plant	D-Battery RAS-WAS Chnnl	10.16
WI	Plant	D-Battery RAS-WAS Chnnl	10.14
WI	Plant	FST #34	8.61
WI	Plant	FST #34	9.87
WI	Plant	FST #34	8.55
WI	Plant	FST #34	10.52
WI	Plant	FST #34	9.26
WI	Plant	FST #34	9.65
WI	Plant	FST #34	9.59
WI	Plant	FST #34	10.16
WI	Plant	FST #34	9.88
WI	Plant	FST #34	10.16
WI	Plant	FST #34	9.55
WI	Plant	FST #33	8.62
WI	Plant	FST #34	9.65
WI	Plant	FST #33	9.99
WI	Plant	FST #33	10.52
WI	Plant	FST #33	7.94
WI	Plant	FST #33	10.16
WI	Plant	FST #33	9.88
WI	Plant	FST #33	10.88
WI	Plant	FST #33	10.68
WI	Plant	FST #33	10.84
WI	Plant	FST #33	10.75
WI	Plant	FST #33	9.19
WI	Plant	FST #33	10.1
WI	Plant	FST #33	10.45

WI	Plant	FST #33	8.43
	Plant	FST #33	10.03
	Plant	FST #33	8.09
	Plant	FST #33	10.62
	Plant	FST #33	8.29
	Plant	FST #33	8.28
	Plant	FST #33	9.56
	Plant	FST #33	7.35
	Plant	FST #33	9.97
	Plant	FST #33	10.86
	Plant	FST #33	7.32
	Plant	FST #35	10.46
	Plant	FST #35	7.92
	Plant	FST #35	8.62
	Plant	FST #35	8.85
	Plant	FST #35	10.16
	Plant	FST #35	9.71
WI	Plant	FST #35	8.91
WI	Plant	FST #35	9.46
WI	Plant	FST #35	9.11
WI	Plant	FST #35	10.29
WI	Plant	FST #35	10.81
WI	Plant	FST #35	8.61
WI	Plant	FST #35	10.18
WI	Plant	FST #35	8.49
WI	Plant	FST #35	10.93
WI	Plant	FST #35	8.14
WI	Plant	Centrate Line	8.24
WI	Pump Station	235th St Riverdale	6
WI	Pump Station	235th St Riverdale	6
WI	Regulator	WIB 59	4
WI	Regulator	WIB 59	4
WI	Regulator	WIB 59	5
WI	Regulator	WIB 56	5
WI	Regulator	WIB 56	5
WI	Regulator	WIM-12	10
WI	Regulator	WIM-12	5
WI	Regulator	WI-12	10
WI	Regulator	WI-12	5
WI	Regulator	WIM 31	5
WI	Regulator	WIM 27	5

WI	Regulator	WIM 50	5
WI	Regulator	WIM 31	6
WI	Regulator	WIM 31	7
WI	Regulator	WIM 31	5
WI	Regulator	WIM 30	4
WI	Regulator	WIM 30	6
WI	Regulator	WIM32	6
	Regulator	WIB 56	5
	Regulator	WIM 31	3
	Regulator	WIM 31	6
	Regulator	WIM 33	6
	Regulator	WIM 48	4
	Regulator	WIM 48	4
	Regulator	PRE15	10.84
	Regulator	FST #34	9.5
	Regulator	WIM 47	3
	Regulator	WIM 40	6
	Regulator	WIM 40	8
	Regulator	WIM 40	6
WI	Regulator	WIM 40	6
WI	Regulator	WIB 67	5
WI	Regulator	WIM19	4
WI	Regulator	WIM 40	3
WI	Regulator	WIB 56	3
WI	Regulator	WIB 56	3
WI	Regulator	WIM 39	7
WI	Regulator	WIB 56	3
WI	Regulator	WIM 39	7
WI	Regulator	WIB 56	3
WI	Regulator	WIB 57	3
WI	Regulator	WIB 57	3
WI	Regulator	WIB 57	2
WI	Regulator	WIM 25	7
WI	Regulator	WIM 39	5
WI	Regulator	WIB 69	2.5
WI	Plant	Channel #3	6.3
WI	Plant	Channel #3	7.35
WI	Plant	Channel #3	5.51
		Total	**3418.8**

2015 Cleaned Citywide



2015 Interceptors Inspected

Appendix 3.1

Key Regulator Monitoring Report CY2015 Summary

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
26TH WARD											
26W01											
Feb-15	1	2/22/15 1:15 PM	2/22/15 2:00 PM	0.75	107	124	170	N/A	N/A	N/A	N/A
Apr-15	1	4/21/15 1:30 AM	4/21/15 2:00 AM	0.50	152	154	170	N/A	N/A	N/A	N/A
May-15	1	5/31/15 6:45 PM	5/31/15 7:15 PM	0.50	162	164	170	5/31/15 7:30 PM 5/31/15 8:00 PM	5/31/15 7:30 PM 5/31/15 11:15 PM	170 178	170 138***
Jun-15	1	6/6/15 6:15 AM	6/6/15 7:00 AM	0.75	121	145	170	N/A	N/A	N/A	N/A
	2	6/21/15 7:30 PM	6/21/15 8:30 PM	1.00	103	129	170	N/A	N/A	N/A	N/A
Jul-15	1	7/9/15 10:15 PM	7/9/15 10:15 PM	0.00*	167	167	170	7/9/15 10:30 PM	7/9/15 11:00 PM	172	171
	2	7/30/2015 N/A	7/30/2015 N/A	N/A	N/A	N/A	170	N/A	N/A	N/A	N/A
Sep-15	1	9/10/15 7:30 AM	9/10/15 7:45 AM	0.25	156	162	170	9/10/15 8:00 AM	9/10/15 8:30 AM	192	186
	2	9/30/15 3:15 AM	9/30/15 3:30 AM	0.25	167	167	170	9/30/15 2:45 AM 9/30/15 3:45 AM	9/30/15 3:00 AM 9/30/15 5:15 AM	184 184	179 171
Dec-15	1	12/23/15 4:30 PM	12/23/15 4:30 PM	0.00*	130	130	170	12/23/15 4:45 PM	12/23/15 9:30 PM	176	171
26W02											
Jan-15	1	1/18/15 11:15 PM	1/19/15 2:00 AM	2.75	117	117	170	N/A	N/A	N/A	N/A
Apr-15	1	4/20/15 2:15 PM	4/20/15 4:00 PM	1.75	140	140	170	4/20/15 10:45 AM	4/20/15 12:45 PM	176	166***
Jun-15	1	6/6/15 6:00 AM	6/6/15 6:45 AM	0.75	81	145	170	N/A	N/A	N/A	N/A
	2	6/15/15 12:45 AM	6/15/15 2:15 AM	1.50	161	161	170	6/14/15 11:45 PM 6/15/15 3:15 AM	6/15/15 12:30 AM 6/15/15 6:00 AM	181 184	177 166***
Jul-15	1	7/9/15 10:15 PM	7/9/15 10:15 PM	0.00*	167	167	170	7/9/15 10:30 PM	7/9/15 11:00 PM	172	171
Aug-15	1	8/11/15 10:30 AM	8/11/15 12:00 PM	1.50	151	151	170	8/11/15 7:00 AM	8/11/15 10:00 PM	185	168*
Oct-15	1	10/29/15 2:45 AM	10/29/15 4:15 AM	1.50	164	164	170	10/28/15 11:30 PM	10/29/15 2:30 AM	179	170
BOWERY BAY											
BBH02											
Jun-15	1	6/6/15 5:45 AM	6/6/15 6:15 AM	0.50	152	185	190	6/6/15 6:30 AM	6/6/15 11:45 AM	235	208
Jul-15	1	7/18/15 9:30 AM	7/18/15 9:30 AM	0.00*	111	111	190	7/18/15 9:45 AM	7/18/15 3:45 PM	226	202
Nov-15	1	11/20/15 2:45 AM	11/20/15 2:45 AM	0.00*	189	189	190	11/19/15 5:45 PM	11/20/15 2:30 AM	276	223
BBH06											
Jan-15	1	1/18/15 10:30 AM	1/18/15 10:45 AM	0.25	253	288	300	1/18/15 11:00 AM	1/18/15 7:15 PM	341	310
Jul-15	1	7/14/15 1:15 PM	7/14/15 1:30 PM	0.25	121	139	190	7/14/15 1:45 PM	7/14/15 6:15 PM	247	217
BBL04											
Jan-15	1a	1/3/15 11:45 PM	1/4/15 12:45 AM	1.00	295	297	300	1/3/15 5:45 PM	1/3/15 11:30 PM	313	308
	1b	1/4/15 2:15 AM	1/4/15 2:30 AM	0.25	298	298	300	1/4/15 1:00 AM	1/4/15 2:00 AM	332	313
	2	1/18/15 7:30 PM	1/18/15 7:45 PM	0.25	299	299	300	1/18/15 11:00 AM	1/18/15 7:15 PM	341	310
Apr-15	1	4/10/15 6:30 AM	4/10/15 7:00 AM	0.50	117	171	190	4/10/15 7:15 AM	4/10/15 10:15 AM	243	222
Jul-15	1	7/1/15 4:45 AM	7/1/15 5:00 AM	0.25	101	101	190	7/1/15 5:30 AM	7/1/15 8:30 AM	210	200
	2	7/9/15 9:15 PM	7/14/15 9:45 PM	0.50	123	159	190	7/9/15 10:00 PM	7/10/15 1:45 AM	296	262
	3	7/14/15 1:00 PM	7/14/15 1:30 PM	0.25	76	139	190	7/14/15 1:45 PM	7/14/15 6:15 PM	247	217
	4	7/18/15 9:15 AM	7/18/15 9:30 AM	0.25	111	111	190	7/18/15 9:45 AM	7/18/15 3:45 PM	226	202
Aug-15	1	8/4/15 4:30 AM	8/4/15 5:00 AM	0.50	111	181	190	8/4/15 5:15 AM	8/4/15 8:15 AM	235	214
	2	8/11/15 6:45 AM	8/11/15 7:00 PM	0.25	124	256	190	8/11/15 7:15 AM	8/11/15 3:45 PM	256	222
	3	8/18/15 4:45 AM	8/18/15 5:30 AM	0.75	77	85	190	N/A	N/A	N/A	N/A
BBL22											
Mar-15	1	3/26/15 10:30 PM	3/26/15 10:45 PM	0.25	144	176	190	3/26/15 11:30 PM	3/27/15 1:30 AM	232	218
Apr-15	1	4/20/15 1:45 AM	4/20/15 7:45 AM	6.00	106	106	190	4/20/15 10:15 AM	4/20/15 7:45 PM	287	223
Jun-15	1	6/6/15 5:15 AM	6/6/15 6:15 AM	1.00	73	185	190	6/6/15 6:30 AM	6/6/15 11:45 AM	235	208
Jul-15	1	7/1/15 4:45 AM	7/1/15 5:15 AM	0.50	111	114	190	7/1/15 5:30 AM	7/1/15 8:30 AM	210	200
	2	7/14/15 1:15 PM	7/14/15 1:30 PM	0.25	121	139	190	7/14/15 1:45 PM	7/14/15 6:15 PM	247	217
	3	7/18/15 9:15 AM	7/18/15 9:30 AM	0.25	111	111	190	7/18/15 9:45 AM	7/18/15 3:45 PM	226	202
Aug-15	1	8/4/15 5:00 AM	8/4/15 5:00 AM	0.00**	216	235	190	8/4/15 5:15 AM	8/4/15 8:15 AM	235	214

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
HUNTS POINT											
HP05											
Jan-15	1	1/3/15 6:15 PM	1/3/15 6:30 PM	0.25	367	327	400	N/A	N/A	N/A	N/A
	2	1/18/15 5:30 PM	1/18/15 7:00 PM	1.50	398	398	400	1/18/15 1:45 PM	1/18/15 5:15 PM	415	407
Mar-15	1	3/14/15 10:00 AM	3/14/15 1:45 PM	3.75	398	398	400	3/14/15 9:30 AM	3/14/15 9:45 AM	412	408
	2	3/26/15 11:45 PM	3/27/15 1:00 AM	1.25	306	306	400	N/A	N/A	N/A	N/A
Apr-15	1	4/20/15 4:45 PM	4/20/15 6:15 PM	1.50	309	309	400	4/20/15 11:15 AM	4/20/15 4:30 PM	404	377***
May-15	1a	5/31/15 6:15 PM	5/31/15 6:45 PM	0.50	281	281	400	N/A	N/A	N/A	N/A
	1b	5/31/15 10:15 PM	5/31/15 11:00 PM	0.75	378	378	400				
Jun-15	1	6/6/15 6:15 AM	6/6/15 7:45 AM	1.50	362	362	400	N/A	N/A	N/A	N/A
	2	6/15/15 4:30 AM	6/15/15 6:30 AM	2.00	288	373	400	N/A	N/A	N/A	N/A
	3a	6/16/15 5:45 PM	6/16/15 5:45 PM	0.00*	364	364	400	6/16/15 6:00 PM	6/16/15 6:30 PM	410	403
	3b	6/16/15 6:45 PM	6/16/15 7:15 PM	0.50	355	355	400				
	4a	6/28/15 12:30 AM	6/28/15 12:45 AM	0.25	398	398	400	6/27/15 8:15 PM	6/28/15 12:15 AM	421	411
	4b	6/28/15 1:15 AM	6/28/15 1:30 AM	0.25	388	389	400	6/28/15 12:45 AM	6/28/15 12:45 AM	401	401
	4c	6/28/15 2:15 AM	6/28/15 3:45 AM	1.50	371	379	400				
Jul-15	1	7/1/15 4:45 AM	7/1/15 7:00 AM	2.25	87	370	400	N/A	N/A	N/A	N/A
	2	7/14/15 2:45 PM	7/14/15 3:45 PM	1.00	394	394	400	7/14/15 1:45 PM	7/14/15 2:30 PM	418	409
	3	7/18/15 9:30 AM	7/18/15 10:00 AM	0.50	313	369	400	N/A	N/A	N/A	N/A
	4	7/27/15 4:30 AM	7/27/15 5:15 AM	0.75	149	197	400	N/A	N/A	N/A	N/A
	5	7/30/15 4:00 PM	7/30/15 7:00 PM	3.00	375	396	400	7/30/15 2:45 PM	7/30/15 3:45 PM	413	407
Aug-15	1	8/11/15 11:30 AM	8/11/15 3:00 PM	3.50	386	386	400	8/11/15 8:00 AM	8/11/15 11:15 AM	407	402
Sep-15	1a	9/10/15 2:45 AM	9/10/15 5:00 AM	2.25	360	360	400	9/10/15 5:15 AM	9/10/15 5:30 AM	172**	172***
	1b	9/10/15 5:45 AM	9/10/15 5:45 AM	0.00*	168	168	400	9/10/15 7:15 AM	9/10/15 11:30 AM	338**	225***
	2	9/11/15 1:15 AM	9/11/15 4:45 AM	3.50	399	399	400	9/10/15 10:15 PM	9/11/15 1:00 AM	417	403
	3	9/30/15 4:30 AM	9/30/15 7:00 AM	2.50	377	377	400	9/30/15 3:15 AM	9/30/15 4:15 AM	419	411
Oct-15	1a	10/2/15 6:30 PM	10/2/15 6:30 PM	0.00*	387	387	400	10/2/15 6:45 PM	10/2/15 7:30 PM	422	415
	1b	10/2/15 7:45 PM	10/2/15 10:30 PM	2.75	393	393	400				
	2a	10/28/15 6:45 PM	10/28/15 7:45 PM	1.00	372	372	400	10/28/15 5:30 PM	10/28/15 6:30 PM	407	404
	2b	10/29/15 4:30 AM	10/29/15 6:45 AM	2.25	214	214	400	10/28/15 11:15 PM	10/29/15 12:15 AM	411	403
								10/29/15 1:00 AM	10/29/15 1:30 AM	415	408
Nov-15	1	11/19/15 11:00 PM	11/19/15 11:30 PM	0.50	390	390	400	11/19/15 9:15 PM	11/19/15 10:45 PM	407	405
Dec-15	1	12/14/15 8:15 PM	12/14/15 9:00 PM	0.75	218	304	400	12/14/15 9:30 PM	12/14/15 11:15 PM	284**	199***
	2a	12/23/15 4:00 PM	12/23/15 4:45 PM	0.75	99	332	400	12/23/15 5:00 PM	12/23/15 5:00 PM	400	400
	2b	12/23/15 5:15 PM	12/23/15 8:00 PM	2.75	397	397	400	12/23/15 8:30 PM	12/23/15 11:45 PM	411	406
HP10											
Jan-15	1a	1/18/15 1:30 PM	1/18/15 1:30 PM	0.00*	398	398	400	1/18/15 11:15 AM	1/18/15 12:30 PM	412	409
								1/18/15 1:15 PM	1/18/15 1:15 PM	402	402
	1b	1/18/15 5:30 PM	1/18/15 7:00 PM	1.50	398	398		1/18/15 1:45 PM	1/18/15 5:15 PM	415	407
Mar-15	1	3/14/15 10:00 AM	3/14/15 1:45 PM	3.75	398	398	400	3/14/15 9:30 AM	3/14/15 9:45 AM	412	408
	2	3/26/15 11:15 PM	3/27/15 1:30 AM	2.25	271	306	400	N/A	N/A	N/A	N/A
May-15	1a	5/31/15 5:15 PM	5/31/15 7:00 PM	1.75	206	347	400	N/A	N/A	N/A	N/A
	1b	5/31/15 10:15 PM	5/31/15 10:45 PM	0.50	378	378	400	N/A	N/A	N/A	N/A
Jun-15	1	6/1/15 3:45 AM	6/1/15 6:00 AM	2.25	268	376	400	N/A	N/A	N/A	N/A
	2	6/6/15 6:00 AM	6/6/15 6:45 AM	0.75	370	370	400	N/A	N/A	N/A	N/A
	3	6/15/15 4:15 AM	6/15/15 6:15 AM	2.00	274	373	400	N/A	N/A	N/A	N/A
	4a	6/16/15 3:30 PM	6/16/15 4:00 PM	0.50	317	325	400	N/A	N/A	N/A	N/A
	4b	6/16/15 5:30 PM	6/16/15 5:45 PM	0.25	259	364	400	6/16/15 6:00 PM	6/16/15 6:30 PM	410	403
	4c	6/16/15 6:45 PM	6/16/15 7:15 PM	0.50	355	355	400				
	5	6/28/15 12:30 AM	6/28/15 12:45 AM	0.25	398	398	400	6/27/15 8:15 PM	6/28/15 12:15 AM	421	411
								6/28/15 12:45 AM	6/28/15 12:45 AM	401	401

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
HP10 cont.											
	1	7/1/15 4:45 AM	7/1/15 6:30 AM	1.75	87	370	400	N/A	N/A	N/A	N/A
	2	7/9/15 10:00 PM	7/9/15 10:45 PM	0.75	298	353	400	N/A	N/A	N/A	N/A
	3a	7/14/15 1:30 PM	7/14/15 1:30 PM	0.25	216	216	400	7/14/15 1:45 PM	7/14/15 2:30 PM	418	409
	3b	7/14/15 2:45 PM	7/14/15 2:45 PM	0.00*	394	394	400				
Jul-15	4	7/18/15 9:15 AM	7/18/15 9:45 AM	0.50	219	369	400	N/A	N/A	N/A	N/A
	5a	7/27/15 3:45 AM	7/27/15 4:15 AM	0.50	190	274	400	N/A	N/A	N/A	N/A
	5b	7/27/15 4:30 AM	7/27/15 5:00 AM	0.50	149	149	400				
	6a	7/30/15 2:00 PM	7/30/15 2:30 PM	0.50	136	317	400	7/30/15 2:45 PM	7/30/15 3:45 PM	413	407
	6b	7/30/15 4:00 PM	7/30/2015 N/A	N/A	375	N/A	400				
Aug-15	1	8/18/15 6:30 AM	8/18/15 7:00 AM	0.50	208	208	400	N/A	N/A	N/A	N/A
	1a	9/10/15 2:00 AM	9/10/15 5:00 AM	3.00	174	360	400	9/10/15 5:15 AM	9/10/15 5:30 AM	172**	172***
	1b	9/10/15 5:45 AM	9/10/15 6:00 AM	0.25	168	168	400	9/10/15 7:15 AM	9/10/15 11:30 AM	338**	225***
Sep-15	2	9/11/15 1:15 AM	9/11/15 1:45 AM	0.50	399	399	400	9/10/15 10:15 PM	9/11/15 1:00 AM	417	403
	3a	9/30/15 3:00 AM	9/30/15 3:00 AM	0.00*	385	385	400	9/30/15 3:15 AM	9/30/15 4:15 AM	419	411
	3b	9/30/15 4:30 AM	9/30/15 5:15 AM	0.75	377	377	400				
	1a	10/2/15 6:30 PM	10/2/15 6:30 PM	0.00*	387	387	400	10/2/15 6:45 PM	10/2/15 7:30 PM	422	415
	1b	10/2/15 7:45 PM	10/2/15 8:15 PM	0.50	393	393	400				
Oct-15	2	10/9/15 5:30 PM	10/9/15 6:15 PM	0.75	306	387	400	N/A	N/A	N/A	N/A
	3a	10/28/15 5:15 PM	10/28/15 5:15 PM	0.00*	381	381	400	10/28/15 5:30 PM	10/28/15 6:30 PM	407	404
	3b	10/28/15 6:45 PM	10/28/15 7:30 PM	0.75	372	372	400				
Nov-15	1	11/19/15 11:00 PM	11/20/15 12:00 AM	1.00	390	390	400	11/19/15 9:15 PM	11/19/15 10:45 PM	407	405
	1	12/14/15 8:30 PM	12/14/15 9:15 PM	0.75	222	304	400	12/14/15 9:30 PM	12/14/15 11:15 PM	284**	199***
Dec-15	2a	12/23/15 4:30 PM	12/23/15 4:45 PM	0.25	291	332	400	12/23/15 5:00 PM	12/23/15 5:00 PM	400	400
	2b	12/23/15 5:15 PM	12/23/15 7:30 PM	2.25	397	397	400	12/23/15 8:30 PM	12/23/15 11:45 PM	411	406
HP13											
May-15	1	5/31/15 5:15 PM	5/31/15 7:45 PM	2.50	206	347	400	N/A	N/A	N/A	N/A
	1	6/15/15 4:30 AM	6/15/15 6:15 AM	1.75	288	373	400	N/A	N/A	N/A	N/A
Jun-15	2a	6/16/15 5:45 PM	6/16/15 5:45 PM	0.00**	364	364	400	6/16/15 6:00 PM	6/16/15 6:30 PM	410	403
	2b	6/16/15 6:45 PM	6/16/15 6:45 PM	0.00**	355	355	400				
	1	7/1/15 5:00 AM	7/1/15 7:00 AM	2.00	248	370	400	N/A	N/A	N/A	N/A
	2	7/9/15 10:00 PM	7/9/15 11:30 PM	1.50	298	353	400	N/A	N/A	N/A	N/A
Jul-15	3	7/14/15 2:45 PM	7/14/15 5:00 PM	2.25	394	394	400	7/14/15 1:45 PM	7/14/15 2:30 PM	418	409
	4	7/18/15 9:00 AM	7/18/15 10:30 AM	1.50	117	369	400	N/A	N/A	N/A	N/A
	5	7/27/15 3:45 AM	7/27/15 5:15 AM	1.50	190	274	400	N/A	N/A	N/A	N/A
	6	7/30/2015 N/A	7/30/2015 N/A	N/A	N/A	N/A	400	7/30/15 2:45 PM	7/30/15 3:45 PM	413	407
	1a	10/2/15 5:30 PM	10/2/15 6:30 PM	1.00	305	390	400	10/2/15 6:45 PM	10/2/15 7:30 PM	422	415
	1b	10/2/15 7:45 PM	10/2/15 10:45 PM	3.00	393	393	400				
	2	10/3/15 5:00 AM	10/3/15 5:30 AM	0.50	356	356	400	N/A	N/A	N/A	N/A
	3a	10/9/15 5:15 PM	10/9/15 6:45 PM	1.50	190	387	400	N/A	N/A	N/A	N/A
Oct-15	3b	10/9/15 7:30 PM	10/9/15 8:30 PM	1.00	363	363	400				
	4a	10/28/15 5:15 PM	10/28/15 5:15 PM	0.00*	381	381	400	10/28/15 5:30 PM	10/28/15 6:30 PM	407	404
	4b	10/28/15 6:45 PM	10/28/15 8:15 PM	1.50	372	372	400				
	4c	10/29/15 12:30 AM	10/29/15 12:45 AM	0.25	395	395	400	10/28/15 11:45 PM 10/29/15 1:00 AM	10/29/15 12:15 AM 10/29/15 1:30 AM	411 415	403 408
Dec-15	1a	12/23/15 4:45 PM	12/23/15 4:45 PM	0.00*	332	332	400	12/23/15 5:00 PM	12/23/15 5:00 PM	400	400
	1b	12/23/15 5:15 PM	12/23/15 5:15 PM	0.00*	397	397	400				

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
JAMAICA											
JA03											
Jan-15	1a	1/3/15 3:45 PM	1/3/15 5:45 PM	2.00	130	158	200	N/A	N/A	N/A	N/A
	1b	1/3/15 6:00 PM	1/4/15 2:15 AM	8.25	162	174					
	2	1/4/15 8:30 PM	1/4/15 10:15 PM	1.75	114	157	200	N/A	N/A	N/A	N/A
	3	1/12/15 12:30 PM	1/12/15 5:15 PM	4.75	133	179	200	N/A	N/A	N/A	N/A
	4a	1/18/15 10:00 AM	1/18/15 1:00 PM	3.00	89	197	200	1/18/15 1:15 PM	1/18/15 2:45 PM	209	204
	4b	1/18/15 3:00 PM	1/18/15 3:30 PM	0.50	197	197		1/18/15 3:45 PM	1/18/15 7:00 PM	210	205
	4c	1/18/15 7:15 PM	1/18/15 8:15 PM	1.00	194	194					
	5	1/24/15 1:00 PM	1/24/15 4:15 PM	3.25	164	164	200	N/A	N/A	N/A	N/A
Feb-15	1	2/2/15 7:15 AM	2/2/15 11:45 AM	4.50	92	170	200	N/A	N/A	N/A	N/A
	2	2/22/15 12:00 PM	2/22/15 4:15 PM	4.25	146	176	200	N/A	N/A	N/A	N/A
Mar-15	1	3/3/15 10:15 PM	3/4/15 1:15 AM	3.00	110	158	200	N/A	N/A	N/A	N/A
	2	3/4/15 10:15 PM	3/5/15 12:45 AM	2.50	132	157	200	N/A	N/A	N/A	N/A
	3	3/5/15 1:00 AM	3/5/15 2:30 AM	1.50	153	153	200	N/A	N/A	N/A	N/A
	4	3/10/15 8:45 PM	3/11/15 1:30 AM	4.75	143	174	200	N/A	N/A	N/A	N/A
	5	3/14/15 8:45 AM	3/14/15 2:45 PM	6.00	128	188	200	N/A	N/A	N/A	N/A
	6	3/26/15 3:30 PM	3/26/15 4:00 PM	0.50	129	136	200	N/A	N/A	N/A	N/A
	7	3/27/15 6:30 AM	3/27/15 8:30 AM	2.00	130	154	200	N/A	N/A	N/A	N/A
Apr-15	1	4/20/15 10:15 AM	4/20/15 1:30 PM	3.25	147	189	200	N/A	N/A	N/A	N/A
	2a	4/21/15 1:30 AM	4/21/15 2:45 AM	1.25	90	145	200	N/A	N/A	N/A	N/A
	2b	4/21/15 4:00 AM	4/21/15 4:45 AM	0.75	123	124	200				
	2c	4/21/15 10:00 AM	4/21/15 10:30 AM	0.50	115	137	200				
	3	4/22/15 4:45 PM	4/22/15 6:15 PM	1.50	114	149	200	N/A	N/A	N/A	N/A
May-15	1	5/16/15 10:45 PM	5/17/15 12:15 AM	1.50	103	135	200	N/A	N/A	N/A	N/A
	2	5/31/15 6:30 PM	5/31/15 7:15 PM	0.75	107	151	200	N/A	N/A	N/A	N/A
Jun-15	1a	6/1/15 4:45 AM	6/1/15 6:45 AM	2.00	89	153	200	N/A	N/A	N/A	N/A
	1b	6/1/15 11:45 AM	6/1/15 2:00 PM	2.25	110	170	200				
	1c	6/1/15 6:45 PM	6/1/15 7:30 PM	0.75	95	140	200				
	1d	6/1/15 11:30 PM	6/2/15 1:45 AM	2.25	131	144	200				
	2	6/6/15 6:15 AM	6/6/15 8:15 AM	2.00	65	148	200	N/A	N/A	N/A	N/A
	3a	6/14/15 11:30 PM	6/15/15 3:00 AM	3.50	107	162	200	N/A	N/A	N/A	N/A
	3b	6/15/15 3:30 AM	6/15/15 4:15 AM	0.75	157	182	200				
	3c	6/15/15 5:15 AM	6/15/15 6:45 AM	1.50	179	182	200				
	4	6/16/15 6:45 PM	6/16/15 7:30 PM	0.75	109	137	200	N/A	N/A	N/A	N/A
	5	6/21/15 7:00 PM	6/21/15 8:30 PM	1.50	100	155	200	N/A	N/A	N/A	N/A
	6	6/23/15 7:15 PM	6/23/15 8:15 PM	1.00	89	132	200	N/A	N/A	N/A	N/A
	7a	6/27/15 7:00 PM	6/28/15 2:45 AM	7.75	113	184	200	N/A	N/A	N/A	N/A
	7b	6/28/15 4:00 AM	6/28/15 5:30 AM	1.50	152	162	200				
Jul-15	1	7/1/15 5:30 AM	7/1/15 6:30 AM	1.00	64	135	200	N/A	N/A	N/A	N/A
	2	7/9/15 10:00 PM	7/10/15 12:15 AM	2.25	108	174	200	N/A	N/A	N/A	N/A
	3a	7/14/15 1:00 PM	7/14/15 2:45 PM	1.75	117	151	200	N/A	N/A	N/A	N/A
	3b	7/14/15 5:30 PM	7/14/15 6:30 PM	1.00	94	144	200				
	4	7/18/15 10:00 AM	7/18/15 11:15 AM	1.25	75	159	200	N/A	N/A	N/A	N/A
	5	7/30/15 10:15 AM	7/30/15 11:30 AM	1.25	119	143	200	N/A	N/A	N/A	N/A
	6	7/30/15 4:30 PM	7/30/15 8:00 PM	3.50	107	191	200	N/A	N/A	N/A	N/A
Aug-15	1	8/4/15 5:00 AM	8/4/15 6:15 AM	1.25	62	118	200	N/A	N/A	N/A	N/A
	2a	8/11/15 6:45 AM	8/11/15 10:15 AM	1.50	79	175	200	N/A	N/A	N/A	N/A
	2b	8/11/15 11:00 AM	8/11/15 12:00 PM	1.00	177	177	200	N/A	N/A	N/A	N/A
	3a	8/21/15 4:00 AM	8/21/15 6:00 AM	2.00	107	172	200	8/21/15 6:30 AM	8/21/15 6:45 AM	204	203
	3b	8/21/15 7:00 AM	8/21/15 7:15 AM	0.25	197	197	200				
	4	8/31/15 9:45 AM	8/31/15 10:15 AM	0.50	86	86	200	N/A	N/A	N/A	N/A

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
NEWTOWN CREEK											
NCB01											
Jan-15	1a	1/18/15 11:30 AM	1/18/15 12:00 PM	0.50	612	612	620	1/18/15 11:00 AM	1/18/15 11:15 AM	708	702
	1b	1/18/15 3:00 PM	1/18/15 4:00 PM	1.00	509	533					
Jun-15	1	6/21/15 6:45 PM	6/21/15 6:45 PM	0.00*	244	244	620	6/21/15 7:15 PM	6/21/15 8:00 PM	684	645
	2	6/23/15 6:30 PM	6/23/15 6:45 PM	0.25	310	572	620	6/23/15 7:00 PM	6/23/15 8:00 PM	748	678
Jul-15	1	7/9/15 10:00 PM	7/9/15 10:00 PM	0.00*	433	594	620	7/9/15 10:15 PM	7/9/15 11:45 PM	707	661
	2	7/30/15 4:45 PM	7/30/15 5:15 PM	0.50	396	396	620	7/30/15 5:15 PM	7/30/15 7:15 PM	704	665
Aug-15	1	8/11/15 7:00 AM	8/11/15 7:15 AM	0.25	530	530	620	8/11/15 7:30 AM	8/11/15 11:45 AM	744	698
Sep-15	1	9/30/15 2:30 AM	9/30/15 2:30 AM	0.00*	596	596	620	9/30/15 2:45 AM	9/30/15 4:45 AM	711	682
Oct-15	1	10/29/15 1:00 AM	10/29/15 1:00 AM	0.00*	544	544	620	10/28/15 11:45 PM	10/29/15 12:30 AM	660	640
								10/29/15 1:15 AM	10/29/15 2:00 AM	701	691
Nov-15	1	11/11/15 2:00 AM	11/11/15 2:00 AM	0.00*	616	616	620	11/11/15 2:15 AM	11/11/15 3:00 AM	654	640
	2	11/19/15 6:30 PM	11/19/15 6:30 PM	0.00*	582	582	620	11/19/15 6:15 PM	11/19/15 6:15 PM	628	628
NCB04											
Jan-15	1	1/18/15 6:00 PM	1/18/15 7:15 PM	1.25	506	518	620	1/18/15 11:00 AM	1/18/15 11:15 AM	708	702
Apr-15	1	4/21/15 2:15 AM	4/21/15 4:45 AM	2.50	354	354	620	N/A	N/A	N/A	N/A
May-15	1	5/31/15 6:15 PM	5/31/15 7:45 PM	1.50	389	593	620	5/31/15 8:00 PM	5/31/15 11:00 PM	556**	472***
Jun-15	1a	6/15/15 1:15 AM	6/15/15 1:15 AM	0.00*	600	600	620	6/14/15 11:45 PM	6/15/15 1:00 AM	716	692
	1b	6/15/15 3:15 AM	6/15/15 3:15 AM	0.00*	487	487	620	6/15/15 3:45 AM	6/15/15 6:15 AM	788	728
Jul-15	1	7/9/15 10:00 PM	7/9/15 10:00 PM	0.00*	556	556	620	7/9/15 10:15 PM	7/9/15 11:45 PM	707	661
	2	7/15/15 12:45 PM	7/15/15 2:00 PM	1.25	476	552	620	N/A	N/A	N/A	N/A
	3a	7/30/15 4:45 PM	7/30/15 5:00 PM	0.50	542	542	620	7/30/15 5:15 PM	7/30/15 7:15 PM	704	665
	3b	7/30/15 7:30 PM	7/30/15 9:15 PM	1.75	537	537	620				
Aug-15	1	8/11/15 7:15 AM	8/11/15 7:15 AM	0.00**	530	530	620	8/11/15 7:30 AM	8/11/15 11:45 AM	744	698
	2	8/16/15 3:15 PM	8/16/15 3:45 AM	0.75	231	292	620	N/A	N/A	N/A	N/A
	3	8/21/15 6:00 AM	8/21/15 6:00 AM	0.00**	584	584	620	8/21/15 3:45 AM	8/21/15 5:45 AM	740	680
Sep-15	1	9/30/15 2:30 AM	9/30/15 2:30 AM	0.00*	596	596	620	9/30/15 2:45 AM	9/30/15 4:45 AM	711	682
Oct-15	1	10/3/15 4:15 AM	10/3/15 4:30 AM	0.25	600	600	620	10/3/15 2:15 AM	10/3/15 4:00 AM	721	680
	2	10/29/15 2:15 AM	10/29/15 3:00 AM	0.75	588	588	620	10/29/15 1:15 AM	10/29/15 2:00 AM	701	691
Dec-15	1	12/29/15 8:15 AM	12/29/15 8:15 AM	0.00*	596	596	620	12/29/15 7:00 AM	12/29/15 8:00 AM	708	686
NCM47											
Jan-15	1	1/18/15 11:45 AM	1/18/15 5:15 PM	5.50	563	563	620	1/18/15 11:00 AM	1/18/15 11:15 AM	708	702
Jul-15	1	7/1/15 4:45 AM	7/1/15 4:45 AM	0.00*	126	126	620	N/A	N/A	N/A	N/A
	2	7/9/15 9:30 PM	7/9/15 10:00 PM	0.50	314	556	620	7/9/15 10:15 PM	7/9/15 11:45 PM	707	661
	3	7/14/15 1:00 PM	7/14/15 1:30 PM	0.50	274	548	620	7/14/15 1:45 PM	7/14/15 2:30 PM	676	661
	4	7/18/15 9:00 AM	7/18/15 9:30 AM	0.50	224	316	620	N/A	N/A	N/A	N/A
	5a	7/30/15 2:15 PM	7/30/15 3:30 PM	1.25	384	568	620	7/30/15 5:15 PM	7/30/15 7:15 PM	704	665
	5b	7/30/15 4:45 PM	7/30/15 5:00 PM	0.25	396	396	620				
Aug-15	1	8/4/15 4:15 AM	8/4/15 4:30 AM	0.25	136	204	620	8/4/15 5:45 AM	8/4/15 5:45 AM	648	648
	2	8/18/15 5:00 AM	8/18/15 5:45 AM	0.75	352	414	620	N/A	N/A	N/A	N/A
Sep-15	1a	9/10/15 1:45 AM	9/10/15 2:30 AM	0.75	204	373	620	N/A	N/A	N/A	N/A
	1b	9/10/15 4:00 AM	9/10/15 4:30 AM	0.50	243	338	620	9/10/15 8:30 AM	9/10/15 9:00 AM	711	688
Oct-15	1	10/28/15 5:00 PM	10/28/15 5:00 PM	0.00*	552	552	620	10/28/15 5:15 PM	10/28/15 7:15 PM	720	671
Dec-15	1	12/23/15 4:15 PM	12/23/15 4:15 PM	0.00*	456	456	620	12/23/15 4:30 PM	12/23/15 10:00 PM	824	704

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
NORTH RIVER											
NR16											
Jun-15	1	6/16/15 2:30 PM	6/16/15 3:00 PM	0.50	147	147	340	N/A	N/A	N/A	N/A
Jul-15	1	7/1/15 4:45 AM	7/1/15 5:15 AM	0.50	151	194	340	N/A	N/A	N/A	N/A
	2	7/7/15 5:45 PM	7/7/15 6:00 PM	0.25	143	147	340	N/A	N/A	N/A	N/A
	3a	7/14/15 1:30 PM	7/14/15 1:45 PM	0.25	267	281	340	7/14/15 2:00 PM	7/14/15 2:00 PM	349	349
	3b	7/14/15 2:45 PM	7/14/15 3:15 PM	0.50	283	283	340				
	4	7/18/15 9:00 AM	7/18/15 9:15 AM	0.25	135	175	340	N/A	N/A	N/A	N/A
Aug-15	1	8/4/15 4:15 AM	8/4/15 4:30 AM	0.25	91	96	340	8/4/15 6:00 AM	8/4/15 6:00 AM	341	341
	2	8/11/15 7:15 AM	8/11/15 8:00 AM	0.75	300	322	340	8/11/15 8:15 AM	8/11/15 2:15 PM	349	337*
	3	8/17/15 2:30 PM	8/17/15 3:00 PM	0.50	175	191	340	N/A	N/A	N/A	N/A
	4	8/21/15 3:59 AM	8/21/15 4:00 AM	0.00**	227	358	340	8/21/15 4:00 AM	8/21/15 4:00 AM	358	358
Sep-15	1	9/10/15 2:00 AM	9/10/15 2:30 AM	0.50	81	256	340	9/10/15 3:00 AM	9/10/15 3:30 AM	368	359
	2	9/10/15 10:30 PM	9/10/15 10:30 PM	0.00	283	283	340	9/10/15 11:00 PM	9/10/15 11:15 PM	360	354
Oct-15	1	10/28/15 5:00 PM	10/28/15 5:00 PM	0.00*	309	309	340	10/28/15 5:15 PM	10/29/15 2:00 AM	370	329***
NR23											
Jul-15	1	7/1/15 4:45 AM	7/1/15 5:15 AM	0.50	151	194	340	N/A	N/A	N/A	N/A
	2	7/14/15 1:30 PM	7/14/15 1:30 PM	0.00*	267	267	340	7/14/15 2:00 PM	7/14/15 2:00 PM	349	349
	3	7/18/15 9:00 AM	7/18/15 9:15 AM	0.25	135	175	340	N/A	N/A	N/A	N/A
	4a	7/30/15 2:00 PM	7/30/15 2:15 PM	0.25	162	165	340	7/30/15 3:15 PM	7/30/15 3:45 PM	345	344
	4b	7/30/15 2:45 PM	7/30/15 2:45 PM	0.00*	196	196	340				
	4c	7/30/15 4:00 PM	7/30/15 4:30 PM	0.50	332	338	340	7/30/15 4:45 PM	7/30/15 7:30 PM	343	337***
Aug-15	1	8/4/15 4:15 AM	8/4/15 4:30 AM	0.25	80	96	340	8/4/15 6:00 AM	8/4/15 6:00 AM	341	341
Sep-15	1a	9/10/15 2:00 AM	9/10/15 2:30 AM	0.50	81	256	340	9/10/2015 3:00	9/10/2015 3:30	368	359
	1b	9/10/15 4:15 AM	9/10/15 4:30 AM	0.25	288	293		9/10/15 4:45 AM	9/10/15 5:30 AM	360	354
Dec-15	1	12/23/15 4:30 PM	12/23/15 4:30 PM	0.00*	291	291	340	12/23/15 5:00 PM	12/24/15 2:00 AM	351	337***
NR33											
Jul-15	1	7/1/15 4:45 AM	7/1/15 5:15 AM	0.50	151	194	340	N/A	N/A	N/A	N/A
	2	7/18/15 9:15 AM	7/18/15 9:30 AM	0.25	175	257	340	N/A	N/A	N/A	N/A
	3	7/30/15 2:45 PM	7/30/15 3:00 PM	0.25	196	318	340	7/30/15 3:15 PM	7/30/15 3:45 PM	345	344
Aug-15	1	8/4/15 4:30 AM	8/4/15 4:45 AM	0.25	96	141	340	8/4/15 6:00 AM	8/4/15 6:00 AM	341	341
	2	8/18/15 5:15 AM	8/18/15 6:00 AM	0.75	73	325	340	8/18/15 6:15 AM	8/18/15 6:45 AM	356	350
OWLS HEAD											
OH01											
Jan-15	1	1/12/15 4:45 PM	1/12/15 5:15 PM	0.50	239	239	240	1/12/15 1:15 PM	1/12/15 4:30 PM	256	244
	2	1/18/15 10:45 AM	1/18/15 10:45 AM	0.00*	239	239	240	1/18/15 11:00 AM	1/18/15 9:00 PM	260	250
Feb-15	1	2/22/15 12:45 PM	2/22/15 3:00 PM	2.25	191	206	240	2/22/15 3:15 PM	2/22/15 4:30 PM	245	243
Mar-15	1	3/2/15 1:00 PM	3/2/15 2:30 PM	1.50	139	140	240	N/A	N/A	N/A	N/A
	2a	3/4/15 11:30 PM	3/4/15 11:30 PM	0.00*	206	206	240	3/4/15 11:45 PM	3/5/15 12:00 AM	249	245
	2b	3/5/15 12:15 AM	3/5/15 1:30 AM	1.25	234	234	240				
Apr-15	1a	4/20/15 10:30 AM	4/20/15 10:30 AM	0.00*	236	236	240	4/20/15 10:00 AM	4/20/15 10:15 AM	250	247
	1b	4/20/15 1:15 PM	4/20/15 2:30 PM	1.25	230	230	240	4/20/15 10:45 AM	4/20/15 1:00 PM	251	245
	2	4/21/15 1:45 AM	4/21/15 2:15 AM	0.50	144	194	240	4/21/15 2:30 AM	4/21/15 5:00 AM	253	248
Jun-15	1	6/1/15 4:30 AM	6/1/15 5:00 AM	0.50	169	208	240	6/1/15 5:15 AM	6/1/15 7:15 AM	262	254
	2	6/6/15 5:45 AM	6/6/15 7:15 AM	1.50	151	156	240	N/A	N/A	N/A	N/A
	3a	6/14/15 11:30 PM	6/14/15 11:30 PM	0.00*	211	211	240	6/14/15 11:45 PM	6/15/15 3:30 AM	262	254
	3b	6/15/15 3:45 AM	6/15/15 4:15 AM	0.50	231	231	240				
	4	6/21/15 5:15 AM	6/21/15 7:00 AM	1.75	201	201	240	N/A	N/A	N/A	N/A
Jul-15	1	7/14/15 1:15 PM	7/14/15 1:30 PM	0.25	137	197	240	7/14/15 1:45 PM	7/14/15 4:00 PM	262	252
	2	7/30/15 11:30 AM	7/30/15 11:30 AM	0.00*	176	176	180	7/30/15 10:00 AM	7/30/15 11:15 AM	260	232
Sep-15	1	9/30/15 1:15 AM	9/30/15 1:45 AM	0.50	206	238	240	9/30/2015 2:00	9/30/2015 6:00	254	244
Oct-15	1	10/3/15 4:30 AM	10/3/15 4:30 AM	0.00*	237	237	240	10/2/15 11:30 PM	10/3/15 4:15 AM	265	242
Dec-15	1	12/17/15 5:30 PM	12/17/15 7:00 PM	1.50	237	237	240	12/17/15 1:30 PM	12/17/15 5:15 PM	262	247

