Environmental Protection

SPDES PERMIT FOR THE 14 WASTEWATER TREATMENT PLANTS

BEST MANAGEMENT PRACTICES

ANNUAL REPORT

FOR THE PERIOD JANUARY 1, 2013 - DECEMBER 31, 2013

CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION

BUREAU OF WASTEWATER TREATMENT

APRIL 2014

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Executive Summary

In an effort to reduce Combined Sewer Overflows (CSO's) into local waterways, the New York City (NYC) Department of Environmental Protection (DEP) has been implementing several initiatives focused at reducing stormwater runoff from entering the City's combined sewer system. DEP recently introduced a Green Infrastructure program to retain stormwater by using natural systems such as swales, green roofs and porous surfaces. DEP has also been implementing 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.

Section VIII of the SPDES permits for the City's plants lists thirteen specific BMPs that build upon the U.S. Environmental Protection Agency's (EPA) national CSO Control Policy's Nine Minimum Control Measures. This eleventh Annual Report describing DEP's ongoing CSO BMP program. The Report is divided into 13 sections, one for each of the BMPs in the SPDES permits. Each section of this Report describes ongoing DEP programs, provides statistics for Calendar Year 2013 initiatives, and discusses overall environmental improvements.

In general, implementationof the BMP'sin conjunction with other DEP programshaveresulted in notable improvements –the waterways surrounding NYC are cleaner than they have been in a century. The City has also invested more than $1.8 billion in other CSO measures, such as storage tanks and inflatable dams, which are termed grey infrastructure. Additional major capital investments in green and grey infrastructure are being developed by DEP in Waterbody/Watershed Facility Plans and in Long Term Control Plans (LTCPs). Over the next 10 years, NYC has allocated funds totaling $953 million for grey infrastructure work and $736 million for green infrastructure projects.

Notable CSO BMP achievements during 2013 included:

- DEP's Interceptor Improvement Program is in the second two-year cycle of inspection, cleaning, and rehabilitation of the intercepting sewers. In 2013, citywide, 6,106 cubic yards of sediment were removed from the intercepting sewers and 81,458 feet of those sewers were inspected. 1,835 cubic yards of sediment were removed from non-interceptor assets such as pump stations, regulators, etc. It is notable that,in certain sections of the Rockaway interceptor, the water elevations observed during the first cycle have dropped significantly in pipes that were almost surcharged, such that CCTV inspection became possible in this second cycle. DEP is in the process of procuring a suitable contractor to perform the unconventional interceptor cleaning necessary in the Wards Island drainage area.

- Tide gate operability on the CSO outfall chambers was improved in order to minimize

seawater infiltration into the combined sewer system, a condition responsible for reducing available holding capacity for storm flows.

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 2013 Beach Surveillance and Monitoring report can be found online at:

http://www.nyc.gov/html/doh/downloads/pdf/beach/beach-report-2013.pdf

DEP continues to discuss with the New York State (NYS) Department of Environmental Conservation