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
OH06											
Jan-15	1	1/18/15 10:15 AM	1/18/15 10:45 AM	0.50	141	239	240	1/18/15 11:00 AM	1/18/15 9:00 PM	260	250
Feb-15	1	2/22/15 12:15 PM	2/22/15 3:00 PM	2.75	157	206	240	2/22/15 3:15 PM	2/22/15 4:30 PM	245	243
Mar-15	1	3/2/15 12:30 PM	3/2/15 3:30 PM	3.00	143	143	240	N/A	N/A	N/A	N/A
	2	3/3/15 10:00 PM	3/3/15 10:15 PM	0.25	148	205	240	3/3/15 10:30 PM	3/4/15 1:30 AM	257	249
	3	3/4/15 11:15 PM	3/4/15 11:30 PM	0.25	204	206	240	3/4/15 11:45 PM	3/5/15 12:00 AM	249	245
	4	3/8/15 2:45 PM	3/8/15 4:30 PM	1.75	143	145	240	N/A	N/A	N/A	N/A
	5	3/10/15 7:30 PM	3/10/15 9:45 PM	2.25	196	226	240	3/10/15 10:00 PM	3/11/15 1:45 AM	262	252
	6	3/14/15 7:30 AM	3/14/15 7:45 AM	0.25	152	152	240	3/14/15 8:00 AM	3/14/15 3:45 PM	258	247
	7	3/21/15 12:45 PM	3/21/15 1:00 PM	0.25	189	204	240	n/a	n/a	n/a	n/a
Apr-15	1a	4/20/15 10:30 AM	4/20/15 10:30 AM	0.00*	236	236	240	4/20/15 10:00 AM	4/20/15 10:15 AM	250	247
	1b	4/20/15 1:15 PM	4/20/15 2:30 PM	1.25	230	230	240	4/20/15 10:45 AM	4/20/15 1:00 PM	251	245
	2	4/21/15 1:30 AM	4/21/15 2:15 AM	0.75	140	194	240	4/21/15 2:30 AM	4/21/15 5:00 AM	253	248
May-15	1	5/31/15 9:00 PM	5/31/15 9:00 PM	0.00*	236	236	240	5/31/15 6:45 PM	5/31/15 8:45 PM	265	248
Jun-15	1a	6/1/15 4:15 AM	6/1/15 4:45 AM	0.50	186	205	240	6/1/15 5:15 AM	6/1/15 7:15 AM	262	254
	1b	6/1/15 12:00 PM	6/1/15 12:00 PM	0.00*	150	150	240	6/1/15 12:15 PM	6/1/15 1:15 PM	262	255
	2	6/6/15 6:00 AM	6/6/15 6:30 AM	0.50	155	155	240	N/A	N/A	N/A	N/A
	3	6/14/15 11:30 PM	6/14/15 11:30 PM	0.00*	211	211	240	6/14/15 11:45 PM	6/15/15 3:30 AM	262	254
	4	6/21/15 5:15 AM	6/21/15 6:00 AM	0.75	201	201	240	N/A	N/A	N/A	N/A
Jul-15	1	7/9/15 9:45 PM	7/9/15 9:45 PM	0.00*	203	203	240	7/9/15 10:00 PM	7/10/15 12:00 AM	260	252
	2	7/14/15 1:15 PM	7/14/15 1:30 PM	0.25	137	197	240	7/14/15 1:45 PM	7/14/15 4:00 PM	262	252
	3	7/15/15 11:45 AM	7/15/15 12:00 PM	0.25	127	193	240	7/15/15 12:15 PM	7/15/15 3:00 PM	261	249
Sep-15	1	9/30/15 1:00 AM	9/30/15 1:30 AM	0.50	189	222	240	9/30/2015 2:00	9/30/2015 6:00	254	244
Nov-15	1	11/11/15 1:15 AM	11/11/15 2:00 AM	0.75	238	239	240	11/11/15 2:15 AM	11/11/15 4:00 AM	262	262
Dec-15	1	12/17/15 5:30 PM	12/17/15 5:30 PM	0.00*	237	237	240	12/17/15 1:30 PM	12/17/15 5:15 PM	262	247
PORT RICHMOND											
PR06W											
Jan-15	1	1/3/15 11:15 PM	1/4/15 2:30 AM	3.25	93	105	120	N/A	N/A	N/A	N/A
	2	1/12/15 3:30 PM	1/12/15 4:15 PM	0.75	89	89	120	N/A	N/A	N/A	N/A
	3	1/18/15 10:30 AM	1/18/15 12:00 PM	1.50	60	118	120	1/18/15 12:15 PM	1/18/15 8:15 PM	133	132
Feb-15	1	2/2/15 11:00 AM	2/2/15 2:30 PM	3.50	90	90	120	2/2/15 8:00 AM	2/2/15 8:30 AM	126	124
	2	2/22/15 2:00 PM	2/22/15 4:00 PM	2.00	83	86	120	N/A	N/A	N/A	N/A
Mar-15	1	3/3/15 11:30 PM	3/4/15 12:00 AM	0.50	59	59	120	N/A	N/A	N/A	N/A
	2	3/4/15 11:30 PM	3/5/15 4:00 AM	4.50	83	90	120	N/A	N/A	N/A	N/A
	3	3/10/15 6:45 PM	3/10/15 7:15 PM	0.50	55	65	120	N/A	N/A	N/A	N/A
	4	3/11/15 3:45 PM	3/11/15 6:15 PM	2.50	81	85	120	N/A	N/A	N/A	N/A
	5	3/14/15 8:00 AM	3/14/15 12:00 PM	4.00	89	106	120	N/A	N/A	N/A	N/A
	6	3/14/15 10:00 PM	3/14/15 11:15 PM	1.25	65	68	120	N/A	N/A	N/A	N/A
	7	3/27/15 6:00 AM	3/27/15 8:30 AM	2.50	88	88	120	N/A	N/A	N/A	N/A
May-15	1	5/16/15 9:45 PM	5/16/15 11:30 PM	1.75	55	90	120	N/A	N/A	N/A	N/A
	2	5/31/15 9:30 PM	5/31/15 10:15 PM	0.75	92	92	120	5/31/15 7:45 PM	5/31/15 8:15 PM	129	125
Jun-15	1	6/1/15 11:15 AM	6/1/15 12:45 PM	1.50	58	73	120	N/A	N/A	N/A	N/A
	2a	6/14/15 11:00 PM	6/15/15 2:00 AM	3.00	47	89	120	6/15/15 3:00 AM	6/15/15 4:30 AM	125	123
	2b	6/15/15 2:30 AM	6/15/15 2:30 AM	0.00*	105	105	120				
	3	6/15/15 3:45 PM	6/15/15 4:15 PM	0.50	68	84	120	N/A	N/A		
	4	6/27/15 8:30 PM	6/28/15 12:00 AM	3.50	99	118	120	N/A	N/A	N/A	N/A
Jul-15	1	7/9/15 9:45 PM	7/9/15 10:45 PM	1.00	28	28	120	N/A	N/A	N/A	N/A
Aug-15	1a	8/11/15 8:30 AM	8/11/15 9:45 AM	1.25	85	97	120	N/A	N/A	N/A	N/A
	1b	8/11/15 10:15 AM	8/11/15 11:15 AM	1.00	90	90	120	N/A	N/A	N/A	N/A
	2a	8/21/15 3:30 AM	8/21/15 4:45 AM	1.25	24	105	120	8/21/15 5:00 AM	8/21/15 5:00 AM	132	132
	2b	8/21/15 5:15 AM	8/21/15 6:15 AM	1.00	119	119	120				
Sep-15	1	9/10/15 8:30 AM	9/10/15 9:30 AM	1.00	80	85	120	N/A	N/A	N/A	N/A
	2a	9/30/15 2:15 AM	9/30/15 2:45 AM	0.50	55	106	120	9/30/2015 3:00	9/30/2015 3:30	132	127
	2b	9/30/15 3:45 AM	9/30/15 5:15 AM	1.50	116	116	120				

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
PR06W cont.											
Oct-15	1a	10/2/15 3:45 PM	10/2/15 7:15 PM	3.50	106	111	120	N/A	N/A	N/A	N/A
	1b	10/3/15 4:00 AM	10/3/15 4:45 AM	0.75	79	79	120	N/A	N/A	N/A	N/A
	2	10/28/15 1:30 PM	10/28/15 2:45 PM	1.25	54	68	120	N/A	N/A	N/A	N/A
Nov-15	1	11/19/15 7:15 PM	11/19/15 7:45 PM	0.50	90	90	120	N/A	N/A	N/A	N/A
	2	11/19/15 9:15 PM	11/19/15 10:00 PM	0.75	92	92	120	N/A	N/A	N/A	N/A
Dec-15	1a	12/23/15 4:45 PM	12/23/15 5:30 PM	0.75	65	105	120	12/23/15 6:00 PM	12/23/15 6:15 PM	131	127
	1b	12/23/15 11:30 PM	12/24/15 12:00 AM	0.50	63	63	120	N/A	N/A	N/A	N/A
	2a	12/29/15 4:15 AM	12/29/15 5:30 AM	1.25	59	88	120	N/A	N/A	N/A	N/A
	2b	12/29/15 6:15 AM	12/29/15 9:00 AM	2.75	85	89	120				
	3	12/31/15 12:15 AM	12/31/15 1:15 AM	1.00	89	89	120	N/A	N/A	N/A	N/A
PR13E											
Jan-15	1a	1/3/15 4:15 PM	1/3/15 8:15 PM	4.00	73	116	120	N/A	N/A	N/A	N/A
	1b	1/3/15 8:30 PM	1/4/15 1:30 AM	5.00	110	110		N/A	N/A	N/A	N/A
	2	1/12/15 1:00 PM	1/12/15 4:00 PM	3.00	47	94	120	N/A	N/A	N/A	N/A
	3	1/18/15 10:00 AM	1/18/15 12:00 PM	2.00	30	118	120	1/18/15 12:15 PM	1/18/15 8:15 PM	133	132
Feb-15	1a	2/2/15 6:15 AM	2/2/15 7:45 AM	1.50	23	101	120	2/2/15 8:00 AM	2/2/15 8:30 AM	126	124
	1b	2/2/15 8:45 AM	2/2/15 12:30 PM	3.75	119	119	120				
	2	2/22/15 1:15 PM	2/22/15 2:30 PM	1.25	64	85	120	N/A	N/A	N/A	N/A
Mar-15	1	3/4/15 10:00 PM	3/5/15 2:30 AM	4.50	56	90	120	N/A	N/A	N/A	N/A
	2a	3/10/15 8:00 PM	3/10/15 9:45 PM	1.75	84	116	120	3/10/15 10:00 PM	3/10/15 10:45 PM	125	123
	2b	3/10/15 11:00 PM	3/11/15 12:30 AM	1.50	119	119	120				
	3	3/14/15 7:45 AM	3/14/15 2:15 PM	6.50	76	112	120	N/A	N/A	N/A	N/A
	4a	3/27/15 4:30 AM	3/27/15 5:00 AM	0.50	34	40	120	N/A	N/A	N/A	N/A
	4b	3/27/15 5:45 AM	3/27/15 8:00 AM	2.25	76	88	120	N/A	N/A	N/A	N/A
Apr-15	1	4/20/15 9:45 AM	4/20/15 11:00 AM	1.25	67	87	90	4/20/15 11:15 AM	4/20/15 2:45 PM	120	97
May-15	1	5/16/15 9:15 PM	5/16/15 11:15 PM	2.00	39	90	120	N/A	N/A	N/A	N/A
	2a	5/31/15 6:00 PM	5/31/15 7:15 PM	1.25	64	111	120	5/31/15 7:45 PM	5/31/15 8:15 PM	129	125
	2b	5/31/15 8:30 PM	5/31/15 9:15 PM	0.75	115	115	120				
Jun-15	1a	6/1/15 4:15 AM	6/1/15 5:45 AM	1.50	44	84	120	N/A	N/A	N/A	N/A
	1b	6/1/15 11:00 AM	6/1/15 12:30 PM	1.50	58	68	120	N/A	N/A	N/A	N/A
	1c	6/1/15 10:45 PM	6/1/15 11:30 PM	0.75	39	42	120	N/A	N/A	N/A	N/A
	2	6/2/15 4:15 PM	6/2/15 5:30 PM	1.25	35	57	120	N/A	N/A	N/A	N/A
	3a	6/14/15 11:00 PM	6/15/15 12:30 AM	1.50	47	89	120	6/15/15 3:00 AM	6/15/15 4:30 AM	125	123
	3b	6/15/15 12:45 AM	6/15/15 1:30 AM	0.75	88	88	120				
	3c	6/15/15 2:30 AM	6/15/15 2:30 AM	0.00*	105	105	120				
	3d	6/15/15 2:45 AM	6/15/15 3:00 AM	0.25	115	125	120				
	4a	6/15/15 5:45 PM	6/15/15 6:15 PM	0.50	104	104	120	N/A	N/A	N/A	N/A
	4b	6/15/15 9:45 PM	6/15/15 11:00 PM	1.25	90	90	120	N/A	N/A	N/A	N/A
	5	6/16/15 5:30 PM	6/16/15 7:45 PM	2.25	35	80	120	N/A	N/A	N/A	N/A
	6	6/21/15 5:00 AM	6/21/15 6:15 AM	1.25	44	63	120	N/A	N/A	N/A	N/A
	7a	6/27/15 9:15 PM	6/28/15 12:00 AM	2.75	118	118	120	N/A	N/A	N/A	N/A
	7b	6/28/15 1:30 AM	6/28/15 4:30 AM	3.00	80	105	120	N/A	N/A	N/A	N/A
Jul-15	1	7/1/15 4:15 AM	7/1/15 5:00 AM	0.75	33	60	120	N/A	N/A	N/A	N/A
	2	7/9/15 9:30 PM	7/9/15 10:00 PM	0.50	50	62	120	N/A	N/A	N/A	N/A
	3a	7/14/15 1:15 PM	7/14/15 1:45 PM	0.50	32	33	120	N/A	N/A	N/A	N/A
	3b	7/14/15 2:45 PM	7/14/15 3:00 PM	0.25	37	38	120				
	4a	7/18/15 9:15 AM	7/18/15 9:15 AM	0.00*	26	26	120	N/A	N/A	N/A	N/A
	4b	7/18/15 10:00 AM	7/18/15 10:15 AM	0.25	36	41	120				
	5	7/30/2015 N/A	7/30/2015 N/A	N/A	N/A	N/A	120	N/A	N/A	N/A	N/A

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
PR13E cont.											
Aug-15	1	8/4/15 4:30 AM	8/4/15 5:30 AM	1.00	21	31	120	N/A	N/A	N/A	N/A
	2a	8/11/15 6:30 AM	8/11/15 7:15 AM	0.75	23	38	120	N/A	N/A	N/A	N/A
	2b	8/11/15 7:30 AM	8/11/15 11:30 AM	4.00	49	97	120	N/A	N/A	N/A	N/A
	3a	8/21/15 3:00 AM	8/21/15 3:30 AM	0.50	23	24	120				
	3b	8/21/15 3:45 AM	8/21/15 4:45 AM	1.00	24	105	120	8/21/15 5:00 AM	8/21/15 5:00 AM	132	132
	3c	8/21/15 5:15 AM	8/21/15 6:00 AM	0.75	119	119	120				
Sep-15	1	9/9/15 4:00 PM	9/9/15 4:30 PM	0.50	60	90	120	9/9/2015 17:00	9/9/2015 17:00	120	120
	2a	9/10/15 4:45 AM	9/10/15 5:45 AM	1.00	23	49	120	N/A	N/A	N/A	N/A
	2b	9/10/15 7:30 AM	9/10/15 8:30 AM	1.00	75	80	120				
	3a	9/30/15 1:45 AM	9/30/15 2:30 AM	0.75	29	81	120				
	3b	9/30/15 2:45 AM	9/30/15 2:45 AM	0.00	106	106	120	9/30/2015 3:00	9/30/2015 3:30	132	127
	3c	9/30/15 3:45 AM	9/30/15 5:30 AM	1.75	116	116	120				
Oct-15	1a	10/2/15 2:15 PM	10/2/15 9:30 PM	7.25	66	111	120	N/A	N/A	N/A	N/A
	1b	10/2/15 9:45 PM	10/2/15 10:45 PM	1.00	91	91					
	1c	10/3/15 1:45 AM	10/3/15 4:30 AM	2.75	77	87	120	N/A	N/A	N/A	N/A
	2	10/9/15 6:30 PM	10/9/15 8:15 PM	1.75	25	87	120	N/A	N/A	N/A	N/A
	3a	10/28/15 4:45 PM	10/28/15 6:45 PM	2.00	68	99	120	N/A	N/A	N/A	N/A
	3b	10/28/15 11:15 PM	10/29/15 2:15 AM	3.00	32	45	120	N/A	N/A	N/A	N/A
Nov-15	1	11/11/15 1:15 AM	11/11/15 1:45 AM	0.50	59	59	120	N/A	N/A	N/A	N/A
	2	11/19/15 6:00 PM	11/19/15 8:15 PM	2.25	101	101	120	N/A	N/A	N/A	N/A
	3	11/19/15 8:45 PM	11/19/15 11:45 PM	3.00	92	92	120	N/A	N/A	N/A	N/A
Dec-15	1	12/14/15 8:15 PM	12/14/15 9:00 PM	0.75	29	30	120	N/A	N/A	N/A	N/A
	2a	12/17/15 2:45 PM	12/17/15 3:45 PM	1.00	85	115	120	12/17/15 4:00 PM	12/17/15 4:30 PM	124	122
	2b	12/17/15 4:45 PM	12/17/15 5:30 PM	0.75	117	117	120				
	3a	12/23/15 4:15 PM	12/23/15 5:45 PM	1.50	40	118	120	12/23/15 6:00 PM	12/23/15 6:15 PM	131	127
	3b	12/23/15 6:30 PM	12/23/15 7:00 PM	0.50	115	115	120				
	3c	12/23/15 8:15 PM	12/23/15 9:00 PM	0.75	96	97	120	N/A	N/A	N/A	N/A
	3d	12/23/15 11:00 PM	12/23/15 11:45 PM	0.75	62	63	120				
	4	12/29/15 3:30 AM	12/29/15 9:00 AM	5.50	44	89	120	N/A	N/A	N/A	N/A
RED HOOK											
RH02											
	No Potential CSO Discharges Outside the Period of a Critical Wet Weather Event in Reporting Period										
RH20											
	No Potential CSO Discharges Outside the Period of a Critical Wet Weather Event in Reporting Period										
TALLMAN ISLAND											
TI09											
Jan-15	1	1/3/15 5:30 PM	1/4/15 3:15 AM	9.75	119	149	151	N/A	N/A	N/A	N/A
	2	1/4/15 9:45 PM	1/4/15 11:00 PM	1.25	129	138	151	N/A	N/A	N/A	N/A
	3	1/12/15 1:15 PM	1/12/15 6:00 PM	4.75	125	145	146	N/A	N/A	N/A	N/A
	4a	1/18/15 10:45 AM	1/18/15 10:45 AM	0.00*	133	133	153	1/18/15 11:00 AM	1/18/15 8:45 PM	166	158
	4b	1/18/15 9:00 PM	1/18/15 9:45 PM	0.75	137	137					
	5	1/24/15 1:00 PM	1/24/15 5:15 PM	4.25	122	127	159	N/A	N/A	N/A	N/A
Feb-15	1	2/2/15 9:00 AM	2/2/15 1:45 PM	4.75	94	158	159	N/A	N/A	N/A	N/A
	2	2/22/15 1:30 PM	2/22/15 5:30 PM	4.00	96	137	159	N/A	N/A	N/A	N/A
Mar-15	1	3/3/15 11:00 PM	3/4/15 2:30 AM	3.50	115	142	159	N/A	N/A	N/A	N/A
	2	3/4/15 11:00 AM	3/4/15 4:00 PM	5.00	128	138	159	N/A	N/A	N/A	N/A
	3	3/4/15 11:15 PM	3/5/15 3:45 AM	4.50	120	153	159	N/A	N/A	N/A	N/A
	4	3/10/15 9:00 PM	3/11/15 2:30 AM	5.50	127	152	159	N/A	N/A	N/A	N/A
	5a	3/14/15 9:00 AM	3/14/15 9:15 AM	0.25	119	125	152.5	3/14/15 9:30 AM	3/14/15 1:45 PM	166	159
	5b	3/14/15 2:00 PM	3/14/15 4:30 PM	2.50	148	148	152.5				
	6	3/27/15 7:00 AM	3/27/15 9:15 AM	2.25	131	131	159	N/A	N/A	N/A	N/A

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
TI09 cont.											
Apr-15	1a	4/20/15 10:15 AM	4/20/15 10:30 AM	0.25	103	152	159	4/20/15 10:45 AM	4/20/15 1:30 PM	170	160
	1b	4/20/15 1:45 PM	4/20/15 3:45 PM	2.00	154	154	159				
	2	4/21/15 1:45 AM	4/21/15 4:15 AM	2.50	84	150	159	N/A	N/A	N/A	N/A
	3	4/21/15 10:30 AM	4/21/15 11:30 AM	1.00	112	123	159	N/A	N/A	N/A	N/A
May-15	1a	5/31/15 6:15 PM	5/31/15 6:45 PM	0.50	76	154	159	5/31/15 7:00 PM	5/31/15 7:30 PM	167	166
	1b	5/31/15 7:45 PM	5/31/15 7:45 PM	0.00*	155	155	159				
	1c	5/31/15 9:45 PM	5/31/15 11:00 PM	1.25	157	157	159	5/31/15 8:00 PM	5/31/15 9:30 PM	164	162
Jun-15	1a	6/1/15 5:00 AM	6/1/15 7:30 AM	2.50	109	147	159	N/A	N/A	N/A	N/A
	1b	6/1/15 12:00 PM	6/1/15 3:00 PM	3.00	108	151	159	N/A	N/A	N/A	N/A
	2	6/2/15 1:00 AM	6/2/15 2:15 AM	1.25	111	125	159	N/A	N/A	N/A	N/A
	3	6/6/15 6:15 AM	6/6/15 8:45 AM	2.50	113	138	159	N/A	N/A	N/A	N/A
	4a	6/15/15 3:45 AM	6/15/15 5:30 AM	1.75	113	157	159	6/15/15 5:45 AM	6/15/15 6:15 AM	164	163
	4b	6/15/15 6:30 AM	6/15/15 8:00 AM	1.50	154	154	159				
	5	6/16/15 6:00 PM	6/16/15 8:30 PM	2.50	89	155	159	N/A	N/A	N/A	N/A
	6	6/23/15 7:00 PM	6/23/15 9:30 PM	2.50	59	154	159	N/A	N/A	N/A	N/A
	7a	6/27/15 8:15 PM	6/27/15 9:45 PM	1.50	120	159	160	6/27/15 10:00 PM	6/27/15 10:00 PM	160	160
	7b	6/27/15 10:15 PM	6/28/15 5:45 AM	7.50	158	159	160				
Jul-15	1	7/9/15 10:30 PM	7/10/15 12:45 AM	2.25	130	147	160	N/A	N/A	N/A	N/A
	2	7/14/15 1:30 PM	7/14/15 3:45 PM	2.25	82	158	160	N/A	N/A	N/A	N/A
	3	7/30/15 3:15 PM	7/30/15 3:15 PM	0.00*	110	110	160	7/30/15 3:30 PM	7/30/15 7:00 PM	167	164
Aug-15	1a	8/11/15 7:15 AM	8/11/15 7:45 AM	0.50	111	154	160	8/11/15 8:00 AM	8/11/15 10:15 AM	175	161
	1b	8/11/15 10:30 AM	8/11/15 1:00 PM	2.50	143	156	160				
	2	8/16/15 3:45 PM	8/16/15 5:00 PM	1.25	111	142	160	N/A	N/A	N/A	N/A
	3	8/21/15 5:45 AM	8/21/15 7:45 AM	2.00	127	127	160	N/A	N/A	N/A	N/A
Sep-15	1	9/10/15 7:45 AM	9/10/15 10:15 AM	2.50	124	150	159	N/A	N/A	N/A	N/A
	2	9/10/15 6:30 PM	9/10/15 9:00 PM	2.50	65	155	159	N/A	N/A	N/A	N/A
	3	9/30/15 2:45 AM	9/30/15 6:45 AM	4.00	111	158	160	N/A	N/A	N/A	N/A
Oct-15	1a	10/2/15 2:00 PM	10/2/15 5:30 PM	3.50	101	158	160	10/2/15 5:45 PM	10/2/15 9:30 PM	168	159***
	1b	10/2/15 9:45 PM	10/3/15 12:30 AM	2.75	140	143	160				
	2a	10/3/15 2:30 AM	10/3/15 2:45 AM	0.25	120	129	160	10/3/15 3:00 AM	10/3/15 4:00 AM	163	161
	2b	10/3/15 4:15 AM	10/3/15 5:30 AM	1.25	157	159	160				
	3	10/9/15 6:30 PM	10/9/15 9:30 PM	3.00	116	155	160	N/A	N/A	N/A	N/A
	4a	10/28/15 7:00 PM	10/28/15 7:15 PM	0.25	159	159	160	10/28/15 5:30 PM	10/28/15 6:45 PM	162	161
	4b	10/29/15 3:00 AM	10/29/15 3:00 AM	0.00*	142	142	160	10/29/15 12:00 AM 10/29/15 3:45 AM	10/29/15 2:45 AM 10/29/15 5:15 AM	166 130**	163 102***
Dec-15	1a	12/17/15 2:30 PM	12/17/15 3:15 PM	0.75	141	148	160	12/17/15 3:30 PM	12/17/15 4:00 PM	161	161
	1b	12/17/15 4:15 PM	12/17/15 4:15 PM	0.00*	157	157	160				
	1c	12/17/15 6:15 PM	12/17/15 6:45 PM	0.50	158	158	160	12/17/15 4:30 PM	12/17/15 6:00 PM	165	163
	2	12/23/15 8:15 PM	12/23/15 10:30 PM	2.25	159	159	160	12/23/15 5:15 PM	12/23/15 8:00 PM	169	166
	3	12/29/15 7:00 AM	12/29/15 8:15 AM	1.25	124	153	160	N/A	N/A	N/A	N/A
TI10A											
	No Potential CSO Discharges Outside the Period of a Critical Wet Weather Event in Reporting Period										
WARDS ISLAND											
WIB53											
Jan-15	1	1/12/15 3:30 PM	1/12/15 5:00 PM	1.50	255	312	370	N/A	N/A	N/A	N/A
Mar-15	1	3/4/15 12:30 AM	3/4/15 2:00 AM	1.50	297	297	550	N/A	N/A	N/A	N/A
	2	3/27/15 6:00 AM	3/27/15 9:30 AM	3.50	303	344	463	N/A	N/A	N/A	N/A
May-15	1	5/31/15 5:00 PM	5/31/15 5:00 PM	0.00*	290	290	320	5/31/15 5:15 PM 6/1/15 8:00 AM	6/1/15 9:15 AM 6/1/15 1:45 PM	395 358	312*** 336
Sep-15	1	9/10/2015 5:45	9/10/15 6:15 AM	0.50	278	275	320	9/10/2015 2:00 9/10/2015 8:15	9/10/2015 5:45 9/10/2015 10:00	298** 335	251*** 327
Oct-15	1	10/29/15 4:45 PM	10/29/15 5:15 PM	0.50	183	190	320	N/A	N/A	N/A	N/A

Key Regulators Monitoring Report - CY2015 Summary

Regulator #	Potential CSO Discharges Outside the Period of a Critical Wet Weather Event						WWTP Event Capacity (MGD)	Critical Wet Weather Event			
	Event #	Start Time	End Time	Duration (hrs)	WWTP Flow at Start (MGD)	WWTP Max Flow (MGD)		Start Time	End Time	WWTP Event Max Flow (MGD)	WWTP Event Avg Flow (MGD)
WIB67											
Jan-15	1	1/12/15 12:45 PM	1/12/15 1:15 PM	0.50	270	307	370	N/A	N/A	N/A	N/A
Sep-15	1	9/30/15 2:00 PM	9/30/15 3:45 PM	1.75	298	298	320	9/30/2015 2:30 9/30/2015 10:45	9/30/2015 10:15 9/30/2015 11:00	330 325	250*** 325
WIM23											
Mar-15	1	3/11/15 1:15 PM	3/11/15 2:00 PM	0.75	248	275	550	N/A	N/A	N/A	N/A
	2	3/26/15 10:30 PM	3/26/15 11:00 PM	0.50	272	272	463	3/27/15 12:15 AM	3/27/15 2:30 AM	277**	227***
Jul-15	1	7/18/15 9:00 AM	7/18/15 9:00 AM	0.00*	246	246	320	7/18/15 9:15 AM	7/18/15 11:45 AM	408	374
Dec-15	1	12/14/15 8:00 PM	12/14/15 8:00 PM	0.00*	225	225	320	12/14/15 8:15 PM	12/14/15 11:45 PM	366	338
	2	12/23/15 4:15 PM	12/23/15 4:15 PM	0.00*	297	297	320	12/23/15 4:30 PM	12/24/15 1:30 AM	462	406

NOTES

Please be advised, there was an issue with the CCFISS Historian from 4:00 PM on 7/30/15 to 8:00 AM on 7/31/15 and most of the data for that time period was lost. Potential CSO discharge periods were estimated based on other data, if available, such as inclinometer and conductivity data, and the alarm log viewer. In some cases, sufficient supporting data was not available and the time period was not able to be estimated, a time of "7/30/2015 N/A" was reported for those events.

* Potential CSO Discharge Duration was less than the 15-minute reportable interval.

** "WWTP Event Maximum Flow" values reported with two asterisks (**) had a maximum flow during the critical wet weather event that was less than the wet weather flow requirement ("WWTP Event Capacity"), see below:

- HUNTS POINT: During the rain event on September 10, 2015, Hunts Point WWTP throttled at less than the wet weather flow requirement, see Report of Non- Compliance Item No. 5391 letter dated September 15, 2015 for further information.
- Hunts Point: During the rain event on December 14, 2015, Hunts Point WWTP throttled at less than the wet weather flow requirement, see Report of Non- Compliance Item No. 5399 letter dated December 18, 2015 for further information.
-NEWTOWN CREEK: During the rain event on May 31, 2015, Newtown Creek WWTP throttled at less than the wet weather flow requirement, see Report of Non- Compliance Item No. 5379 letter dated June 10, 2015 for further information.
- NORTH RIVER: During the rain event on August 13, 2014, North River WWTP throtted at less than the wet weather flow requirement due to critical equipment outage for less than 48 hours, see Cancellation of Report of Non-Compliance Item No. 5334 letter dated August 18, 2014 for further information.
- TALLMAN ISLAND: During the rain event on August 2, 2014, Tallman Island WWTP throttled at less than the wet weather flow requirement, see Report of Non- Compliance Item No. 5331 letter dated August 7, 2014 for further information.
- Tallman Island: During the rain event on October 29, 2015, Tallman Island WWTP throttled at less than the wet weather flow requirement, see Report of Non- Compliance Item No. 5394 letter dated November 02, 2015 for further information.
- WARDS ISLAND: During the rain event on August 13, 2014, Wards Island WWTP throttled at less than the wet weather flow requirement, see Report of Non- Compliance Item No. 5335 letter dated August 18, 2014 for further information.
- WARDS ISLAND: During the rain event on August 22, 2014, Wards Island WWTP throttled at less than the wet weather flow requirement, see Report of Non- Compliance Item No. 5338 letter dated August 27, 2014 for further information.
- WARDS ISLAND: During the rain event on September 13, 2014, Wards Island WWTP throttled at less than the previosuly requested wet weather flow requirement of 420 MGD, see Report of Non- Compliance Item No. 5340 letter dated September 18, 2014 for further information.
- WARDS ISLAND: During the rain event on October 15-16, 2014, Wards Island WWTP throttled at less than the previosuly requested wet weather flow requirement of 463 MGDdue to critical equipment outage for less than 48 hours, see Cancellation of Report of Non- Compliance Item No. 5344 letter dated October 21, 2014 for further information.
- WARDS ISLAND: During the rain event on December 24, 2014, Wards Island WWTP throttled at less than the previosuly requested wet weather flow requirement of 370 MGD, see Report of Non- Compliance Item No. 5351 letter dated December 29, 2014 for further information.
- WARDS ISLAND: During the rain event on March 27, 2015, Wards Island WWTP throttled at less than the wet weather flow requirement, see Report of Non- Compliance Item No. 5361 letter dated April 1, 2015 for further information.
- WARDS ISLAND: During the rain event on September 10, 2015, Wards Island WWTP throttled at less than the wet weather flow requirement, see Report of Non- Compliance Item No. 5390 letter dated September 15, 2015 for further information.

*** "WWTP Event Average Flow" values reported with three asterisks (***) had an average flow during the critical wet weather event that was less than the wet weather flow requirement ("WWTP Event Capacity"). These events were reported in the Wet Weather Quarterly Report submittal.

**** REGULATOR BBL-04: Due to planned capital improvements, including the installation of bending weirs, the telemetry at BBL-04 may be unreliable and potential CSO discharge data is not available. Construction commenced in August 2015 and is projected to be completec by June 2017.
REGULATOR JA-03: Due to planned capital improvements, including the installation of bending weirs, the telemetry at JA-03 is unreliable and potential CSO discharge data is not available. Construction commenced in August 2015 and is projected to be completec by January 2016.
REGULATOR PR-13E: There was a loss of communication with PR-13E from 10/14/14 to 10/17/14 and then periodically from 10/21/14 to 10/25/14. Therefore, there may have been missed potential CSO Events during this time particularly on 10/16/14 which had events at several other regulators. Additionally, the Potential CSO Event on 10/22/14 most likely started earlier than the reported 7:30 AM Start Time, as this was the time communication was temporarily restored.

Appendix 3.2

CY2015 Critical Wet Weather Event Summary

26TH WARD - WET WEATHER THROTTLING SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Influent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/04/2015	170	NO	n/a	n/a	n/a	n/a	1/4/2015	9:00 PM	1/4/2015	9:00 PM	172	172	n/a
1/18/2015	170	YES	182	182	173	n/a	1/18/2015	11:15 AM	1/18/2015	8:00 PM	183	174	n/a
3/14/2015	170	YES	175	175	171	n/a	3/14/2015	9:45 AM	3/14/2015	2:15 PM	175	171	n/a
4/20/2015	170	YES	175	175	165	n/a	4/20/2015	10:45 AM	4/20/2015	12:45 PM	176	166	WW1033
5/31/2015	170	NO	n/a	n/a	n/a	n/a	5/31/2015	7:30 PM	5/31/2015	7:30 PM	170	170	n/a
	170	YES	175	180	153	n/a	5/31/2015	8:00 PM	5/31/2015	11:15 PM	180	153	WW1034
6/1/2015	170	YES	192	192	188	n/a	6/1/2015	4:45 AM	6/1/2015	6:00 AM	192	186	n/a
6/14/2015 - 6/15/2015	170	NO	n/a	n/a	n/a	n/a	6/14/2015	11:45 PM	6/15/2015	12:30 AM	181	177	n/a
6/15/2015	170	YES	175	184	166	n/a	6/15/2015	3:15 AM	6/15/2015	6:00 AM	184	166	WW1035
	170	NO	n/a	n/a	n/a	n/a	6/15/2015	5:45 PM	6/15/2015	5:45 PM	172	172	n/a
6/27/2015 - 6/28/2015	170	YES	177	177	170	n/a	6/27/2015	9:15 PM	6/28/2015	2:45 AM	177	170	n/a
	170	YES	174	174	161	n/a	6/28/2015	4:00 AM	6/28/2015	5:45 AM	174	162	WW1036
7/9/2015	170	NO	n/a	n/a	n/a	n/a	7/9/2015	10:30 PM	7/9/2015	11:00 PM	172	171	n/a
8/11/2015	170	YES	185	185	168	n/a	8/11/2015	7:00 AM	8/11/2015	10:00 AM	185	168	WW1043
9/10/2015	170	YES	192	192	188	n/a	9/10/2015	8:00 AM	9/10/2015	8:30 AM	192	186	n/a
9/30/2015	170	NO	n/a	n/a	n/a	n/a	9/30/2015	2:45 AM	9/30/2015	3:00 AM	184	179	n/a
	170	YES	184	184	168	n/a	9/30/2015	3:45 AM	9/30/2015	5:15 AM	184	171	n/a
10/2/2015	170	NO	n/a	n/a	n/a	n/a	10/2/2015	2:15 PM	10/2/2015	3:00 PM	172	171	n/a
	170	YES	175	183	171	Spill No.1507014 cancelled	10/2/2015	4:15 PM	10/2/2015	9:30 PM	183	171	n/a
10/3/2015	170	NO	n/a	n/a	n/a	n/a	10/3/2015	2:30 AM	10/3/2015	2:45 AM	172	172	n/a
	170	NO	n/a	n/a	n/a	n/a	10/3/2015	3:45 AM	10/3/2015	4:00 AM	175	173	n/a
10/28/2015 - 10/29/2015	170	YES	166	173	170	n/a	10/28/2015	5:15 PM	10/28/2015	6:45 PM	173	170	n/a
	170	YES	176	179	170	n/a	10/28/2015	11:30 PM	10/29/2015	2:30 AM	179	170	n/a
11/19/2015 - 11/20/2015	170	NO	n/a	n/a	n/a	n/a	11/19/2015	6:45 PM	11/19/2015	6:45 PM	178	178	n/a
	170	YES	182	186	169	n/a	11/19/2015	7:15 PM	11/19/2015	8:30 PM	186	172	n/a
	170	NO	n/a	n/a	n/a	n/a	11/19/2015	10:30 PM	11/19/2015	10:45 PM	194	191	n/a
12/14/2015	170	NO	n/a	n/a	n/a	n/a	12/14/2015	8:30 PM	12/14/2015	8:45 PM	177	176	n/a
12/17/2015	170	YES	170	177	173	n/a	12/17/2015	3:30 PM	12/17/2015	6:15 PM	177	173	n/a
12/23/2015 - 12/24/2015	170	YES	175	176	171	n/a	12/23/2015	4:45 PM	12/23/2015	9:30 PM	176	171	n/a

BOWERY BAY - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Effluent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/3/2015	300	YES	312	312	310	n/a	1/3/2015	5:45 PM	01/03/2015	11:30 PM	313	308	n/a
1/4/2015	300	NO	n/a	n/a	n/a	n/a	1/4/2015	1:00 AM	01/04/2015	2:00 AM	332	313	n/a
1/12/2015	300	NO	n/a	n/a	n/a	n/a	1/12/2015	2:15 PM	01/12/2015	4:30 PM	309	304	n/a
1/18/2015	300	YES	330	341	309	n/a	1/18/2015	11:00 AM	01/18/2015	7:15 PM	341	310	n/a
2/22/2015	200	NO	n/a	n/a	n/a	n/a	2/22/2015	8:00 AM	2/22/2015	8:00 AM	211	211	n/a
		YES	274	295	268	n/a	02/22/2015	12:15 PM	02/22/2015	7:45 PM	295	251	n/a
3/3/2015	200	YES	237	247	226	n/a	3/3/2015	10:30 PM	3/4/2015	5:00 AM	247	224	n/a
3/4/2015	200	NO	n/a	n/a	n/a	n/a	3/4/2015	6:00 AM	3/4/2015	6:00 AM	201	201	n/a
	200	YES	239	247	228	n/a	3/4/2015	7:15 AM	3/4/2015	7:30 PM	266	225	n/a
	190	YES	235	249	233	n/a	3/4/2015	9:30 PM	3/5/2015	8:00 AM	249	230	n/a
3/5/2015	190	NO	n/a	n/a	n/a	n/a	3/5/2015	4:00 PM	3/5/2015	4:00 PM	233	233	n/a
3/6/2015	190	NO	n/a	n/a	n/a	n/a	3/6/2015	12:45 AM	3/6/2015	12:45 AM	216	216	n/a
3/8/2015	190	NO	n/a	n/a	n/a	n/a	3/8/2015	3:00 PM	3/8/2015	6:30 PM	212	202	n/a
3/9/2015	190	NO	n/a	n/a	n/a	n/a	3/9/2015	3:45 PM	3/9/2015	5:15 PM	198	194	n/a
3/10/2015 - 3/11/2015	190	YES	252	255	226	n/a	3/10/2015	8:15 PM	3/11/2015	5:45 AM	255	223	n/a
3/14/2015 - 3/15/2015	190	YES	250	268	241	n/a	3/14/2015	7:45 AM	3/14/2015	7:15 PM	268	236	n/a
	190	NO	n/a	n/a	n/a	n/a	3/14/2015	9:30 PM	3/15/2015	1:45 AM	232	214	n/a
3/16/2015	140 (2 LLMSPs o/s)	NO	n/a	n/a	n/a	n/a	3/16/2015	4:45 PM	3/16/2015	4:45 PM	167	167	n/a
							3/16/2015	8:00 PM	3/16/2015	8:00 PM	170	170	n/a
							3/16/2015	11:15 PM	3/16/2015	11:15 PM	158	158	n/a
3/17/2015 - 3/18/2015	140 (2 LLMSPs o/s)	NO	n/a	n/a	n/a	n/a	3/17/2015	2:45 PM	3/17/2015	3:00 PM	142	141	n/a
							3/17/2015	10:00 PM	3/17/2015	10:00 PM	166	166	n/a
							3/17/2015	11:30 PM	3/18/2015	12:15 AM	152	150	n/a
							3/18/2015	1:30 AM	3/18/2015	1:30 AM	165	165	n/a
3/21/2015	190	NO	n/a	n/a	n/a	n/a	3/21/2015	11:30 AM	3/21/2015	4:45 PM	231	219	n/a
3/26/2015 - 3/27/2015	190	YES	231	232	225	n/a	3/26/2015	11:30 PM	3/27/2015	1:30 AM	232	218	n/a
3/27/2015	190	YES	224	241	226	n/a	3/27/2015	5:15 AM	3/27/2015	11:00 AM	241	223	n/a
4/7/2015	190	NO	n/a	n/a	n/a	n/a	4/7/2015	8:45 AM	4/7/2015	8:45 AM	216	216	n/a
							4/7/2015	9:45 PM	4/7/2015	10:15 PM	200	195	n/a
4/8/2015	190	NO	n/a	n/a	n/a	n/a	4/8/2015	12:30 PM	4/8/2015	12:30 PM	218	218	n/a
4/10/2015	190	NO	n/a	n/a	n/a	n/a	4/10/2015	7:15 AM	4/10/2015	10:15 AM	243	222	n/a
4/20/2015	190	YES	195	287	233	Item No. 5368 Cancelled	4/20/2015	10:15 AM	4/20/2015	7:45 PM	287	233	n/a

BOWERY BAY - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Effluent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
4/21/2015	190	NO	n/a	n/a	n/a	n/a	4/21/2015	3:30 AM	4/21/2015	8:00 AM	242	218	n/a
							4/21/2015	9:30 AM	4/21/2015	1:45 PM	232	208	n/a
5/16/2015 - 5/17/2015	190	NO	n/a	n/a	n/a	n/a	5/16/2015	11:30 PM	5/17/2015	2:45 AM	252	233	n/a
5/31/2015 - 6/1/2015	190	YES	239	239	219	n/a	5/31/2015	5:30 PM	6/1/2015	6:15 PM	261	218	n/a
		YES	219	261	224	n/a							
		YES	231	252	222	n/a							
6/1/15 - 6/2/2015	190	NO	n/a	n/a	n/a	n/a	6/1/2015	11:00 PM	6/2/2015	12:45 AM	216	210	n/a
							6/2/2015	1:15 AM	6/2/2015	2:15 AM	213	207	n/a
							6/2/2015	3:30 AM	6/2/2015	6:00 AM	217	204	n/a
6/2/2015-6/3/2015	190	NO	n/a	n/a	n/a	n/a	6/2/2015	8:00 PM	6/3/2015	1:15 AM	252	214	n/a
6/6/2015	190	YES	226	235	211	n/a	6/6/2015	6:30 AM	6/6/2015	11:45 AM	235	208	n/a
6/14/2015 - 6/15/2015	190	YES	214	236	206	n/a	6/14/2015	11:45 PM	6/15/2015	11:00 AM	236	206	n/a
6/16/2015	190	YES	225	237	219	n/a	6/16/2015	6:15 PM	6/16/2015	11:45 PM	237	213	n/a
6/21/2015	190	YES	206	222	209	n/a	6/21/2015	5:30 AM	6/21/2015	9:00 AM	222	207	n/a
	190	NO	n/a	n/a	n/a	n/a	6/21/2015	9:45 AM	6/21/2015	9:45 AM	192	192	n/a
							6/21/2015	8:45 PM	6/21/2015	9:15 PM	193	192	n/a
							6/21/2015	10:30 PM	6/21/2015	10:45 PM	198	197	n/a
6/23/2015	190	YES	228	267	209	n/a	6/23/2015	7:15 PM	6/23/2015	11:45 PM	267	210	n/a
6/27/2015 - 6/28/2015	190	YES	215	320	242	n/a	6/27/2015	7:00 PM	6/28/2015	9:30 AM	320	238	n/a
7/1/2015	190	YES	210	210	202	n/a	7/1/2015	5:30 AM	7/1/2015	8:30 AM	210	200	n/a
7/9/2015 - 7/10/2015	190	YES	268	296	275	n/a	7/9/2015	10:00 PM	7/10/2015	1:45 AM	296	262	n/a
7/14/2015	190	YES	241	247	216	n/a	7/14/2015	1:45 PM	7/14/2015	6:15 PM	247	217	n/a
7/15/2015	190	NO	n/a	n/a	n/a	n/a	7/15/2015	9:00 AM	7/15/2015	9:15 AM	193	192	n/a
7/18/2015	190	YES	210	226	203	n/a	7/18/2015	9:45 AM	7/18/2015	3:45 PM	226	202	n/a
7/30/2015	190	YES	221	222	212	n/a	7/30/2015	2:15 PM	7/31/2015	12:00 AM	227	209	n/a
8/4/2015	190	YES	228	235	219	n/a	8/4/2015	5:15 AM	8/4/2015	8:15 AM	235	214	n/a
8/11/2015	190	YES	230	256	224	n/a	8/11/2015	7:00 AM	8/11/2015	3:45 PM	256	222	n/a
8/21/2018	190	YES	200	227	207	n/a	8/21/2015	4:00 AM	8/21/2015	9:45 AM	255	211	n/a
8/30/2015	190	YES	240	265	228	n/a	8/30/2015	10:15 PM	8/31/2015	1:00 AM	265	227	n/a
9/10/2015	190	NO	n/a	n/a	n/a	n/a	9/10/2015	2:45 AM	9/10/2015	4:15 PM	240	213	n/a
9/10/2015	190	YES	230	239	217	n/a	9/10/2015	5:00 AM	9/10/2015	12:45 PM	239	214	n/a

BOWERY BAY - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Effluent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
9/10/2015 - 9/11/2015	190	YES	225	254	221	n/a	9/10/2015	7:00 PM	9/11/2015	2:30 AM	254	220	n/a
9/12/2015	190	YES	221	222	202	n/a	9/12/2015	9:00 PM	9/12/2015	10:30 PM	222	202	n/a
9/13/2015	190	NO	n/a	n/a	n/a	n/a	9/13/2015	1:30 AM	9/13/2015	3:45 AM	237	210	n/a
9/30/2015	190	YES	225	236	212	n/a	9/30/2015	12:30 AM	9/30/2015	1:15 PM	246	211	n/a
10/1/2015	190	NO	n/a	n/a	n/a	n/a	10/1/2015	8:00 PM	10/1/2015	8:00 PM	190	190	n/a
							10/1/2015	8:30 PM	10/1/2015	8:30 PM	209	209	n/a
							10/1/2015	9:15 PM	10/1/2015	9:30 PM	190	190	n/a
10/2/2015 - 10/3/2015	190	YES	212	259	207	n/a	10/2/2015	10:30 AM	10/3/2015	12:30 PM	259	206	n/a
		NO	n/a	n/a	n/a	n/a	10/3/2015	3:15 PM	10/3/2015	3:15 PM	191	191	n/a
10/9/2015	190	YES	202	217	208	n/a	10/9/2015	6:15 PM	10/10/2015	1:00 AM	217	208	n/a
10/28/2015 - 10/29/2015	180 (1 Screen o/s)	YES	227	258	212	n/a	10/28/2015	12:45 PM	10/29/2015	5:30 AM	258	212	n/a
11/10/2015	190	YES	221	241	216	n/a	11/10/2015	12:15 PM	11/10/2015	3:45 PM	241	214	n/a
11/11/2015	190	YES	220	221	200	n/a	11/10/2015	11:45 PM	11/11/2015	8:30 AM	221	200	n/a
11/19/2015 - 11/20/2015	190	YES	250	276	231	n/a	11/19/2015	5:45 PM	11/20/2015	2:30 AM	276	223	n/a
12/1/2015	190	NO	n/a	n/a	n/a	n/a	12/1/2015	10:00 PM	12/2/2015	12:15 AM	244	205	n/a
12/4/2015	190	NO	n/a	n/a	n/a	n/a	12/4/2015	6:45 PM	12/4/2015	6:45 PM	230	230	n/a
12/14/2015 - 12/15/2015	190	YES	225	284	210	n/a	12/14/2015	8:30 PM	12/15/2015	1:30 AM	284	210	n/a
		NO	n/a	n/a	n/a	n/a	12/15/2015	3:15 AM	12/15/2015	3:15 AM	191	191	n/a
12/17/2015	190	YES	224	231	221	n/a	12/17/2015	12:30 PM	12/17/2015	11:45 PM	232	217	n/a
12/22/2015	190	YES	221	230	212	n/a	12/22/2015	12:15 PM	12/22/2015	3:45 PM	230	208	n/a
12/23/2015 - 12/24/2015	190	YES	210	279	215	n/a	12/23/2015	4:30 PM	12/24/2015	2:45 AM	279	215	n/a
12/28/2015 - 12/29/2015	190	YES	221	230	217	n/a	12/29/2015	4:15 AM	12/29/2015	4:45 PM	240	215	n/a
12/30/2015 - 12/31/2015	190	YES	224	247	224	n/a	12/30/2015	11:30 PM	12/31/2015	4:30 AM	247	220	n/a
	190	NO	n/a	n/a	n/a	n/a	12/31/2015	5:15 AM	12/31/2015	5:15 AM	193	193	n/a

NOTE: Due to a leak on the Bowery Bay High Level force main, and the related construction, Bowery Bay requested a reduced wet weather capacity starting February 17, 2015.

CONEY ISLAND - WET WEATHER THROTTLING SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Influent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/03/2015 - 1/04/2015	220	NO	n/a	n/a	n/a	n/a	1/3/2015	11:15 PM	1/4/2015	12:15 AM	220	220	n/a
							1/4/2015	1:00 AM	1/4/2015	1:00 AM	220	220	n/a
1/18/2015	220	YES	220	232	224	n/a	1/18/2015	1:00 PM	1/19/2015	1:45 AM	232	224	n/a
4/20/2015	220	NO	n/a	n/a	n/a	n/a	4/20/2015	11:15 AM	4/20/2015	11:15 AM	224	224	n/a
							4/20/2015	12:15 PM	4/20/2015	12:30 PM	222	221	n/a
							4/20/2015	1:00 PM	4/20/2015	2:30 PM	228	225	n/a
5/31/2015	220	YES	226	248	201	n/a	5/31/2015	8:00 PM	6/1/2015	11:15 AM	248	201	WW1037
6/1/2015	220	YES	227	248	227	n/a	6/1/2015	4:00 AM	6/1/2015	11:30 AM	248	228	n/a
6/2/2015	220	NO	n/a	n/a	n/a	n/a	6/2/2015	3:00 AM	6/2/2015	3:00 AM	227	227	n/a
6/27/2015 - 6/28/2015	220	YES	228	234	230	n/a	6/27/2015	11:15 PM	6/28/2015	10:15 AM	234	230	n/a
7/9/2015 - 7/10/2015	220	YES	228	232	232	n/a	7/9/2015	11:15 PM	7/10/2015	12:00 AM	232	230	n/a
7/15/2015	220	YES	220	227	222	n/a	7/15/2015	12:30 PM	7/15/2015	9:00 PM	227	222	n/a
7/30/2015	220	YES	224	224	222	n/a	7/30/2015	6:00 PM	7/31/2015	12:00 AM	227	222	n/a
8/11/2015	220	YES	229	234	230	n/a	8/11/2015	8:00 AM	8/11/2015	3:00 PM	234	230	n/a
9/9/2015	220	NO	n/a	n/a	n/a	n/a	9/9/2015	6:30 PM	9/9/2015	6:30 PM	223	223	n/a
9/10/2015	220	YES	226	233	229	n/a	9/10/2015	7:45 AM	9/10/2015	2:30 PM	233	229	n/a
9/30/2015	220	YES	229	239	229	n/a	9/30/2015	3:15 AM	9/30/2015	1:30 PM	239	229	n/a
10/2/2015 - 10/3/2015	220	YES	227	231	223	n/a	10/2/2015	4:30 PM	10/3/2015	11:00 AM	237	227	n/a
10/28/2015 - 10/29/2015	220	YES	222	234	229	n/a	10/28/2015	7:00 PM	10/28/2015	10:15 PM	234	228	n/a
	220	YES	230	238	232	n/a	10/29/2015	12:15 AM	10/29/2015	6:45 AM	238	230	n/a
11/10/2015	220	NO	n/a	n/a	n/a	n/a	11/10/2015	2:30 PM	11/10/2015	2:30 PM	226	226	n/a
11/19/2015 - 11/20/2015	220	YES	226	227	222	n/a	11/19/2015	10:15 PM	11/20/2015	2:30 AM	227	222	n/a
12/17/2015	220	YES	227	233	229	n/a	12/17/2015	4:15 PM	12/18/2015	12:00 AM	233	229	n/a
12/23/2015 - 12/24/2015	220	YES	229	233	231	n/a	12/23/2015	5:30 PM	12/24/2015	1:45 AM	233	231	n/a

HUNTS POINT - WET WEATHER THROTTLING SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Influent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/18/2015	400	NO	n/a	n/a	n/a	n/a	01/18/2015	11:15 AM	01/18/2015	12:30 PM	412	409	n/a
							01/18/2015	1:15 PM	01/18/2015	1:15 PM	402	402	n/a
							01/18/2015	1:45 PM	01/18/2015	5:15 PM	415	407	n/a
3/14/2015	400	NO	n/a	n/a	n/a	n/a	3/14/2015	9:30 AM	3/14/2015	9:45 AM	412	408	n/a
4/20/2015	400	NO	n/a	n/a	n/a	n/a	4/20/2015	10:00 AM	4/20/2015	10:00 AM	410	410	n/a
	400	YES	360	368	336	Item No. 5367	4/20/2015	10:30 AM	4/20/2015	10:45 AM	368	336	WW1038
	400	YES	404	404	377	n/a	4/20/2015	11:15 AM	4/20/2015	4:30 PM	404	377	
6/16/2015	400	YES	410	410	404	n/a	6/16/2015	6:00 PM	6/16/2015	6:30 PM	410	403	n/a
6/27/2015 - 6/28/2015	400	YES	406	419	411	n/a	6/27/2015	8:15 PM	6/28/2015	12:15 AM	421	411	n/a
	400	NO	n/a	n/a	n/a	n/a	6/28/2015	1:00 AM	6/28/2015	1:00 AM	401	401	n/a
7/14/2015	400	NO	n/a	n/a	n/a	n/a	7/14/2015	1:45 PM	7/14/2015	2:30 PM	418	409	n/a
7/30/2015	400	NO	n/a	n/a	n/a	n/a	7/30/2015	2:45 PM	7/30/2015	3:45 PM	413	407	n/a
8/11/2015	400	YES	400	402	400	n/a	8/11/2015	8:00 AM	8/11/2015	11:15 AM	407	402	n/a
9/10/2015	400	YES	180	180	172	Item No. 5391	9/10/2015	5:15 AM	9/10/2015	5:30 AM	180	172	WW1044
	400	YES	87	338	225		9/10/2015	7:15 AM	9/10/2015	11:30 AM	338	225	
9/10/2015 - 9/11/2015	400	YES	412	417	403	n/a	9/10/2015	10:15 PM	9/11/2015	1:00 AM	417	403	n/a
9/30/2015	400	YES	419	419	411	n/a	9/30/2015	3:15 AM	9/30/2015	4:15 AM	419	411	n/a
10/2/2015	400	NO	n/a	n/a	n/a	n/a	10/2/2015	6:45 PM	10/2/2015	7:30 PM	422	415	n/a
10/28/2015 - 10/29/2015	400	YES	407	407	403	n/a	10/28/2015	5:30 PM	10/28/2015	6:30 PM	407	404	n/a
	400	YES	400	400	400	n/a	10/28/2015	11:45 PM	10/29/2015	12:15 AM	411	403	n/a
	400	NO	n/a	n/a	n/a	n/a	10/29/2015	1:00 AM	10/29/2015	1:30 AM	415	408	n/a
11/19/2015 - 11/20/2015	400	NO	n/a	n/a	n/a	n/a	11/19/2015	6:30 PM	11/19/2015	7:00 PM	407	404	n/a
	400	YES	404	404	403	n/a	11/19/2015	7:30 PM	11/19/2015	8:15 PM	404	403	n/a
	400	NO	n/a	n/a	n/a	n/a	11/19/2015	9:15 PM	11/19/2015	10:45 PM	407	405	n/a
12/14/2015	400	YES	260	284	199	Item No. 5399	12/14/2015	9:30 PM	12/14/2015	11:15 PM	284	199	WW1053
12/17/2015	400	YES	414	414	407	n/a	12/17/2015	3:15 PM	12/17/2015	6:30 PM	416	407	n/a
12/23/2015 - 12/24/2015	400	NO	n/a	n/a	n/a	n/a	12/23/2015	5:00 PM	12/25/2015	5:00 PM	400	400	n/a
	400	YES	410	411	407	n/a	12/23/2015	8:30 PM	12/23/2015	11:45 PM	411	406	n/a

JAMAICA - WET WEATHER THROTTLING SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Effluent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/18/2015	200	NO	n/a	n/a	n/a	n/a	01/18/2015	1:15 PM	01/18/2015	2:45 PM	209	204	n/a
							01/18/2015	3:45 PM	01/18/2015	7:00 PM	210	205	n/a
8/21/2015	200	NO	n/a	n/a	n/a	n/a	8/21/2015	6:30 AM	8/21/2015	6:45 AM	204	203	n/a
9/30/2015	200	NO	n/a	n/a	n/a	n/a	9/30/2015	3:15 AM	9/30/2015	3:15 AM	201	201	n/a
10/2/2015	200	NO	n/a	n/a	n/a	n/a	10/2/2015	5:45 PM	10/2/2015	5:45 PM	200	200	n/a
10/28/2015	200	NO	n/a	n/a	n/a	n/a	10/28/2015	6:30 PM	10/28/2015	6:30 PM	200	200	n/a
10/29/2015	200	NO	n/a	n/a	n/a	n/a	10/29/2015	1:00 AM	10/29/2015	2:00 AM	219	213	n/a
12/17/2015	200	NO	n/a	n/a	n/a	n/a	12/17/2015	4:45 PM	12/17/2015	5:45 PM	205	203	n/a
12/23/2015	200	NO	n/a	n/a	n/a	n/a	12/23/2015	5:45 PM	12/23/2015	7:00 PM	209	207	n/a

NEWTOWN CREEK - WET WEATHER THROTTLING SUMMARY

		Plant Throttling Information							Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No (BQ)	CCT Flow at Start of Throttling (MGD)	Did Plant Throttle? Yes/No (MPS)	CCT Flow at Start of MPS Throttling	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/3/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	01/03/2015	6:00 PM	01/03/2015	8:30 PM	748	688	n/a
1/4/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	01/04/2015	1:00 AM	01/04/2015	1:45 AM	752	688	n/a
1/12/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	01/12/2015	4:00 PM	01/12/2015	4:00 PM	656	656	n/a
1/18/2015	620	NO	n/a	YES	346	n/a	n/a	n/a	01/18/2015	11:00 AM	01/18/2015	11:15 AM	708	702	n/a
2/2/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	02/02/2015	8:00 AM	02/02/2015	9:15 AM	656	640	n/a
3/10/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	3/10/2015	10:45 PM	3/10/2015	11:45 PM	672	644	n/a
3/14/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	3/14/2015	9:45 AM	3/14/2015	1:00 PM	708	684	n/a
3/27/2015	620	NO	n/a	YES	215	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4/20/2015	620	YES	624	YES	354	624	413	n/a	4/20/2015	10:00 AM	4/20/2015	6:00 PM	688	442	WW1039
5/31/2015	620	YES	593	YES	350	593	486	Item No. 5379	5/31/2015	8:00 PM	5/31/2015	11:00 PM	593	486	WW1040
6/1/2015	620	NO	n/a	YES	363	n/a	n/a	n/a	6/1/2015	5:00 AM	6/1/2015	5:15 AM	739	702	n/a
	620	NO	n/a	NO	n/a	n/a	n/a	n/a	6/1/2015	5:45 AM	6/1/2015	5:45 AM	627	627	n/a
	620	NO	n/a	NO	n/a	n/a	n/a	n/a	6/1/2015	11:45 AM	6/1/2015	1:30 PM	817	734	n/a
6/14/2015 - 6/15/2015	620	NO	n/a	YES	361	n/a	n/a	n/a	6/14/2015	11:45 PM	6/15/2015	1:00 AM	716	692	n/a
									6/15/2015	3:45 AM	6/15/2015	6:15 AM	788	728	n/a
6/21/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	6/21/2015	7:15 PM	6/21/2015	8:00 PM	684	645	n/a
6/23/2015	620	YES	698	NO	n/a	n/a	n/a	n/a	6/23/2015	7:00 PM	6/23/2015	8:00 PM	748	678	n/a
6/27/2015 - 6/28/2015	620	YES	670	YES	420	733	722	n/a	6/27/2015	8:00 PM	6/28/2015	3:15 AM	747	706	n/a
	620	NO	n/a	NO	n/a	n/a	n/a	n/a	6/28/2015	4:00 AM	6/28/2015	4:45 AM	688	674	n/a
7/9/2015 - 7/10/2015	620	YES	594	YES	382	669	632	n/a	7/9/2015	10:15 PM	7/9/2015	11:45 PM	707	661	n/a
7/14/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	7/14/2015	1:45 PM	7/14/2015	2:30 PM	676	661	n/a
7/30/2015	620	YES	580	YES	250	699	651	n/a	7/30/2015	5:15 PM	7/30/2015	7:15 PM	704	665	n/a
8/4/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	8/4/2015	5:45 AM	8/4/2015	5:45 AM	648	648	n/a
8/11/2015	620	YES	530	YES	323	744	706	n/a	8/11/2015	7:30 AM	8/11/2015	11:45 AM	744	698	n/a
8/21/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	8/21/2015	3:45 AM	8/21/2015	5:45 AM	740	680	n/a
9/10/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	9/10/2015	8:30 AM	9/10/2015	9:00 AM	711	688	n/a
9/30/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	9/30/2015	2:45 AM	9/30/2015	4:45 AM	711	682	n/a
									9/30/2015	5:15 AM	9/30/2015	5:15 AM	636	636	n/a
10/2/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	10/2/2015	2:15 PM	10/2/2015	9:15 PM	787	723	n/a
10/3/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	10/3/2015	2:15 AM	10/3/2015	4:00 AM	721	680	n/a
10/9/2015	620	NO	n/a	YES	227	n/a	n/a	n/a	10/9/2015	6:45 PM	10/9/2015	6:45 PM	649	649	n/a
									10/9/2015	7:30 PM	10/9/2015	8:45 PM	696	667	n/a
10/28/2015 - 10/29/2015	620	YES	633	YES	325	713	675	n/a	10/28/2015	5:15 PM	10/28/2015	7:15 PM	720	671	n/a
	620	NO	n/a	NO	n/a	n/a	n/a	n/a	10/28/2015	11:45 PM	10/29/2015	12:30 AM	660	640	n/a
	620	NO	n/a	NO	n/a	n/a	n/a	n/a	10/29/2015	1:15 AM	10/29/2015	2:00 AM	701	691	n/a

NEWTOWN CREEK - WET WEATHER THROTTLING SUMMARY

		Plant Throttling Information							Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No (BQ)	CCT Flow at Start of Throttling (MGD)	Did Plant Throttle? Yes/No (MP8)	CCT Flow at Start of MP8 Throttling	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
11/11/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	11/11/2015	2:15 AM	11/11/2015	3:00 AM	654	640	n/a
11/19/2015 - 11/20/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	11/19/2015	6:15 PM	11/19/2015	6:15 PM	628	628	n/a
	620	NO	n/a	YES	339	n/a	n/a	n/a	11/19/2015	6:45 PM	11/19/2015	11:45 PM	759	698	n/a
12/14/2015	620	NO	n/a	YES	181	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
12/17/2015	620	NO	n/a	YES	382	n/a	n/a	n/a	12/17/2015	1:45 PM	12/17/2015	2:00 PM	632	628	n/a
									12/17/2015	3:15 PM	12/17/2015	6:15 PM	789	735	n/a
12/23/2015 - 12/24/2015	620	YES	633	YES	265	734	683	n/a	12/23/2015	4:30 PM	12/23/2015	10:00 PM	824	704	n/a
12/29/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	12/29/2015	7:00 AM	12/29/2015	8:00 AM	708	686	n/a
12/31/2015	620	NO	n/a	NO	n/a	n/a	n/a	n/a	12/31/2015	12:00 AM	12/31/2015	12:30 AM	636	632	n/a

NORTH RIVER - WET WEATHER THROTTLING SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Influent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/3/2015	340	NO	n/a	n/a	n/a	n/a	01/03/2015	7:15 PM	01/03/2015	7:30 PM	348	346	n/a
1/18/2015	340	YES	347	377	355	n/a	01/18/2015	11:00 AM	01/18/2015	11:00 PM	377	355	n/a
3/10/2015	340	NO	n/a	n/a	n/a	n/a	3/10/2015	11:45 PM	3/10/2015	11:45 PM	340	340	n/a
3/14/2015	340	NO	n/a	n/a	n/a	n/a	3/14/2015	9:30 AM	3/14/2015	12:15 PM	361	356	n/a
4/20/2015	340	YES	341	370	345	n/a	4/20/2015	10:00 AM	4/20/2015	5:30 PM	370	345	n/a
5/31/2015	340	YES	342	365	327	n/a	5/31/2015	5:15 PM	6/1/2015	12:00 AM	365	327	WW1041
6/1/2015	340	YES	355	365	362	n/a	6/1/2015	4:15 AM	6/1/2015	6:00 AM	365	359	n/a
	340	NO	n/a	n/a	n/a	n/a	6/1/2015	12:30 PM	6/1/2015	12:45 PM	343	343	n/a
6/6/2015	340	NO	n/a	n/a	n/a	n/a	6/6/2015	6:45 AM	6/6/2015	7:00 AM	353	348	n/a
6/15/2015	340	NO	n/a	n/a	n/a	n/a	6/15/2015	12:30 AM	6/15/2015	12:45 AM	346	343	n/a
							6/15/2015	4:15 AM	6/15/2015	7:00 AM	367	358	n/a
6/27/2015 - 6/28/2015	340	NO	n/a	n/a	n/a	n/a	6/27/2015	8:15 PM	6/27/2015	10:30 PM	360	351	n/a
							6/27/2015	11:15 PM	6/28/2015	5:00 AM	359	352	n/a
7/9/2015	340	NO	n/a	n/a	n/a	n/a	7/9/2015	11:00 PM	7/9/2015	11:00 PM	370	370	n/a
7/14/2015	340	NO	n/a	n/a	n/a	n/a	7/14/2015	2:00 PM	7/14/2015	2:00 PM	349	349	n/a
7/30/2015	340	NO	n/a	n/a	n/a	n/a	7/30/2015	3:15 PM	7/30/2015	3:45 PM	345	344	n/a
	340	YES	340	343	337	n/a	7/30/2015	4:45 PM	7/30/2015	7:30 PM	343	337	WW1045
8/4/2015	340	NO	n/a	n/a	n/a	n/a	8/4/2015	6:00 AM	8/4/2015	6:00 AM	341	341	n/a
8/11/2015	340	YES	352	352	337	n/a	8/11/2015	8:15 AM	8/11/2015	2:15 PM	352	337	WW1046
8/18/2015	340	NO	n/a	n/a	n/a	n/a	8/18/2015	6:15 AM	8/18/2015	6:45 AM	356	350	n/a
8/21/2015	340	NO	n/a	n/a	n/a	n/a	8/21/2015	4:00 AM	8/21/2015	4:00 AM	358	358	n/a
9/10/2015	340	NO	n/a	n/a	n/a	n/a	9/10/2015	3:00 AM	9/10/2015	3:30 AM	368	359	n/a
							9/10/2015	4:45 AM	9/10/2015	5:30 AM	360	354	n/a
							9/10/2015	9:15 AM	9/10/2015	9:15 AM	352	352	n/a
							9/10/2015	9:45 AM	9/10/2015	9:45 AM	350	350	n/a
							9/10/2015	11:00 PM	9/10/2015	11:15 PM	360	358	n/a
9/30/2015	340	YES	342	364	278	n/a	9/30/2015	2:30 AM	9/30/2015	11:00 AM	364	278	WW1047
10/2/2015 -10/3/2015	340	YES	357	361	349	n/a	10/2/2015	5:15 PM	10/2/2015	11:15 PM	361	350	n/a
	340	NO	n/a	n/a	n/a	n/a	10/3/2015	3:15 AM	10/3/2015	4:30 AM	360	355	n/a
10/9/2015	340	YES	347	358	283	n/a	10/9/2015	6:15 PM	10/9/2015	11:00 PM	358	283	WW1054
10/28/2015 - 10/29/2015	340	YES	348	354	326	n/a	10/28/2015	5:15 PM	10/29/2015	2:00 AM	370	329	WW1055
11/11/2015	300 (3 Screens o/s)	YES	134	287	217	Cancelled Item No. 5395	11/11/2015	1:00 AM	11/11/2015	4:00 AM	287	217	WW1056

NORTH RIVER - WET WEATHER THROTTLING SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Influent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
11/19/2015 - 11/20/2015	340	YES	348	366	329	n/a	11/19/2015	6:30 PM	11/20/2015	3:45 AM	366	329	WW1057
12/17/2015	340	YES	355	368	351	n/a	12/17/2015	1:00 PM	12/17/2015	9:00 PM	368	351	n/a
12/23/2015 - 12/24/2015	340	YES	340	351	337	n/a	12/23/2015	5:00 PM	12/24/2015	2:00 AM	351	337	WW1058

OAKWOOD BEACH - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Effluent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/18/2015	79.8	NO	n/a	n/a	n/a	n/a	1/18/2015	1:15 PM	1/18/2015	9:45 PM	98	89	n/a
2/2/2015	79.8	NO	n/a	n/a	n/a	n/a	2/2/2015	8:30 AM	2/2/2015	10:15 AM	86	84	n/a
3/14/2015	79.8	NO	n/a	n/a	n/a	n/a	3/14/2015	2:15 PM	3/14/2015	3:45 PM	84	83	n/a
5/31/2015	79.8	NO	n/a	n/a	n/a	n/a	5/31/2015	9:00 PM	5/31/2015	9:00 PM	81	81	n/a
5/31/2015 - 6/1/2015	79.8	NO	n/a	n/a	n/a	n/a	5/31/2015	11:45 PM	6/1/2015	12:45 AM	88	83	n/a
10/2/2015	79.8	NO	n/a	n/a	n/a	n/a	10/2/2015	5:30 PM	10/2/2015	7:00 PM	83	82	n/a
							10/2/2015	8:00 PM	10/2/2015	9:15 PM	89	85	n/a

OWLS HEAD - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Influent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/3/2015 - 1/4/2015	240	YES	259	261	251	n/a	1/3/2015	3:30 PM	1/4/2015	2:45 AM	261	251	n/a
1/12/2015	240	NO	n/a	n/a	n/a	n/a	1/12/2015	1:15 PM	1/12/2015	4:30 PM	256	244	n/a
1/18/2015	240	YES	260	260	249	n/a	1/18/2015	11:00 AM	1/18/2015	9:00 PM	260	250	n/a
1/25/2015	240	NO	n/a	n/a	n/a	n/a	1/24/2015	10:15 AM	1/24/2015	5:15 PM	258	254	n/a
2/2/2015	240	YES	257	262	246	n/a	2/2/2015	7:00 AM	2/2/2015	1:45 PM	262	246	n/a
2/22/2015	240	NO	n/a	n/a	n/a	n/a	2/22/2015	3:15 PM	2/22/2015	4:30 PM	245	243	n/a
3/3/2015 - 3/4/2015	240	YES	253	253	250	n/a	3/3/2015	10:30 PM	3/4/2015	1:30 AM	257	250	n/a
3/4/2015 - 3/5/2015	240	NO	n/a	n/a	n/a	n/a	3/4/2015	11:45 PM	3/5/2015	12:00 AM	249	245	n/a
3/10/2015 - 3/11/2015	240	YES	260	260	248	n/a	3/10/2015	10:00 PM	3/11/2015	2:00 AM	262	252	n/a
3/14/2015	240	YES	249	249	246	n/a	3/14/2015	8:00 AM	3/14/2015	3:45 PM	258	247	n/a
3/27/2015	240	NO	n/a	n/a	n/a	n/a	3/27/2015	7:00 AM	3/27/2015	8:15 AM	243	242	n/a
4/20/2015	240	NO	n/a	n/a	n/a	n/a	4/20/2015	10:00 AM	4/20/2015	10:15 AM	250	247	n/a
							4/20/2015	10:45 AM	4/20/2015	1:00 PM	251	245	n/a
4/21/2015	240	NO	n/a	n/a	n/a	n/a	4/21/2015	2:30 AM	4/21/2015	5:00 AM	253	248	n/a
5/16/2015 - 5/17/2015	240	NO	n/a	n/a	n/a	n/a	5/16/2015	10:30 PM	5/17/2015	12:30 AM	258	250	n/a
5/31/2015	240	YES	265	265	249	n/a	5/31/2015	6:45 PM	5/31/2015	8:45 PM	267	248	n/a
6/1/2015	240	NO	n/a	n/a	n/a	n/a	6/1/2015	5:15 AM	6/1/2015	7:15 AM	262	254	n/a
							6/1/2015	12:15 PM	6/1/2015	1:15 PM	262	255	n/a
							6/1/2015	11:30 PM	6/1/2015	11:30 PM	247	247	n/a
6/2/2015	240	NO	n/a	n/a	n/a	n/a	6/2/2015	5:30 PM	6/2/2015	7:15 PM	262	252	n/a
6/15/2015	240	YES	256	256	253	n/a	6/14/2015	11:45 PM	6/15/2015	3:30 AM	262	254	n/a
	240	NO	n/a	n/a	n/a	n/a	6/15/2015	5:15 PM	6/15/2015	8:00 PM	262	259	n/a
6/16/2015	240	NO	n/a	n/a	n/a	n/a	6/16/2015	7:45 PM	6/16/2015	8:15 PM	250	248	n/a
6/27/2015 - 6/28/2015	240	YES	257	262	251	n/a	6/27/2015	7:30 PM	6/28/2015	6:00 AM	262	252	n/a
	240	YES	253	258	251	n/a							
7/9/2015 - 7/10/2015	240	NO	n/a	n/a	n/a	n/a	7/9/2015	10:00 PM	7/10/2015	12:00 AM	260	252	n/a
7/14/2015	240	NO	n/a	n/a	n/a	n/a	7/14/2015	1:45 PM	7/14/2015	4:00 PM	262	252	n/a
7/15/2015	240	NO	n/a	n/a	n/a	n/a	7/15/2015	12:15 PM	7/15/2015	3:00 PM	261	249	n/a
7/18/2015	180 (1 PST o/s)	NO	n/a	n/a	n/a	n/a	7/18/2015	10:15 AM	7/18/2015	1:00 PM	196	191	n/a
7/30/2015	180 (1 PST o/s)	NO	n/a	n/a	n/a	n/a	7/30/2015	10:00 AM	7/30/2015	11:15 AM	260	232	n/a
							7/30/2015	5:00 PM	7/30/2015	8:00 PM	234	214	n/a
8/11/2015	180 (1 PST o/s)	YES	198	198	191	n/a	8/11/2015	7:00 AM	8/11/2015	1:00 PM	198	192	n/a

OWLS HEAD - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Influent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
8/21/2015	180 (1 PST o/s)	YES	202	202	196	n/a	8/21/2015	3:15 AM	8/21/2015	7:15 AM	211	197	n/a
9/9/2015	180 (1 PST o/s)	YES	209	212	195	n/a	9/9/2015	4:30 PM	9/9/2015	10:00 PM	212	194	n/a
9/10/2015	180 (1 PST o/s)	YES	196	199	193	n/a	9/10/2015	4:15 AM	9/10/2015	1:00 PM	199	193	n/a
		NO	n/a	n/a	n/a	n/a	9/10/2015	9:45 PM	9/10/2015	11:15 PM	186	183	n/a
9/30/2015	240	YES	254	254	243	n/a	9/30/2015	2:00 AM	9/30/2015	6:00 AM	254	244	n/a
10/2/2015 - 10/3/2015	240	YES	262	262	239	n/a	10/2/2015	11:30 PM	11/3/2015	4:15 AM	265	242	n/a
10/9/2015	180 (1 PST o/s)	YES	191	191	186	n/a	10/9/2015	7:15 PM	10/9/2015	11:30 PM	192	186	n/a
10/28/2015 - 10/29/2015	240	YES	251	261	248	n/a	10/28/2015	1:45 PM	10/29/2015	3:00 AM	262	253	n/a
11/10/2015	180 (1 PST o/s)	YES	205	205	195	n/a	11/10/2015	9:30 AM	111/10/2015	3:00 PM	262	216	n/a
11/11/2015	180 (1 PST o/s)	NO	n/a	n/a	n/a	n/a	11/11/2015	2:15 AM	11/11/2015	4:00 AM	262	262	n/a
11/19/2015 - 11/20/2015	240	YES	262	262	256	n/a	11/19/2015	6:30 PM	11/20/2015	2:00 AM	262	256	n/a
12/1/2015	180 (1 PST o/s)	NO	n/a	n/a	n/a	n/a	12/1/2015	8:00 AM	12/1/2016	8:00 AM	192	192	n/a
							12/1/2016	5:00 PM	12/1/2016	5:45 PM	194	190	n/a
12/14/2015	240	NO	n/a	n/a	n/a	n/a	12/14/2015	10:00 PM	12/14/2015	10:45 PM	251	247	n/a
12/17/2015	240	NO	n/a	n/a	n/a	n/a	12/17/2015	1:30 PM	12/17/2015	5:15 PM	262	247	n/a
12/23/2015	240	YES	248	248	245	n/a	12/23/2015	4:30 PM	12/23/2015	10:00 PM	259	246	n/a
12/29/2015	240	YES	247	247	243	n/a	12/29/2015	4:00 AM	12/29/2015	12:30 PM	262	246	n/a
12/30/2015 - 12/31/2015	240	YES	262	262	247	n/a	12/30/2015	11:30 PM	12/31/2015	2:00 AM	262	246	n/a

PORT RICHMOND - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Effluent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
01/18/2015	120	YES	133	133	133	n/a	1/18/2015	12:15 PM	1/18/2015	8:15 PM	133	132	n/a
2/2/2015	120	NO	n/a	n/a	n/a	n/a	2/2/2015	8:00 AM	2/2/2015	8:30 AM	126	124	n/a
3/10/2015	120	NO	n/a	n/a	n/a	n/a	3/10/2015	10:00 PM	3/10/2015	10:45 PM	125	123	n/a
4/20/2015	90 (1 PST o/s)	YES	98	120	98	n/a	4/20/2015	11:15 AM	4/20/2015	2:45 PM	120	97	n/a
5/31/2015	120	NO	n/a	n/a	n/a	n/a	5/31/2015	7:45 PM	5/31/2015	8:15 PM	129	125	n/a
6/15/2015	120	NO	n/a	n/a	n/a	n/a	6/15/2015	3:00 AM	6/15/2015	3:15 AM	125	123	n/a
8/21/2015	120	NO	n/a	n/a	n/a	n/a	8/21/2015	5:00 AM	8/21/2015	5:00 AM	132	132	n/a
9/9/2015	120	NO	n/a	n/a	n/a	n/a	9/9/2015	5:00 PM	9/9/2015	5:00 PM	120	120	n/a
9/30/2015	120	NO	n/a	n/a	n/a	n/a	9/30/2015	3:00 AM	9/30/2015	3:30 AM	132	127	n/a
12/17/2015	120	NO	n/a	n/a	n/a	n/a	12/17/2015	4:00 PM	12/17/2015	4:30 PM	124	122	n/a
12/23/2015	120	NO	n/a	n/a	n/a	n/a	12/23/2015	6:00 PM	12/23/2015	6:15 PM	131	127	n/a

RED HOOK - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Influent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/3/2015	120	YES	123	124	122	n/a	1/3/2015	5:45 PM	1/3/2015	8:15 PM	124	122	n/a
1/4/2015	120	YES	124	124	123	n/a	1/4/2015	1:00 AM	1/4/2015	1:30 AM	124	123	n/a
1/12/2015	120	NO	n/a	n/a	n/a	n/a	1/12/2015	3:45 PM	1/12/2015	3:45 PM	123	123	n/a
1/18/2015	120	YES	124	127	124	n/a	1/18/2015	10:45 AM	1/18/2015	8:45 PM	127	124	n/a
2/2/2015	120	NO	n/a	n/a	n/a	n/a	2/2/2015	8:30 AM	2/2/2015	8:30 AM	120	120	n/a
3/14/2015	120	NO	n/a	n/a	n/a	n/a	3/14/2015	10:30 AM	3/14/2015	10:45 AM	122	122	n/a
4/20/2015	120	YES	123	127	124	n/a	4/20/2015	10:00 AM	4/20/2015	3:00 PM	127	124	n/a
5/31/2015	120	YES	124	127	124	n/a	5/31/2015	5:45 PM	5/31/2015	10:30 PM	127	124	n/a
6/1/2015	120	YES	126	126	124	n/a	6/1/2015	4:15 AM	6/1/2015	6:30 AM	126	124	n/a
	120	YES	125	127	125	n/a	6/1/2015	11:45 AM	6/1/2015	2:00 PM	127	125	n/a
6/6/2015	120	NO	n/a	n/a	n/a	n/a	6/6/2015	6:15 AM	6/6/2015	6:45 AM	127	126	n/a
6/14/2015 - 6/15/2015	120	YES	125	128	124	n/a	6/14/2015	11:30 PM	6/15/2015	1:45 AM	128	124	n/a
	120	YES	128	129	125	n/a	6/15/2015	3:00 AM	6/15/2015	7:00 AM	129	125	n/a
6/21/2015	120	NO	n/a	n/a	n/a	n/a	6/21/2015	5:30 AM	6/21/2015	6:00 AM	129	126	n/a
6/23/2015	120	YES	128	129	125	n/a	6/23/2015	6:45 PM	6/23/2015	7:30 PM	129	126	n/a
6/27/2015 - 6/28/2015	120	YES	124	129	125	n/a	6/27/2015	8:00 PM	6/28/2015	5:00 AM	129	125	n/a
7/9/2015 - 7/10/2015	120	YES	127	129	125	n/a	7/9/2015	10:00 PM	7/10/2015	12:00 AM	129	125	n/a
7/15/2015	120	YES	128	129	128	n/a	7/15/2015	11:15 AM	7/15/2015	2:45 PM	129	128	n/a
7/30/2015	120	NO	n/a	n/a	n/a	n/a	7/30/2015	3:15 PM	7/30/2015	3:30 PM	121	121	n/a
	120	YES	126	126	123	n/a	7/30/2015	5:00 PM	7/30/2015	7:15 PM	125	123	n/a
8/11/2015	120	YES	129	129	125	n/a	8/11/2015	7:00 AM	8/11/2015	11:45 AM	129	125	n/a
8/16/2015	120	YES	122	122	121	n/a	8/16/2015	3:00 PM	8/16/2015	4:30 PM	127	122	n/a
8/21/2015	90 (1 PST o/s)	YES	91	91	87	n/a	8/21/2015	3:15 AM	8/21/2015	7:45 AM	100	88	WW1048
9/9/2015	90 (1 PST o/s)	YES	100	100	92	n/a	9/9/2015	5:15 PM	9/9/2015	6:15 PM	101	94	n/a
9/10/2015	90 (1 PST o/s)	YES	94	97	95	n/a	9/10/2015	8:00 AM	9/10/2015	10:00 AM	97	94	n/a
9/10/2015	90 (1 PST o/s)	YES	92	93	91	n/a	9/10/2015	9:15 PM	9/10/2015	10:15 PM	94	92	n/a
9/30/2015	90 (1 PST o/s)	YES	94	94	92	n/a	9/30/2015	12:45 AM	9/30/2015	1:15 AM	94	92	n/a
	90 (1 PST o/s)	YES	94	99	96	n/a	9/30/2015	2:15 AM	9/30/2015	7:00 AM	99	96	n/a
10/2/2015 - 10/3/2015	90 (1 PST o/s)	YES	96	97	93	n/a	10/2/2015	2:00 PM	10/3/2015	12:15 AM	97	93	n/a
	90 (1 PST o/s)	NO	n/a	n/a	n/a	n/a	10/3/2015	1:45 AM	10/3/2015	6:15 AM	98	94	n/a
10/9/2015	90 (1 PST o/s)	YES	96	96	95	n/a	10/9/2015	7:00 PM	10/9/2015	9:15 PM	96	94	n/a

RED HOOK - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Influent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
10/28/2015 - 10/29/2015	120	YES	127	129	125	n/a	10/28/2015	5:00 PM	10/28/2015	7:45 PM	129	125	n/a
	120	YES	125	125	125	n/a	10/29/2015	1:15 AM	10/29/2015	1:45 AM	125	123	n/a
11/11/2015	120	YES	126	126	124	n/a	11/11/2015	1:45 AM	11/11/2015	2:30 AM	125	126	n/a
11/19/2015 - 11/20/2015	120	YES	124	128	124	n/a	11/19/2015	6:15 PM	11/20/2015	12:45 AM	128	123	n/a
12/17/2015	120	YES	126	127	123	n/a	12/17/2015	3:15 PM	12/17/2015	6:45 PM	127	123	n/a
12/23/2015	120	YES	127	128	123	n/a	12/23/2015	4:30 PM	12/23/2015	10:15 PM	128	123	n/a
12/29/2015	120	YES	128	128	124	n/a	12/29/2015	7:00 AM	12/29/2015	8:15 AM	128	124	n/a
12/302015 - 12/31/2015	120	NO	n/a	n/a	n/a	n/a	12/30/2015	11:45 PM	12/31/2015	12:45 AM	124	121	n/a

ROCKAWAY - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information					Critical Wet Weather Event				
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Effluent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time	Critical Event End Date & Time	Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
NO EVENTS											

TALLMAN ISLAND - WET WEATHER THROTTLING SUMMARY

		Plant Throttling Information					Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did Plant Throttle? Yes/No	Effluent Flow at Start of Throttling (MGD)	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/18/2015	152.5 (2 Godwin o/s)	YES	165	165	158	n/a	1/18/2015	11:00 AM	1/18/2015	8:45 PM	166	158	n/a
3/14/2015	152.5 (2 Godwin o/s)	NO	n/a	n/a	n/a	n/a	3/14/2015	9:30 AM	3/14/2015	1:45 PM	166	159	n/a
4/20/2015	159 (1 Godwin o/s)	YES	165	165	157	n/a	4/20/2015	10:45 AM	4/20/2015	1:30 PM	170	160	n/a
5/31/2015	159 (1 Godwin o/s)	NO	n/a	n/a	n/a	n/a	5/31/2015	7:00 PM	5/31/2015	7:30 AM	167	166	n/a
							5/31/2015	8:00 PM	5/31/2015	9:30 PM	164	162	n/a
6/15/2015	159 (1 Godwin o/s)	NO	n/a	n/a	n/a	n/a	6/15/2015	5:45 AM	6/15/2015	6:15 AM	164	163	n/a
6/27/2015	159 (1 Godwin o/s)	NO	n/a	n/a	n/a	n/a	6/27/2015	10:00 PM	6/27/2015	10:00 PM	160	160	n/a
7/30/2015	152.5 (2 Godwin o/s)	NO	n/a	n/a	n/a	n/a	7/30/2015	3:30 PM	7/30/2015	7:00 PM	167	164	n/a
8/11/2015	160	YES	174	175	161	n/a	8/11/2015	8:00 AM	8/11/2015	10:15 AM	175	161	n/a
10/2/2015 - 10/3/2015	160	YES	163	163	157	n/a	10/2/2015	5:45 PM	10/2/2015	9:30 PM	168	159	WW1059
	160	NO	n/a	n/a	n/a	n/a	10/3/2015	3:00 AM	10/3/2015	4:00 AM	163	161	n/a
10/28/2015	160	NO	n/a	n/a	n/a	n/a	10/28/2015	5:30 PM	10/28/2015	6:45 PM	162	161	n/a
10/29/2015	160	YES	166	166	163	n/a	10/29/2015	12:00 AM	10/29/2015	2:45 AM	166	163	n/a
	160	YES	130	130	102	Item No. 5394	10/29/2015	3:45 AM	10/29/2015	5:15 AM	130	102	WW1060
11/19/2015 - 11/20/2015	152.5 (2 Godwin o/s)	YES	163	169	156	n/a	11/19/2015	7:45 PM	11/20/2015	12:45 AM	169	157	WW1061
12/17/2015	160	NO	n/a	n/a	n/a	n/a	12/17/2015	3:30 PM	12/17/2015	4:00 PM	161	161	n/a
							12/17/2015	4:30 PM	12/17/2015	6:00 PM	165	163	n/a
12/23/2015 - 12/24/2015	160	NO	n/a	n/a	n/a	n/a	12/23/2015	5:15 PM	12/23/2015	8:00 PM	169	166	n/a

WARDS ISLAND - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information							Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did MGC Throttle? Yes/No	CCT Flow at Start of MGC Throttling	Did BGC Throttle? Yes/No	CCT Flow at Start of BGCThrottling	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
1/3/2015 - 1/4/2015	463 (1 BGC Screen o/s)	NO	n/a	YES	392	n/a	n/a	n/a	1/4/2015	1:45 AM	1/4/2015	1:45 AM	473	473	n/a
1/12/2015	370 (2 BGC Screens o/s)	NO	n/a	YES	313	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1/18/2015	463 (1 BGC Screen o/s)	YES	326	YES	378	478	401	n/a	1/18/2015	11:00 AM	1/18/2015	9:00 PM	478	401	WW1030
3/3/2015 - 3/4/2015	550	NO	n/a	YES	398	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3/14/2015	550	YES	421	YES	429	432	416	Item No. 5360	3/14/2015	9:15 AM	3/14/2015	2:15 PM	432	416	WW1031
3/26/2015 - 3/27/2015	463 (1 BGC Screen o/s)	YES	192	YES	456	277	227	Item No. 5361	3/27/2015	12:15 AM	3/27/2015	2:30 AM	277	227	WW1032
4/20/2015	320	YES	354	YES	347	429	314	n/a	4/20/2015	9:15 AM	4/20/2015	6:15 PM	429	320	n/a
4/21/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	4/21/2015	1:45 AM	4/21/2015	2:30 AM	351	343	n/a
5/16/2015 - 5/17/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	5/16/2015	11:45 PM	5/17/2015	12:00 AM	334	334	n/a
5/31/2015 - 6/1/2015	320	YES	380	YES	388	395	309	n/a	5/31/2015	5:15 PM	6/1/2015	7:30 AM	395	309	WW1042
	320	NO	n/a	NO	n/a	n/a	n/a	n/a	6/1/2015	8:00 AM	6/1/2015	9:15 AM	358	336	n/a
6/1/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	6/1/2015	12:00 PM	6/1/2015	1:45 PM	390	370	n/a
6/1/2015 - 6/2/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	6/1/2015	11:30 PM	6/2/2015	12:15 AM	328	328	n/a
6/2/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	6/2/2015	8:30 PM	6/2/2015	10:45 PM	376	362	n/a
6/6/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	6/6/2015	5:45 AM	6/6/2015	8:00 AM	448	385	n/a
6/14/2015 - 6/15/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	6/14/2015	10:15 PM	6/14/2015	10:15 PM	320	320	n/a
	320	YES	410	NO	n/a	n/a	n/a	n/a	6/14/2015	11:30 PM	6/15/2015	2:30 AM	424	393	n/a
	320	YES	398	YES	337	409	342	n/a	6/15/2015	3:45 AM	6/15/2015	6:30 AM	409	346	n/a
	320	NO	n/a	NO	n/a	n/a	n/a	n/a	6/15/2015	7:30 AM	6/15/2015	7:45 AM	321	321	n/a
6/16/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	6/16/2015	3:45 PM	6/16/2015	4:30 PM	394	365	n/a
	320	YES	383	YES	315	400	350	n/a	6/16/2015	5:45 PM	6/16/2015	8:00 PM	400	356	n/a
6/21/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	6/21/2015	5:45 AM	6/21/2015	7:00 AM	440	405	n/a
									6/21/2015	7:30 PM	6/21/2015	7:45 PM	346	338	n/a
									6/21/2015	10:45 PM	6/21/2015	11:45 PM	349	341	n/a
6/27/2015 - 6/28/2015	320	YES	478	YES	408	453	438	n/a	6/27/2015	6:00 PM	6/28/2015	5:15 AM	490	428	n/a
7/1/2015	320	YES	385	YES	385	409	400	n/a	7/1/2015	5:00 AM	7/1/2015	7:00 AM	409	379	n/a
7/9/2015 - 7/10/2015	320	YES	388	YES	350	404	389	n/a	7/9/2015	9:30 PM	7/10/2015	12:15 AM	404	372	n/a
7/14/2015	320	YES	331	YES	358	392	292	n/a	7/14/2015	1:30 PM	7/14/2015	4:45 PM	392	310	WW1049
7/18/2015	320	YES	284	YES	307	393	375	n/a	7/18/2015	9:15 AM	7/18/2015	11:45 AM	408	374	n/a
7/27/2015	320	YES	341	YES	n/a	n/a	n/a	n/a	7/27/2015	4:00 AM	7/27/2015	4:15 AM	342	332	n/a
7/30/2015	320	YES	312	YES	277	369	331	n/a	7/30/2015	2:15 PM	7/30/2015	8:15 PM	369	335	n/a
8/4/2015	320	YES	311	YES	330	348	344	n/a	8/4/2015	4:45 AM	8/4/2015	6:45 AM	348	340	n/a
8/11/2015	320	YES	319	YES	350	478	421	n/a	8/11/2015	7:00 AM	8/11/2015	1:00 PM	478	412	n/a
8/21/2015	320	YES	324	YES	343	343	314	n/a	8/21/2015	3:45 AM	8/21/2015	6:45 AM	343	314	WW1050

WARDS ISLAND - CY2015 CRITICAL WET WEATHER EVENT SUMMARY

		Plant Throttling Information							Critical Wet Weather Event						
Storm Dates	Event Wet Weather Capacity (MGD)	Did MGC Throttle? Yes/No	CCT Flow at Start of MGC Throttling	Did BGC Throttle? Yes/No	CCT Flow at Start of BGCThrottling	Throttling Max Flow (MGD)	Throttling Avg Flow (MGD)	Bypass Item No.	Critical Event Start Date & Time		Critical Event End Date & Time		Critical Event Max Flow (MGD)	Critical Event Avg Flow (MGD)	Wet Weather Item No.
9/10/2015 - 9/11/2015	320	YES	295	YES	242	298	251	Item No. 5390	9/10/2015	2:00 AM	9/10/2015	5:45 AM	298	251	WW1051
		NO	n/a					n/a	9/10/2015	8:15 AM	9/10/2015	10:00 AM	335	327	n/a
								n/a	9/10/2015	7:00 PM	9/10/2015	8:15 PM	367	354	n/a
								n/a	9/10/2015	8:45 PM	9/11/2015	1:45 AM	397	364	n/a
9/12/2015 - 9/13/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	9/12/2015	9:15 PM	9/12/2015	10:15 PM	379	370	n/a
	320	NO	n/a	NO	n/a	n/a	n/a	n/a	9/13/2015	12:30 AM	9/13/2015	1:00 AM	344	338	n/a
9/30/2015	320	YES	339	YES	301	339	250	n/a	9/30/2015	2:30 AM	9/30/2015	10:15 AM	339	250	WW1052
	320	NO	n/a	NO	n/a	n/a	n/a	n/a	9/30/2015	10:45 AM	9/30/2015	11:00 AM	325	325	n/a
10/2/2015 - 10/3/2015	320	NO	n/a	YES	373	n/a	n/a	n/a	10/2/2015	2:30 PM	10/2/2015	11:45 PM	558	428	n/a
	320	NO	n/a	YES	463	n/a	n/a	n/a	10/3/2015	2:15 AM	10/3/2015	6:00 AM	505	433	n/a
10/9/2015	320	YES	307	YES	290	323	285	n/a	10/9/2015	5:30 PM	10/9/2015	7:30 PM	323	285	WW1062
	320	NO	n/a			n/a	n/a	n/a	10/9/2015	9:00 PM	10/9/2015	10:30 PM	357	337	n/a
10/28/2015 - 10/29/2015	320	YES	396	YES	406	413	376	n/a	10/28/2015	1:45 PM	10/28/2015	8:15 PM	413	369	n/a
	320	YES	342			437	417	n/a	10/28/2015	8:45 PM	10/29/2015	3:45 AM	437	393	n/a
11/11/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	11/11/2015	2:00 AM	11/11/2015	3:45 AM	410	373	n/a
11/19/2015 - 11/20/2015	320	YES	402	YES	386	534	466	n/a	11/19/2015	6:00 PM	11/20/2015	12:45 AM	534	411	n/a
12/1/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	12/1/2015	10:00 PM	12/1/2015	11:00 PM	355	343	n/a
12/14/2015	320	YES	325	YES	366	366	342	n/a	12/14/2015	8:15 PM	12/14/2015	11:45 PM	366	338	n/a
12/17/2015	320	YES	387	YES	401	434	404	n/a	12/17/2015	12:30 PM	12/17/2015	8:15 PM	434	395	n/a
	320	NO	n/a	NO	n/a	n/a	n/a	n/a	12/17/2015	8:45 PM	12/17/2015	9:00 PM	348	337	n/a
12/23/2015 - 12/24/2015	320	YES	462	YES	396	462	403	n/a	12/23/2015	4:30 PM	12/24/2015	1:30 AM	462	403	n/a
12/27/2015	320	NO	n/a	NO	n/a	n/a	n/a	n/a	12/27/2015	1:45 AM	12/27/2015	2:45 AM	335	330	n/a
12/29/2015	320	YES	374	YES	394	398	385	n/a	12/29/2015	6:45 AM	12/29/2015	9:45 AM	398	372	n/a
	320	NO	n/a	NO	n/a	n/a	n/a	n/a	12/29/2015	10:30 AM	12/29/2015	1:15 PM	390	365	n/a
12/31/2015	320	YES	389	YES	389	402	391	n/a	12/30/2015	11:45 PM	12/31/2015	2:30 AM	402	375	n/a

NOTE: Wards Island Interim Flow Limit - Commencing upon DEP certification of the issuance of either (i) the Notice to Proceed to Construction for the Grit Chamber Bar Screens or (ii) the Notice to Proceed to Construction for the Replacement of the Main Sewage Pumps, whichever is earlier, and to remain in effect until DEP certification that two (2) new bar screens at each grit chamber are in operation and four (4) new MSPs are available for service, the WWTP shall be capable and operated to receive and treat an average flow of 320 MGD during wet weather.

Appendix 3.3

Estimation of Wet-Weather Capture

3.0 ESTIMATION OF WET-WEATHER CAPTURE

This section provides a description of analyses used to calculate the wet-weather capture of combined-sewage (CS) flow and associated floatables at New York City (NYC) treatment facilities (referred to as Waste Water Treatment Plants, WWTPs) during calendar year (CY) 2015. Section 3.1 describes the difference between runoff capture and combined-sewage capture. Section 3.2 discusses the scenarios used to evaluate capture. Section 3.3 summarizes the modeling approach – an InfoWorks modeling methodology used to calculate flow volume capture for CY2015 at all drainage areas served wholly or partially by combined sewers. Section 3.4 describes the 2015 wet-weather combined-sewage percent capture results for these drainage areas. References are listed in Section 3.5.

EPA issued the current guidance pertaining to the intent and calculation of "combined-sewage capture" in 1995. Prior to that time, a different parameter, known as "runoff capture," was used to assess the operation of the collection/treatment system. As detailed in a subsequent section, runoff capture measured the ratio of runoff treated to runoff collected in a sewer system. For the NYC WWTPs, historically speaking, the runoff capture values were typically about 15 percentage points less than the corresponding CS capture values. The runoff capture remains a useful parameter in the calculation of floatables capture. CS capture has replaced runoff capture as the pertinent measure of flow-capture performance, and as such, runoff capture is no longer reported. However, runoff capture is used in the calculation of floatables capture.

Since 1998, capture of CS floatables has also been calculated and reported. Initially, the basis for this measurement was the floatables passing into combined sewers from the catch basins (see Figure 3-1), but because the catch basins themselves are considered part of the sewer system, an estimate of catch basin retention was added to the floatables-capture calculation. As a result, the basis for floatables capture is now what enters the catch basins.

Historically, capture of flow and floatables has been simulated and reported for three different scenarios. The first simulation scenario reflects actual operation of the collection/treatment system (in terms of the flow rates treated at a WWTP during wet weather) and the actual rainfall (and tides) affecting the system during the subject, calendar-year period. The results of this simulation scenario indicate the actual capture performance for the period.

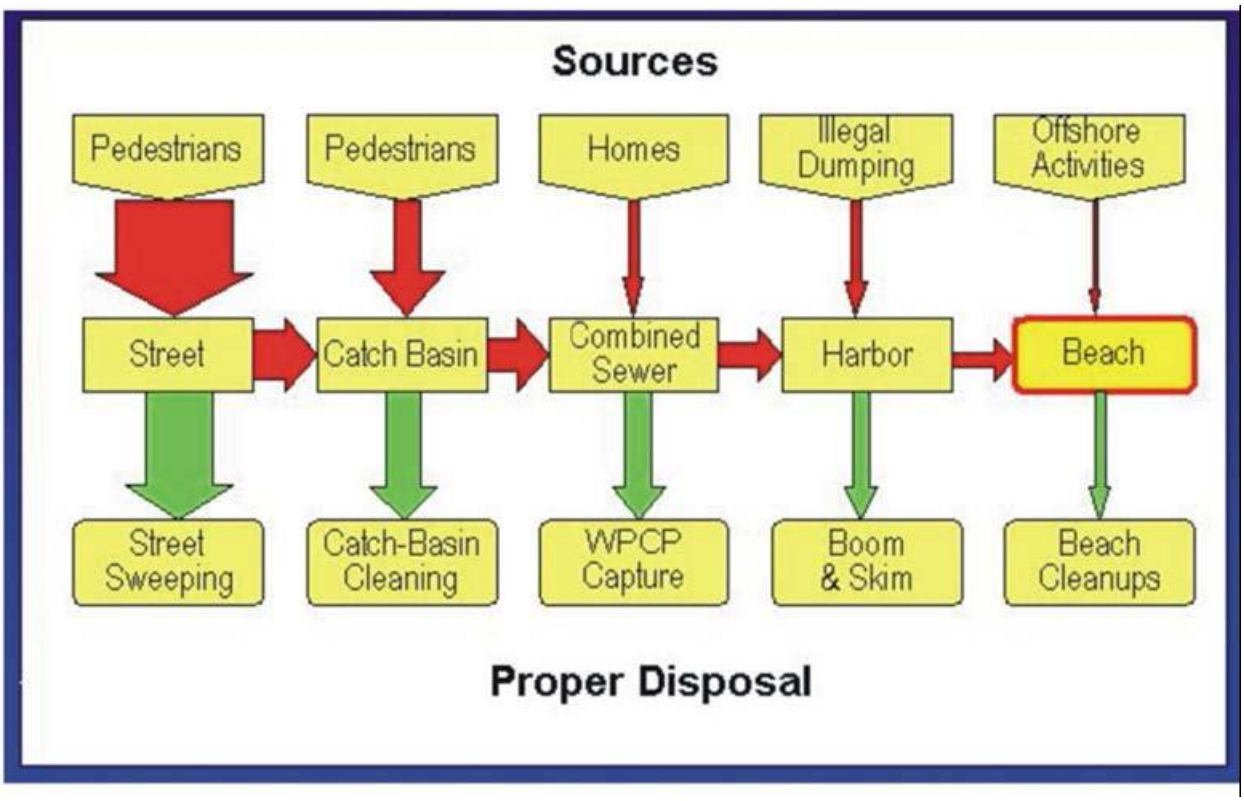


Figure 3-1. Sources and Fate of Floatables in New York City of New York DEP

However, due to natural variations in rainfall patterns, it is difficult to make year-to-year assessments of performance as it relates to the operation of the collection/treatment system. To isolate system performance from these annual rainfall variations, model simulations are also performed using a "standard" rainfall condition (rainfall observed in 1988 at the John F. Kennedy Airport, representing a typical annual precipitation condition in the NYC metropolitan area) and the associated tidal conditions (historically, 1988). Thus, the second simulation scenario reflects actual operation of the collection/treatment system and a standard rainfall/tidal condition. For some WWTPs, DEP will be implementing upgrades to maximize the flow to twice the design dry weather flow levels (2XDDWF), while other WWTPs are already operating at their maximum capacity levels. Therefore, only Scenarios 1 and 2 are pursued and presented in this report.

The methodology for calculation of flow capture has evolved historically with the advent of improved modeling tools and increasing computing power. Initially, flow capture was estimated using the "Statistical Method" (Hydroscience, 1978), an approach relying on drainage area/runoff-coefficient information from a calibrated sewer-system rainfall-runoff model (such as the EPA's Storm Water Management Model, SWMM), but which can be used without the complicated set-up and computational runtimes associated with those models. As it became more feasible to perform capture calculations directly with sewer-system models, the use of the Statistical Method was discontinued in favor of using RAINMAN, a simplified sewer-system model that itself was

cross-calibrated against a dynamic sewer system model (SWMM or one of its commercial counterparts, such as XP-SWMM or InfoWorks) available for a specific drainage area. Finally, as part of the CSO Long Term Control Plan (LTCP) project, DEP adopted an InfoWorks modeling framework to support facility-planning analyses citywide. InfoWorks is a state-of-the-art hydrology and hydraulics model that will provide the most sophisticated and accurate representation of the NYC drainage areas. Although model set up and calibration do require extensive effort, advancements in computing have lessened run-time requirements so that the use of these models becomes reasonable for planning and design-level analyses

For 2015, the percent-capture analyses utilize the InfoWorks modeling framework for all drainage areas wholly or partially served by combined sewers. Section 3.3 provides a more detailed discussion of the InfoWorks model.

InfoWorks models constructed for various WWTP drainage areas have undergone a major recalibration process in the 2009-11 period and the DEP had submitted a detailed report on this recalibration effort to New York State DEC in June 2012. DEP adopted the updated models to support the capture calculations for CY2015. In addition, the City has worked with DEC to identify JFK2008 as the new "standard" to represent a typical annual precipitation condition in the metropolitan area. This JFK2008 record is a more representative precipitation pattern, based on a statistical analysis of rainfalls occurring in the metropolitan area in the recent past (as recorded at four official gauges maintained by NOAA). Annual total for JFK2008 is 46.3 inches in comparison to the JFK1988 annual total of 40.6 inches. Besides the total annual volume of rainfall, the intensity and number of storms are also critical in the assessment of system performance and analysis of results. Table 3-1 shows these statistics for the old versus new typical precipitation conditions. Based on the model updates and the use of different standard rainfall conditions, the percent capture information presented in this report may not be directly comparable with those reported in previous calendar years.

Table 3-1. NYC-Area Rainfall Statistics, 2008[5]

Gage Location[1]	Period	Number of Storms Avg.	Liquid-Equivalent Precipitation (Rainfall) (inch)			Storm Intensity (inch/hr)		Storm Duration (hour)		Delta[2] (hour)	
			Annual Total	Storm Avg.	Storm COV[3]	Avg.	COV[3]	Avg.	COV[3]	Avg.	COV[3]
Central Park	2008	144	53.95	0.37	1.6	0.0575	1.19	5.69	1.10	61.27	1.07
LaGuardia Airport	2008	137	47.74	0.35	1.58	0.0672	2.24	5.36	1.12	63.81	1.03
JFK Airport	2008	135	47.35	0.35	1.49	0.0621	1.67	5.76	1.07	65.37	1.01
Newark Airport	2008	139	48.45	0.35	1.64	0.0579	1.42	5.64	1.09	63.5	1.09
JFK Airport	"Standard" 1988	100	40.66	0.41	1.25	0.0677	1.54	6.12	0.90	87.86	0.95
Central Park	1955-2008	116	46.71	0.40	1.56	0.0579	1.36	6.57	1.02	76.49	1.12
LaGuardia Airport	1955-2008	115	42.83	0.37	1.56	0.0568	1.43	6.34	1.02	76.57	1.02
JFK Airport	1970-2008	114	42.25	0.37	1.49	0.0573	1.40	6.19	1.01	77.27	1.0
Newark Airport	1955-2008	118	43.78	0.37	1.57	0.0542	1.42	6.43	1.04	74.86	1.02
NYC Metro[4]	Historical					0.0560	1.35				

[1] National Oceanic and Atmospheric Administration Data Center rain gages.
[2] Delta refers to time between storm midpoints.
[3] Coefficient of Variation (average/standard deviation).
[4] Values reported as "Typical for NYC Metropolitan Area , circa 1950 through 1976" (from Hydroscience, 1978)
[5] Statistics calculated using EPA's SYNOP package with inputs for interevent time of 4 hours and zero minimum rainfall depth

3.1 DEFINITIONS OF COMBINED-SEWAGE CAPTURE AND RUNOFF CAPTURE

Previous EPA guidance defined wet-weather capture at combined-sewer treatment facilities in terms of the ratio of runoff captured to the total runoff generated. This ratio, expressed as a percentage, is herein referred to as "runoff capture." For the purposes of this study, the runoff capture is estimated as the ratio of total treated volume of runoff from combined-sewer areas (the sum of the runoff treated by the plant and the runoff treated by any off-line storage facilities) to the total volume of runoff generated from combined-sewer areas during wet weather. More recent EPA guidance (EPA 1995) suggests an alternate definition of capture in terms of both runoff and sanitary sewage. One of the Presumptive Approach criteria is:

> *"The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS [combined-sewer system] during precipitation events on a system-wide annual basis."*

This definition of capture, herein referred to as "combined-sewage capture," is the ratio of CS volume captured at the WWTP to the total runoff and sanitary sewage entering the combined-sewer system during wet-weather periods.

Figure 3-2 presents a schematic representation of both runoff capture and CS capture. With runoff capture, WWTP flow rates exceeding average diurnal (dry-weather) sanitary flows during wet-weather periods were assumed to represent captured runoff. In reality, the flow in the sewer system is a mixture of runoff and sanitary flow, and a portion of CSOs is sanitary in nature. The combined-sewage capture definition takes into account the sanitary flow already in the sewer system during wet weather, and hence is a more realistic measure of the capture at WWTPs during wet-weather periods.

In NYC, values for CS capture are typically about 15 percent points higher than those for runoff capture. EPA's CSO guidance (EPA 1995) has established a target criterion of 85 percent CS capture for the presumptive approach to CSO control.

3.2 PERCENT CAPTURE EVALUATION – TWO SCENARIOS

Wet-weather capture depends upon the particular weather patterns within the subject period, the state of a sewer system and wet-weather operation of the WPCPs. Capture values tend to increase when storm patterns produce sustained, low-level flows to the plant. Capture values also increase when sewer-system restrictions are eliminated and flows to the WPCP are maximized. If the interceptors and combined sewers are not surcharged when the plant inflows reach 2XDDWF levels in certain drainage areas, those may provide some additional in-line storage for wet-weather flow and, as such, can increase the wet weather capture rate. Although it is important to record the actual capture achieved at WWTPs each year, it is also useful to isolate the effect of the uncontrollable, year-to-

year rainfall variations from the controllable aspects related to the operation and maintenance of the collection system and treatment plant. To address these issues, the model results presented herein represent two different scenarios:

1. the "Actual" captures, reflecting the "state and operation of the collection/ treatment system" during the subject period, as well as the actual rainfall and tidal conditions during the subject period,
2. the "Standardized" captures, reflecting the "state and operation of the collection/treatment system" during the subject period, but with rainfall and tide conditions representing the standardized (typical) rainfall year, and

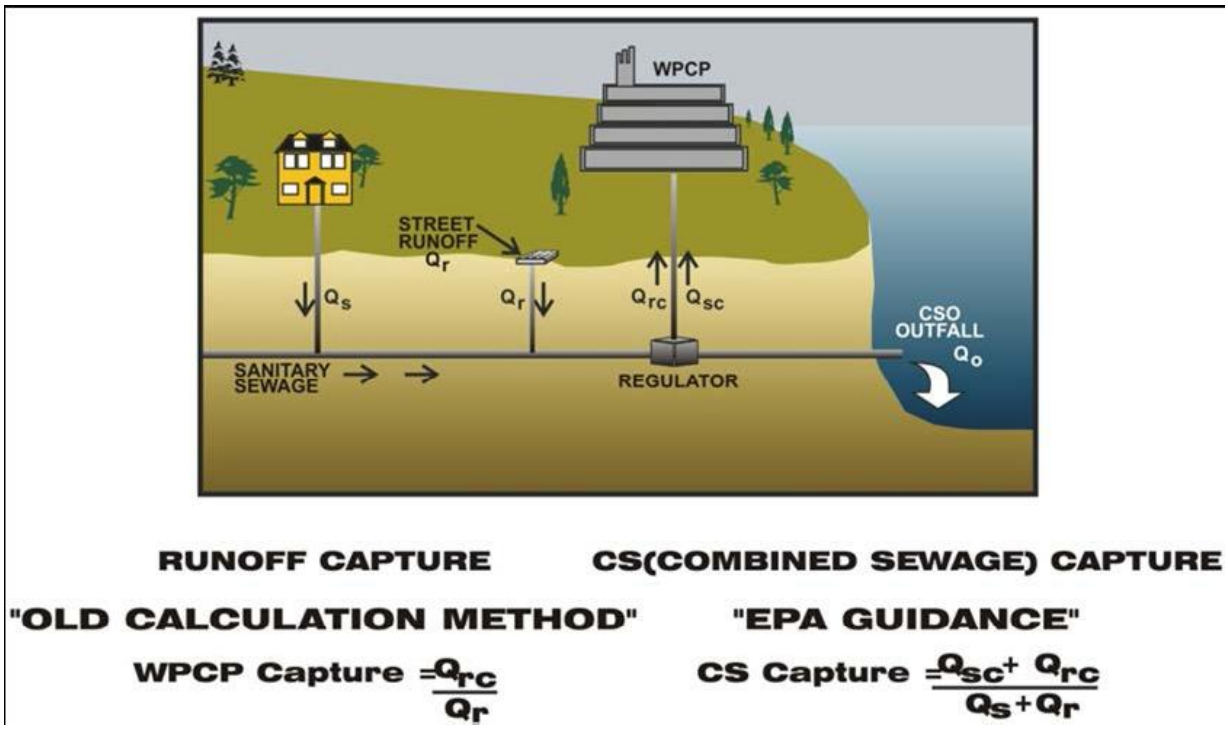


Figure 3-2. Wet Weather Flow Capture at WWTP

3.3 TOOLS TO CALCULATE WET-WEATHER FLOW CAPTURE

Although the definitions presented in Section 3.1 and the equations on Figure 3-2 are relatively simple, actual application to calculate CS capture can be rather complicated. Because the capture must be evaluated over a long-term (annual) period, and with hundreds of potential CSO outfalls City-wide, direct measurements of all parameters would be impractical. Furthermore, measurements of flow and rainfall distribution over a large geographical area have proved to be less than reliable. A more practical approach is to estimate the terms presented on Figure 3-2 using calibrated sewer-system models to simulate (instead of directly measuring through monitoring) system performance during the subject period. The following section describes the modeling approach applied for 2015 calculations, namely, InfoWorks. As indicated earlier, InfoWorks was adopted for citywide use and has been calibrated for all service areas that are wholly or partially served by combined sewers.

3.3.1 InfoWorks Model

The InfoWorks model, distributed by Innovyze from the U.K., has been used in DEP projects since 2001. The model engine is a FORTRAN program, linked with a front interface that contains both relational databases of the sewer network and GIS databases of the geographic attributes such as latitude, longitude, and ground elevations. Based on comparative evaluations performed in 2002-03 by the DEP and its consultants, this interface appeared to offer several advantages over other commercial models such as easy interfacing with GIS for graphical and input/output data analysis and faster computational times for annual simulations. The model uses an implicit finite difference-based numerical solution technique to provide more stable modeling of key elements of the sewer systems. The model incorporates full Saint-Venant's equations for continuity and momentum for hydraulic routing and, as such, is well suited for modeling of the backwater effects and reverse flow, open channels, sewers, detention ponds, complex pipe connections and complex ancillary structures such as culverts, orifices and weirs.

Similar to other urban drainage models, the InfoWorks model calculates runoff volumes first using the same algorithms used in the SWMM model and routes the runoff over sub-areas (subcatchments) to generate runoff hydrographs. The hydrographs are then applied to the channel-sewer system for hydraulic routing. Dry weather flows are added at the respective manholes for routing towards the

treatment plant. Figure 3-3 presents a schematic of the InfoWorks model linkage and outputs used to calculate the wet-weather and runoff percent captures.

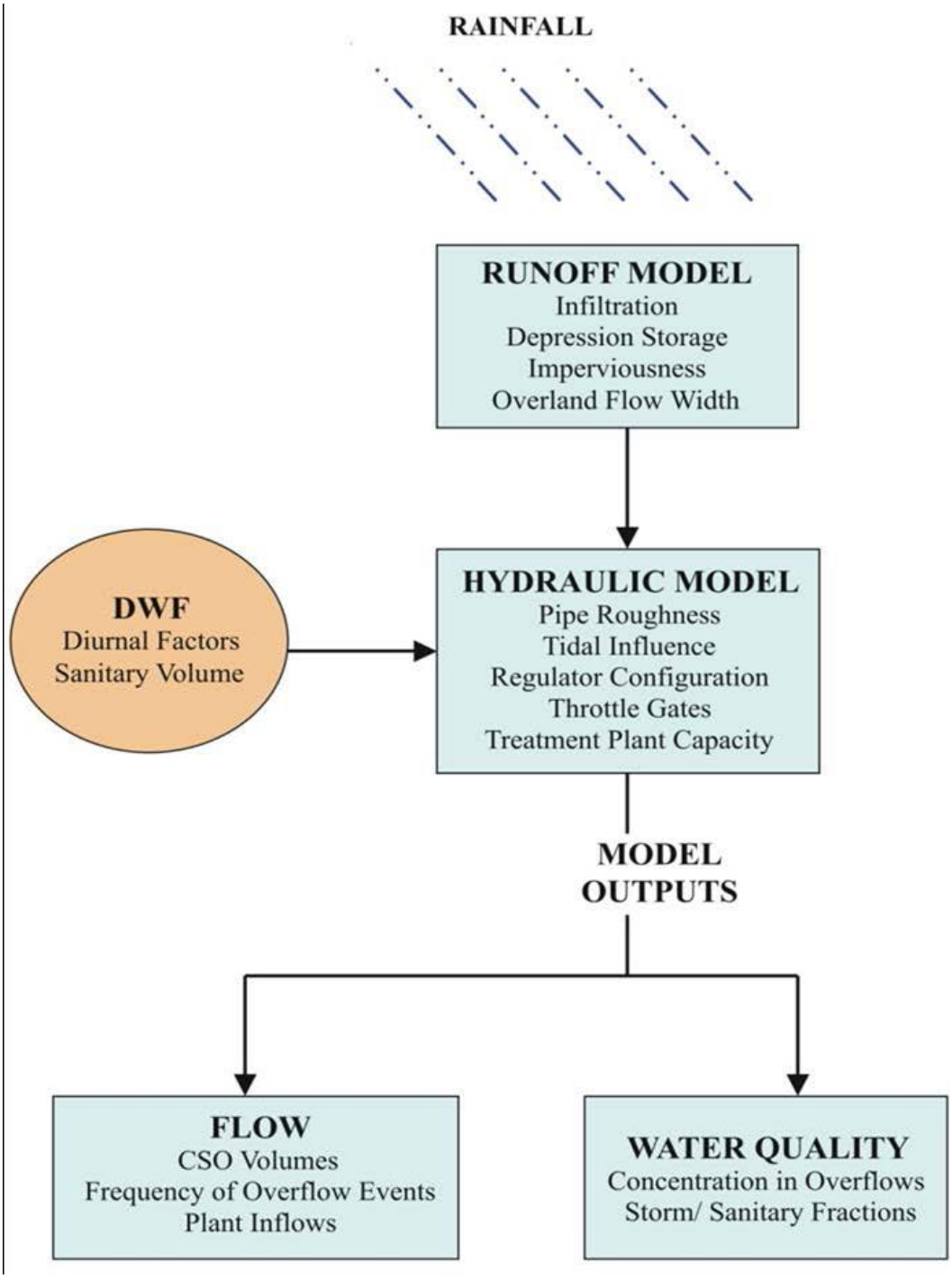


Figure 3-3. Schematic Representation of InfoWorks Model

The SWMM RUNOFF option has been chosen as the InfoWorks runoff simulation algorithm. Each WWTP drainage area was divided into component regulator drainage areas. All pipes larger than 48

inches were included in all WWTP models, and some pipes in the range of 12 to 42 inches in selected WWTP models that were expanded based on local hydraulic conditions. The pipe network was used to further divide the regulator drainage area into smaller sub-catchments that drain to individual manholes. Each sub-catchment was then divided into impervious and pervious areas, based on geographical features including rooftops, driveways, roadways, lawns, parking lots, and parks/open spaces. An example representation of pipes, manholes and surface features is shown in Figure 3-4.

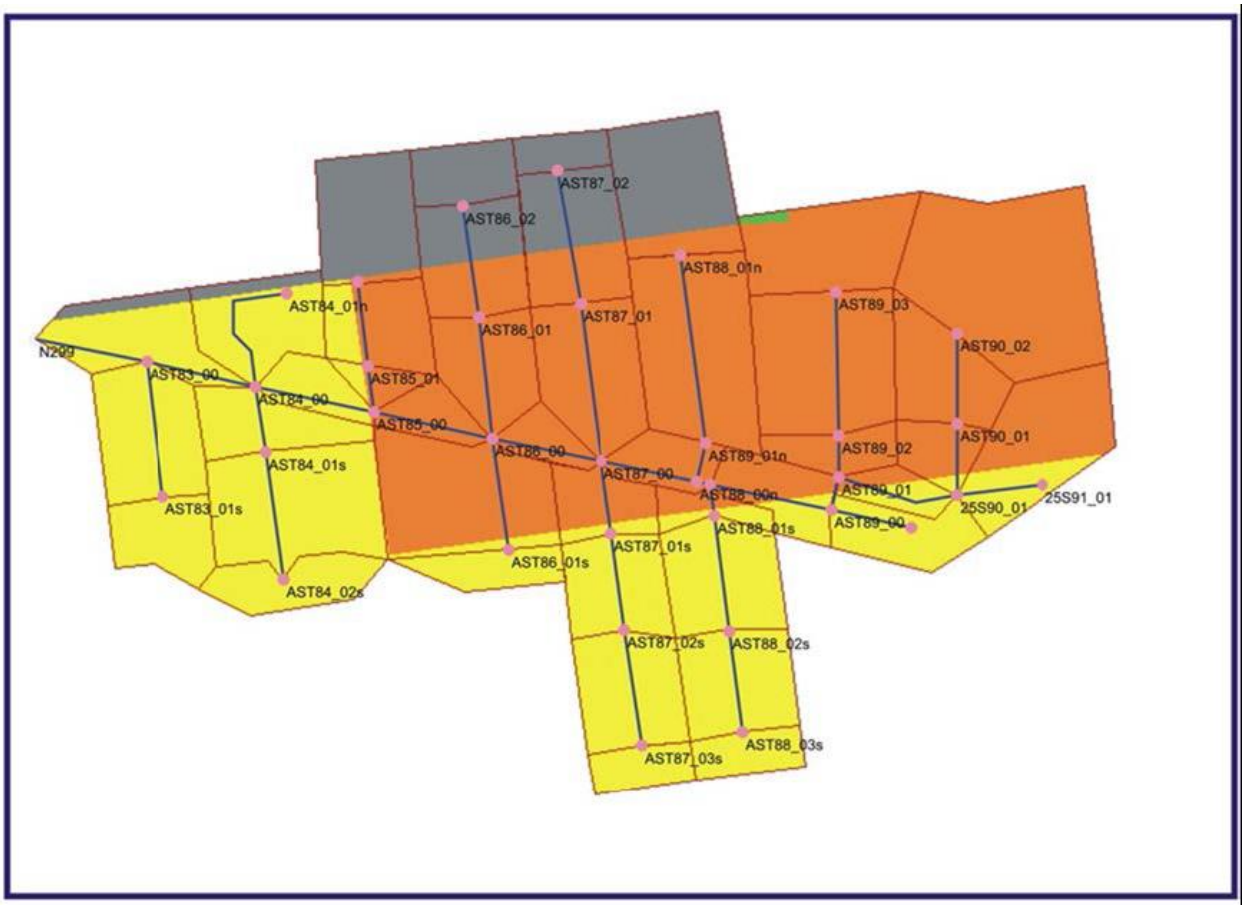


Figure 3-4. Geographical and Sewer System Data in InfoWorks Model

A major component of the 2011 InfoWorks model update was the satellite-imagery based imperviousness estimate. This process was well documented in the 2011 recalibration report submittal to the DEC. Although this estimate represents the total impervious area in each subcatchment, the flow monitoring performed by DEP confirmed that only a fraction of this area was contributing runoff directly to the sewer system. This fraction is referred to as the directly connected impervious area (DCIA) for each subcatchment, which is one of the calibration parameters. The

DCIA, in essence, is equivalent to the runoff coefficient used in traditional sewer design principles with a standard rational approach. Hydrologic parameters included in the InfoWorks model for impervious surfaces are: DCIA, depression storage (initial losses), and surface roughness.

Similarly, the pervious areas were represented with the same three parameters – only difference being that the pervious areas were divided into open surfaces (parks, cemeteries or large open areas) and non-open surfaces (pervious areas in residential, commercial, industrial landuses). Soil compaction due to several factors in these two distinct surfaces presents different runoff loss rates, which led to the explicit representation of open and non-open areas with different runoff coefficients in the InfoWorks models. Runoff is generated from each of these three surfaces within a subcatchment for a given rainfall intensity/volume. An example image and associated definition of pervious and impervious (complement of pervious areas) from theNewtown Creek WWTP drainage area is shown in Figure 3-5. The areas within red boundaries represent the catchment areas to two flow metering locations within this WWTP drainage area.

Figure 3-5. Landcover Definitions Using Remote Sensing Data

Monthly evaporation data were obtained from the Northeast Climate Center at Cornell University for all the four NOAA rain gage locations. This data was further processed based on the geographical proximity of WWTP service areas and used to develop the inputs for evaporation rates in the model.

The InfoWorks model uses the SWMM's non-linear reservoir model to route the runoff through urban landscapes to the sewer entry-point (catch basin/manhole included in the model). Sub-catchments are modeled as idealized rectangular areas with the slope of a sub-basin perpendicular to the width. The routing is performed according to the equation:

$$Q = \frac{1.486}{n} W (d - d_s)^{\frac{5}{3}} S^{\frac{1}{2}}$$

where: Q is surface runoff (cfs);

W is width of sub-area (ft);

S is average slope of sub-area (ft/ft);

d is depth in the non-linear reservoir (ft);

d_s is the depression storage depth in the non-linear reservoir (ft); and

n is the Manning's roughness coefficients.

For hydraulic routing, the model uses the Saint-Venant equations to describe the conservation of mass and momentum:

$$\frac{\delta A}{\delta t} + \frac{\delta Q}{\delta x} = 0$$

$$\frac{\delta Q}{\delta t} + \frac{\delta}{\delta x}\left(\frac{Q^2}{A}\right) + gA\left(\cos\theta \frac{\delta g}{\delta x} - S_o + \frac{Q|Q|}{K^2}\right) = 0$$

with: Q Discharge (m^3/s)

A Cross-sectional area (m^2)

g Acceleration due to gravity (m/s^2)

2 Angle of bed to horizontal (^{o})

S_o Bed slope

K Conveyance

With the use of the Saint Venant equations, the following complex phenomena that occur in a sewer system can be dynamically characterized:

- Presence of sewer sediments
- Pump-station operations (variable, step-wise, etc.), along with wet-well controls
- Inverted siphon
- Bifurcations
- Regulator operations during tidal conditions
- Throttling at treatment plants during wet weather to limit inflows
- Behavior of in-line regulators
- Street and basement flooding
- Groundwater infiltration into combined and separately sewers.

Depending on the complexity of each WWTP drainage area, some or all of the above processes were modeled in InfoWorks. Available CSO and in-system flow and depth monitoring data compiled in the recently completed waterbody-watershed facility planning studies and PlaNYC project were used to update the sewer system models of the 12 WWTP drainage areas with combined sewers and the Rockaway WWTP service area with separate sewers. The system-wide calibration involved the use of flow and depth data compiled at several in-system locations, selected outfalls, DEP SCADA locations, and at the influent of a WWTP. The City has been using a grid-based radar rainfall data

framework to characterize the spatial-temporal variability. Selected storms ranging in intensity and total volumes observed during the calibration period were used to calibrate the appropriate hydrologic (e.g., runoff coefficient (DCIA), depression storage, and roughness) and hydraulic (pipe roughness, pump operations, weir coefficients and gate controls) model parameters. Additional wet weather events (storms) were used to independently validate the model performance. DEP used a weight-of-evidence approach to assess the adequacy of model calibration including correlation plots between observed and modeled runoff volumes, flow rates, and water depths in sewers; and also the temporal comparisons of flows during wet events at various calibration points including the plant influent. Figure 3-6 illustrates the detailed calibration/validation approach that involves assessing correlations at different spatial scales and also using a variety of flow/depth monitoring data.

The input parameters necessary for InfoWorks application to compute percent capture include: (a) maximum WWTP capacity that can be varied on a monthly basis – represented in the form of a wet well elevation versus pump capacity curve; (b) precipitation at hourly or shorter intervals; (c) dry weather flow at each regulator and its diurnal pattern that can be varied on a monthly basis; (d) distribution of land uses within each subcatchment along with losses such as evaporation and depression storage; (e) operation of throttling/sluice gates within a system; (f) tide conditions near the various outfalls within a system. Since the model accounts for surcharging and backups within sewers, such complex aspects as in-line storage are modeled accurately.

Tide data were developed from the three permanent tide gages maintained by NOAA near New York City – namely, King's Point, The Battery, and Sandy Hook. NOAA also publishes tidal correction factors in terms of differences in time and amplitude at several locations in the NY-NJ Harbor. The correction factors were tabulated for the locations of the waterbody near each or a set of outfalls, and then the data from the nearest NOAA station were used to develop the tidal boundary conditions for each or a set of outfalls within a drainage area.

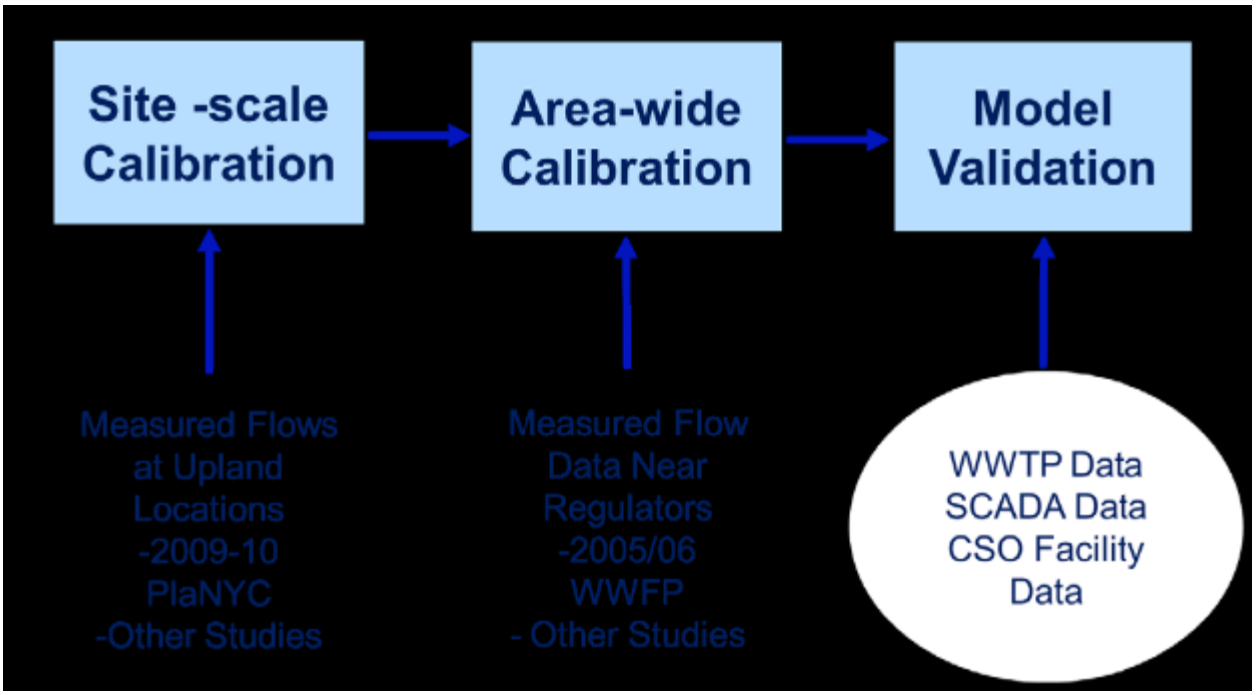


Figure 3-6. Comprehensive InfoWorks Model Calibration Approach

As a first step, the plant flow data at each WWTP was reviewed to develop the wet-well elevation versus pump discharge curves on a monthly basis. Appropriate dry weather flows and diurnal patterns were used for all regulators within the drainage area. The modeled and monitored plant flows were compared to confirm the adequacy of calibration of plant influent in the InfoWorks model for CY2015 conditions. If needed, the pump rating curves were adjusted to better match the monitored and modeled flows. Similarly, the rule curves associated with throttling gates, if appropriate, were modified to achieve better agreement between modeled and observed inflows at the plant. No other hydrologic or hydraulic model parameters were adjusted in the drainage area during this model application process. Specific hydraulic adjustments of the models have been made in select WWTP models to account for changes to the conveyance system, such as the operation of the Alley Creek, Flushing Creek, Paerdegat Basin and Spring Creek CSO retention facilities. The as-modeled inputs used in the InfoWorks model for all drainage areas with combined sewers are summarized in Table 3-2. Figure 3-7 shows an example correlation between measured and modeled inflows to the Tallman Island WWTP, for CY2015.

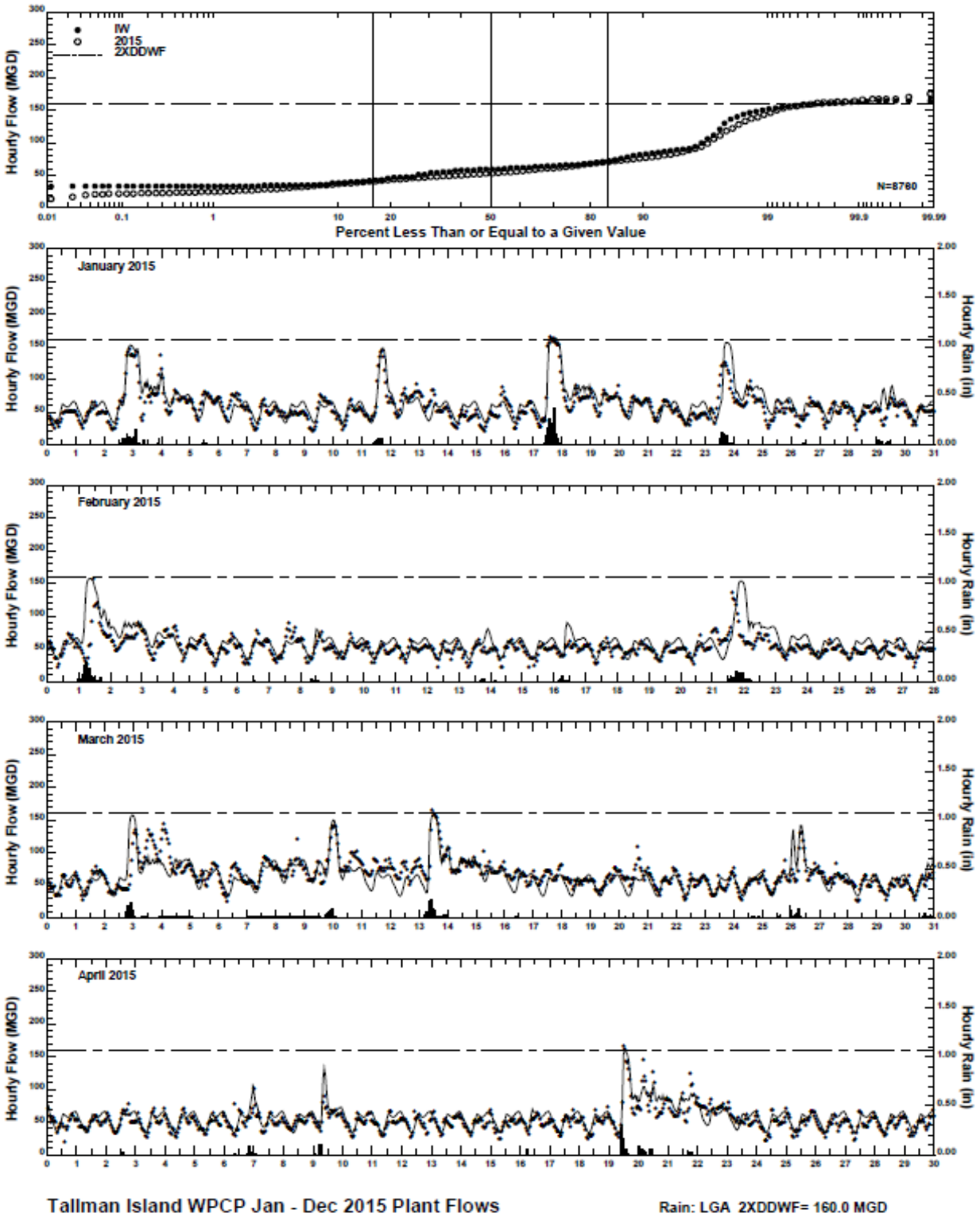


Figure 3-7. InfoWorks Sample Results 2015

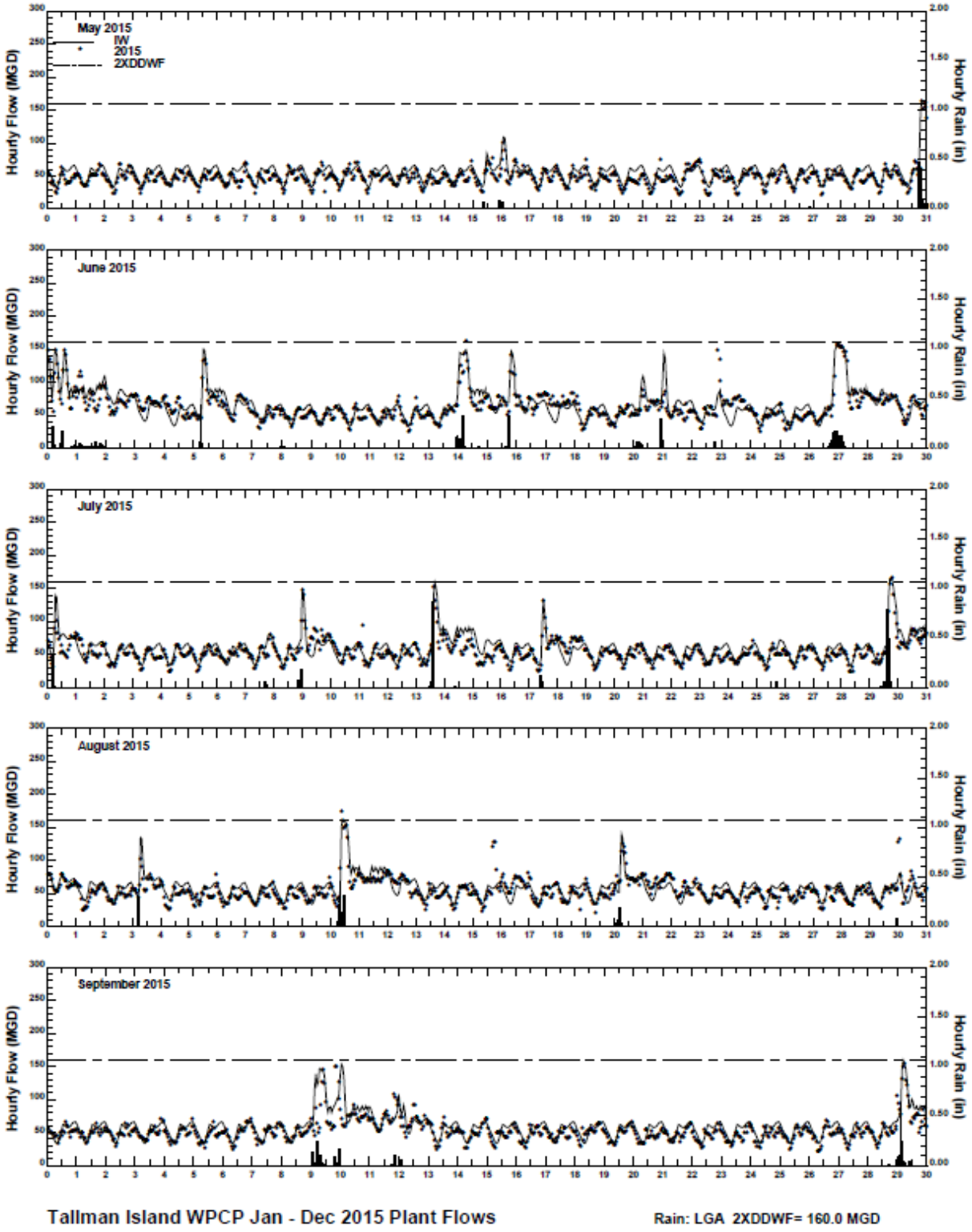


Figure 3-7. InfoWorks Sample Results 2015

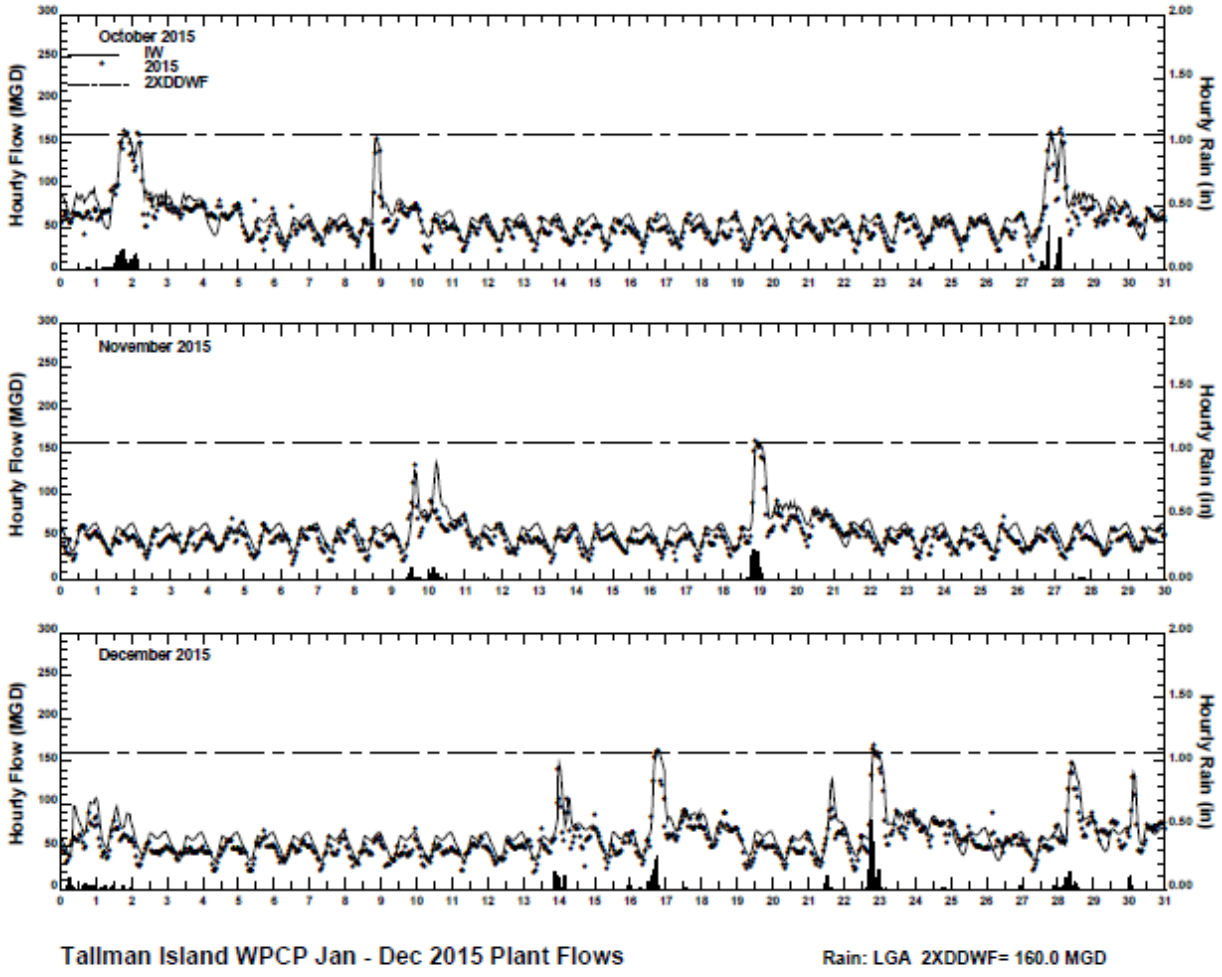


Figure 3-7. InfoWorks Sample Results 2015

3.4 COMBINED-SEWAGE CAPTURE RESULTS - 2015 FLOW VOLUME

Table 3-2 presents the results of the combined-sewage volume percent capture evaluation performed for CY2015. The InfoWorks model was used to analyze drainage areas for the two scenarios, as discussed in Section 3.2 - "Actual" refers to the actual conveyance/treatment system performance and rainfall in 2015 and "Standardized" refers to the actual conveyance/treatment system performance simulated with a "typical" rainfall condition.

As shown in Table 3-3, the "Actual" scenario capture of combined-sewage volume in 2015 averaged 81 percent citywide. Combined-sewage capture at individual, combined area WWTPs varied from a low at Jamaica and Owls Head (73 percent each) to a high at 26th Ward and Coney Island (95 percent each). Combined-sewage flow capture is not applicable at the separately sewered WPCPs (Oakwood Beach and Rockaway).

The "Standardized" scenario reveals that flow capture under the rainfall conditions of 2015 was higher than what would be expected under more typical rainfall conditions (i.e., JFK 2008 rainfall). Under typical rainfall conditions, system operations in 2015 would have produced citywide average combined-sewage volume captures of 78 percent. Results at individual combined-area WWTPs varied from a low of 69 percent at Owls Head to a high of 94 percent at North River.

Table 3-2. As-Modeled(5) WWTP Service Area Characteristics – CY 2015

WWTP	Total Drainage Area (acres)	Combined Sewage Drainage Area (acres)	Average Dry Weather Flow (MGD)	Design Dry Weather Flow (MGD)	Maximum Wet Weather Flow(1) (MGD)	Permitted Wet Weather Flow(2) (MGD)
26W	5,787	4,358	41	85	176	170
BB	14,232	12,446	95	150	306	300
CI	6,779	6,070	81	110	229	220
HP	22,543	11,546	116	200	409	400
JA	26,421	5,451	73	100	191	200
NC	15,103	13,562	196	310	761	700
NR	5,572	4,448	108	170	354	340
OH	10,078	9,448	85	120	262	240
PR	11,541	3,575	25	60	132	120
RH	3,738	2,991	26	60	128	120
TI	18,314	8,721	53	80	164	160
WI	15,799	12,822	198	275	480	550(5)
NYC CS Total(3)	155,907	95,438	1,098	1,720	3,593	3,440
Separate Areas						
RO	5,710	NA	15	45	38	90
OB(4)	10,779	NA	26	40	85	80
NYC overall	172,396	95,438	1,139	1,805	3,716	3,610

(1) Maximum of calibrated monthly values used as InfoWorks input.
(2) Permitted flow is max design flow, or twice design dry-weather flow (2xDDWF), except as noted.
(3) Average value.
(4) Certain statistics excluded for RO and OB because these areas are separately sewered.

(5) Requirement per Consent Judgment, Index No. 04-402174 (Sup. Ct. New York Court, P. Feinman), Modification to the Judgement dated November 3, 2006.

Table 3-3. Combined-Sewage Capture Results – Flow Volume Calendar Year 2015

Case Name:	**"Actual"(1)**	**"Standardized"(2)**
Rainfall Condition:(4)	**Actual (2015)**	**Standardized (1988 JFK)**
Wet Weather Flows:	**Actual (2015)**	**Actual (2015)**
26W	95	93
BB	75	76
CI(6)	95	92
HP	80	76
JA	73	71
NC	88	86
NR	94	94
OH	73	69
PR	82	76
RH	86	83
TI	82	76
WI	81	78
NYC avg.(5)	81	78

Notes: (1) The "actual" case capture results reflect the "state and operation of the collection/treatment system" during the subject period, as well as the actual rainfall patterns during the subject period. (2) The "standardized" capture results reflect the "state and operation of the collection/treatment system" during the subject period, but with a standardized rainfall condition representing a typical rainfall/CSO year. (4) Rainfall conditions: "Standardized" refers to 2008 rainfall at JFK Airport gage, 130 storms, total 46.25 inches, average intensity = 0.0565 inch/hour, and Volume COV = 1.48. "Actual (2015)" refers to 2015 rainfall at Central Park, LaGuardia Airport, Newark International Airport, and JFK Airport, as appropriate per drainage area (see Table 2-1 NYC-Area Rainfall Statistics, 2015). (5) Averages are drainage-area weighted, and exclude separately sewered areas (Oakwood Beach and Rockaway).

3.7 REFERENCES

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Driscoll, E.D. et. al., November 1989. Analysis of Storm Event Characteristics for Selected Rainfall Gages Throughout the United States, prepared for the USEPA Office of Water.

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USEPA, August 1995. Combined-Sewer Overflows: Guidance for Long-Term Control Plan, p.2-11. EPA 832-B-95-002.

USEPA, May 1995. Combined-Sewer Overflows: Guidance for Nine Minimum Controls, p.1-4. EPA 832-B-95-003.

Appendix 4

WWOP Submittal Schedule

WET WEATHER OPERATING PLAN (WWOP) SUBMITTAL SCHEDULE

Submittal Dates			
Facilities	**Original**	**Revisions**	**Status**
WPCP's			
Wards Island	July 2003	Sept. 2004, April 2007, Aug. 2007, June 2008 (submitted Sept. 2008), Dec. 2008, June 2009, Jan. 2011, Oct. 2014, Dec. 2014	Jun 2009 version Approved (Mar. 2010) Awaiting DEC approval of the Dec. 2014 version
North River	April 2004	July 2011, Dec. 2014	April 2004 version Approved (Jan. 2006) July 2011 submittal was an amendment to WWOP due to fire Awaiting DEC approval of the Dec. 2014 version
Hunts Point	July 2003	Sept. 2004, April 2010, Aug. 2010, Dec. 2014	Aug. 2010 version Approved (Oct. 2010) Awaiting DEC approval of the Dec. 2014 version
26th Ward	July 2003	Sept. 2004, May 2007, Oct. 2007, Feb. 2009, Aug. 2009, July 2010, Dec. 2014, Oct. 2015, Mar. 2016	Aug.2009 version Approved (Sept. 2009) Awaiting DEC approval of the Mar. 2016 version
Coney Island	April 2005	Dec. 2007, May 2010, Oct. 2010, Dec. 2014	Dec. 2007 version Approved (Mar. 2008) Awaiting DEC approval of the Dec. 2014 version
Owls Head	April 2005	Dec. 2007, Sept. 2008, Dec. 2008, Dec. 2014	Dec. 2008 version Approved (Jan. 2009) Awaiting DEC approval of the Dec. 2014 version
Newtown Creek	June 2003	April 2005, March 2009, April 2010, Oct. 2011, April 2013, Dec. 2014	April 2013 version Approved (Jun. 2013) Awaiting DEC approval of the Dec. 2014 version
Red Hook	Feb. 2005	Dec. 2014	WWOP Approved (Jan. 2006) Awaiting DEC approval of the Dec. 2014 version
Jamaica	April 2005	April 2007, June 2007, Dec. 2014	June 2007 version Approved (Sept. 2007) Awaiting DEC approval of the Dec. 2014 version
Tallman Island	July 2003	Sept. 2004, May 2007, Oct. 2007, Aug. 2009, April 2010, July 2010, July 2011, Dec. 2014	July 2010 version Approved (Sept. 2010) Awaiting DEC approval of the Dec. 2014 version
Bowery Bay	July 2003	Sept. 2004, March 2009, Dec. 2014, Mar. 2016	March 2009 version Conditionally Approved (May 2009) Awaiting DEC approval of the Mar. 2016 version
Rockaway	April 2005	Dec. 2007, Dec. 2014	Dec. 2007 version Approved (Mar. 2008) Awaiting DEC approval of the Dec. 2014 version

Oakwood Beach	April 2005	Dec. 2007, Dec. 2014	Dec. 2007 version Approved (Mar. 2008) Awaiting DEC approval of the Dec. 2014 version
Port Richmond	April 2005	Dec. 2007, Dec. 2014	Dec. 2007 version Approved (Mar. 2008) Awaiting DEC approval of the Dec. 2014 version
CSO FACILITIES			
Spring Creek	June 2003	May 2007, Oct. 2007, Feb. 2009, Aug. 2009, July 2010, Dec 2014, Oct. 2015, Mar. 2016	appended to 26W WWOP
Flushing Bay	Dec. 2003	May 2007, Oct. 2007, Aug. 2009, April 2010, July 2010, July 2011, Dec 2014	appended to TI WWOP
Alley Creek	Dec. 2003	May 2007, Oct. 2007, Aug. 2009, April 2010, July 2010, July 2011 Dec 2014	appended to TI WWOP
Peardegat Basin	Dec. 2003	May 2010, Oct. 2010, Dec 2014	appended to CI WWOP
Corona Avenue	Dec. 2003	March 2009, Dec 2014, Mar. 2016	appended to BB WWOP

Appendix 5

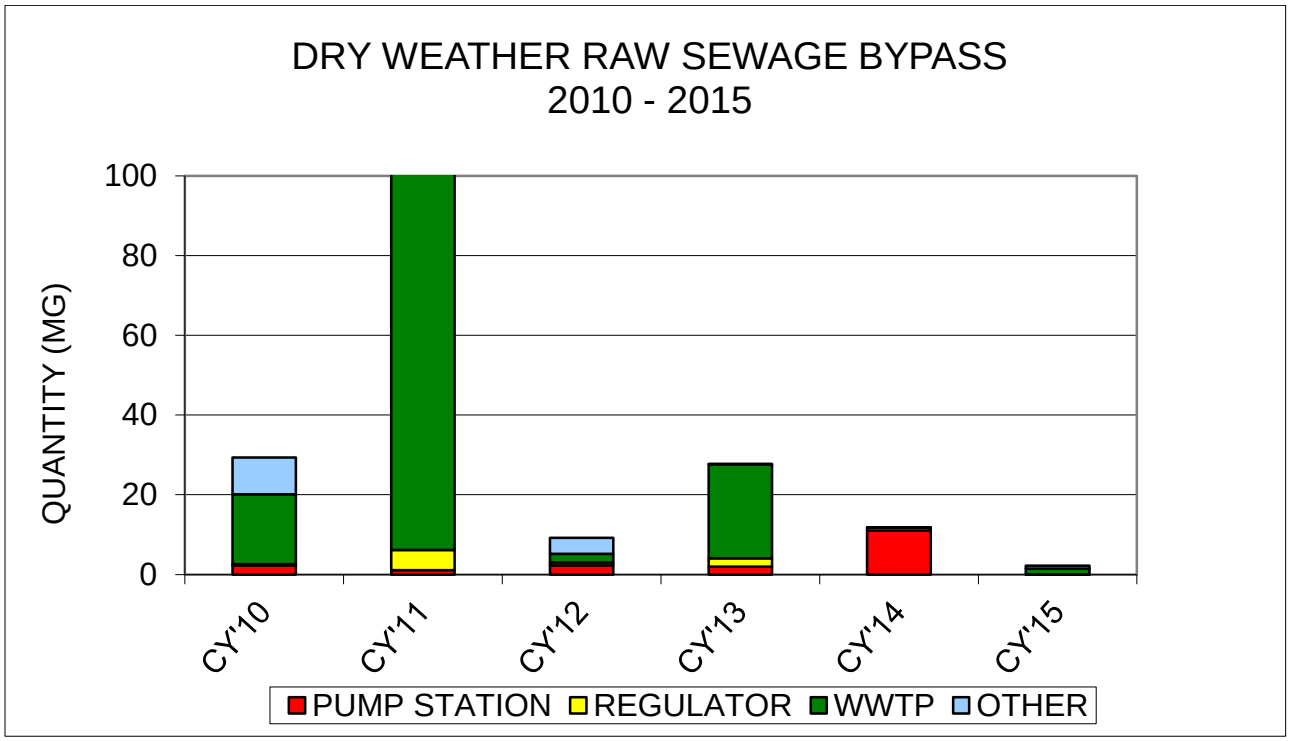
Dry Weather Raw Sewage Bypass Graph (CY2010-2015)

Dry Weather Raw Sewage Bypass Summary (CY2010-2015)

Pump Station Bypass Summary

Regulator Bypass Summary Itemized by Cause Code & Location

WWTPs Bypasses



Dry Weather Bypassing CY'10-CY'15

SOURCE	CY'10*	CY'11**	CY'12***	CY'13****	CY'14	CY'15
PUMP STATION	2.32	1.12	2.32	1.95	11.07	0.00
REGULATOR	0.27	5.02	0.72	2.09	0.68	0.00
WPCP	17.50	275.41	2.10	23.61	n/a	1.50
OTHER	9.25	n/a	4.04	0.00	0.01	0.71
TOTAL	29.34	281.55	9.18	27.66	11.76	2.22

Note: Other locations include: bypasses from outfalls, street locations, etc.

*In 2006, there was a Potential Raw Sewage Bypass at Bowery Bay, but it was not confirmed.
*In 2010, there was a Potential Raw Sewage Bypass at Newtown Creek, but it was not confirmed.

*In 2010, there was a Bypass during Wet Weather at Jamaica which is included in the above totals.

*In 2011, there was a Bypass during Wet Weather at Owls Head which is included in the above totals.

*In 2011, there was a fire at the North River WWTP which resulted in the plant being evacuated and taken completely offline for an extended period.

*In 2011, there was a bypass at Regulator PR-17E of raw sewage mixed with accumulated precipitation from reservoir (volume reported as bypassed includes precipitation).

*In 2012, Hurricane Sandy occurred; the CY2012 totals do not include the Hurricane Sandy related events.

*In 2012, there were two bypasses that occurred with unknown amounts. These are included in the # of events but no amount is known.

Dry Weather Raw Sewage Bypasses

Pump Station Bypass Summary

Years	# Of Events	Total Bypass(MG)	Duration (Hrs)
CY2010	12	2.32	45.00
CY2011	8	1.12	184.83
CY2012	8	2.32	25.17
CY2013	6	1.95	40.80
CY2014	2	11.07	18.30
CY2015	1	0.00	0.42

Regulator Bypass Summary

Years	# Of Events	Total Bypass (MG)	Duration (Hrs)
CY2010	14	0.27	17.5
CY2011	6	5.02	47.3
CY2012	9	0.72	11.2
CY2013	11	2.09	27.3
CY2014	14	0.68	45.6
CY2015	3	0.00	7.2

WWTP Bypass Summary

Years	# Of Events	Total Bypass(MG)	Duration (Hrs)
CY2011 *	5	275.41	72.3
CY2012	2	2.10	2.9
CY2013 *	6	23.61	37.9
CY2014	0	n/a	n/a
CY2015 *	2	1.50	4.5
CY2011 *	5	275.41	72.3

*In 2006, there was a Potential Raw Sewage Bypass at Bowery Bay, but it was not confirmed.
*In 2010, there was a Potential Raw Sewage Bypass at Newtown Creek, but it was not confirmed.
*In 2010, there was a Bypass during Wet Weather at Jamaica which is included in the above totals.
*In 2011, there was a Bypass during Wet Weather at Owls Head which is included in the above totals.
*In 2011, there was a fire at the North River WWTP which resulted in the plant being evacuated and taken completely offline for an extended period.
*In 2013, there was a Bypass during Wet Weather at Hunts Point which is included in the above totals.
*In 2015, there was a Bypass during Wet Weather at Hunts Point which is included in the above totals.

Other Location Bypass Summary*

Years	# Of Events	Total Bypass(MG)	Duration (Hrs)
CY2010	12	9.254	49.6
CY2011	0	n/a	n/a
CY2012 *	11	4.040	156.5
CY2013 *	9	0.005	14.4
CY2014	2	0.010	2.5
CY2015 *	11	0.71	13.5

Other locations include: bypasses from outfalls, street locations, etc.
*In 2012, there were two bypasses that occurred with unknown amounts. These are included in the # of events but no amount is known.
*In 2013, there were two SSO's during Wet Weather which are included in the above totals.
*In 2015, there were two bypasses that occurred with unknown amounts and durations. These are included in the # of events but no amount is known.
*In 2015, there were bypasses that occurred from private sewers which overflowed to DEP-owned catch basins/outfalls which are included in the above totals. Some of these events had unknown amounts and end times; these are included in the # of events but the amount and duration are unknown.

PUMP STATION BYPASSING SUMMARY

CY 2015

SUMMARY BY CAUSE CODE & PUMPING STATIONS

CAUSECODE: 3C ELECTRICAL EQUIPMENT FAILURE-MSP Control System

ITEM #	LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
5380	OH 2nd Avenue P.S.	**1**	**100.00**	**0.00017**	**100.00**	**0.42**	**100.00**
	TOTAL	**1**	**100.00**	**0.00017**	**100.00**	**0.42**	**100.00**

REGULATOR BYPASSING SUMMARY

CY 2015

LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
TI-Reg. No. 07	**1**	**50.00**	**0.00141**	**30.00**	**4.75**	**86.36**
TI-Reg. No. 55	**1**	**50.00**	**0.00328**	**70.00**	**0.75**	**13.64**
TOTAL	**2**	**100**	**0.0047**	**100**	**5.50**	**100**

REGULATOR BYPASSING SUMMARY BY CAUSECODE
CY 2015

CAUSECODE: 6A BLOCKAGES - Regulator

REGULATORS	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
WI-Reg. No. 27	**2**	**22.22**	**0.005**	**0.97**	**3.75**	**14.74**
WI-Reg. No. 67	**1**	**11.11**	**0.128**	**24.93**	**0.33**	**1.30**
TI-Reg. No. 06	**1**	**11.11**	**0.003125**	**0.61**	**0.83**	**3.26**
NC-Reg.No.B-05A	**2**	**22.22**	**0.00433**	**0.84**	**7.17**	**28.18**
TOTAL	**6**	**66.67**	**0.140455**	**27.36**	**12.08**	**47.48**

CAUSECODE: 6C BLOCKAGES - Branch Interceptor

REGULATORS	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
NC-Reg.No.B-05A	1	11.11	0.00599	1.17	9.50	37.34
TOTAL	1	11.11	0.006	1.17	9.50	37.34

CAUSECODE: 8C FLOODING. Other

REGULATORS	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
WI-Reg. No. 67	1	11.11	0.338	65.83	2.19	8.61
TOTAL	1	11.11	0.338	65.83	2.19	8.61

CAUSECODE: 9B MISCELLANEOUS. Contractor Error

REGULATORS	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
TI-Reg. No. 13	1	11.11	0.029	5.65	1.67	6.56
TOTAL	1	11.11	0.029	5.65	1.67	6.56

WWTP BYPASSING SUMMARY

CY 2015

ITEM #	LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
5353	TI-Tallman Island	1	11.11	0.043	0.32	2.00	5.14
5355	RH-Red Hook	1	11.11	0.33	2.50	0.25	0.64
5358	BB-Bowery Bay WWTP	1	11.11	0.000001	0.00	4	10.29
5371	BB-Bowery Bay WWTP	1	11.11	0.86	6.51	0.22	0.57
5375	BB-Bowery Bay	1	11.11	2.8	21.19	1	2.57
5377	WI-Wards Island	1	11.11	5	37.84	0.5	1.29
5388	RH-Red Hook WWTP	1	11.11	0.18	1.36	29.25	75.21
5389	RH-Red Hook WWTP	1	11.11	0.00	0.01	0.17	0.44
5397	BB-Bowery Bay WWTP	1	11.11	4.00	30.27	1.50	3.86
	TOTAL	9	100	13.21	100	38.89	100

Appendix 6

Exhibit 1 – Letter to Industrial Users Amending

Exhibit 2 – Trends in Metals Loadings to New York City WWTP s

The City of New York
Department of Environmental Protection
59-17 Junction Boulevard
Flushing, New York
11373-5108

Christopher O. Ward
Commissioner

Alfonso R. Lopez, P.E.
Deputy Commissioner
Bureau of Wastewater Treatment
Tel (718) 595-5050
(Fax (718) 595-6950
Alopez@dep.nyc.gov

September 1, 2004

Re: Industrial Wastewater Discharge Permit/Commissioner's Order and Directive Amendments

Certified Mail/Return Receipt Requested

Dear Industrial User:

This is to notify you that the New York City Department of Environmental Protection (DEP) is hereby amending the requirements of your Industrial Wastewater Discharge Permit/Commissioner's Order and Directive (Permit/Directive) as follows:

1. Your establishment is now required to hold its process wastewater and non-contact cooling water to the maximum extent practicable during heavy wet weather events.

The reason for this is that in New York City, combined sewers carry both wastewater and storm water to the City's Water Pollution Control Plants (WPCP). Combined Sewer Overflows (CSOs) can occur during heavy wet weather events, causing wastewater and storm water to be discharged to the receiving waters, without treatment at a WPCP, due to the inability of the WPCP to accept the increased flow. This has an adverse affect on New York City's waterways. DEP has made significant reductions in the size and frequency of CSO events within the City; however, this problem can still occur during heavy rainfall.

2. Part II, Section A of your Permit/Directive is hereby amended, raising the maximum civil and misdemeanor penalties from $1,000.00 to $10,000.00, as per an amendment to the New York City Administrative Code.

3. Part II, Section C (2) (c) is amended to require inclusion of the dates of analysis for each sample and the laboratory's sample identification for each sample in the laboratory report. Please see the amended Industrial User Self Monitoring Report Form and the Sample Laboratory Report Form enclosed for all information establishment is required to submit.

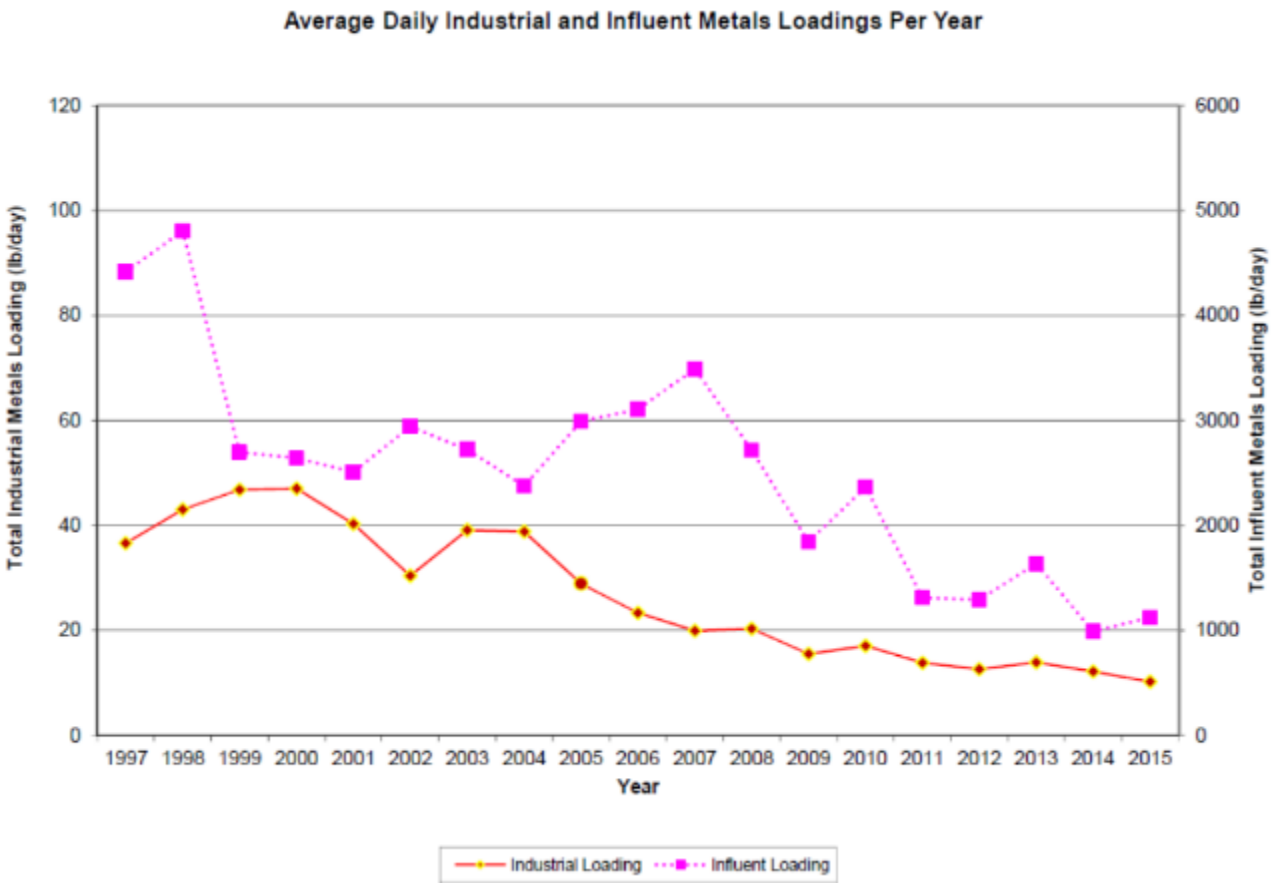
All other requirements of your Permit/Directive remain in effect.

If you have any questions regarding this matter, please telephone Ms. Frances Leung at (718) 595-4763.

Sincerely,

Leslie Lipton, Esq., Chief
Division of Pollution Control and Monitoring

Enc. Industrial User Self Monitoring Report Form
Sample Laboratory Report Form


Average Daily Industrial and Influent Metals Loadings Per Year
Total Industrial Metals Loading (lb/day)
Total Influent Metals Loading (lb/day)
120
100
80
60
40
20
0
6000
5000
4000
3000
2000
1000
0
1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Year
Industrial Loading
Influent Loading

Appendix 7-BWSO

Table 7.1-1: Post Inspection Schedule

Table 7.1-2: Catch Basin Survey & Cleaning

Table 7.1-3: Catch Basin Hooding

Programmatic Catch Basin Inspections -- Progress Report

Programmatic Citywide Catch Basin
Survey and Ceaning Schedule

Updated: March 1, 2016

BROOKLYN NORTH

CB	# BASINS	START DATE	SURVEY & CLEANING COMPLETION DATE
3	1697	October 1, 2015	February 28, 2016
8	884	December 1, 2015	May 31, 2016
1	3641	March 1, 2016	October 31, 2016
9	782	November 1, 2016	January 31, 2017
4	905	February 1, 2017	April 30, 2017
6	1718	April 1, 2017	August 31, 2017
7	1915	July 1, 2017	December 31, 2017
10	1645	November 1, 2017	March 31, 2018
2	1866	March 1, 2018	July 31, 2018
17	1897	July 1, 2018	November 30, 2019

BROOKLYN SOUTH

CB	# BASINS	START DATE	SURVEY & CLEANING COMPLETION DATE
16	1159	October 1, 2015	January 31, 2016
13	1638	December 1, 2015	April 30, 2016
11	1883	March 1, 2016	July 31, 2016
14	1612	July 1, 2016	November 30, 2016
15	3583	June 1, 2016	March 31, 2017
5	3669	December 1, 2016	August 31, 2017
12	2151	August 1, 2017	January 31, 2018
18	4574	July 1, 2017	June 30, 2018

STATEN ISLAND

CB	# BASINS	START DATE	SURVEY & CLEANING COMPLETION DATE
1	4039	July 1, 2015	May 31, 2016
2	4856	February 1, 2016	January 31, 2017
3	6595	May 1, 2017	June 30, 2018

MANHATTAN

CB	# BASINS	START DATE	SURVEY & CLEANING COMPLETION DATE
8	1031	October 1, 2015	January 31, 2016
7	1147	December 1, 2015	April 30, 2016
5	1127	April 1, 2016	July 31, 2016
6	1075	July 1, 2016	October 31, 2016
4	1204	October 1, 2016	January 31, 2017
1	1169	January 1, 2017	April 30, 2017
3	1265	March 1, 2017	July 31, 2017
11	912	July 1, 2017	October 31, 2017
2	1425	October 1, 2017	February 28, 2018
9	935	March 1, 2018	May 31, 2018
10	953	May 1, 2018	August 31, 2018
12	1358	September 1, 2018	December 31, 2018

QUEENS NORTH

CB	# BASINS	START DATE	SURVEY & CLEANING COMPLETION DATE
3	2459	November 1, 2015	February 28, 2016
4	2391	March 1, 2016	June 30, 2016
7	6643	February 1, 2016	September 30, 2016
11	5359	July 1, 2016	January 31, 2017
6	1918	April 1, 2017	June 30, 2017
5	4646	May 1, 2017	October 31, 2017
8	4060	October 1, 2017	February 28, 2018
1	2966	March 1, 2018	June 30, 2018
2	3583	June 1, 2018	October 31, 2018

QUEENS SOUTH

CB	# BASINS	START DATE	SURVEY & CLEANING COMPLETION DATE
12	8389	June 1, 2015	April 30, 2016
9	3578	April 1, 2016	September 30, 2016
10	4841	July 1, 2016	January 31, 2017
14	3859	January 1, 2017	June 30, 2017
13	10120	October 1, 2017	October 31, 2018

BRONX

CB	# BASINS	START DATE	SURVEY & CLEANING COMPLETION DATE
5	812	November 1, 2015	January 31, 2016
10	2593	November 1, 2015	April 30, 2016
8	1106	April 1, 2016	July 31, 2016
11	1871	July 1, 2016	November 30, 2016
12	3044	August 1, 2016	February 28, 2017
2	983	March 1, 2017	May 31, 2017
1	1184	May 1, 2017	August 31, 2017
4	1116	July 1, 2017	November 30, 2017
9	1917	September 1, 2017	February 28, 2018
6	892	March 1, 2018	May 31, 2018
7	921	June 1, 2018	August 31, 2018
3	728	September 1, 2018	November 30, 2018

Table 7.1-2: CY 2015 Catch Basin (CB) Survey & Cleaning

Borough	Total CB Surveyed	Scheduled CB Cleanings	Complaint Based CB Cleaned	Total CB Cleaned
Bronx	4,610	2,942	906	3,848
Brooklyn	6,732	3,075	2,242	5,317
Manhattan	5,273	3,662	723	4,385
Queens	17,237	8,475	4,432	12,907
Staten island	5,941	2,931	654	3,585
Total:	**39,793**	**21,085**	**8,957**	**30,042**

Table 7.1-3: CY 2015 Catch Basin Hooding (Total number of hoods replaced by drainage area)

Catch Basin Hooding

Drainage Area	Quantity
26th Ward	2
Bowery Bay	160
Coney Island	4
Hunts Point	7
Jamaica	81
Newtown Creek	24
North River	12
Owls Head	1
Port Richmond	17
Red Hook	2
Rockaway	0
Tallman Island	62
Wards Island	11
Oakwood Beach	10
Total	**393**

Appendix 7 -BWT

Table 7C-1. City-Wide Floatable Material Recovery 2004-2015

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
No. Sites[1]												
FCP[2] Permanent	21.00	21.00	22.00	21.00	21.00	24.00	23.00	23.00	23.00	23.00	23.00	22.00
FCP Temporary[3]	2.00	2.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Other Sites	2.00	2.00	3.00	4.00	4.00	3.00	12.00	N/A	N/A	N/A	N/A	N/A
Total	25.00	25.00	26.00	27.00	27.00	29.00	36.00	24.00	24.00	24.00	24.00	23.00
Volume [cy][4]												
FCP Permanent	1,460.00	1,047.50	1,614.50	2,131.30	1,881.75	1,368.75	1774.50	1,988.25	1,384.00	921.00	437.75	246.5
FCP Temporary	2.00	3.00	18.00	25.50	18.25	1.00	5.00	1.50	9.00	6.00	0.00	0.00
Other Sites	32.00	80.25	70.50	151.50	136.50	207.50	523.00	N/A	N/A	N/A	N/A	N/A
Total	**1,494.00**	**1,130.75**	**1,703.00**	**2,308.30**	**2,036.50**	**1,577.25**	**2,302.50**	**1,989.75**	**1,393.00**	**927.00**	**437.75**	**246.50**

[1] Maximum number of sites operating during calendar year period.
[2] Floatables Containment Program.
[3] "Temporary" status refers to sites which do not have a permanent floatables containment installation - Gowanus Canal.
[4] Total volume of floatables retrieved from sites during period.

Table 7C-2. City-Wide Floatable Material Recovery Per CSO Floatable Containment Sites, 2015

Month-Year	FRESH CREEK	BERGEN BASIN	THURSTON BASIN	FLUSHING BAY I	FLUSHING BAY II	FLUSHING CREEK I	FLUSHING CREEK II	BRONX RIVER	CRYDERS LANE	HENDRIX CREEK	ENGLISH KILLS	CONEY ISLAND	GOWANUS CANAL
Jan-15	0	0	0	0	0	0	0	24	1	0	0	0	0
Feb-15	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar-15	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr-15	0	0	0	0	0	1	0	36	0	0	0	0	0
May-15	0	0	0	0	0	1	0	11	1	0	0	0	0
Jun-15	0	0	0	0	0	0	1	27	0	0	0	0	0
Jul-15	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug-15	0	0	0	0	0	0	0	1	2	0	0	0	0
Sep-15	0	0	0	0	0	0	1	31	0	0	0	0	0
Oct-15	0	0	0	0	0	1	0	22	1	0	0	0	0.5
Nov-15	0	0	0	0	0	0	0	18	0	0	0	0	0
Dec-15	0	0	0	0	0	0	0	54	0	0	0	0	0
2015 Total	**0**	**0**	**0**	**0**	**0**	**3**	**2**	**224**	**5**	**0**	**0**	**0**	**0.5**

Month-Year	MASPETH CREEK	BOWERY BAY	BUSHWICK INLET	EAST BRANCH	HUNTS POINT	OWLS HEAD	WALLABOUT I	WALLABOUT II	WESTCHESTER CREEK	CLASON POINT	OUTSIDE CONTAINMENT(1)	2015 Total
Jan-15	0	0	0	0	0	0	0	0	0	0	1	26
Feb-15	0	0	0	0	0	0	0	0	0	0	0	0
Mar-15	0	0	0	0	0	0	0	0	0	0	1	1
Apr-15	0	0	0	0	0	0	0	0	0	0	4	41
May-15	0	0	0	0	0	0	0	0	0	0	0	13
Jun-15	0	0	0	0	0	0	0	0	0	0	0	28
Jul-15	0	0	0	0	0	0	0	0	0	0	0	0
Aug-15	0	0	0	0	0	0	0	0	0	0	0	3
Sep-15	0	0	0	0	0	0	0	0	0	0	0	32
Oct-15	0	0	0	0	0	0	0	0	0	0	6	30.5
Nov-15	0	0	0	0	0	0	0	0	0	0	0	18
Dec-15	0	0	0	0	0	0	0	0	0	0	0	54
2015 Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**246.5**

(1) See next page for skimming activities en route to CSO containment site.

Table 7C-2A. City-Wide Floatable Material Recovery While Navigating to Containment Sites, 2015

Month-Year	WHALE CREEK	EAST RIVER	2015 Total
Jan-15	1	0	1
Feb-15	0	0	0
Mar-15	1	0	1
Apr-15	3	1	4
May-15	0	0	0
Jun-15	0	0	0
Jul-15	0	0	0
Aug-15	0	0	0
Sep-15	0	0	0
Oct-15	6	0	6
Nov-15	0	0	0
Dec-15	0	0	0
2015 Total	11	1	12

Table 7C-3. NYCDEP CSO FLOATABLES REMOVAL PROGRAM VIA SKIMMER VESSELS
COLLECTION SUMMARY (CUBIC YARDS)

MONTH	ZONE I	ZONE II/III	ZONE IV	TOTAL
January	0	1	25	26
February	0	0	0	0
March	0	1	0	1
April	0	3	38	41
May	0	0	13	13
June	0	0	28	28
July	0	0	0	0
August	0	0	3	3
September	0	0	32	32
October	0	6.5	24	30.5
November	0	0	18	18
December	0	0	54	54
2015 TOTAL YTD	**0**	**11.5**	**235**	**246.5**

ZONE I	ZONE II/III	ZONE IV
FRESH CREEK	CONEY ISLAND	BOWERY BAY
HENDRIX CREEK	OWLS HEAD	FLUSHING BAY I
BERGEN BASIN	GOWANUS CANAL	FLUSHING BAY II
THURSTON BASIN	WALLABOUT I	FLUSHING CREEK I
	WALLABOUT II	FLUSHING CREEK II
	BUSHWICK INLET	WESTCHESTER CREEK
	MASPETH CREEK	CLASON POINT
	EAST BRANCH	BRONX RIVER
	ENGLISH KILLS	HUNTS POINT
	WHALE CREEK (*)	CRYDERS POINT
		EAST RIVER (*)

* Open Water skimming (not a floatable containment site)

1200 MacArthur Boulevard
Mahwah, New Jersey 07430
(201) 529-5151 f:(201) 529-5728

Figure 7-2
Floatables Booming, Netting and Offloading Sites

Annual Report on Best Management Practices for CSO's

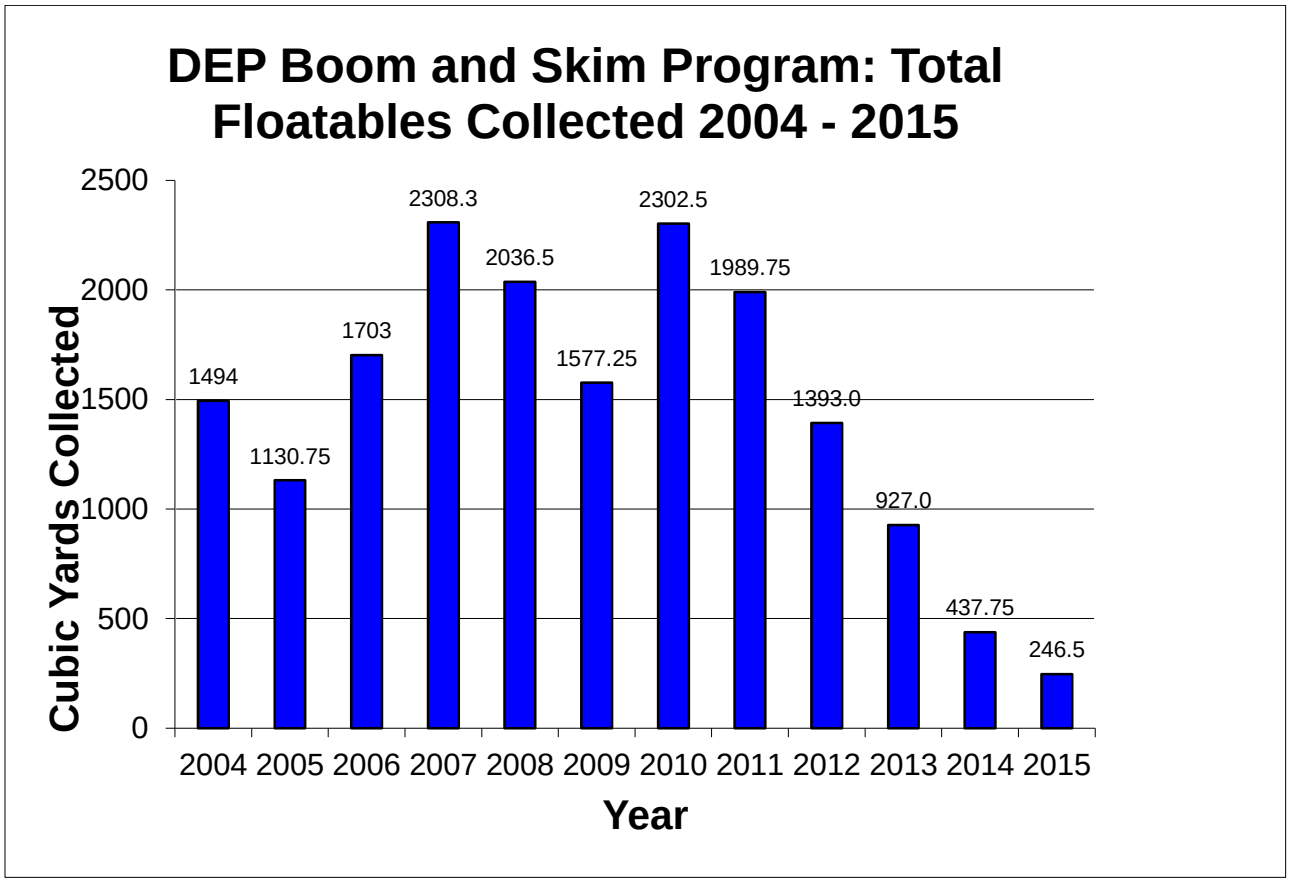


Figure 7-3. City-Wide Floatable Material Recovery 2004 - 2015

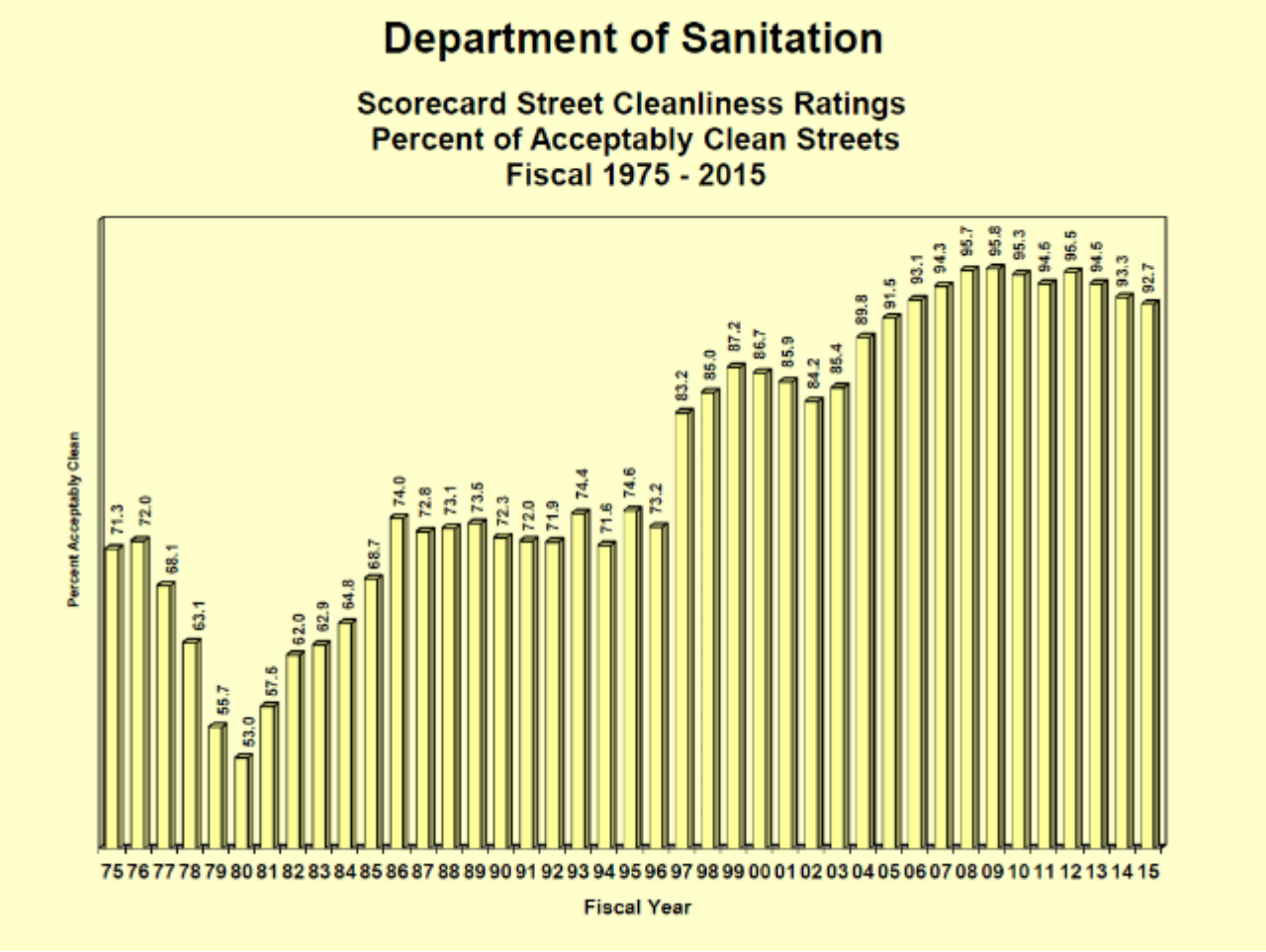


Figure 7-4: NYC DSNY Scorecard 2015

Appendix 8

Site Connection Proposal Form

DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER & SEWER OPERATIONS

SITE CONNECTION PROPOSAL FORM
VALID FOR TWO (2) YEARS
[SC /]

PE/RA signature and original seal

A. PROJECT DATA:

Borough of _____ Building Dept. No (s) _____

Tax Block _____ Lot (s) _____ Zoning _____ Map No. _____

Project Location _____

Applicant _____

Address _____ Zip _____ Phone (___) _____

Owner _____

Address _____ Zip _____ Phone (___) _____

B. PROJECT USE:

TYPE: ☐ 1, 2, 3, Family ☐ Multiple Dwelling ☐ Commercial _____

Number of Buildings _____ Total Number of Dwelling Units _____

Ownership: ☐ Fee Simple ☐ Condominium ☐ Home Owner Association ☐ Other .....

C. SITE CONNECTIONS REQUESTED:

Total Developed Site Storm Flow _____ cfs

Allow. Storm Flow to the Sewers _____ cfs

☐ Detention ☐ Retention

	Sanitary	Storm	Comb.	Drywells
No. Requested				xxxxxxx
Size				xxxxxxx
Material (s)				xxxxxxx
Total Q (s)				

Note: The property owner is responsible for plugging all inactive pre-existing sewer connections

D. CONNECTION INFO:

1. ☐ Connection to exist:
   ☐ Spur ☐ Riser ☐ Curb Connection
2. ☐ Proposed New Riser
3. ☐ Fold Spur in
4. ☐ Drill in
5. ☐ M.H. Conn. ☐ Exist. ☐ Prop.
6. ☐ Reuse Plugged Connections

E. PRIVATE SEWER/DRAIN DATA:

1. P.D. Plan No. _____ Date Approved _____ Expiration Date _____
2. Date Construction Permit Was Issued _____
3. Date Sewer Was Accepted By DEP _____
4. Sanitary Discharge Tributary to:

			Location
Private Sewage Treatment Plant	☐ No	☐ Yes	_____
Private Pumping Station	☐ No	☐ Yes	_____
Private Sewer	☐ No	☐ Yes	_____

F. LOCATION PLAN: ☐ As Shown Below ☐ See Attached Location Plan Attachment "F" (8 ½ x 14 Size)

Rev. 5/05

G. SUPPORT DOCUMENTS:

*1. Site Plan – 6 copies with hydraulic calculations _____
*2. Survey – 3 copies with watercourse note _____
*3. Tentative Lot Number Request Form – Attached _____ Not Applicable _____
**4. Owner's Consent for STP/PS Connection – Attached _____ Not Applicable _____
5. Department of Health Approval – Attached _____ Not Applicable _____
6. Department of Buildings Amendment – Attached _____ Not Applicable _____
***7. Condo/HOA Prospectus or Affidavit – Attached _____ Not Applicable _____
8. Industrial Waste Approval – Attached _____ Not Applicable _____
9. Associated Mapping/Demapping Action – Attached _____ Not Applicable _____
10. Builders Pavement Plan – Attached _____ Not Applicable _____
11. Boring Logs – Attached _____ Not Applicable _____
12. Other (Specify) _____ Attached _____

* Requires PE/RA Stamp and Original Signature (L.S. for Survey)
** Must Be Notarized and have Corporate Seal
*** Must be Notarized

SEWER INFORMATION CERTIFIED BY DEP

		PUBLIC	PRIVATE
1. There (is) (is not) a sanitary sewer fronting the property available for connections.	SIZE	_____	_____
2. There (is) (is not) a storm sewer fronting the property available for connections.	SIZE	_____	_____
3. There (is) (is not) a combined sewer fronting the property available for connections.	SIZE	_____	_____

4. Sanitary discharge tributary to:

			Location
City Treatment Plant -	☐ NO	☐ YES	_____
Private Sewage Treatment Plant -	☐ NO	☐ YES	_____
Private Pumping Station -	☐ NO	☐ YES	_____

5. Distance to, and location of nearest allowable drainage plan sewer:
   a) Sanitary Outlet _____
   b) Storm Outlet _____
   c) Combined Outlet _____

CERTIFICATION, RESTRICTIONS, SPECIAL CONDITIONS:

ADDITIONAL INFORMATION, COMMENTS BY DEP OFFICE:

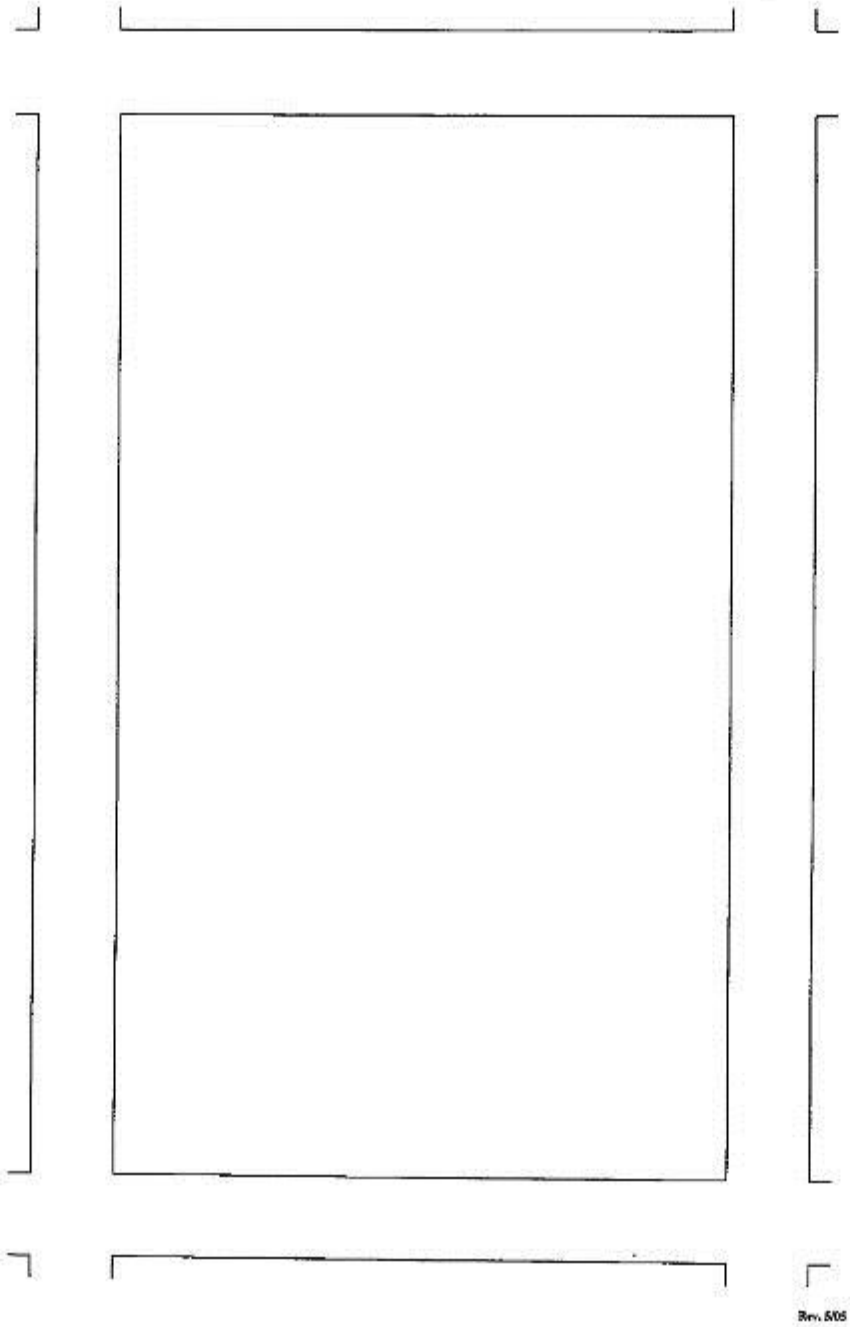
1. Topo Map No. _____ Watercourse shown: ☐YES ☐ NO
2. Comments:

Rev. 5/05

ATTACHMENT "F"

LOCATION PLAN:

PE/RA signature and original seal



Rev. 5/05

Appendix 9

CSO Sign Sample

List of installed CSO Signs

CAUTION

Wet Weather Discharge Point

THIS OUTFALL MAY DISCHARGE RAINWATER MIXED WITH UNTREATED SEWAGE DURING OR FOLLOWING RAINFALL AND CAN CONTAIN BACTERIA THAT CAN CAUSE ILLNESS

IF YOU SEE A DISCHARGE DURING DRY WEATHER:

- **PLEASE CALL 311** - REFER TO CSO OUTFALL # HP-019
- **For more information visit www.nyc.gov/dep**
- **Or Contact: New York State Department of Environmental Conservation**
  Division of Water Regional Office
  47-40 21st St., Long Island City, NY 11101
  718-482-4900
- **New York State Wet Weather Discharge Point**
  SPDES Permit # NY 0026191

New York City Department of Environmental Protection

CSO Signs

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
1	**WI - 001**	**Wards Island W.P.C.P. Outfall**		Installed
2	WIM-002	EAST RIVER & E. 73rd STREET	REG #1	Installed
3	WIM-003	EAST RIVER & E. 74th STREET	REG #2A, 2B	Installed
4	WIM-004	EAST RIVER & E. 75th STREET	REG #3	Installed
5	WIM-005	EAST RIVER & E. 76th STREET	REG #4	Installed
6	WIM-006	EAST RIVER & E. 77th STREET	REG #5	Installed
7	WIM-007	EAST RIVER & E. 78th STREET	REG #6	Installed
8	WIM-008	EAST RIVER & E. 79th STREET	REG #7	Installed
9	WIM-009	EAST RIVER & E. 83rd STREET	REG #8	Installed
10	WIM-010	EAST RIVER & E. 84th STREET	REG #9	Installed
11	WIM-011	EAST RIVER & E. 86th STREET	REG #10	Installed
12	WIM-012	EAST RIVER & E. 89th STREET	REG #11	Installed
13	WIM-013	EAST RIVER & E. 90th STREET	REG #12	Installed
14	WIM-014	EAST RIVER & E. 91st STREET	REG #13	Installed
15	WIM-015	EAST RIVER & E. 92nd STREET	REG #14	Installed
16	WIM-016	EAST RIVER & E. 95th STREET	REG #15	Installed
17	WIM-017	EAST RIVER & E. 96th STREET	REG #16	Installed
18	WIM-018	EAST RIVER & E. 100th STREET	REG #17	Installed
19	WIM-019	EAST RIVER & E. 101st STREET	REG #18	Installed
20	WIM-020	EAST RIVER & E. 103rd STREET	REG #20	Installed
21	WIM-021	EAST RIVER & E. 104th STREET	REG #21	Installed
22	WIM-022	EAST RIVER & E. 105th STREET	REG #22	Installed
23	WIM-023	EAST RIVER & E. 106th STREET	REG #23	Installed
24	WIM-024	EAST RIVER & E. 110th STREET	REG #24	Installed
25	WIM-025	EAST RIVER & E. 114th STREET	REG #25	Installed
26	WIM-026	EAST RIVER & E. 115th STREET	REG #26	Installed
27	WIM-027	EAST RIVER & E. 116th STREET	REG #27	Installed
28	WIM-030	EAST RIVER & E. 119th STREET	REG #30	Installed
29	WIM-031	EAST RIVER & E. 120th STREET	REG #31	Installed
30	WIM-032	EAST RIVER & E. 121st STREET	REG #32	Installed
31	WIM-033	EAST RIVER & E. 122nd STREET	REG #33	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
32	WIM-034	EAST RIVER & E. 124th STREET	REG #34	Installed
33	WIM-035	EAST RIVER & E. 125th STREET	REG #35	Installed
34	WIM-036	HARLEM RIVER & E. 129th STREET	REG #36	Installed
35	WIM-037	HARLEM RIVER & E. 130th STREET	REG #37	Installed
36	WIM-038	HARLEM RIVER & E. 135th STREET	REG #38	Installed
37	WIM-039	HARLEM RIVER & W. 140th STREET	REG #39	Installed
38	WIM-040	HARLEM RIVER & W. 141st STREET	REG #40	Installed
39	WIM-041	HARLEM RIVER & W. 142nd STREET	REG #41	Installed
40	WIM-042	HARLEM RIVER & W. 143rd STREET	REG #42	Installed
41	WIM-043	EAST RIVER & E. 102nd STREET	REG #19	Installed
42	WIM-044	HARLEM RIVER & W. 145th STREET	REG #44	Installed
43	WIM-045	HARLEM RIVER & W. 149th STREET	REG #45	Installed
44	WIM-046	HARLEM RIVER & W. 151st STREET	REG #46	Installed
45	WIM-047	HARLEM RIVER & W. 154th STREET	REG #47	Installed
46	WIM-048	HARLEM RIVER & W. 155th STREET	REG #48	Installed
47	WIM-050	HARLEM RIVER & W. 156th STREET	REG #50	Installed
48	WIM-051	HARLEM RIVER & W. 167th STREET	REG #51	Installed
49	WIM-052	HARLEM RIVER & W. 176th STREET	REG #52	Installed
50	WIB-053	HUDSON RIVER & W. 256th STREET	REG #R-3	Installed
51	WIB-054	HUDSON RIVER & W. 248th STREET	REG #R-2	Installed
52	WIB-055	HUDSON RIVER & W. 236th STREET	REG #R-1	Installed
53	WIB-056	HARLEM RIVER & W. 192nd STREET	REG #67	Installed
54	WIB-057	HARLEM RIVER & LANDING ROAD	REG #66	Installed
55	WIB-058	HARLEM RIVER & W. 178th STREET	REG #65	Installed
56	WIB-059	HARLEM RIVER & W. 176th STREET	REG #64	Installed
57	WIB-060	HARLEM RIVER & UNDER HIGH BRIDGE	REG #62	Installed
58	WIB-061	HARLEM RIVER & W. 167th STREET	REG #61	Installed
59	WIB-062	HARLEM RIVER & JEROME AVENUE	REG #60, 60A	Installed
60	WIB-063	HARLEM RIVER & S/O MCCOMBS DAM BRIDGE	REG #72	Installed
61	WIB-064	HARLEM RIVER & E. 149th STREET	REG #59	Installed
62	WIB-065	HARLEM RIVER & PARK AVENUE	REG #57	Installed
63	WIB-066	HARLEM RIVER & THIRD AVENUE BRIDGE	REG #56	Installed
64	WIB-067	HARLEM RIVER & LINCOLN AVENUE	REG #55	Installed
65	WIB-068	BRONX KILL & BROOK AVENUE	REG #53, 54	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
66	WIB-069	BRONX KILL & CYPRESS AVENUE	REG #71	Installed
67	WIB-070	EAST RIVER & E. 134th STREET	REG #70	Installed
68	WIB-071	EAST RIVER & E. 138th STREET	REG #69	Installed
69	WIB-072	EAST RIVER & E. 149th STREET	REG #68	Installed
70	WIB-073	BRONX KILL & SAINT ANN'S AVENUE	REG #73	Installed
71	WIB-075	HARLEM RIVER & E. 138th STREET	REG #58	Installed
72	WIB-076	HARLEM RIVER & BRADLEY TERRACE	REG #MH-1	Installed
73	WIB-077	HARLEM RIVER & TEUNISSEN PLACE	REG #MH-2	Installed
74	WIB-078	HARLEM RIVER & W. BROADWAY BRIDGE	REG #MH-3	Installed
75	WIB-079	HUDSON RIVER & W. 261st STREET (MT. ST. VINCENT)	REG #R-4	Installed
76	**NR - 001**	**North River W.P.C.P. Outfall**		Installed
77	NR-002	HUDSON RIVER & W. 152nd STREET	REG #N-20,21,21A,21B	Installed
78	NR-003	HUDSON RIVER & W. 158th STREET	REG #N-19	Installed
79	NR-004	HUDSON RIVER & W. 171st STREET	REG #N-18	Installed
80	NR-005	HUDSON RIVER & W. 190th STREET	REG #N-17	Installed
81	NR-006	HUDSON RIVER & DYCKMAN STREET	REG #N-16	Installed
82	NR-007	HARLEM RIVER & W. 218th STREET	REG #N-15	Installed
83	NR-008	HARLEM RIVER & W. 216th STREET	REG #N-14	Installed
84	NR-009	HARLEM RIVER & W. 215th STREET	REG #N-13	Installed
85	NR-010	HARLEM RIVER & W. 211th STREET	REG #N-10, N-11, N-12	Installed
86	NR-011	HARLEM RIVER & W. 209th STREET	REG #N-9	Installed
87	NR-012	HARLEM RIVER & W. 207th STREET	REG #N-7	Installed
88	NR-013	HARLEM RIVER & W. 206th STREET	REG #N-6	Installed
89	NR-014	HARLEM RIVER & W. 205th STREET	REG #N-5	Installed
90	NR-016	HARLEM RIVER & W. 203rd STREET	REG #N-4	Installed
91	NR-017	HARLEM RIVER & W. 201st STREET	REG #N-3	Installed
92	NR-018	HARLEM RIVER & HIGHBRIDGE PARK	REG #N-1	Installed
93	NR-019	HUDSON RIVER & BANK STREET	REG #N-56	Installed
94	NR-020	HUDSON RIVER & JANE STREET	REG #N-55	Installed
95	NR-021	HUDSON RIVER & GANSEVOORT STREET	REG #N-54	Installed
96	NR-022	HUDSON RIVER & S/O W. 17th STREET	REG #N-51	Installed
97	NR-023	HUDSON RIVER & W. 18th STREET	REG #N-50	Installed
98	NR-024	HUDSON RIVER & W. 21st STREET	REG #N-48, N-49	Installed
99	NR-025	HUDSON RIVER & W. 24th STREET	REG #N-47	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
100	NR-026	HUDSON RIVER & W. 26th STREET	REG #N-46	Installed
101	NR-027	HUDSON RIVER & W. 30th STREET	REG #N-45	Installed
102	*NR-028*	*HUDSON RIVER & W. 36th STREET*	*REG #N-43*	*WAIVER*
103	NR-029	HUDSON RIVER & W. 40th STREET	REG #N-42	Installed
104	NR-030	HUDSON RIVER & W. 43rd STREET	REG #N-39, N-40	Installed
105	NR-031	HUDSON RIVER & W. 44th STREET	REG #N-38	Installed
106	NR-032	HUDSON RIVER & W. 46th STREET	REG #N-36, N-37	Installed
107	NR-033	HUDSON RIVER & W. 48th STREET	REG #N-33, N-34	Installed
108	NR-034	HUDSON RIVER & W. 50th STREET	REG #N-32	Installed
109	NR-035	HUDSON RIVER & W. 56th STREET	REG #N-31	Installed
110	NR-036	HUDSON RIVER & W. 59th STREET	REG #N-30	Installed
111	NR-037	HUDSON RIVER & W. 72nd STREET	REG #N-29	Installed
112	NR-038	HUDSON RIVER & W. 80th STREET	REG #N-28	Installed
113	NR-039	HUDSON RIVER & W. 91st STREET	REG #N-27	Installed
114	NR-040	HUDSON RIVER & W. 96th STREET	REG #N-26, N-26A	Installed
115	NR-041	HUDSON RIVER & W. 108th STREET	REG #N-25	Installed
116	NR-042	HUDSON RIVER & W. 115th STREET	REG #N-24	Installed
117	NR-043	HUDSON RIVER & SAINT CLAIR PL	REG #N-23	Installed
118	NR-044	HUDSON RIVER & W. 138th STREET	REG #N-22	Installed
119	NR-045	HARLEM RIVER & ACADEMY STREET	REG #N-2	Installed
120	NR-046	HUDSON RIVER & W. 66th STREET	REG #N-29A	Installed
121	NR-047	HUDSON RIVER & W. 47th STREET	REG #N-35	Installed
122	NR-048	HUDSON RIVER & W. 42nd STREET	REG #N-40, N-41	Installed
123	NR-049	HUDSON RIVER & W. 14th STREET	REG #N-52	Installed
124	NR-050	HUDSON RIVER & BLOOMFIELD STREET	REG #N-53	Installed
125	NR-051	HUDSON RIVER & W. 49th STREET	N/A	Installed
126	NR-052	HUDSON RIVER & W. 34th STREET	REG #N-44	Installed
127	NR-055	HARLEM RIVER & W. 207th STREET	REG #N-7, N-8	Installed
128	NR-056	HUDSON RIVER & W. 142nd STREET	REG #N-22A	Installed
129	**HP - 001**	**Hunt's Point W.P.C.P. Outfall**		Installed
130	HP-002	EAST RIVER & TIFFANY STREET	REG #9, 9A	Installed
131	HP-003	EAST RIVER & FARRAGUT STREET	REG #10	Installed
132	HP-004	BRONX RIVER & WEST FARM ROAD	CSO-28, 28A	Installed
133	HP-005	HUTCHINSON RIVER & HOLLERS AVENUE PS	HOLLERS AVENUE P.S.	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
134	HP-006	HUTCHINSON RIVER & BARTOW AVENUE	CO-OP CITY SO PS, ELY AVE PS	Installed
135	HP-007	BRONX RIVER & E. 177th STREET	CSO-27, 27A	Installed
136	HP-008	BRONX RIVER & LAFAYETTE AVENUE	CSO-26	Installed
137	HP-009	BRONX RIVER & METCALF AVENUE	REG #13	Installed
138	HP-010	BRONX RIVER & LACOMBE AVENUE	CSO-25	Installed
139	HP-011	EAST RIVER & WHITE PLAINS ROAD	REG #5, 6, 7	Installed
140	HP-012	WESTCHESTER CREEK & LAFAYETTE AVENUE	CSO-23A	Installed
141	HP-013	PUGSLEY'S CREEK & NEWMAN AVENUE	CSO-24	Installed
142	HP-014	WESTCHESTER CREEK & EAST TREMONT AVENUE	CSO-29, 29A	Installed
143	HP-015	WESTCHESTER CREEK & LATTING STREET	CSO-22	Installed
144	HP-016	WESTCHESTER CREEK & BRUCKNER EXPWY	REG #4	Installed
145	HP-017	EAST RIVER & EMERSON AVENUE	REG #11	Installed
146	HP-018	EAST RIVER & ROBINSON AVENUE	REG #12	Installed
147	HP-019	EAST RIVER & CALHOUN AVENUE	REG #3	Installed
148	HP-020	EAST RIVER & THROGS NECK BLVD	REG #2A	Installed
149	HP-021	EAST RIVER & PENNYFIELD AVENUE	REG #2	Installed
150	HP-022	EASTCHESTER BAY & E 177th STREET	REG #1	Installed
151	HP-023	HUTCHINSON RIVER & CONNER STREET	REG #15, CONNOR ST.PS	Installed
152	HP-024	HUTCHINSON RIVER & E 233rd STREET	REG #15A	Installed
153	HP-025	EAST RIVER & TRUXTON STREET	REG #8	Installed
154	HP-026	WEIR CREEK & ELLESWORTH AVENUE	REG #14	Installed
155	HP-028	EASTCHESTER BAY & OUTLOOK AVENUE	CSO-20	Installed
156	HP-029	EASTCHESTER BAY & WATT AVENUE	CSO-21	Installed
157	HP-031	HUTCHINSON RIVER & BELLAMY LOOP	CSO-32, CO-OP CITY N. P.S.	Installed
158	HP-032	EAST RIVER & RIKERS ISLAND NORTH	RIKER'S ISLAND N. P.S.	Installed
159	HP-033	WESTCHESTER CREEK & S/O BRUCKNER BLVD, E/O ZEREGA AVE	CSO-23	Installed
160	HP-034	WESTCHESTER CREEK & NEWBOLD AVENUE (CITY ISLAND)	COMMERCE AVENUE P.S.	Installed
161	HP-036	LONG ISLAND SOUND & SCHOFIELD STREET	CITY ISLAND P.S.	Installed
162	*HP-037*	*SHORE ROAD LAGOON & ORCHARD BEACH*	*ORCHARD BEACH P.S.*	*WAIVER*
163	HP-039	EAST RIVER & N/O HUNTS POINT AVE	HUNT'S PONT MARKET P.S.	Installed
164	**NC - 001**	**Newtown Creek W.P.C.P. Outfall**		Installed
165	NCB-002	WHALE CREEK & WPCP OVERFLOW	WPCP OVERFLOW	Installed
166	NCB-003	EAST RIVER & GREENPOINT AVENUE	REG #B-11	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
167	NCB-004	EAST RIVER & QUAY STREET	REG #B-10	Installed
168	NCM-005	EAST RIVER & E. 63rd STREET	REG #M-51	Installed
169	NCB-006	EAST RIVER & N. 12th STREET	REG #B-9	Installed
170	NCB-007	EAST RIVER & N. 5th STREET	REG #B-8	Installed
171	NCB-008	EAST RIVER & METROPOLITAN AVENUE	REG #B-7	Installed
172	NCB-010	EAST RIVER & GRAND STREET	REG #B-6A	Installed
173	NCM-011	EAST RIVER & E. 48th STREET	REG #M-47A	Installed
174	NCB-012	EAST RIVER & S. 5th STREET	REG #B-6	Installed
175	NCB-013	WALLABOUT CHANNEL & DIVISION AVENUE	REG #B-5	Installed
176	NCB-014	WALLABOUT CHANNEL & KENT AVENUE	REG #B-3, B-4	Installed
177	NCB-015	ENGLISH KILLS & JOHNSON AVENUE	REG #B-1	Installed
178	*NCM-016*	*EAST RIVER & E. 46th STREET*	*REG #M-46*	*WAIVER*
179	NCM-017	EAST RIVER & E. 42nd STREET	REG #M-45A	Installed
180	NCM-018	EAST RIVER & E. 41st STREET	REG #M-45	Installed
181	NCB-019	NEWTOWN CREEK & METROPOLITAN AVENUE	REG #B-2	Installed
182	NCM-020	EAST RIVER & E. HOUSTON STREET	REG #M-31	Installed
183	NCB-021	NEWTOWN CREEK & MCGUINNESS BOULEVARD	CSO next to B-17	Installed
184	NCB-022	NEWTOWN CREEK & MCGUINNESS BOULEVARD	REG #B-17	Installed
185	NCB-023	NEWTOWN CREEK & FRANKLIN STREET	REG #B-16	Installed
186	NCB-024	EAST RIVER & DUPONT STREET	REG #B-15	Installed
187	NCB-025	EAST RIVER & FREEMAN STREET	REG #B-14	Installed
188	NCB-026	EAST RIVER & GREEN STREET	REG #B-13	Installed
189	NCB-027	EAST RIVER & HURON STREET	REG #B-12	Installed
190	NCM-028	EAST RIVER & DELANCEY STREET	REG #M-28	Installed
191	NCQ-029	NEWTOWN CREEK & 43rd STREET	REG #Q-2	Installed
192	NCM-030	EAST RIVER & E. 71st STREET	REG #M-51C	Installed
193	NCM-031	EAST RIVER & E. 70th STREET	REG #M-51A, M-15B	Installed
194	NCM-032	EAST RIVER & E. 61st STREET	REG #M-50	Installed
195	NCM-033	EAST RIVER & E. 57th STREET	REG #M-49	Installed
196	NCM-034	EAST RIVER & E. 54th STREET	REG #M-48	Installed
197	NCM-035	EAST RIVER & E. 53rd STREET	REG #M-48A	Installed
198	NCM-036	EAST RIVER & E. 49th STREET	REG #M-47	Installed
199	NCM-037	EAST RIVER & E. 41st STREET	REG #M-44	Installed
200	NCM-038	EAST RIVER & E. 38th STREET	REG #M-43B	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
201	NCM-039	EAST RIVER & E. 37th STREET	REG #M-43A	Installed
202	NCM-040	EAST RIVER & E. 36th STREET	REG #M-43	Installed
203	NCM-041	EAST RIVER & E. 33rd STREET	REG #M-42	Installed
204	NCM-042	EAST RIVER & BROOME STREET	REG #M-27	Installed
205	NCM-043	EAST RIVER & E. 30th STREET	REG #M-41	Installed
206	*NCM-044*	*EAST RIVER & E. 29th STREET*	*REG #M-41A*	*WAIVER*
207	*NCM-045*	*EAST RIVER & E. 26th STREET*	*REG #M-40*	*WAIVER*
208	NCM-046	EAST RIVER & E. 24th STREET	REG #M-39, M-39A	Installed
209	NCM-047	EAST RIVER & E. 23rd STREET	REG #M-38B	Installed
210	NCM-048	EAST RIVER & E. 21st STREET	REG #M-38	Installed
211	NCM-049	EAST RIVER & E. 18th STREET	REG #M-37	Installed
212	NCM-051	EAST RIVER & OLD SLIP	REG #M-12	Installed
213	NCM-052	EAST RIVER & E. 14th STREET	REG #M-36	Installed
214	NCM-053	EAST RIVER & E. 11th STREET	REG #M-35	Installed
215	NCM-054	EAST RIVER & E. 8th STREET	REG #M-34	Installed
216	NCM-055	NEWTOWN CREEK & E. 6th STREET	REG #M-33	Installed
217	NCM-056	EAST RIVER & E. 3rd STREET	REG #M-32	Installed
218	NCM-057	EAST RIVER & STANTON STREET	REG #M-30	Installed
219	NCM-058	EAST RIVER & RIVINGTON STREET	REG #M-29	Installed
220	NCM-059	EAST RIVER & S/O GRAND STREET	REG #M-26	Installed
221	NCM-060	EAST RIVER & S/O CORLEARS HOOK PARK	REG #M-25	Installed
222	NCM-061	EAST RIVER & JACKSON STREET	REG #M-23	Installed
223	NCM-062	EAST RIVER & GOUVERNEUR SLIP E.	REG #M-22	Installed
224	NCM-063	EAST RIVER & JEFFERSON STREET	REG #M-21	Installed
225	NCM-064	EAST RIVER & MARKET SLIP	REG #M-20	Installed
226	NCM-065	EAST RIVER & S/O CATHERINE STREET	REG #M-18	Installed
227	NCM-066	EAST RIVER & ROBERT WAGNER SR. PLACE	REG #M-17	Installed
228	NCM-067	EAST RIVER & MAIDEN LANE	REG #M-13	Installed
229	NCM-068	EAST RIVER & COENTIES SLIP	REG #M-11	Installed
230	NCM-069	EAST RIVER & BROAD STREET	REG #M-10	Installed
231	*NCM-070*	*HUDSON RIVER & BATTERY PLACE*	*REG #M-9*	*WAIVER*
232	*NCM-071*	*HUDSON RIVER & RECTOR STREET*	*REG #M-6, M-7*	*WAIVER*
233	*NCM-072*	*HUDSON RIVER & VESEY STREET*	*REG #M-5*	*WAIVER*
234	*NCM-073*	*HUDSON RIVER & DUANE STREET*	*REG #M-4*	*WAIVER*

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
235	NCM-074	HUDSON RIVER & VESTRY STREET	REG #M-3	Installed
236	NCM-075	HUDSON RIVER & WATTS STREET	REG #M-2	Installed
237	NCM-076	HUDSON RIVER & CLARKSON STREET	REG #M-1	Installed
238	NCQ-077	MASPETH CREEK & 49th STREET	REG #Q-1	Installed
239	NCM-078	EAST RIVER & N/O DOVER STREET	REG #M-16	Installed
240	NCM-080	HUDSON RIVER & N/O VANDAM STREET	REG #TG-2	Installed
241	NCM-081	HUDSON RIVER & N/O CHARLES STREET	REG #TG-1	Installed
242	NCB-082	EAST RIVER & S. 8th STREET	REG #B-5A	Installed
243	NCB-083	NEWTOWN CREEK & METROPOLITAN/SCOTT AVENUE	N/A	Installed
244	NCM-087	EAST RIVER & E 22nd STREET	REG #M-38A	Installed
245	**RH - 001**	**Red Hook W.P.C.P. Outfall**		Installed
246	RH-002	EAST RIVER & HUDSON AVENUE	REG #R-21A	Installed
247	RH-003	EAST RIVER & HUDSON AVENUE	REG #R-21	Installed
248	RH-005	EAST RIVER & GOLD STREET	REG #R-20A	Installed
249	RH-006	EAST RIVER & PEARL STREET	REG #R-19A	Installed
250	RH-007	EAST RIVER & ADAMS STREET	REG #R-19	Installed
251	RH-008	EAST RIVER & WASHINGTON STREET	REG #R-18A	Installed
252	RH-009	EAST RIVER & MAIN STREET	REG #R-18	Installed
253	RH-010	EAST RIVER & ORANGE STREET	REG #R-16	Installed
254	RH-011	EAST RIVER & MONTAGUE STREET	REG #R-15	Installed
255	RH-012	EAST RIVER & CADMAN PLAZA	REG #R-17	Installed
256	RH-013	EAST RIVER & JORALEMON STREET	REG #R-14	Installed
257	RH-014	EAST RIVER & ATLANTIC AVENUE	REG #R-13	Installed
258	RH-016	EAST RIVER & AMITY STREET	REG #R-12	Installed
259	RH-018	EAST RIVER & KANE STREET	REG #R-11	Installed
260	RH-019	BUTTERMILK CHANNEL & HAMILTON AVENUE	REG #R-9	Installed
261	RH-020	BUTTERMILK CHANNEL & DEGRAW STREET	REG #R-10	Installed
262	RH-021	BUTTERMILK CHANNEL & SACKETT STREET	REG #R-9A	Installed
263	RH-022	ATLANTIC BASIN & BOWNE STREET	REG #R-8	Installed
264	RH-023	ATLANTIC BASIN & COMMERCE STREET	REG #R-7	Installed
265	RH-024	ATLANTIC BASIN & VERONA STREET	REG #R-6	Installed
266	RH-025	ATLANTIC BASIN & PIONEER STREET	REG #R-5	Installed
267	RH-028	BUTTERMILK CHANNEL & WOLCOTT STREET	REG #R-2	Installed
268	RH-029	UPPER NEW YORK BAY & VAN BRUNT STREET	REG #R-1, VAN BLANT ST. PS	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
269	RH-030	GOWANUS CANAL & HICKS STREET	CSO-2	Installed
270	RH-031	GOWANUS CANAL & CREAMER STREET	BOND-LORRAINE SWR RELIEF	Installed
271	RH-033	GOWANUS CANAL & DOUGLASS STREET (E)	REG #R-25	Installed
272	RH-034	HEAD OF GOWANUS CANAL	GOWANUS PS	Installed
273	RH-035	GOWANUS CANAL & BOND STREET	CSO-3, BOND-LORR SWR REL.	Installed
274	RH-036	GOWANUS CANAL & PRESIDENT STREET	REG #R-22	Installed
275	RH-037	GOWANUS CANAL & SACKETT STREET	REG #R-23	Installed
276	RH-038	GOWANUS CANAL & DEGRAW STREET	REG #R-24	Installed
277	RH-040	EAST RIVER & NAVY YARD	REG #R-26	Installed
278	**TI - 001**	**Tallman Island W.P.C.P. Outfall**		Installed
279	TI-003	POWELL'S COVE & N/O 7th AVENUE	REG #10A, 10B	Installed
280	TI-004	EAST RIVER & 151st STREET	REG #11	Installed
281	TI-005	EAST RIVER & 154th STREET	REG #12	Installed
282	TI-006	LITTLE NECK BAY & 24th AVENUE	24 AVENUE P.S.	Installed
283	TI-007	ALLEY CREEK & NORTHERN BLVD	OLD DOUG P.S.	Installed
284	TI-008	ALLEY CREEK & 46th AVENUE	REG #46, 47, 48, 49	Installed
285	*TI-009*	*LITTLE NECK BASIN & DOUG. BAY P.S.*	*DOUG BAY P.S.*	*WAIVER*
286	TI-010	FLUSHING RIVER & ROOSEVELT AVENUE	REG #30, 31, 40, 44	Installed
287	TI-011	FLUSHING BAY & 32nd AVENUE	REG #9, 51, 52, 53, 54	Installed
288	TI-012	FLUSHING BAY & 29th AVENUE	122ND STREET P.S.	Installed
289	TI-014	FLUSHING BAY & 23rd AVENUE	REG #7	Installed
290	TI-015	FLUSHING BAY & 22nd AVENUE	REG #6	Installed
291	TI-016	FLUSHING BAY & 20th AVENUE	REG #5	Installed
292	TI-017	FLUSHING BAY & 15th AVENUE	REG #4	Installed
293	TI-018	FLUSHING BAY & 14th AVENUE	REG #3	Installed
294	TI-019	EAST RIVER & 9th AVENUE	REG #2	Installed
295	TI-020	EAST RIVER & COLLEGE PLACE	REG #1	Installed
296	TI-022	FLUSHING RIVER & 40th ROAD	REG #55, 56, 57, 58	Installed
297	TI-023	LITTLE BAY & CRYDERS LANE	REG #13, CLEARVIEW P.S.	Installed
298	TI-024	ALLEY POND & 61st AVENUE	NEW DOUG P.S.	Installed
299	TI-025	ALLEY CREEK (W) & 400' SOUTH OF LIRR BRIDGE	Alley Creek CSO Storage Facility	Installed
300	**BB - 001**	**Bowery Bay W.P.C.P. Outfall**		Installed
301	BB-002	RIKER'S ISLAND CHANNEL & 45th STREET	REG #2	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
302	BB-003	BOWERY BAY & HAZEN STREET	REG #3	Installed
303	BB-004	DUTCH KILLS & BORDEN AVENUE	REG #L-3, L-41	Installed
304	BB-005	BOWERY BAY & E/O 81st STREET	REG #4	Installed
305	BB-006	FLUSHING BAY & W/O MARINA (114th STREET)	REG #10, 12, 13	Installed
306	BB-007	FLUSHING BAY & 27th AVENUE	REG #5	Installed
307	BB-008	FLUSHING BAY & 31st DR (108th STREET)	REG #6, 7, 8, 9	Installed
308	BB-009	DUTCH KILLS & HUNTERS POINT AVE.	REG #L-3B, L-37,L-38,L-41,L-3A	Installed
309	BB-010	DUTCH KILLS & QUEENS-MIDTOWN EXPWY	REG #L-3C	Installed
310	BB-011	NEWTOWN CREEK & GREENPOINT AVENUE	REG #L-1	Installed
311	BB-012	NEWTOWN CREEK & 35th STREET	REG #L-2	Installed
312	BB-013	NEWTOWN CREEK & 11th STREET	REG #L-8	Installed
313	BB-014	NEWTOWN CREEK & VERNON BLVD	REG #L-9	Installed
314	BB-015	NEWTOWN CREEK & 5th STREET	REG #L-10	Installed
315	BB-016	EAST RIVER & 51st AVENUE	REG #L-11	Installed
316	BB-017	EAST RIVER & 50th AVENUE	REG #L-12	Installed
317	BB-018	EAST RIVER & 49th AVENUE	REG #L-12A	Installed
318	BB-021	EAST RIVER & 47th AVENUE	REG #L-15	Installed
319	BB-022	EAST RIVER & 5th STREET	REG #L-16	Installed
320	BB-023	EAST RIVER & 44th DRIVE	REG #L-17	Installed
321	BB-024	EAST RIVER & 43rd AVENUE	REG #L-18	Installed
322	BB-025	EAST RIVER & 41st AVENUE	REG #L-19	Installed
323	BB-026	DUTCH KILLS & BETW. 28th & 29th STREET	REG #L-4, L-39, L-40, L-42	Installed
324	BB-027	EAST RIVER & 38th AVENUE	REG #L-20	Installed
325	BB-028	EAST RIVER & 37th AVENUE	REG #L-21	Installed
326	BB-029	EAST RIVER & BROADWAY	REG #L-22	Installed
327	BB-030	EAST RIVER & 30th ROAD	REG #L-23	Installed
328	BB-032	EAST RIVER & MAIN AVENUE	REG #L-29, L-29A, MH-15	Installed
329	BB-033	EAST RIVER & 27th AVENUE	REG #L-27	Installed
330	BB-034	EAST RIVER & HOYT AVENUE	REG #L-30	Installed
331	BB-035	EAST RIVER & DITMARS BLVD	REG #L-31	Installed
332	BB-036	EAST RIVER & 21st AVENUE	REG #L-32	Installed
333	BB-037	EAST RIVER & 20th AVENUE	REG #L-33	Installed
334	BB-040	DUTCH KILLS & 49th AVENUE	REG #L-5	Installed
335	BB-041	LUYSTER CREEK & 19th AVENUE	REG #1	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
336	BB-042	DUTCH KILLS & W/O 27th STREET	REG #L-6	Installed
337	BB-043	NEWTOWN CREEK & 11th STREET	REG #L-7	Installed
338	BB-045	EAST RIVER & 9th STREET	REG #L-25	Installed
339	BB-046	EAST RIVER & 3rd STREET	REG #L-26	Installed
340	BB-047	EAST RIVER & ASTORIA BLVD	REG #L-28	Installed
341	BB-049	NEWTOWN CREEK & 21st STREET	N/A	Installed
342	BB-053	HELL GATE & 20th AVENUE	N/A	Installed
343	**26W - 001**	**26th Ward W.P.C.P. Outfall**		Installed
344	26W-002	HENDRIX CREEK & PLANT BYPASS	PLANT BYPASS	Installed
345	26W-003	FRESH CREEK BASIN & WILLIAMS AVENUE	REG #2	Installed
346	26W-004	HENDRIX CREEK & HENDRIX STREET	REG #1	Installed
347	26W-005	SPRING CREEK & SPRING CREEK AUXILIARY WPCP	REG #3, JAM REG #2	Installed
348	**CI - 001**	**Coney Island W.P.C.P. Outfall**		Installed
349	**CI - 002**	**Coney Island W.P.C.P. Outfall**		Installed
350	CI-004	PAERDEGAT BASIN & FLATLANDS AVENUE	TG #5	Installed
351	CI-005	PAERDEGAT BASIN & FLATLANDS AVENUE	REG #1, 2, 3, 4	Installed
352	CI-006	PAERDEGAT BASIN & RALPH AVENUE	REG #6	Installed
353	**OH - 001**	**Owls Head W.P.C.P. Outfall**		Installed
354	OH-002	UPPER NEW YORK BAY & 64th STREET	REG #6A, 6B, 6C	Installed
355	OH-003	UPPER NEW YORK BAY & 49th STREET	REG #7A, 7B, 7C	Installed
356	*OH-004*	*UPPER NEW YORK BAY & 43rd STREET*	*REG #7D, 19th ST. PS*	*WAIVER*
357	OH-005	GOWANUS CANAL & CARROLL STREET	3rd AVE SEWER RELIEF	Installed
358	OH-006	GOWANUS CANAL & 19th STREET (N0RTH SIDE)	3rd AVE SEWER RELIEF	Installed
359	OH-007	GOWANUS CANAL & 2nd AVENUE	2nd AVENUE P.S.	Installed
360	OH-015	GRAVESEND BAY & 17th AVENUE	REG #9A, 9B, 9C	Installed
361	OH-017	UPPER NEW YORK BAY & 92nd STREET	REG #1	Installed
362	OH-018	UPPER NEW YORK BAY & 79th STREET	REG #2, 3	Installed
363	OH-019	UPPER NEW YORK BAY & 71st STREET	REG #4	Installed
364	OH-020	UPPER NEW YORK BAY & BAY RIDGE AVENUE	REG #5	Installed
365	OH-021	CONEY ISLAND CREEK & W 15th STREET	REG #10, 11, AVE.V P.S.	Installed
366	OH-022	GOWANUS BAY & 32nd STREET (Bush Terminal Complex)	2nd AVE SEWER RELIEF	Installed
367	OH-024	GOWANUS CANAL & 23rd STREET	3rd AVE SEWER RELIEF	Installed
368	***Jam - 001***	***Jamaica W.P.C.P. Outfall***		***WAIVER***
369	JAM-003	BERGEN BASIN & 123rd STREET	REG #3	Installed

No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
370	JAM-003A	BERGEN BASIN & 123rd STREET	REG #14	Installed
371	JAM-005	HEAD OF THURSTON BASIN & JFK AIRPORT	REG #6, 7, 8, 9	Installed
372	JAM-006	HEAD OF BERGEN BASIN & JFK AIRPORT	REG #1, 4, 10, SECONDARY PLANT EFFLUENT	Installed
373	JAM-007	HEAD OF THURSTON BASIN & JFK AIRPORT (NEXT TO JA-005)	REG #6, 7, 8, 9	Installed
374	**Roc - 001**	**Rockaway W.P.C.P. Outfall**		Installed
375	ROC-003	JAMAICA BAY & PLANT BYPASS	PLANT BYPASS	Installed
376	ROC-009	JAMAICA BAY & BEACH 98th STREET	REG #D-6	Installed
377	ROC-014	JAMAICA BAY & BEACH 91st STREET	REG #D-2	Installed
378	ROC-016	NORTON BASIN & BAYSWATER AVENUE	BAYSWATER P.S.	Installed
379	ROC-017	BANNISTER CREEK & BEACH 3rd STREET	SEAGIRT AVE. P.S.	Installed
380	ROC-029	JAMAICA BAY & BEACH 106 STREET	REG #1, 2	Installed
381	ROC-031	MOTT BASIN & REDFERN AVENUE	NAMEOKE P.S.	Installed
382	ROC-032	JAMAICA BAY & BEACH 98th STREET	REG #D-7,D-8,D-9,D-10,D-11	Installed
383	ROC-033	JAMAICA BAY & BEACH 106th STREET	REG #D-12	Installed
384	**OB - 001**	**Oakwood Beach W.P.C.P. Outfall**		Installed
385	OB-001A	LOWER NEW YORK BAY & PLANT BYPASS	PLANT BYPASS	Installed
386	**PR - 001**	**Port Richmond W.P.C.P. Outfall**		Installed
387	PR-002	KILL VAN KULL & E/O TAYLOR STREET	REG #R-34	Installed
388	PR-003	KILL VAN KULL & BROADWAY	REG #R-33	Installed
389	PR-004	KILL VAN KULL & BARD AVENUE	REG #R-29	Installed
390	PR-005	KILL VAN KULL & W/O KISSEL AVENUE	REG #R-28	Installed
391	PR-006	KILL VAN KULL & CLINTON AVENUE	REG #R-23	Installed
392	PR-007	KILL VAN KULL & SAILOR SNUG HARBOR	REG #R-27	Installed
393	PR-008	KILL VAN KULL & FRANKLIN AVENUE	REG #R-21	Installed
394	PR-009	KILL VAN KULL & JERSEY STREET	REG #R-20	Installed
395	PR-010	UPPER NEW YORK BAY & ST. PETERS PLACE	REG #R-19	Installed
396	PR-011	UPPER NEW YORK BAY & HAMILTON AVENUE	REG #R-18	Installed
397	PR-013	UPPER NEW YORK BAY & VICTORY BLVD.	REG #R-17	Installed
398	PR-014	UPPER NEW YORK BAY & BALTIC STREET	REG #R-15	Installed
399	PR-015	UPPER NEW YORK BAY & S/O DOCK STREET	REG #R-11	Installed
400	PR-016	UPPER NEW YORK BAY & MARINE HOSPITAL	REG #R-10	Installed
401	PR-017	UPPER NEW YORK BAY & NORWOOD AVENUE	REG #R-9	Installed
402	PR-018	UPPER NEW YORK BAY & N/O CAMDEN STREET	REG #R-8	Installed
No	OUTFALLID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS

403	PR-019	UPPER NEW YORK BAY & S/O LYNHURST AVENUE	REG #R-7	Installed
404	PR-020	UPPER NEW YORK BAY & N/O SYLVA LANE	REG #R-5	Installed
405	PR-021	UPPER NEW YORK BAY & HYLAN BOULEVARD	REG #R-4	Installed
406	PR-023	UPPER NEW YORK BAY & NAUTILUS STREET	REG #R-3	Installed
407	PR-023A	UPPER NEW YORK BAY & NAUTILUS STREET	REG #R-2	Installed
408	PR-023B	UPPER NEW YORK BAY & NAUTILUS STREET	REG #R-1	Installed
409	PR-024	NEWARK BAY & W/O HOLLAND AVENUE	REG #R-1W	Installed
410	PR-025	NEWARK BAY & SOUTH AVENUE	REG #R-2W	Installed
411	PR-026	NEWARK BAY & HARBOR ROAD	REG #R-3W	Installed
412	PR-027	NEWARK BAY & UNION AVENUE	REG #R-4W	Installed
413	PR-028	NEWARK BAY & HOUSEMAN AVENUE	REG #R-5W	Installed
414	PR-029	NEWARK BAY & NICHOLAS STREET	REG #R-6W	Installed
415	PR-030	UPPER NEW YORK BAY & SYLVATON TER..	REG #R-6	Installed
416	PR-031	UPPER NEW YORK BAY & CANAL STREET	REG #13	Installed
417	PR-032	UPPER NEW YORK BAY & VICTORY BOULEVARD	REG #16	Installed
418	PR-033	KILL VAN KULL & ELIZABETH AVENUE	REG #R-31	Installed
419	PR-034	KILL VAN KULL & BEMENT AVENUE	REG #R-32	Installed
420	PR-035	KILL VAN KULL & BODINE STREET	REG #R-35	Installed
421	PR-036	BODINE CREEK & RECTOR STREET	REG #R-36	Installed
422	PR-037	KILL VAN KULL & RICHMOND AVENUE	REG #R-37	Installed

Appendix 10

Exhibit 1: Department of Health (DOH) Notification Program

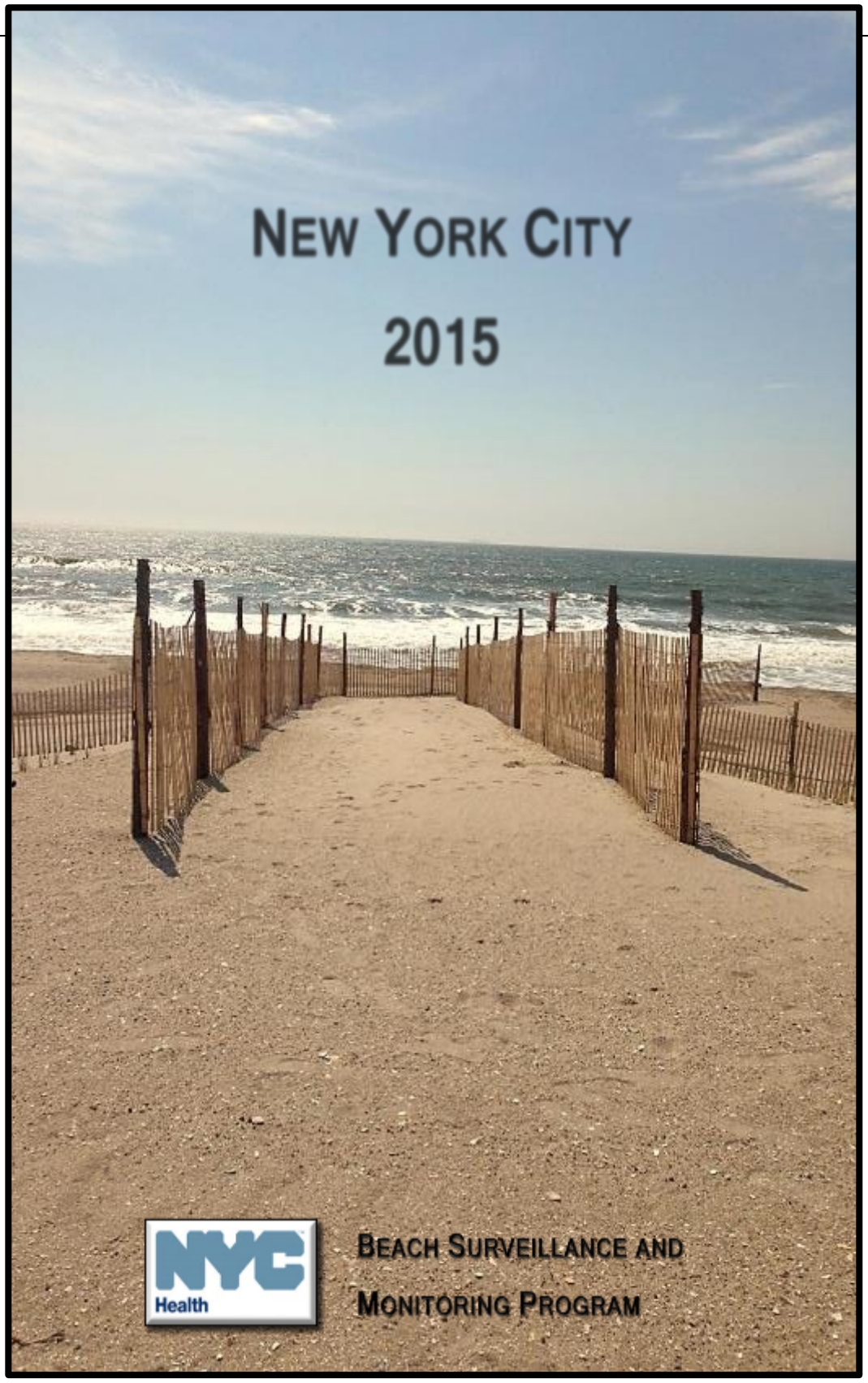
Table 1: NYC Permitted Beaches

Figure 1: Location of NYC Permitted Beaches

Table A: Beach Advisory and Closure Comparison

Table B-1: Advisory & Closure Summary for Public Beaches

Table B-2: Advisory & Closure Summary for Private Beaches


NEW YORK CITY
2015
NYC Health
BEACH SURVEILLANCE AND
MONITORING PROGRAM

SECTION 1

INTRODUCTION

In accordance with the New York City Administrative Code §18-131 (c) (4), this annual report summarizes the 2015 New York City Beach Surveillance and Monitoring Program for beaches permitted by the Department of Health and Mental Hygiene (DOHMH or the "Department"). This law requires that the Commissioner of Health and Mental Hygiene "forward a combined report of the dates and results of all inspections of all beaches and the dates and reasons for any warning (previously referred to as Advisory) or closure, and such other information deemed appropriate by the Commissioner of Health and Mental Hygiene, for the Friday proceeding the last Monday of May until the Friday after the first Monday of September of each year, to the Mayor, the Public Advocate and the Speaker of the Council.

"Under both Article 167 of the New York City Health Code (Article 167) and Subpart 6-2 of the New York State Sanitary Code (Subpart 6-2), the Department monitors and conducts surveillance of permitted beaches in the City of New York. The Department administers the Beach Surveillance and Monitoring Program for all beaches operating within the city limits and with a permit issued by the Department. The Program responsibilities include: 1) beach monitoring and surveillance; 2) public notification and communication, and 3) conducting annual safety inspections.

The City's beaches function as an important recreational and quality-of-life resource for City residents and neighboring communities. As shown in Figure 1 (page 2) and Table 1 (page 3) there are eight public and sixteen private permitted beaches within New York City limits.

Also this year, New York City Public Beaches remained open an additional week for the 2015 beach season. All Public Beaches with the exception of Wolfe's Pond and Cedar Grove beaches in Staten Island remained open until September 13th, a week later than the traditional Labor Day weekend unofficial end to summer.

FIGURE 1: NEW YORK CITY PERMITTED BEACHES

TABLE 1: NEW YORK CITY PERMITTED BEACHES AND WATER BODY IDENTIFICATION

Borough	Beaches	Water Body
Brooklyn	*Public:* Coney Island, Manhattan *Private:* Seagate, Kiddie Gerritsen, Kingsborough	Lower New York Harbor
Bronx	*Public:* Orchard Beach *Private:* American Turner, Danish American, Manheim, Whitecross Fishing, Morris Yacht Club, Schuyler Hill, Trinity Danish, Locust Point Yacht Club, West Fordham Street	Eastchester Bay, Western Long Island Sound
Queens	*Public:* Rockaway *Private:* Breezy Point	Atlantic Ocean Coastline
	Private: Douglaston Manor, Whitestone Booster Civic Association	Western Long Island Sound
Staten Island	*Public:* South Beach, Midland, Cedar Grove, Wolfe's Pond Park *Private*: Staten Island YMCA	Lower New York Bay

1.1 Public Risk Communication

The Department continued to improve the Program's Public Notification and Risk Communication efforts during the 2015 beach season. Easy to interpret signs shown in Figure 2 that were developed and implemented during the 2014 season, were used for beach closures and warnings in 2015.

FIGURE 2: BEACH WARNING AND CLOSED SIGNS

The free texting service called "Know Before You Go", which was introduced in 2014, was reprised for the 2015 beach season. The service enables subscribers to make informed decisions before they went to the beach by checking if the beach was open or closed or if there were any warnings due to wet weather conditions or water quality concerns. Subscribers simply text "BEACH" to 877-877 to get updates on the beach status of any of the eight public beaches in New York City. This tool also can be used by the Department to deliver safety related messages such as warnings for high RIP currents and when beaches open and close for the season.

In 2015, DOHMH expanded its outreach to include a Spanish language subscriber campaign. Spanish and English promotion ads were included as part of the DOHMH advertising campaign, which included social media marketing as shown in Figure 3. By the close of the beach season, there were over 5200 subscribers to "Know Before You Go."

FIGURE 3: KNOW BEFORE YOU GO TEXTING PROGRAM

SECTION 2

BACKGROUND INFORMATION

This chapter provides background information on the New York City Beach Surveillance and Monitoring Program. The topics of discussion include, bacteriological water quality criteria, preemptive rainfall thresholds, beach classifications, procedures and protocols for monitoring and surveillance, public notification and risk communication and safety inspections.

2.1 Water Quality Criteria

Under the New York State Sanitary Code §6-2.15, Article §167.13 of the New York City Health Code and the Federal Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH) Act, Enterococci is the indicator organism mandated for evaluating the microbiological quality of marine (saline) recreational beach water.

Under the New York State Sanitary Code and the New York City Health Code, Enterococci concentrations for a single sample shall not exceed 104 Colony Forming Units (CFU's) per 100 mL (61 CFU's per 100 ml for fresh water), and the Enterococci geometric mean shall not exceed 35 CFU's per 100 mL (33 CFU's per 100 ml for fresh water) for a series of five or more samples collected during a 30-day period. The geometric mean and single sample maximum is determined by analyzing samples for the presence and quantification of Enterococci using EPA method 1600.

In November, 2012, the Environmental Protection Agency (EPA) released the revised Recreational Water Criteria (RWQC). The revised criteria uses a geometric mean and a statistical threshold value to indicate whether the water quality is protective of the designated use of primary contact recreation. The 2012 revised criteria for marine waters are a 30-day geometric mean of 30 Enterococci (CFU/100 mL) and a statistical threshold value of 110 Enterococci (CFU/100 mL)(the statistical threshold value is calculated as no more than 10% of samples within 30 days shall exceed the criteria). In addition to the revised criteria, the EPA introduced a Beach Action Value (BAV) of 60 Enterococci (CFU/100 mL) to be used as a notification threshold for beach management; there is no longer a single sample maximum in the EPA criteria document. The revised recreational criteria is scheduled to be implemented by 2017.

2.2 Rainfall Events

Pre-emptive rainfall thresholds have been developed for New York City Beaches through statistical modeling of historical data. These preemptive thresholds are used as a management tool to provide a quick and reliable indication of water quality conditions. When threshold levels of precipitation have been exceeded there is very a high probability for elevated levels of harmful bacteria due to CSO's and stormwater runoff. Untreated sewage bypasses and excess stormwater

runoff can potentially pose a public health threat in nearby beach water bodies. When rainfall intensities meet the pre-emptive thresholds, as defined in Table 2 (page 8) a public notification or a warning will take effect for the predetermined duration.

TABLE 2: NEW YORK CITY PRE-EMPTIVE RAINFALL THRESHOLDS

Beach (Borough)	Rainfall Event Limit	Duration of Warning
South Beach, Midland Beach, Cedar Grove, Staten Island YMCA (Staten Island), Manhattan Beach, Kingsborough Community College (Brooklyn)	1.5 – 2.5 inches	12 hours
	> 2.5 inches	24 hours
Orchard Beach (Brooklyn)	> 2.5 inches	24 hours
Coney Island (Brooklyn)	> 2.5 inches	12 hours
Gerritsen Beach (Brooklyn) Whitestone Booster (Queens)	0.3 - 0.6 inches	18 hours
	> 0.6 inches	40 hours
American Turner, Danish American , Manheim, White Cross, Morris Yacht, Schuyler Hill, Trinity Danish, Locust Point Yacht Club, West Fordham Street Association (Bronx)	0.6 – 2.5 inches	36 hours
	> 2.5 inches	48 hours
Douglaston Manor (Queens)	0.3 – 0.6 inches	30 hours
	0.6 – 2.5 inches	60 hours
	> 2.5 inches	72 hours

2.3 Beach Classifications

There are three swimming classifications for New York City beaches which are determined by assessing water quality, rainfall and pollution events, on-site sanitary surveys, and/or historical information. Beaches except those specifically restricted under Article §167.05 are classified as follows:

Class A: Open for Swimming and Wading. Beaches may be classified as open and approved for swimming and wading when all of the following conditions are met:

1. Beach water quality is in accordance with standards defined under Article §167.13.
2. Sanitary and safety surveys are satisfactory in accordance with Article §167.25.

3. The epidemiological history is satisfactory to the Department. No repeated complaints/reports of illness/injury received from the public or from owners/operators of city beaches.

Class B: Warning – Not Recommended for Swimming and Wading. Beaches may be classified as "Not Recommended for Swimming and Wading" when one or more of the following conditions exists:

1. When rainfall events exceed the pre-emptive rainfall thresholds, when naturally occurring organisms or human influences may cause a continuous or reoccurring degradation of water quality that would put public health at risk;
2. When a water quality sample exceeds the water quality standard or a beach notification threshold. The notification should remain in effect until resampling indicates that the beach water quality standard and/or notification thresholds are being met.
3. When an on-site sanitary survey or investigation reveals the presence of floatable debris, medical/infectious waste or toxic contaminants, petroleum products and/or other contamination on the beach; or
4. When there is evidence of sewage and wastewater discharge.

Class C: Closed – Temporarily Restricted for Swimming and Wading: Beaches may be classified as "Temporarily Restricted for Swimming and Wading" when one or more of the following conditions exists:

1. Sampling by bacteriological testing that finds beach water quality exceeding the statutory water quality standard for marine water beaches;
2. Epidemiological data indicates a significant incidence of related illnesses or repeated complaints/reports of illness/injury received from beach patrons;
3. A sanitary and safety survey or an investigation reveals the presence of potentially hazardous amounts of floatable debris, medical/infectious waste, toxic contaminants, petroleum products or other contaminants on the beach, or there is evidence of sewage and wastewater discharges in sufficient quantities that will adversely affect the quality of the beach water; or
4. Any other environmental factors determined to be a public health or safety hazard by the Department.

2.4 Beach Monitoring and Surveillance

Starting one month before the beach season, the Department monitors and samples each beach on a weekly basis with the exception of the Rockaway and Breezy Point beaches, which are sampled bi-weekly. In addition to routine water quality monitoring, the Department monitors on a daily basis the regional wet weather conditions and occasional Waste Water Treatment Plant (WWTP)

bypasses, operational upsets and spills through interagency communication and cooperation. This information can be used to assess and make beach status determinations.

During a sample event, a routine on-site sanitary survey inspection is performed to identify any existing and/or potential sources of pollution that are likely to affect beach water quality. Water samples are collected at knee-depth (18 inches) in three feet of water, from the center left and right of the beach. At larger beaches, such as Coney Island and Rockaway, samples are taken from multiple locations to ensure adequate representation and reliable results. The collected samples are delivered to the Department's Public Health Laboratory for analysis. The analytical turnaround time for Enterococci is 24 hours.

The water quality of the samples analyzed is reviewed and assessed for conformance to applicable standards. If the regulatory limit for Enterococci is exceeded or conditions exist that may pose a threat to the health and/or safety of the public, the Department initiates one of the following actions: conducts immediate re-sampling; issues a warning and conduct re-sampling; and/or closes the beach and conduct re-sampling. The determining factors for additional sampling may include: proximity to suspected pollution sources; extent of pollution; beach use; historical water quality data; and other health risk factors.

2.5 Public Notification and Risk Communication

When beach status changes based upon evaluation and assessment of beach water quality as specified above, the Department notifies the public through on-site beach signage, website postings, 311 non-emergency government service hotline, Notify NYC (via Twitter, RSS feed, email, and SMS), "Know Before You Go" texting service, and Department press releases when necessary. Beach operators are notified by phone, email and/or text as to the necessary on-site postings. The specific notification procedures and requirements for each of the above conditions are as follows:

On-Site Signage: When notified by the Department, the permittee is required to post or remove the warning or closure signs in designated areas visible to beach users such as beach entrances, bulletin boards, or the general vicinity of the common swimming areas.

"Know Before You Go" Texting Service: Subscribers send a text using "BEACH" to 877-877 to get updates on beach status for any of the eight public beaches in New York City.

Website Postings: The Department has developed an easily accessible website updated with location and information for all permitted beaches: www.nyc.gov/health/beach. The website contains background information on the beach program, explains the causes and sources of surface

water pollution, and summarizes the beach classification system, including the different types of warnings. A list of City beaches by borough, along with their respective status (Open, Closed, or Warning) and sample results are promptly updated on the website. Beach warnings or closures are also posted under the "NYC Right Now" link on the City website, www.nyc.gov, during the beach season. The public can report swimming related illnesses through the website.

Notify NYC: When notified by the Department of status changes relating to public beaches the Office of Emergency Management will send members of the public who have signed up to Notify NYC status information via Twitter, RSS feed, e-mail and SMS.

311: The 311 telephone operators monitor the Department's website for updates on warning or closure information, as described above, and convey that information to 311 callers. The public can also report a swimming related illness via 311.

NYC Press Release: Press releases are disseminated to various types of media (newspaper, radio, website, television) as well as elected officials.

2.6 Inspections

The Department conducts annual safety inspections and complaint inspections at bathing beaches to assure that (1) all staff, especially lifeguards and supervisors, have proper certificates and coverage including CPR certification, (2) all required life-saving equipment is available, including rescue tubes, spine boards, first aid kits, and resuscitation equipment, (3) there is proper signage posted on site. Direct observations of conditions are supplemented by interviews with lifeguards and other personnel. The inspections also evaluate beach facility hygiene.

SECTION 3

FINDINGS

3.1 Water Quality and Illness Reporting

Routine water quality monitoring and sample collection was performed at all twenty-three permitted beaches. Approximately 1620 samples were collected and analyzed from these beaches between April and September 2015. There was no recreational water illness complaint reported to the Department during the season.

Water quality sample results showing the 30-Day geometric mean and daily averages are listed in Appendix A, Table A1-1 to Table A1-4 2015 Water Quality Results (pages 14 to 17), and exceedances are listed in Appendix A (Table A2-1, Table A2-2 and Table A2-3): 2015 Sample Results and Exceedances (pages 18 to 20). Warnings and Closures issued by the Department throughout the season are shown in Appendix B (pages 21 to 23).

For private beaches, Douglaston Manor and White Cross Fishing had the highest exceedance rates (21.7% each), while Breezy Point Reid Avenue and Schuyler Hill Civic Association had no exceedances. Unusual early season die-offs of bait fish due to hypoxic conditions may have contributed to deteriorated water quality in the western long island sound throughout June and early July. Also Bronx private beaches are located in the western terminus of the Long Island Sound which has a complex hydrodynamic system. Long retention times, complex water circulation and mixing patterns and seasonal tidal variations can produce poor mixing in these waters and may contribute to deteriorated water quality.

During the 2015 beach season Cedar Grove beach in Staten Island had the highest percentage exceedance rate for all public beaches (13.9%) while Rockaway Beach and Manhattan Beach had no exceedances

3.2 Public Notification for Warnings and Closures

There are 17 private beaches of which 15 were issued at least one swimming advisory warning or closure notice. Of the private Beaches that exceeded water quality standards there were 327 warning days (41 of which were as a result of wet weather conditions) and 16 closure days. The length of the notifications ranged from 2 to 28 days. Five (5) out of 8 Public Beaches had no closure days and a total of 16 warning days; the longest extent of the notifications was 2 days. The specific

warning and closure dates for each beach are shown in Appendix B: 2015 Warnings and Closures (pages 21 to 23).

3.3 Inspections

During the 2015 beach season, a total of 55 inspections were conducted of both Public and Private beaches by the Department at 25 permitted facilities. Seven facilities were cited for either general or public health hazards at the time of inspection as detailed in Table C, Appendix C: 2015 Inspection Non-compliance Summary (page 24).

APPENDIX A: 2015 WATER QUALITY RESULTS AND EXCEEDANCE

Table A1-1: Brooklyn Beaches Water Quality Results

Enterococci 30 Day Geometric Mean/Daily Average (Count/100ml)

Water Quality Standards: 30 day geomean limit: 35cfu/100ml, Daily average limit: 104cfu/100ml

Date of Week Ending	CONEY ISLAND BEACH		MANHATTAN BEACH		GERRITSEN/ KIDDIE BEACH		KINGSBOROUGH COMMUNITY COLLEGE		SEA GATE 42ND		SEA GATE BEACH CLUB	
	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily
5/23/2015	7	5	7	4	17	16	10	8	6	4	9	4
5/30/2015	6	4	5	4	11	4	6	4	4	4	4	4
6/6/2015	5	4	5	8	18	69	10	121	5	11	7	40
6/13/2015	5	14	6	21	13	8	11	9	5	4	7	4
6/20/2015	5	4	7	12	19	89	15	28	5	5	6	4
6/27/2015	5	5	7	4	15	4	15	9	10	4	6	4
7/4/2015	5	5	7	4	18	15	16	7	10	5	6	4
7/11/2015	5	4	6	4	11	7	10	8	9	5	4	4
7/18/2015	7	4	6	16	12	12	8	5	9	5	4	4
7/25/2015	7	4	5	5	6	4	7	23	10	7	4	4
8/1/2015	9	26	7	12	9	31	7	7	6	16	4	4
8/8/2015	9	5	9	23	9	11	13	107	6	4	4	4
8/15/2015	11	26	9	4	8	4	11	5	10	72	5	9
8/22/2015	7	4	8	7	8	11	13	15	11	9	5	4
8/29/2015	7	4	7	4	9	7	14	21	13	41	5	8
9/5/2015	6	6	7	8	6	4	20	53	11	5	5	4
9/12/2015	6	4	5	4	5	4	14	16	11	4	6	12

Table A1-2: Bronx Beaches Water Quality Results

Enterococci 30 Day Geometric Mean/Daily Average (Count/100ml)

Water Quality Standards: 30 day geomean limit: 35cfu/100ml, Daily average limit: 104cfu/100ml

Date of Week Ending	ORCHARD BEACH		AMERICAN TURNER		DANISH AMERICAN BEACH CLUB		LOCUST POINT YACHT CLUB		MANHEM CLUB		MORRIS YACHT AND BEACH CLUB		SCHUYLER HILL CIVIC ASSOCIATION		TRINITY DANISH		WEST FORDHAM STREET ASSOCIATION		WHITE CROSS FISHING CLUB	
	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily
5/23/2015	4	5	17	89	11	35	13	31	9	23	5	7	8	47	10	53	9	4	23	94
5/30/2015	4	4	12	4	9	4	7	8	7	4	5	12	7	4	7	4	4	4	27	29
6/6/2015	4	4	25	1087	17	973	13	264	16	973	9	85	11	51	19	873	6	47	36	1180
6/13/2015	4	4	30	16	26	41	13	4	20	12	10	11	12	9	22	8	12	84	41	11
6/20/2015	5	23	64	200	46	70	18	21	37	84	13	16	18	35	59	573	15	12	101	373
6/27/2015	5	4	40	9	34	7	12	4	27	4	13	12	11	4	41	9	35	320	57	7
7/4/2015	5	4	80	183	54	167	13	9	28	5	14	9	12	5	54	23	49	32	73	122
7/11/2015	6	8	30	9	21	7	10	31	9	4	7	4	8	11	29	43	30	4	29	13
7/18/2015	8	20	27	11	14	7	14	24	9	11	6	4	8	4	27	5	27	49	47	121
7/25/2015	6	4	13	5	9	7	10	4	6	9	6	4	6	8	14	17	21	4	20	4
8/1/2015	6	5	19	56	8	4	11	7	6	4	5	4	6	4	12	4	10	7	35	103
8/8/2015	6	4	10	8	7	27	13	23	7	21	4	4	8	27	11	13	9	19	25	24
8/15/2015	6	9	11	12	9	15	10	9	9	8	4	7	6	4	8	8	10	9	22	5
8/22/2015	5	4	10	7	8	4	7	4	7	4	4	5	6	4	7	4	6	4	11	4
8/29/2015	8	4	10	4	7	4	7	4	7	5	7	40	6	4	7	23	6	4	13	9
9/5/2015	8	5	7	12	7	4	7	9	7	7	7	4	6	5	9	12	6	5	8	12
9/12/2015	8	7	7	7	5	5	5	4	6	8	11	59	4	4	8	4	5	7	7	8
9/19/2015											11	4					6	41	7	8
9/26/2015											11	7					6	4	7	4

Table A1-3: Queens Beaches Water Quality Results

Enterococci 30 Day Geometric Mean/Daily Average (Count/100ml)

Water Quality Standards- 30 day geomean limit: 35cfu/100ml, Daily Average limit: 104cfu/100ml

Date of Week Ending	ROCKAWAY BEACH*		BREEZY POINT 219		BREEZY POINT Reid Ave		WHITESTONE BOOSTER CIVIC ASSOCIATION		DOUGLASTON MANOR ASSOCIATION	
	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily
5/23/2015							8	4	32	360
5/30/2015	8	4	6	4	4	4	4	4	17	33
6/6/2015							10	347	52	1467
6/13/2015	4	4	5	4	4	4	10	5	80	40
6/20/2015							14	23	140	105
6/27/2015	4	4	4	4	4	4	15	7	70	12
7/4/2015							15	4	49	5
7/11/2015	4	4	4	4	4	4	7	7	15	4
7/18/2015							8	23	18	87
7/25/2015	4	4	4	4	4	4	6	11	11	16
8/1/2015							6	4	12	16
8/8/2015	4	4	6	12	5	8	7	13	15	15
8/15/2015							12	80	33	243
8/22/2015	4	4	6	4	5	4	11	8	27	32
8/29/2015							10	4	27	13
9/5/2015	5	10	18	120	5	4	13	16	35	56
9/12/2015									31	8
9/19/2015									15	7
9/26/2015									4	4

*Note: Rockaway and Breezy Point Beaches are routinely sampled bi-weekly.

Table A1-4: Staten Island Beaches Water Quality Results

Enterococci 30 Day Geometric Mean/Daily Average (Count/100ml)

Water Quality Standards- 30 day Geomean limit: 35cfu/100ml, Daily Average limit: 104cfu/100ml

Fresh Water Standards- 30 day Geomean limit: 33cfu/100ml, Daily Average limit: 61cfu/100ml

Date of Week Ending	SOUTH BEACH		MIDLAND BEACH		CEDAR GROVE BEACH		WOLFE'S POND BEACH	
	30 Day	Daily	30 Day	Daily	30 Day	Daily	30 Day	Daily
5/23/2015	7	8	8	23	12	41	12	12
5/30/2015	4	4	5	4	6	4	5	4
6/6/2015	9	8	9	9	16	28	16	17
6/13/2015	9	4	9	4	25	69	16	4
6/20/2015	13	37	12	21	36	9	16	4
6/27/2015	11	4	10	4	26	4	14	4
7/4/2015	12	7	10	4	26	4	14	4
7/11/2015	8	13	5	4	14	5	4	4
7/18/2015	8	4	5	4	9	4	4	5
7/25/2015	6	12	4	4	4	4	4	4
8/1/2015	7	19	4	4	4	4	5	15
8/8/2015	8	19	5	11	8	4	5	4
8/15/2015	7	4	5	4	10	83	5	8
8/22/2015	11	12	5	5	11	9	5	4
8/29/2015	9	4	5	4	11	4	5	4
9/5/2015	8	4	5	4	11	4	4	4
9/12/2015	7	4	4	4	6	4	4	4

Table A2-1: 2015 Summary of Beach Samples and Exceedances

Beach	Sample Location	Total # of Samples	# of Sample exceed 104	% of Sample exceed 104
ALL Beaches TOTAL		**1614**	**109**	**6.8%**
Public Beaches TOTAL		**623**	**29**	**4.7%**
Private Beaches TOTAL		**991**	**80**	**8.1%**

Table A2-2: 2015 Public Beaches Samples and Exceedances

Beach	Sample Location		Total # of Samples	# of Sample exceed 104	% of Sample exceed 104 (Location)	% of Sample exceed 104 (Beach)
CEDAR GROVE	CEDAR GROVE	Left	24	3	12.5%	*13.9%*
	CEDAR GROVE	Center	24	3	12.5%	
	CEDAR GROVE	Right	24	4	16.7%	
CONEY ISLAND	CONEY ISLAND BR. 15TH - 6TH	Center	21	2	9.5%	*5.3%*
	CONEY ISLAND BR. 6TH - OCEAN PKWY	Center	24	2	8.3%	
	CONEY ISLAND OCEAN PKWY - WEST 8TH	Center	21	1	4.8%	
	CONEY ISLAND WEST 8TH - PIER	Center	21	1	4.8%	
	CONEY ISLAND WEST 16TH - WEST 27TH	Center	23	0	0.0%	
	CONEY ISLAND WEST 28TH - WEST 37TH	Center	23	1	4.3%	
MANHATTAN BEACH	MANHATTAN BEACH	Left	21	0	0.0%	*0.0%*
	MANHATTAN BEACH	Center	21	0	0.0%	
	MANHATTAN BEACH	Right	21	0	0.0%	
MIDLAND BEACH	MIDLAND BEACH	Left	22	0	0.0%	*1.5%*
	MIDLAND BEACH	Center	22	1	4.5%	
	MIDLAND BEACH	Right	22	0	0.0%	
ORCHARD BEACH	ORCHARD BEACH	Left	22	0	0.0%	*3.0%*
	ORCHARD BEACH	Center	22	1	4.5%	
	ORCHARD BEACH	Right	22	1	4.5%	
ROCKAWAY BEACH	ROCKAWAY BEACH 9TH - 13TH	Center	11	0	0.0%	*0.0%*
	ROCKAWAY BEACH 15TH - 22TH	Center	11	0	0.0%	
	ROCKAWAY BEACH 23RD - 59TH	Center	11	0	0.0%	
	ROCKAWAY BEACH 59TH - 80TH	Center	11	0	0.0%	
	ROCKAWAY BEACH 80TH - 95TH	Center	11	0	0.0%	
	ROCKAWAY BEACH 95TH - 116TH	Center	11	0	0.0%	
	ROCKAWAY BEACH 116TH - 126TH	Center	11	0	0.0%	
	ROCKAWAY BEACH 126TH - 149TH	Center	11	0	0.0%	
SOUTH BEACH	SOUTH BEACH	Left	23	1	4.3%	*4.3%*
	SOUTH BEACH	Center	23	1	4.3%	
	SOUTH BEACH	Right	23	1	4.3%	
WOLFE'S POND BEACH	WOLFE'S POND BEACH	Left	22	2	9.1%	*9.1%*
	WOLFE'S POND BEACH	Center	22	2	9.1%	
	WOLFE'S POND BEACH	Right	22	2	9.1%	
Public Beaches (Locations) Total			**623**	**29**	**4.7%**	

Table A2-3: 2015 Private Beaches Samples and Exceedances

Beach	Sample Location		Total # of Samples	# of Sample exceed 104	% of Sample exceed 104 (Location)	% of Sample exceed 104 (Beach)
AMERICAN TURNER	AMERICAN TURNER	Left	21	3	14.3%	*12.7%*
	AMERICAN TURNER	Center	21	2	9.5%	
	AMERICAN TURNER	Right	21	3	14.3%	
BREEZY POINT 219	BREEZY POINT 219	Center	11	1	9.1%	*9.1%*
BREEZY POINT Reid Ave	BREEZY POINT Reid Ave	Center	11	0	0.0%	*0.0%*
DANISH AMERICAN BEACH CLUB	DANISH AMERICAN BEACH CLUB	Left	21	2	9.5%	*7.9%*
	DANISH AMERICAN BEACH CLUB	Center	21	2	9.5%	
	DANISH AMERICAN BEACH CLUB	Right	21	1	4.8%	
DOUGLASTON MANOR ASSOCIATION	DOUGLASTON MANOR ASSOCIATION	Left	23	5	21.7%	*21.7%*
	DOUGLASTON MANOR ASSOCIATION	Center	23	4	17.4%	
	DOUGLASTON MANOR ASSOCIATION	Right	23	6	26.1%	
GERRITSEN/KIDDIE BEACH	GERRITSEN/KIDDIE BEACH	Left	21	0	0.0%	*1.6%*
	GERRITSEN/KIDDIE BEACH	Center	21	1	4.8%	
	GERRITSEN/KIDDIE BEACH	Right	21	0	0.0%	
KINGSBOROUGH COMMUNITY COLLEGE	KINGSBOROUGH COMMUNITY COLLEGE	Left	21	1	4.8%	*4.8%*
	KINGSBOROUGH COMMUNITY COLLEGE	Center	21	1	4.8%	
	KINGSBOROUGH COMMUNITY COLLEGE	Right	21	1	4.8%	
LOCUST POINT YACHT CLUB	LOCUST POINT YACHT CLUB	Left	21	1	4.8%	*4.8%*
	LOCUST POINT YACHT CLUB	Center	21	2	9.5%	
	LOCUST POINT YACHT CLUB	Right	21	0	0.0%	
MANHEM CLUB	MANHEM CLUB	Left	21	1	4.8%	*4.8%*
	MANHEM CLUB	Center	21	1	4.8%	
	MANHEM CLUB	Right	21	1	4.8%	
MORRIS YACHT AND BEACH CLUB	MORRIS YACHT AND BEACH CLUB	Left	23	0	0.0%	*1.4%*
	MORRIS YACHT AND BEACH CLUB	Center	23	1	4.3%	
	MORRIS YACHT AND BEACH CLUB	Right	23	0	0.0%	
SCHUYLER HILL CIVIC ASSOCIATION	SCHUYLER HILL CIVIC ASSOCIATION	Left	21	0	0.0%	*0.0%*
	SCHUYLER HILL CIVIC ASSOCIATION	Center	21	0	0.0%	
	SCHUYLER HILL CIVIC ASSOCIATION	Right	21	0	0.0%	
SEA GATE 42ND	SEA GATE 42ND	Left	22	2	9.1%	*6.1%*
	SEA GATE 42ND	Center	22	1	4.5%	
	SEA GATE 42ND	Right	22	1	4.5%	
SEA GATE BEACH CLUB	SEA GATE BEACH CLUB	Left	21	1	4.8%	*4.8%*
	SEA GATE BEACH CLUB	Center	21	1	4.8%	
	SEA GATE BEACH CLUB	Right	21	1	4.8%	
TRINITY DANISH	TRINITY DANISH	Left	21	2	9.5%	*9.5%*
	TRINITY DANISH	Center	21	2	9.5%	
	TRINITY DANISH	Right	21	2	9.5%	
WEST FORDHAM STREET ASSOCIATION	WEST FORDHAM STREET ASSOCIATION	Left	23	3	13.0%	*10.1%*
	WEST FORDHAM STREET ASSOCIATION	Center	23	2	8.7%	
	WEST FORDHAM STREET ASSOCIATION	Right	23	2	8.7%	
WHITE CROSS FISHING CLUB	WHITE CROSS FISHING CLUB	Left	23	6	26.1%	*21.7%*
	WHITE CROSS FISHING CLUB	Center	23	5	21.7%	
	WHITE CROSS FISHING CLUB	Right	23	4	17.4%	
WHITESTONE BOOSTER CIVIC ASSOCIATION	WHITESTONE BOOSTER CIVIC ASSOCIATION	Left	20	2	10.0%	*8.3%*
	WHITESTONE BOOSTER CIVIC ASSOCIATION	Center	20	2	10.0%	
	WHITESTONE BOOSTER CIVIC ASSOCIATION	Right	20	1	5.0%	
Private Beaches (Locations) Total			**991**	**80**	**8.1%**	

APPENDIX B: 2015 WARNINGS AND CLOSURES

Table B-1: Summary of Beach Warnings and Closure

Beach	Types	Reason	Start Date	End Date	Beach Days	Notification Days	Total Notification Days		
							Warning	Closure	Total
NYC ALL Beaches	Warning or Closure	Enterococci Exceedance or Rainfall Event	5/23/15	9/13/15	**2491**	**359**	**343**	**16**	**359**

Table B-2: Public Beaches Warnings and Closures

Beach	Types	Reason	Start Date	End Date	Beach Days	Notification Days	Total Notification Days		
							Warning	Closure	Total
CEDAR GROVE	Warning	Enterococci Exceedance	6/3/15	6/4/15	108	2	6	0	6
	Warning	Enterococci Exceedance	6/17/15	6/18/15		2			
	Warning	Enterococci Exceedance	8/5/15	8/6/15		2			
CONEY ISLAND					114	0	0	0	0
MANHATTAN BEACH					114	0	0	0	0
MIDLAND BEACH	Warning	Enterococci Exceedance	6/11/15	6/12/15	112	2	2	0	2
ORCHARD BEACH	Warning	Enterococci Exceedance	8/27/15	8/28/15	112	2	2	0	2
ROCKAWAY BEACH					114	0	0	0	0
SOUTH BEACH	Warning	Enterococci Exceedance	6/3/15	6/4/15	110	2	4	0	4
	Warning	Enterococci Exceedance	8/19/15	8/20/15		2			
WOLFE'S POND PARK	Warning	Enterococci Exceedance	6/3/15	6/4/15	112	2	2	0	2
Public Beaches TOTAL					**896**	**16**	**16**	**0**	**16**

Table B-3: Private Beaches Warnings and Closures

Beach	Types	Reason	Start Date	End Date	Beach Days	Notification Days	Total Notification Days		
							Warning	Closure	Total
AMERICAN TURNERS	Warning	Rainfall Event	6/1/15	6/2/15	78	2	29	7	36
	Warning	Enterococci Exceedance	6/4/15	6/10/15		7			
	Warning	Enterococci Exceedance	6/18/15	7/1/15		14			
	Closure	Confirmed Enterococci Exceedance	7/2/15	7/8/15		7			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
BREEZY POINT 219	Warning	Enterococci Exceedance	9/4/15	9/13/15	104	0	10	0	10
BREEZY POINT REID					114	0	0	0	0
DANISH AMERICAN BEACH CLUB	Warning	Rainfall Event	6/1/15	6/2/15	90	2	24	0	24
	Warning	Enterococci Exceedance	6/4/15	6/10/15		7			
	Warning	Enterococci Exceedance	6/18/15	6/24/15		7			
	Warning	Rainfall Event	6/28/15	6/29/15		2			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
DOUGLASTON HOMEOWNERS ASSOCIATION	Warning	Rainfall Event	6/1/15	6/3/15	60	3	54	0	54
	Warning	Enterococci Exceedance	6/11/15	7/8/15		28			
	Warning	Rainfall Event	7/15/15	7/16/15		2			
	Warning	Rainfall Event	7/31/15	8/1/15		2			
	Warning	Rainfall Event	8/11/15	8/13/15		3			
	Warning	Enterococci Exceedance	8/14/15	8/19/15		6			
	Warning	Enterococci Exceedance	9/3/15	9/10/15		8			
	Warning	Rainfall Event	9/11/15	9/12/15		2			
GERRITSEN/KIDDIE BEACH	Warning	Rainfall Event	6/1/15	6/1/15	103	1	11	0	11
	Warning	Rainfall Event	6/28/15	6/29/15		2			
	Warning	Rainfall Event	7/1/15	7/1/15		1			
	Warning	Rainfall Event	7/9/15	7/10/15		2			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			

Table B-3: Private Beaches Warnings and Closures (continued)

Beach	Types	Reason	Start Date	End Date	Beach Days	Notification Days	Total Notification Days		
							Warning	Closure	Total
KINGSBOROUGH COMMUNITY COLLEGE	Warning	Enterococci Exceedance	6/3/15	6/10/15	99	8	15	0	15
	Warning	Enterococci Exceedance	8/5/15	8/11/15		7			
LOCUST POINT YACHT CLUB	Warning	Rainfall Event	6/1/15	6/2/15	97	2	17	0	17
	Warning	Enterococci Exceedance	6/4/15	6/10/15		7			
	Warning	Rainfall Event	6/28/15	6/29/15		2			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
MANHEM BEACH CLUB	Warning	Rainfall Event	6/1/15	6/2/15	90	2	24	0	24
	Warning	Enterococci Exceedance	6/4/15	6/10/15		7			
	Warning	Enterococci Exceedance	6/18/15	6/24/15		7			
	Warning	Rainfall Event	6/28/15	6/29/15		2			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
MORRIS YACHT AND BEACH CLUB	Warning	Rainfall Event	6/1/15	6/2/15	104	2	10	0	10
	Warning	Rainfall Event	6/28/15	6/29/15		2			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
SCHUYLER HILL CIVIC ASSOCIATION	Warning	Rainfall Event	6/1/15	6/2/15	104	2	10	0	10
	Warning	Rainfall Event	6/28/15	6/29/15		2			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
SEAGATE 42nd	Closure	Confirmed Enterococci Exceedance	6/24/15	6/25/15	112	2	0	2	2
SEAGATE BEACH CLUB					114	0	0	0	0

Table B-3: Private Beaches Warnings and Closures (continued)

Beach	Types	Reason	Start Date	End Date	Beach Days	Notification Days	Total Notification Days		
							Warning	Closure	Total
TRINITY DANISH YOUNG PEOPLE'S SOCIETY	Warning	Rainfall Event	6/1/15	6/2/15	78	2	36	0	36
	Warning	Enterococci Exceedance	6/4/15	6/10/15		7			
	Warning	Enterococci Exceedance	6/18/15	7/8/15		21			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
WEST FORDHAM STREET ASSOCIATION	Warning	Rainfall Event	6/1/15	6/2/15	92	2	22	0	22
	Warning	Enterococci Exceedance	6/25/15	7/8/15		14			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
WHITE CROSS FISHING CLUB	Warning	Rainfall Event	6/1/15	6/2/15	58	2	49	7	56
	Warning	Enterococci Exceedance	6/4/15	7/1/15		28			
	Closure	Confirmed Enterococci Exceedance	7/2/15	7/8/15		7			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Enterococci Exceedance	7/16/15	7/22/15		7			
	Warning	Enterococci Exceedance	7/30/15	8/5/15		7			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
WHITESTONE BOOSTER CIVIC ASSOCIATION	Warning	Rainfall Event	6/1/15	6/2/15	98	2	16	0	16
	Warning	Enterococci Exceedance	6/4/15	6/10/15		7			
	Warning	Rainfall Event	7/1/15	7/1/15		1			
	Warning	Rainfall Event	7/15/15	7/15/15		1			
	Warning	Rainfall Event	7/31/15	7/31/15		1			
	Warning	Rainfall Event	8/11/15	8/12/15		2			
	Warning	Rainfall Event	9/10/15	9/11/15		2			
	Warning	Enterococci Exceedance	6/13/14	7/8/14		26			
Private Beaches TOTAL					**1595**	**343**	**327**	**16**	**343**

APPENDIX C: 2015 INSPECTION SUMMARY

Table C-1: Inspection Non-Compliance Summary *

Beach Name	Public Health Hazard Violations**		General Violations***				
	167.05(c)	167.09(13)	167.31(b) & 167.39(b)	167.31(d) & 167.39(b)(2)	167.31(e) & 167.39(a)	167.31(f) & 167.39(c)	167.09(13)
CONEY ISLAND BEACH		√	√		√		√
GERRITSEN/KIDDIE BEACH	√						
MANHATTAN			√				
ROCKAWAY BEACH		√	√				√
SEA GATE 42ND			√			√	
SOUTH BEACH				√			
WEST FORDHAM STREET ASSOCIATION				√			

* All other beaches were in full compliance of the regulations at the time of inspection **

Public Health Hazard Violations:

§167.05(c)	Operating a bathing beach with an expired permit
§167.09(13)	Any other condition determined to be a Public Health Hazard by the department *(e.g. "Danger Submerged Object" sign missing).*

***** General Violations:**

§167.31(b) & §167.39(b)	Failure to provide adequate toilet and shower facilities
§167.31(d) & §167.39(b)(2)	Failure to provide liquid soap, paper towels or electric hand dryer
§167.31(e) & §167.39(a)	Failure to properly maintain the building structure free of cracks or open joints on the walls or floors
§167.31(f) & 167.39(c)	Failure to provide drinking water fountain or use of an unapproved or contaminated water supply source for potable water use.
§167.09(13)	Any other condition determined to be a Public Health Hazard by the department *(e.g. Boardwalk observed with missing and protruding planks and protruding screws causing a tripping hazard, railing in disrepair, or large pieces of lumber and construction material observed on beach).*

Appendix 11

Combined Sewer Overflow Annual Report Checklist

Upcoming CSO milestones

CSO LTCP Control Information

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER

COMBINED SEWER OVERFLOWS ANNUAL REPORT

PART I. GENERAL INSTRUCTIONS: The Combined Sewer Overflows (CSO) Annual Report is consistent with the EPA CSO Long-Term Control Policy requiring permitting authorities to report "Measures of Success" of the policy implementation. Hence, the goal of this report is to obtain information regarding:

1. Compliance with the 15 CSO Best Management Practices;
2. The condition and operation of the combine sewer system (CSS) components. Most importantly, the end-of-pipe measures that show trends in the discharge of CSS flows to the receiving water body, such as reduction of pollutant loadings, the frequency of CSOs, and the duration of CSOs;
3. Receiving water body measures that show trends of the conditions in the water body to which the CSO occurs;
4. Overall status of the CSO LTCP, if applicable;
5. Key CSO control accomplishments and design and construction progress in the previous year

Permittee must complete ALL parts of the form and must attach all supporting documents. Please be aware that this annual report form template highlights the minimum requirement a permittee is expected to submit. Permittee is obligated to complete abatement activities to ensure compliance with the Clean Water Act. This report is also consistent with NYS *6 NYCRR 750-2.1(i)*.

Special Instructions:

1. Multiple permittees (for instance NYC and Albany Pool) responsible to develop a single LTCP can submit one form and also complete Section D of this form.
2. **ALL SECTIONS OF THIS REPORT MUST BE COMPLETED.**

Part II - CSO LTCP Control Information

CSO Facility: NY0026239: Alley Creek, Flushing Bay, NY0026212: Paerdegat, Spring Creek	Flow:	MGD

SECTION A: CSO LTCP GENERAL INFORMATION

LTCP Development/Implementation:

Check all that apply:		*Describe other controls currently being used or planned. Also describe how the objectives of the CSO Control Policy have been met.*
In Development	✓	The Paerdegat Basin LTCP has been submitted and approved; the proposed 50 MG CSO RTF is in operation. Six (6) LTCPs have been submitted to DEC to date and are awaiting DEC Approval: Alley Creek, Westchester Creek, Hutchinson River, Flushing Creek, Bronx River, Gowanus Canal. Five (5) other LTCPs in development: Flushing Bay, Coney Island Creek , Jamaica Tributaries & Bay, Newtown Creek, and Citywide. The goal of each LTCP, as described in the LTCP Goal Statement in the 2012 Order of Consent, is to identify, with public input, appropriate CSO controls necessary to achieve waterbody-specific water quality standards consistent with the CSO Control Policy and related guidance.
Submitted	✓	
Approved	✓	
In Progress	✓	
Completed	✓	
Not Required		

CSO Controls:

Check all that apply:		*Describe other controls currently being used or planned. Also describe how the objectives of the CSO Control Policy have been met under the selected controls*
Source Controls	✓	1995 – 2013: 4 CSO Storage Tanks (118 MG), Pumping Station Expansions (Ave V and NC WWTP), Floatables Control (Bronx & Gowanus), NYC Green Infrastructure Program Initiated, Dredging (Paerdegat Basin and Hendrix Creek) 2014 – 2030: Wet Weather Maximization (Tallman Island), Dredging (Flushing Bay), Flushing Tunnel and Pump Station Upgrades (Gowanus Canal), In-basin Aeration (Newtown Creek), Regulator Modifications (Westchester Creek, Newtown Creek, Jamaica Tributaries), Sewer Work (Pugsley Creek, Fresh Creek HLSS, Belt Pkwy Crossing, and Flushing Bay Low Lying Sewers), Plant Wet Weather Stabilization (26W), GI Program to manage 1" of rain on 4% of impervious surfaces in CS area by 2020, and 10% by 2030. Above CSO controls are implemented / planned to achieve waterbody-specific water quality standards consistent with the CSO Control Policy and related guidance.
Collection System Controls	✓	
Storage Technologies	✓	
Treatment Technologies	✓	
Floatable Controls	✓	
Disinfection	✓	
Type: Chlorination		

Post-Construction Compliance Monitoring (PCCM) Program:

Check all that apply:		*Describe PCCM findings, status, updates, and future plan. Attach a separate sheet if necessary and describe if the PCCM confirms that LTCP is meeting the t objectives of the CSO Control Policy*
In Development	✓	PCCM is a component of the approved Waterbody Watershed Plans and the LTCPs; as CSO facilities come online a PCCM program is undertaken to asses the effectiveness of these controls. There are active PCCM programs for Alley Creek, Paerdegat Basin, Flushing Creek, and Spring Creek and reports are submitted to DEC annually.
Submitted	✓	
Approved		
In Progress		
Completed	✓	
Not Required		

Part II - CSO LTCP Control Information

SECTION B: OUTFALL INFORMATION

List all existing and active CSO the outfalls. Attach extra sheets, if necessary.

Outfall #	Latitude	Longitude	Receiving Water/Classification	# of Regulators Associated with this Outfall	Type of Regulator(s) Associated with this Outfall (Fixed Dam, Float / Dynamic, Elevated Pipe, Wet Well Overflow, etc.)
This	information	was	submitted to NYSDEC under	separate cover on	March 31, 2016.

Part II - CSO LTCP Control Information

List all CSO the outfalls that have been closed or separated since LTCP development. Attach extra sheets, if necessary.

Outfall #	Latitude	Longitude	Receiving Water/Classification	Indicate Reason for Closure
This	information	was	submitted to NYSDEC under	separate cover on March 31, 2016.

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-see below

Part II - CSO LTCP Control Information

SECTION C: CSO EVENTS, DISCHARGE VOLUME, ETC. Provide an estimate or actual data on overflow events. If necessary, use a separate spreadsheet to report all CSO outfalls.

CSO Outfall #	No. of overflow events in the previous year		Total Annual CSO Volume Discharged (MG)		Total Annual Volume Captured or Diverted to POTW (MG)		# of CSO Outfalls		Indicate type of overflow measurements (e.g. metered, estimated, or modeled). *If other, please describe.*
	Baseline	Current	Baseline	Current	Baseline	Current	Baseline	Current	
See	attached table	following	the checklist.						

Part II - CSO LTCP Control Information

CSO Outfall #	No. of overflow events in the previous year		Total Annual CSO Volume Discharged (MG)		Total Annual Volume Captured or Diverted to POTW (MG)		# of CSO Outfalls		Indicate type of overflow measurements (e.g. metered, estimated, or modeled). *If other, please describe.*
	Baseline	Current	Baseline	Current	Baseline	Current	Baseline	Current	
TOTAL									

Part II - CSO LTCP Control Information

SECTION D: Collection System Information

	Baseline	After CSO BMP and/or LTCP Implementation	Current
Percentage of the collection system owned by the permittee that is combined.		45	
Approximate no. of miles of combined sewers in the permittee owned system		3337	
Number of combined sewer outfalls in the permittee owned system	404		426
Average annual no. of CSO events in the permittee owned system	40	TBD	21
Average annual CSO volume discharged from the permittee owned system (MG)	29,566	TBD	17,393
Population served by the permittee's owned system	8,008,278		8,550,405
Number of satellite system connections			n/a

Use the space below to provide any further relevant information on the collection system. This should include a description of any unique ownership, operation and maintenance agreements or further explanation and description of satellite system connections. (Attach extra sheets, if necessary):

(1) Baseline is taken from the Waterbody Watershed Facility Plan (WWFP) baseline and was selected as the pre CSO BMP baseline. It is based on 2007 InfoWorks Model Calibration Report and uses 2040 projected sanitary flows, JFK 1988 annual precipitation, and 2003 WWTP wet weather operating data.
(2) Percentage of system that is combined and approx. number of miles "after CSO BMP implementation" is based on BMP implementation as of 2008.
(3) Current is based on the 2012 InfoWorks Model Recalibration Reports and some additional refinements were made to landside models when developing LTCP reports. It is based on 2015 observed precipitation data at 4 of the NOAA stations and CY2015 plant and CSO facility operating data.

Part II - CSO LTCP Control Information

SECTION F: Use this section to describe how the implementation of the LTCP development and implementation have met the water quality standards of the receiving stream(s) and also objectives of the EPA CSO Control Policy (attach extra sheets as necessary):

LTCPs have been submitted but only the Paerdegat Basin LTCP has been approved and the proposed 50 MG CSO Retention Treatment Facility (RTF) is currently in operation. DEP also has 3 other CSO RTFs in operation.

SECTION G: Use the following space to summarize other planned CSO control projects (attach extra sheets as necessary):

Some projects are ongoing and/or completed, from the Waterbody Watershed Facility Plans. See the attached 2012 CSO Order Appendix A for projects and milestone dates.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:	Official Title: Acting Deputy Comm	Phone: 718 595-5046
Signature:	Date Signed: 5/2/16	Email: jpetito@dep.nyc.gov

NYS DEPARMENT OF ENVIRONENTAL CONSERVATION

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

Check N/A if not required in the permit, consent order, or LTCP:

1. **CSO Maintenance/Inspection** *6 NYCRR 750-2.8(a)(2) (EPA NMC: Proper Operation and Maintenance)*	YES	NO	N/A
Is there a written program for the operation, inspection and maintenance of the CSS?			
Does the program include procedures for ALL outfalls in the permit?	✓		
Does the program include procedures for ALL regulators in the permit?	✓		
Are inspections conducted at least as frequently as required in the permit (weekly or monthly)?	✓		
Are inspections conducted during dry and wet weather?	✓		
Do the inspection reports indicate visual inspection, any observed flows, incidence of rain or snowmelt, condition of equipment, and any work required?	✓		
Are inspection reports submitted to the DEC regional office with the monthly operating reports?			
Is the written program sufficiently detailed? Indicate which of the following additional components are included in the plan.	✓		
Pump Stations	✓		
Sewer cleaning			✓
Sewer Manholes and Catch Basins			✓
Outfalls			✓
CSO Controls			✓
Are there inter-municipal agreements which require inspection and maintenance?			✓
Are any changes planned in the upcoming year for the agreements to make them more effective?			✓
Is the collection system mapped using GIS?			✓
Entire system, including manholes and catch basins?			✓
In the past year, was significant mapping progress accomplished?			✓
In the upcoming year, is GIS mapping planned?			✓
Is the collection system monitored using a SCADA system?			✓
In the past year, was significant progress accomplished in installing or expanding monitoring with a SCADA system?			✓
In the upcoming year, is installation of a SCADA system planned or being expanded?			✓
Does the municipality have an asset management plan that includes the collection system?			✓
Are funds available to carry out the BMP requirements?			✓
Are any major equipment purchases planned or expected in the next five years related to the BMP requirements? If yes, describe below			✓
Is the pump inventory, including spare parts, adequate for the upcoming year?			✓
Is sufficient staff training available?			✓

BMP 2 /CSO Maintenance & Inspections

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

	YES	NO	N/A
Is funding for training adequate and available?	☐	☐	☑
Is sufficient staff training available?	☐	☐	☑
Is funding for training adequate and available?	☐	☐	☑
Have any work efforts or problems in the past year resulted in changes in overflows? If yes, describe below	☑	☐	
Fewer events	☑	☐	
Less volume	☑	☐	
Reduction in floatables, settleable solids or oil and grease discharged	☑	☐	
Reduction in industrial pollutants (chemicals)	☑	☐	
Improvement in water quality of receiving waterbody	☑	☐	
In the past year, was the inspection and maintenance program mostly:			
Reactive (responding to problems)	☐	☑	☐
Proactive (focusing on preventative maintenance to avoid problems)?	☑	☐	☐
If the program is mostly reactive, describe below any plans to shift the emphasis to prevention	☐	☐	☐

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

Please refer to the narrative in DEP's BMP report.

BMP 2 /CSO Maintenance & Inspections

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

2. Maximum Use of Collection System for Storage *6 NYCRR 750-2.7(f), 750-2.8(a)(2), 750-2.8(a)(5) (EPA NMC: Maximum Use of Collection System for Storage)*	Yes	No	N/A
Are CSOs minimized, and flow to the treatment plant maximized?	✓		
Has the hydraulic capacity of the system been evaluated?	✓		
Is there a continuous program of flushing and cleaning to prevent deposition of solids?	✓		
Have regulators and weirs been adjusted to maximize storage without causing service backups?	✓		
In the past year or the upcoming year, have any changes to structures or procedures been made or planned that will improve use of the collection system for storage? Describe below		✓	
Tidegates maintenance/repairs/replacement		✓	
FOG program			
Removal of small systems bottlenecks			
Sewer cleaning and sediment removal			
Removal of flow obstructions			
Regulator or weir adjustment - list locations below	✓		
In-line storage: Inflatable dams or sluice gates		✓	
Wet Weather Operating Plan	✓		
Do the municipalities within the combined sewer system have a water conservation program for homeowners?	✓		
In the upcoming year are there any studies, work, or projects planned (other than routine activities) to improve use of collection system for storage? Describe below.	✓		

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See attachment titled "Upcoming CSO CO milestones" for projects planned to improve the use of the collection system for storage.

- Installation of Bending Weirs at Regulators JA-03, JA-06, and JA-14 by June 2016

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

3. Industrial Pretreatment *6 NYCRR 750-2.7(f) and 2.9(a)(4)* *(EPA NMC: Review and Modify Pretreatment Requirements)* ☐ N/A	YES	NO	N/A
Has the impact on CSOs from nondomestic users that discharge toxic pollutants been evaluated, and steps taken to minimize such impacts?	✓		
Is there an approved pretreatment or mini-pretreatment program?	✓		
If there is no pretreatment or min-pretreatment program, are there any nondomestic users? If No to both of the previous questions, go to BMP 4			
Is there an inventory of industrial dischargers? Is the following information included?	✓		
Volume of discharge?	✓		
Pollutants in discharge?	✓		
Are any pollutants classified as "persistent toxics" or bioaccumulative?	✓		
Is the location included on the collection system map?			✓
Are there any industrial discharges that could reach CSO outfalls?	✓		
If yes, have any industrial dischargers been identified as contributing to a water quality impairment?		✓	
If yes, does the industry have a holding tank or EQ tank to store wastewater prior to discharge to the collection system?		✓	
If yes, does the industry have a written plan to store or hold discharges during rain events?		✓	
If yes, has the industry been asked to prepare a written plan to store or hold discharges?		✓	
In the past year, have there been negotiations or changes to agreements with industrial dischargers which will potentially reduce impacts during CSO events? Describe below.		✓	
In the upcoming year, are any negotiations or changes to agreements with industrial dischargers planned which will potentially reduce impacts during CSO events? Describe below.		✓	

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See BMP Report narrative.

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

4. Maximize Flow to POTW *6 NYCRR 750-2.7(f), 2.8(a)(2), and 2.8(a)(5)* *(EPA NMC: Maximum Flow to POTW for Treatment)* ☐ N/A	YES	NO	N/A
In the past year, were the headworks, primary treatment works and disinfection works able to pass the flows specified in the permit for all wet weather flows?	☐	✓	☐
In the past year, was the secondary treatment works able to treat the flows specified in the permit for all wet weather flows?	☐	✓	☐
If the answer to either of the above questions was No, has a plan and schedule to accomplish this been submitted to the Department?	✓	☐	☐
In the past year have there been any physical modifications to the collection system which have allowed more flow to reach the POTW? Describe below.	☐	✓	☐
Are any physical modifications planned for the upcoming year?	☐	✓	☐
Are there areas of the collection system, including pump stations that need additional study to evaluate capacity, condition, or to determine if illegal connections (i.e. inflow) exist? List below	✓	☐	☐
In the past year, have any new problem areas been identified that restrict flow to the plant? List locations below	☐	✓	☐
In the upcoming year, are there plans to address hydraulic restrictions or bottlenecks?	☐	✓	☐
Pipe replacement	☐	✓	☐
Construction of relief sewer	✓	☐	☐
Construction of overflow tank	☐	✓	☐
Pump station improvements	✓	☐	☐
Pump replacement	✓	☐	☐
Weir adjustment	✓	☐	☐
Smoke testing, dye testing to identify illicit connections	☐	✓	☐
Other:	☐	☐	☐

DESCRIBE BELOW HOW THIS **BMP** IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE **SPDES** PERMIT, AND THE OBJECTIVES OF THE **EPA** NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

- Installation of Bending Weirs at Regulators JA-03, JA-06, and JA-14 by June 2016
- Completion of Low Lying Diversion Sewer and Raising Weir at regulator BB-02 by December 2016

BMP 4 Maximize Flow to POTW

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

5. Wet Weather Operating Plan (WWOP) *6 NYCRR 750-2.8(a) (EPA NMC: None)* ☐ N/A	YES	NO	N/A
Has a WWOP been developed, specifying procedures for unit operations, to maximize treatment during wet weather events while not diminishing effluent quality or destabilizing treatment upon return to dry weather operation?	☑	☐	☐
In the past year, did treatment of wet weather flows cause any effluent violations or destabilize treatment upon return to normal service?	☑	☐	☐
Has the WWOP been developed in accordance with the DEC guidance, "Wet Weather Operating Practices for POTWs with Combined Sewers"? If no, describe changes needed.	☑	☐	☐
Has the WWOP been submitted to the Regional Office and Bureau of Water Permits (Albany) for review and approval?	☑	☐	☐
If the collection system or plant has been modified or upgraded, has the WWOP been modified to reflect new flow rates or new procedures?	☑	☐	☐
If yes, has the revised plan been submitted to the Regional Office for approval?	☑	☐	☐
Does the plan identify the maximum flows through preliminary, primary, secondary treatment, tertiary, and disinfection units?	☐	☑	☐
In the upcoming year, are changes to the plan expected?	☐	☑	☐

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See BMP Report.

BMP 5 WWOP

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

6. **Prohibition of Dry Weather Overflows** *6 NYCRR 750-2.7 and 2.8(b)(2)* *(EPA NMC: Eliminate Dry Weather Overflows)* ☐ N/A	YES	NO	N/A
In the past year, were there any dry weather overflows? If no, skip to BMP 7.	✓		
Were all dry weather overflows reported in accordance with 6 NYCRR Part 750-2.7 (incident reporting)?	✓		
If dry weather overflows occurred, indicate which procedures or equipment have been improved or replaced			
Schedule for routine inspections		✓	
Management, operation and maintenance program			✓
Modification of existing or issuance of new inter-municipal agreements			✓
FOG program		✓	
Removal of illicit connections		✓	
I/I Control program		✓	
Leaky tidegates		✓	
Adjustment and/or repair of regulators		✓	
Pumps		✓	
Auxiliary power		✓	
Elimination of hydraulic bottlenecks			✓
Adequate dry weather flow capacity at the treatment plant		✓	
Other, list below			
Has additional staff training been provided?			✓
Has the likelihood of future dry weather overflows been eliminated? If not, describe additional information below.		✓	

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See BMP Report.

BMP 6 Prohibition of Dry Weather Overflows

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

7. **Control of Floatables and Settleable Solids** *6 NYCRR 750-2.8(a)(4)* *(EPA NMC: Control of Solid and Floatable Materials in CSOs)* ☐ N/A	YES	NO	N/A
In the past year, were did any outfalls discharge floating solids, oil and grease, or solids of sewage origin?	✓		
Have BMPs been implemented to eliminate or minimize the discharge of floatables and settleable solids?	✓		
Have any of the following measures been implemented (either existing from previous years, in the past year) or will any be implemented in the upcoming year? If significant progress has been made in implementing these, or if significant improvements have occurred, describe below.			
Floatables quantification	✓		
Booming and skimming of open waters	✓		
Source controls (street cleaning, public education, household hazardous waste collection, solid waste collection, recycling, and/or composting of lawn/leaf/roadkill deer)	✓		
In-line netting	✓		
Screens	✓		
Catch basin hoods	✓		
Other:			
Are any changes needed or planned for the upcoming year? Describe additional information below.		✓	

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See BMP Report.

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

8. **Combined Sewer System Replacement** *6 NYCRR 750-2.10(i) (EPA NMC: None)* ☐ N/A	YES	NO	N/A
In the past year, were any combined sewers designed or constructed that were not approved by DEC?	☐	☐	✓
If yes, was the combined sewer replaced by separate sanitary and storm sewers to the greatest extent possible?	☐	☐	☐
If yes, were the separate sanitary and storm sewers designed and constructed simultaneously but without interconnections to the maximum extent practicable?	☐	☐	☐
Is the combined portion of the collection system completely identified on maps or GIS?	✓	☐	☐
Are there any plans or current projects to separate combined sewers into sanitary and storm sewers?	☐	✓	☐
Is there an approved engineering plan for this project?	☐	☐	☐
In the past year, how many areas of combined sewer were separated? acres			
In the upcoming year, how many areas of combined sewer are scheduled to be separated? acres			
Are the sewer replacement projects on schedule? If no, describe below.	☐	☐	☐
Overall, has the implementation of this BMP resulted in fewer overflow events and/or less volume discharged? Describe below.	☐	✓	☐

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See BMP Report.

BMP 8 Combined Sewer System Replacement

PERMITTEE NAME: _____ SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

9. Combined Sewer Extension *6 NYCRR 750-2.10(i) (EPA NMC: None)* ☐ N/A	YES	NO	N/A
In the past year, were any combined sewers extended not using separate sewers?	✓		
Were sanitary and storm sewers extensions designed and constructed simultaneously but without interconnections?		✓	
Were any new sources of stormwater added to a separate sewer anywhere in the collection system?		✓	
If separate sewers were extended from combined sewers, was it demonstrated that the sewerage system had the ability to convey, and the treatment plant had the ability to adequately treat, the increased dry-weather flows?	✓		
If determined necessary by the Regional Water Engineer, was an assessment made of the effects of the increased flow of sanitary sewage or industrial waste on the strength of CSOs and their frequency of occurrence, including the impacts upon best usage of the receiving water?			✓
Has a recent combined sewer extension resulted in increased discharge from a CSO?			
Has a recent combined sewer extension resulted in increased flow to the POTW? Describe any CSO impacts below.			
Is any development planned upstream of a combined sewer?	✓		
If yes, has a sewer extension plan been submitted for review and approval?			✓
If the approval contained a flow credit requiring removal of I/I, what was the requirement or ratio?			✓
Does the plan include any flow retention structures?			✓

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See BMP Report.

BMP 9 Combined Sewer Extension

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

10. **Connection Prohibitions** *6 NYCRR750-2.9(a)(5) (EPA NMC: None)* ☐ N/A	YES	NO	N/A
In the past year, were any sewer connections approved, in spite of a notice from DEC to prohibit further connections due to documented, recurrent instances of sewage backing up into house(s) or discharges of raw sewage onto the ground surface from surcharging manholes?	☐	☐	☑
Are new connections prohibited by the DEC? If no, skip to BMP 11.	☐	☑	☐
Is this due to basement backups?	☐	☐	☐
Is this due to surcharging manholes?	☐	☐	☐
In the upcoming year, is any work planned to either increase capacity or reduce hydraulic loading? Describe below.	☐	☐	☐

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See BMP Report.

BMP 10 Connection Prohibitions

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

11. **Septage and Hauled Waste** *6 NYCRR750-2.7(f) and 2.8(a)(1) (EPA NMC: None)* ☐ N/A	YES	NO	N/A
In the past year, has there been any discharge or release of septage or hauled waste into the collection system upstream of a CSO?	☐	✓	☐
Does the facility have authorization from DEC to accept hauled waste or septage at a location other than the POTW? Describe below.	☐	☐	✓
Are any of these locations upstream of a CSO?	☐	☐	☐
Are there any agreements with haulers to accept waste at a location other than at the POTW?	☐	☐	☐
In the past year, was any hauled waste or septage accepted at a location other than at the POTW?	☐	☐	☐
What was the total volume received at locations other than the POTW?	☐	☐	☐
Is there a dedicated location to discharge septage at the POTW?	✓	☐	☐
Are there restrictions on when the plant accepts hauled waste or septage?	✓	☐	☐
Have there been any changes to the POTW's policy on septage and hauled waste in the past year? Are any changes needed or planned in the upcoming year?	☐	✓	☐

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See BMP Report.

BMP 11 Septage & Hauled Waste

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

12. **Control of Run-off** *6 NYCRR750- 2.1(e) (EPA NMC: None)* ☐ **N/A**	YES	NO	N/A
Is sediment in runoff from construction zones entering catch basins in the combined sewer system?	☐	☐	✓
Is there adequate communication between the local municipal department that enforces local stormwater codes and ordinances and the collection system staff regarding stormwater runoff?	☐	☐	✓
Do the municipalities within the combined sewer system have adequate storm water pollution prevention programs to reduce pollutants in stormwater?	☐	☐	✓
Annual household hazardous waste collection	☐	☐	✓
Autumn leaf collection	☐	☐	✓
Lawn clippings	☐	☐	✓
Christmas tree pickup	☐	☐	✓
Roadkill deer composting	☐	☐	✓
Fertilizer and pesticide management	☐	☐	✓
Enforcement of litter laws	☐	☐	✓
Public education programs on composting	☐	☐	✓
Are any changes needed in the implementation of this BMP to reduce the number of CSO events, the volume discharged, or pollutants in the discharge? If yes, describe below.	☐	✓	☐

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

See BMP Report.

BMP 12 Control of Runoff

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

13. **Public Notification** *6 NYCRR 750-1.12 (EPA NMC: Public Notification)* ☐ N/A	YES	NO	N/A
Have identification signs been installed and maintained at all CSO outfalls owned and operated by the permittee?	✓		
Are all signs placed at or near the outfall?	✓		
Are the signs easily readable by the public?	✓		
Are the signs a minimum size of 18" by 24"?	✓		
Do the signs have white letters on a green background?	✓		
Do all the signs contain the following information:			
SPDES permit number	✓		
Outfall number	✓		
Permittee name, contact name and phone number at business office or NYSDEC Division of Water regional contact address and phone number	✓		
For waters that are Class B or higher, is a public notification program implemented to inform citizens of the location and occurrence of CSO events?	✓		
Does this program include a mechanism (public media broadcast, standing beach advisories, newspaper notice, etc) to alert potential users of the receiving waters affected by CSOs?	✓		
Does this program include a system to determine the nature and duration of conditions that are potentially harmful to users of these receiving waters due to CSOs?	✓		
Were there any problems in the past year with missing or damaged signs? Describe below.	✓		
Is there a written public notification plan?	✓		
Does the plan list all methods used to notify the public of CSO events?	✓		
Does the plan list outfalls where signs are posted?	✓		

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

DEP replaced and repaired 34 signs that were missing or damaged in 2015. There are a total of 422 signs.

BMP 13 Public Notification

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

14. **Characterization and Monitoring** *(6 NYCRR 750-1.11(a), 2.5(a) and 2.7(g)) (EPA NMC: Monitoring)*	YES	NO	N/A
If required in the permit, has the combined sewer system been characterized to determine the frequency of overflows, and identify CSO impacts?	☐	☐	☐
Was a baseline sampling program established as part of the LTCP development?	☑	☐	☐
Are all outfalls monitored during discharge events for:	☐	☐	☑
Flow Volume:	☐	☐	☐
Frequency:	☐	☐	☐
Duration:	☐	☐	☐
If all outfalls are not monitored, explain how sufficient data is obtained to document the success of the BMPs.	☐	☐	☐
List locations of rain gauges or the source of data, below.	☐	☐	☐
Has a Post Construction Modeling and Monitoring plan been submitted to the Department for review and approval?	☑	☐	☐
Has the Department approved the Post Construction Modeling and Monitoring plan?	☑	☐	☐
Has post construction monitoring and modeling of the receiving water begun? Attach results if this has not already been provided.	☑	☐	☐

DESCRIBE BELOW HOW THIS BMP IMPLEMENTATION HAS MET THE REQUIREMENTS OF THE SPDES PERMIT, AND THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS. (Attach extra sheet if necessary)

A requirement to monitor outfalls was added to NYC's SPDES permits in November 2015; information on that will be reported on in coming years, to the extent it is required by the permit.

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

15. **Annual report** *6 NYCRR 750-2.1(i)* ☐ **N/A** *(EPA NMC: None; Required in LTCP permit)*	YES	NO	N/A
Is this report being used to satisfy BMP 15, Annual report, and the BMP checklist?	✓		
Is existing documentation of implementation of the BMPs included?	✓		
Is this annual report submitted by January 31 to the Regional Office and the Bureau of Water Permits (Albany)?			✓
Attach any additional information necessary to document the implementation of BMPs in the past year or list plans for the upcoming year.	✓		
Overall, was implementation of the BMPs effective in controlling and minimizing CSO discharges?	✓		
If no, list any improvements needed that have not been described elsewhere			✓

BMP 15 Annual Report

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

ADDITIONAL INFORMATION:

DESCRIBE BELOW IN DETAIL OTHER "MEASURE OF SUCCESS" ABOVE AND BEYOND THE REQUIREMENTS OF THE SPDES PERMIT. DESCRIBE HOW ADDITIONAL PROJECT(S) HAS HELPED TO MEET THE OBJECTIVES OF THE EPA NINE MINIMUM CONTROLS POLICY. (Attach extra sheet if necessary)

PERMITTEE NAME: _____ SPDES PERMIT NO.: NY-_____

PART III - CSO BEST MANAGEMENT PRACTICES

SECTION D: For Multiple Permittees Only

Permittee Name	SPDES Permit Name	SPDES Permit No

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

SECTION E: GLOSSARY/ACCRONYMS

For the purposes of this annual report, the following terms and acronyms are described below:

Baseline: Conditions before the development and/or implementation of CSO BMPs and/or LTCP.

Best Management Practice (BMP): Permit condition used in place of or in conjunction with effluent limitations to prevent or control the discharge of pollutants. May include schedule of activities, prohibition of practices, maintenance procedure, or other management practice. BMPs may include, but are not limited to, treatment requirements, operating procedures, or practices to control plant site runoff, spillage, leaks, sludge or waste disposal, or drainage from raw material storage.

Bypass: A discharge of wastewater, stormwater, or combination of both, around a treatment unit designed for the removal of pollutants.

Catch Basin: A chamber usually built at the curbline of a street, which admits surface water for discharge into a storm drain

Collection System: A wastewater collection system which conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and stormwater through a single pipe to a publicly owned treatment works for treatment prior to discharge to surface waters.

Combined Sewer: A sewer designed to carry wastewater and stormwater runoff.

Combined Sewer Overflows (CSO): A discharge of untreated wastewater from a combined sewer system at a point prior to the headworks of a publicly owned treatment works. CSOs generally occur during wet weather (rainfall or snowmelt). During periods of wet weather, these systems become overloaded, bypass treatment works, and discharge directly to receiving waters.

Combined Sewer System (CSS): A wastewater collection system that conveys sanitary wastewaters and storm water through a single pipe to a publicly owned treatment works for treatment prior to discharge to surface waters.

Demonstrative Regulatory Approach: Control approach where a permittee develops and implement an LTCP that meets the state water quality standards. A permittee could develop an LTCP that would provide for attainment of water quality standards, or it could use a total maximum daily load (TMDL) to *demonstrate* that water quality standards can be attained through a combination of CSO controls and other controls.

EPA: Environmental Protection Agency

EQ Tank: Equalization Tank often used to smooth hydraulic peaks to a POTW or WWTP.

Fats Oil & Grease (FOG)

Geographic Information System (GIS) is a computer-based tool for mapping and analyzing features in the environment. GIS support a wide range of activities including water quality modeling, watershed planning, and wetlands permitting and mitigation.

GI: Green" Infrastructure

Infiltration/Inflow (I/I): Rainwater, snowmelt, or groundwater flowing into separate sanitary or combined sewers, typically introduced via connected roof downspouts and/or building footing drains or infiltrating into the pipe through cracks in the pipe walls or joints.

This Period: Period covering the last 12 months from January to December

Last Period: Activities covering the 12 calendar months prior to the end of the current period

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- see below

PART III - CSO BEST MANAGEMENT PRACTICES

Long Term Control Plan (LTCP): An engineering document that characterizes and assesses CSO discharge to a receiving waterbody. The goal of the Plan is to comply with the water quality standards of the receiving waterbody.

Million Gallons per Day (MGD) is a unit of flow commonly used for wastewater discharges. One mgd is equivalent to 1.547 cubic feet per second.

Multiple Permittees here is described as when a group of permittees (e.g. Albany Pool) is responsible to develop a single LTCP or when a single LTCP is required for multiple SPDES permit under a single permittee (e.g. NYC).

Nine Minimum Controls (NMC) provide information on nine minimum technology-based controls that permittees are expected to use to address CSO problems, without extensive engineering studies or significant construction costs, before long-term measures are taken.

NYSDEC: New State Department of Environmental Conservation (interchangeably uses as DEC)

Publicly Owned Treatment Works (POTW): Also commonly referred to as "treatment facility, WWTP (Wastewater Treatment Plant)

SPDES Permit: State Pollutant Discharge Elimination System Permit. A permit issued by DEC, authorized under the federal Clean Water Act, to discharge treated wastewater to waters of the United States.

Overflow Events: An event starts once an overflow starts from an outfall, and ends once the overflow stops and the pumpback to treatment facility have ended.

Presumptive Approach: The presumption approach is based on the assumption that an LTCP that meets certain minimum defined performance criteria. The "presumption approach," under which achievement of certain performance criteria (i.e., 4-6 untreated overflow events or 85 percent by volume capture) would be presumed to provide an adequate level of control to attain water quality standards

Raw Sewage: Untreated sanitary sewage.

Sanitary Sewer Overflow (SSO) is an untreated or partially treated sewage discharge from the sanitary sewer collection system.

Separate Sewer (SS): A pipe or conduit intended to convey only sanitary sewage to a wastewater treatment facility.

SPDES: State Pollutant Discharge Elimination System

Sewer System: A public or privately owned wastewater collection facility designed and used to convey or treat sanitary sewage or sanitary sewage and storm water. Sewer system does not include an on-site wastewater treatment system serving one residential unit or duplex.

Supervisory Control and Data Acquisition (SCADA) is a complex computer system that provides automatic control of stormwater storage and overflows at various locations within the sewer system.

Volume Discharged: Total discharge volume for the event (in millions of gallons) from each CSO outfall within this reporting period.

Volume Captured: Total discharge volume for the event (in millions of gallons) that were either captured via an offline treatment facility before discharge or diverted to the WWTP for treatment.

WWOP: Wet Weather Operating Plan

Water Quality Standards (WQS) are regulations that establish the uses for which surface waters of the state are protected and include numeric and narrative criteria to protect those uses.

Upcoming CSO milestones

	Milestone	Item	Action	Projected Completion	Status
1	Jan 2016	**JB:** Primary Settling Tank Work	Construction NTP	Jan 2016	Certified by DEP 1/27/2016
2	Feb 2016	Early Tippers Report	Submit Report	Feb 2016	Submitted 2/2/2016
3	Mar 2016	**JB:** 26th Ward HLSS	Construction NTP – Phase I	Mar 2016	Approved by DEC 3/31/2016
4	***Sept 2016***	**FB:** Environmental Dredging of Flushing Bay	NTP	***Sept 2016***	Bids Received. DEP/DEC agreed to new milestone date Sept 2016
5	Jun 2016	**JT:** Bending Weirs	Construction Complete	Jun 2016	On schedule
6	Jun 2016	**CIC:** Coney Island Creek LTCP	Submit Approvable LTCP	Jun 2016	On schedule
7	Jun 2016	**FB:** Flushing Bay LTCP	Submit Approvable LTCP	Jun 2016	On schedule
8	Dec 2016	**FB:** Low Lying Sewers/ Raise Weir at BB-R02	Construction Completion	Dec 2016	On schedule
9	Dec 2016	**WC:** Pugsley Creek Parallel Interceptor	Construction NTP	Dec 2016	Mod Request Submitted to DEC

Reports to be Submitted:

	Milestone	Item	Action	Projected Completion	Status
1	Apr 30, 2016	GI Annual Report	Submit Annual Report	Apr 2016	On schedule
2	Apr 30, 2016	1st Quarterly Report	Submit Report	April 2016	On schedule
3	May 1, 2016	BMP Report	Submit Report	May 2016	On schedule
4	Jun 30, 2016	GI CSO Performance Metrics	Submit Report	June 2016	On schedule
5	Jun 30, 2016	GI Contingency Plans	Submit Report	June 2016	Mod request
6	June 30, 2016	PCM Report	Submit Annual Report	June 2016	On schedule

PERMITTEE NAME: NYCDEP SPDES Permit No.: See Below

Part II - CSO LTCP Control Information

SECTION C: CSO EVENTS, DISCHARGE VOLUME, ETC. Provide an estimate or actual data on overflow events. If necessary, use a separate spreadsheet to report all CSO outfalls.

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WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
26th	26-003	47	9	494	97	NA	17282	3	3	Modeled
	26-004	16	15	36	35					Modeled
	26-005	5	1	98	54					Modeled
Bowery Bay	BB-002		51	988	129					Modeled
	BB-003		29	54	24					Modeled
	BB-005		61	1,520	679					Modeled
	BB-006L		17	1,434	105					Modeled
	BB-006U		53		711					Modeled
	BB-007		10	3	1					Modeled
	BB-008		51	534	426					Modeled
	BB-004	4	1	0	0					Modeled
	BB-041		51	126	60					Modeled
	BB-09	35	31	35	30					Modeled
	BB-10	16	7	2	0					Modeled
	BB-11	24	17	3	1					Modeled
	BB-12	5	2	0	0					Modeled
	BB-13	44	35	39	18					Modeled
	BB-14	35	28	3	2					Modeled
	BB-15	39	33	3	2					Modeled
	BB-16		27	2	2					Modeled
	BB-17		22	2	1					Modeled
	BB-18		21	2	1					Modeled
	BB-21		35	31	17					Modeled
	BB-22		28	2	1					Modeled
	BB-23		30	27	14					Modeled
	BB-24		34	97	27		39426	44	41	Modeled
	BB-25		31	18	7					Modeled
	BB-26	47	35	187	104					Modeled
	BB-27		31	8	4					Modeled
	BB-28		47	456	260					Modeled
	BB-29		32	180	65					Modeled
	BB-30		48	19	11					Modeled
	BB-31		36	22	19					Modeled
	BB-32		33	3	1					Modeled
	BB-33		28	9	4					Modeled
	BB-34		55	223	151					Modeled
	BB-35		29	4	2					Modeled
	BB-36		27	10	4					Modeled
	BB-37		6	1	0					Modeled
	BB-38		29	10	87					Modeled

PERMITTEE NAME: NYCDEP SPDES Permit No.: See Below

Part II - CSO LTCP Control Information

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WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
Bowery Bay	BB-40	21	19	1	1					Modeled
	BB-42	29	28	2	2					Modeled
	BB-43	40	35	14	8					Modeled
	BB-45		0	0	0					Modeled
	BB-46		30	8	5					Modeled
	BB-47		20	2	1					Modeled
	BB-049			0						Modeled
	BB-053			0						Modeled
Coney Island	CI-004	61	2	1210	19	N/A	32657	3	4	Modeled
	CI-005	61	8	973	23					Modeled
	CI-006	61	2	566	14					Modeled
Hunts Point	HP-002		29	119	34	NA	47313	36	26	Modeled
	HP-003		35	359	176					Modeled
	HP-004	56	18	100	17					Modeled
	HP-005			0						Modeled
	HP-006			0						Modeled
	HP-007	21	10	88	27					Modeled
	HP-008	17	2	4	1					Modeled
	HP-009	51	38	814	321					Modeled
	HP-010	1	0	1	0					Modeled
	HP-011		46	828	272					Modeled
	HP-012	338	10	27	24					Modeled
	HP-013	54	22	144	130					Modeled
	HP-014		44	516	420					Modeled
	HP-015	2	2	0	0					Modeled
	HP-016	24	30	72	56					Modeled
	HP-017		35	35	47					Modeled
	HP-018		16	2	2					Modeled
	HP-019		30	18	12					Modeled
	HP-020		0	0	0					Modeled
	HP-021		47	298	243					Modeled
	HP-022		28	31	29					Modeled
	HP-023		42	115	157					Modeled
	HP-024		34	254	159					Modeled
	HP-025		47	130	79					Modeled
	HP-026		24	79	40					Modeled
	HP-027			0						Modeled
	HP-028			0						Modeled
	HP-029		26	4	3					Modeled
	HP-030			0						Modeled

PERMITTEE NAME: NYCDEP SPDES Permit No.: See Below

Part II - CSO LTCP Control Information

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		No. of overflow events in the previous year		Total Annual CSO Volume Discharged (MG)		Total Annual Volume Captured or Diverted to POTW (MG)		# of CSO Outfalls		Indicate type of overflow measurements (e.g. metered, estimated, or modeled). If other, please describe.
WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
Hunts Point	HP-031		30	83	16					Modeled
	HP-032			0						Modeled
	HP-033	5	5	78	7					Modeled
	HP-034			0						Modeled
	HP-036			0						Modeled
	HP-037			0						Modeled
	HP-038			0						Modeled
Jamaica	JA-002			0						Modeled
	JA-003	47	35	319	257					Modeled
	JA-003A	57	46	300	266	NA	28247	6	5	Modeled
	JA-005/007	55	53	908	1,131					Modeled
	JA-006	61	12	30	4					Modeled
Newtown Creek	NC-002			0						Modeled
	NC-003		11	1	0					Modeled
	NC-004		37	18	13					Modeled
	NC-005		53	79	38					Modeled
	NC-006		16	104	73					Modeled
	NC-007		32	9	6					Modeled
	NC-008		35	27	17					Modeled
	NC-009			0						Modeled
	NC-010		1	0	0					Modeled
	NC-011		0	0	0					Modeled
	NC-012		20	27	28					Modeled
	NC-013		21	42	45					Modeled
	NC-014		27	337	600					Modeled
	NC-015	33	33	308	102					Modeled
	NC-016		15	4	1					Modeled
	NC-017		0	0	0					Modeled
	NC-018		56	14	10					Modeled
	NC-019	7	18	0	2					Modeled
	NC-020		27	4	7					Modeled
	NC-021		1	0	0					Modeled
	NC-022	42	40	8	6					Modeled
	NC-023	5	8	0	0					Modeled
	NC-024	0	0	0	0					Modeled
	NC-025		11	1	0					Modeled
	NC-026		7	0	0					Modeled
	NC-027		33	24	14					Modeled
	NC-028		0	0	0					Modeled
	NC-029	48	45	18	18					Modeled

PERMITTEE NAME: NYCDEP SPDES Permit No.: See Below

Part II - CSO LTCP Control Information

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		No. of overflow events in the previous year		Total Annual CSO Volume Discharged (MG)		Total Annual Volume Captured or Diverted to POTW (MG)		# of CSO Outfalls		Indicate type of overflow measurements (e.g. metered, estimated, or modeled). If other, please describe.
WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
Newtown Creek	NC-030		14	0	0					Modeled
	NC-031		26	1	2					Modeled
	NC-032		10	6	2					Modeled
	NC-033		6	1	0					Modeled
	NC-034		7	0	1					Modeled
	NC-035		18	5	3					Modeled
	NC-036		18	81	62					Modeled
	NC-037		5	0	1					Modeled
	NC-038		20	9	7					Modeled
	NC-039		19	5	1					Modeled
	NC-040		14	1	0					Modeled
	NC-041		22	45	20					Modeled
	NC-042		10	0	1					Modeled
	NC-043		21	4	3	NA	75482	83	81	Modeled
	NC-044		17	1	0					Modeled
	NC-045		21	34	17					Modeled
	NC-046		26	13	6					Modeled
	NC-047		11	1	0					Modeled
	NC-048		40	24	14					Modeled
	NC-049		18	26	15					Modeled
	NC-050		32	53	21					Modeled
	NC-051		11	0	0					Modeled
	NC-052		18	41	23					Modeled
	NC-053		17	3	2					Modeled
	NC-054		15	3	1					Modeled
	NC-055		20	2	2					Modeled
	NC-056		56	72	48					Modeled
	NC-057		29	11	6					Modeled
	NC-058		42	37	22					Modeled
	NC-059		49	44	18					Modeled
	NC-060		23	4	1					Modeled
	NC-061		18	2	1					Modeled
	NC-062		68	17	11					Modeled
	NC-063		29	45	21					Modeled
	NC-064		18	9	4					Modeled
	NC-065		5	0	1					Modeled
	NC-066		33	38	13					Modeled
	NC-067		17	6	4					Modeled
	NC-068		11	0	0					Modeled
	NC-069		14	8	4					Modeled
	NC-070		14	1	1					Modeled

PERMITTEE NAME: NYCDEP SPDES Permit No.: See Below

Part II - CSO LTCP Control Information

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WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
Newtown Creek	NC-071		18	10	5					Modeled
	NC-072		19	9	6					Modeled
	NC-073		25	29	22					Modeled
	NC-074		15	13	5					Modeled
	NC-075		18	81	46					Modeled
	NC-076		57	292	148					Modeled
	NC-077	49	52	262	438					Modeled
	NC-078		25	11	6					Modeled
	NC-079		14	1	0					Modeled
	NC-080		24	2	4					Modeled
	NC-081		23	2	8					Modeled
	NC-082		9	0	0					Modeled
	NC-083	71	17	586	375					Modeled
	NC-087		12	1	2					Modeled
North River	NR-002		41	54	25					Modeled
	NR-003		7	9	3					Modeled
	NR-004		7	7	5					Modeled
	NR-005		1	0	0					Modeled
	NR-006		17	76	33					Modeled
	NR-007		7	2	1					Modeled
	NR-008		36	27	17					Modeled
	NR-009		16	3	2					Modeled
	NR-010		12	14	7					Modeled
	NR-011		8	3	1					Modeled
	NR-012		8	2	0					Modeled
	NR-013		7	1	0					Modeled
	NR-014		9	3	1					Modeled
	NR-016		9	3	1					Modeled
	NR-017		17	67	28					Modeled
	NR-018		2	0	0					Modeled
	NR-019		15	5	3					Modeled
	NR-020		16	18	11					Modeled
	NR-021		14	6	4					Modeled
	NR-022		13	16	7					Modeled
	NR-023		12	41	20					Modeled
	NR-024		14	18	8					Modeled
	NR-025		13	19	8					Modeled
	NR-026		18	26	13					Modeled
	NR-027		13	72	70					Modeled
	NR-028		8	13	3	NA	40551	52	49	Modeled

PERMITTEE NAME: NYCDEP SPDES Permit No.: See Below

Part II - CSO LTCP Control Information

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WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
North River	NR-029		11	7	3					Modeled
	NR-030		8	3	1					Modeled
	NR-031		10	4	2					Modeled
	NR-032		5	2	0					Modeled
	NR-033		10	24	16					Modeled
	NR-034		15	8	4					Modeled
	NR-035		15	10	6					Modeled
	NR-036		15	20	9					Modeled
	NR-037		3	1	1					Modeled
	NR-038		6	6	6					Modeled
	NR-039		0	0	0					Modeled
	NR-040		11	33	13					Modeled
	NR-041		6	3	1					Modeled
	NR-042		8	4	2					Modeled
	NR-043		15	132	60					Modeled
	NR-044		7	2	1					Modeled
	NR-045		10	17	8					Modeled
	NR-046		9	8	6					Modeled
	NR-047		2	0	0					Modeled
	NR-048		14	4	4					Modeled
	NR-049		15	14	6					Modeled
	NR-050		0	0	0					Modeled
	NR-051			0						Modeled
	NR-052			2						Modeled
	NR-055		9	1	1					Modeled
	NR-056			0						Modeled
Owls Head	OH-002		35	413	476					Modeled
	OH-003		43	397	330					Modeled
	OH-004		9	1	5					Modeled
	OH-005	5	1	1	2					Modeled
	OH-006	33	28	13	13					Modeled
	OH-007	47	41	69	52					Modeled
	OH-008			0						Modeled
	OH-009			0						Modeled
	OH-015		23	1140	919	37230	34247	14	14	Modeled
	OH-017		32	235	357					Modeled
	OH-018		38	163	141					Modeled
	OH-019		35	42	35					Modeled
	OH-020		28	1	2					Modeled
	OH-021	54	26	292	57					Modeled

PERMITTEE NAME: NYCDEP SPDES Permit No.: See Below

Part II - CSO LTCP Control Information

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WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
Owls Head	OH-022			0						Modeled
	OH-023		6	1	1					Modeled
	OH-024	35	29	23	21					Modeled
Port Richmond	PR-002		0	0	0	NA	9579	35	35	Modeled
	PR-003		0	0	0					Modeled
	PR-004		0	0	0					Modeled
	PR-005		0	0	0					Modeled
	PR-006		15	6	4					Modeled
	PR-007		0	0	0					Modeled
	PR-008		0	0	0					Modeled
	PR-009		0	0	0					Modeled
	PR-010		4	0	1					Modeled
	PR-011		2	0	0					Modeled
	PR-013		17	28	29					Modeled
	PR-014		24	23	23					Modeled
	PR-015		10	1	1					Modeled
	PR-016		11	0	1					Modeled
	PR-017		24	12	9					Modeled
	PR-018		21	3	2					Modeled
	PR-019		28	26	37					Modeled
	PR-020		26	2	6					Modeled
	PR-021		7	0	0					Modeled
	PR-023		0	0	0					Modeled
	PR-023A		41	76	75					Modeled
	PR-024		0	0	0					Modeled
	PR-025		0	0	0					Modeled
	PR-026		3	1	0					Modeled
	PR-027		3	1	0					Modeled
	PR-028		16	10	8					Modeled
	PR-029		40	217	113					Modeled
	PR-030		24	0	2					Modeled
	PR-031		27	139	120					Modeled
	PR-032		7	0	1					Modeled
	PR-033		0	0	0					Modeled
	PR-034		0	0	0					Modeled
	PR-035		0	0	0					Modeled
	PR-036		0	0	0					Modeled
	PR-037		6	4	1					Modeled
Red Hook	RH-002		0	0	0					Modeled
	RH-003		7	0	0					Modeled

PERMITTEE NAME: NYCDEP SPDES Permit No.: See Below

Part II - CSO LTCP Control Information

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WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
Red Hook	RH-004			0		NA	11,051	35	31	Modeled
	RH-005		17	153	98					Modeled
	RH-006		28	8	6					Modeled
	RH-007		14	1	1					Modeled
	RH-008		14	2	2					Modeled
	RH-009		14	2	2					Modeled
	RH-010		7	0	0					Modeled
	RH-011		14	3	3					Modeled
	RH-012		14	8	6					Modeled
	RH-013		12	0	0					Modeled
	RH-014		48	20	26					Modeled
	RH-016		15	18	26					Modeled
	RH-018		15	4	7					Modeled
	RH-019		22	13	11					Modeled
	RH-020		14	0	1					Modeled
	RH-021			0						Modeled
	RH-022		17	2	4					Modeled
	RH-023		15	2	3					Modeled
	RH-024		15	2	3					Modeled
	RH-025		18	5	6					Modeled
	RH-028		12	97	9					Modeled
	RH-029		21	2	2					Modeled
	RH-030		14	18	15					Modeled
	RH-031		14	35	15					Modeled
	RH-032			2						Modeled
	RH-033		14	0	0					Modeled
	RH-034		41	121	116					Modeled
	RH-035		14	111	5					Modeled
	RH-036		17	2	1					Modeled
	RH-037		15	1	0					Modeled
	RH-038		14	1	1					Modeled
	RH-039			1						Modeled
	RH-040		19	37	17					Modeled
Tallman Island	Tank	---	9	---	290					Modeled
	TI-003		43	127	60					Modeled
	TI-004		13	10	2					Modeled
	TI-005		1	0	0					Modeled
	TI-006			0						Modeled
	TI-007		49	0	42					Modeled
	TI-008	38	0	59	0					Modeled

PERMITTEE NAME: NYCDEP SPDES Permit No.: See Below

Part II - CSO LTCP Control Information

SECTION C: CSO EVENTS, DISCHARGE VOLUME, ETC. Provide an estimate or actual data on overflow events. If necessary, use a separate spreadsheet to report all CSO outfalls.

		No. of overflow events in the previous year		Total Annual CSO Volume Discharged (MG)		Total Annual Volume Captured or Diverted to POTW (MG)		# of CSO Outfalls		Indicate type of overflow measurements (e.g. metered, estimated, or modeled). If other, please describe.
WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
Tallman Island	TI-009			0						Modeled
	TI-010	73	28	1580	398					Modeled
	TI-011	54	53	332	281					Modeled
	TI-012			0						Modeled
	TI-013			0		20805	22291	15	17	Modeled
	TI-014	32	34	2	11					Modeled
	TI-015	29	23	1	3					Modeled
	TI-016	45	39	28	28					Modeled
	TI-017	10	24	0	2					Modeled
	TI-018	34	34	2	5					Modeled
	TI-019		14	0	1					Modeled
	TI-020		30	6	6					Modeled
	TI-022	55	53	30	62					Modeled
	TI-023		34	198	85					Modeled
	TI-024			0						Modeled
	TI-025		20	0	110					Modeled
Wards Island	WI-002		42	11	6					Modeled
	WI-003		43	115	75					Modeled
	WI-004		34	12	6					Modeled
	WI-005		29	10	5					Modeled
	WI-006		32	12	5					Modeled
	WI-007		29	11	5					Modeled
	WI-008		44	224	135					Modeled
	WI-009		0	0	0					Modeled
	WI-010		0	0	0					Modeled
	WI-011		11	3	2					Modeled
	WI-012		24	41	20					Modeled
	WI-013		9	1	0					Modeled
	WI-014		14	1	0					Modeled
	WI-015		21	14	7					Modeled
	WI-016		28	30	18					Modeled
	WI-017		22	17	9					Modeled
	WI-018		10	1	0					Modeled
	WI-019		10	1	0					Modeled
	WI-020			0						Modeled
	WI-021		7	1	0					Modeled
	WI-022		7	1	0					Modeled
	WI-023		25	79	50					Modeled
	WI-024		21	100	58					Modeled
	WI-025		44	35	26					Modeled

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		No. of overflow events in the previous year		Total Annual CSO Volume Discharged (MG)		Total Annual Volume Captured or Diverted to POTW (MG)		# of CSO Outfalls		Indicate type of overflow measurements (e.g. metered, estimated, or modeled). If other, please describe.
WWTPs	CSO Outfalls	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
Wards Island	WI-026		8	1	0					Modeled
	WI-027		6	1	0					Modeled
	WI-028		12	1	0					Modeled
	WI-029		18	3	2					Modeled
	WI-030		12	2	1					Modeled
	WI-031		20	5	5					Modeled
	WI-032		5	0	0					Modeled
	WI-033		14	4	3					Modeled
	WI-034		12	1	1					Modeled
	WI-035		19	8	6					Modeled
	WI-036		15	3	2					Modeled
	WI-037		20	9	7					Modeled
	WI-038		23	39	24					Modeled
	WI-039		16	3	2					Modeled
	WI-040		18	3	2					Modeled
	WI-041		24	13	8	NA	77082	78	75	Modeled
	WI-042		19	3	2					Modeled
	WI-043		20	7	4					Modeled
	WI-044		20	6	4					Modeled
	WI-045		33	63	39					Modeled
	WI-046		42	158	125					Modeled
	WI-047		41	23	17					Modeled
	WI-048		41	13	10					Modeled
	WI-049		37	69	56					Modeled
	WI-050		41	69	13					Modeled
	WI-051		31	21	16					Modeled
	WI-052		41	48	33					Modeled
	WI-053		58	30	46					Modeled
	WI-054		45	28	31					Modeled
	WI-055		48	9	17					Modeled
	WI-056		51	1,543	793					Modeled
	WI-057		51	179	141					Modeled
	WI-058		38	50	36					Modeled
	WI-059		18	5	7					Modeled
	WI-060		39	228	269					Modeled
	WI-061		12	2	4					Modeled
	WI-062		36	175	128					Modeled
	WI-063		21	13	11					Modeled
	WI-064		22	43	31					Modeled
	WI-065		14	5	3					Modeled
	WI-066		13	2	1					Modeled

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WWTPs	CSO Outfalls	No. of overflow events in the previous year		Total Annual CSO Volume Discharged (MG)		Total Annual Volume Captured or Diverted to POTW (MG)		# of CSO Outfalls		Indicate type of overflow measurements (e.g. metered, estimated, or modeled). If other, please describe.
		Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	Baseline [1]	Current [2]	
Wards Island	WI-067		17	13	11					Modeled
	WI-068		29	222	127					Modeled
	WI-069		1	0	0					Modeled
	WI-070		23	11	10					Modeled
	WI-071		23	29	21					Modeled
	WI-072		25	46	38					Modeled
	WI-073		8	11	3					Modeled
	WI-074			0						Modeled
	WI-075		28	123	94					Modeled
	WI-076		43	43	54					Modeled
	WI-077		41	77	80					Modeled
	WI-078		43	0	31					Modeled
	WI-079			0						Modeled
Total				29566	17393			404	381	
Average				72	46			34	32	

(1) The Waterbody Watershed Facility Plan (WWFP) baseline was selected as pre CSO BMP baseline - it is based on 2007 Infoworfs Model Calibration Report and uses 2040 projected sanitary flows, JFK 1988 annual precipitation, and 2003 WWTP wet weather operatating data.

(2) CY15 is based on the 2012 Infoworks Model Recalibration Reports and some additonal refinements were made when developing LTCP reports. It is based on 2015 observed precipitation data at 4 of the NOAA stations and CY2015 plant and CSO facility operating data.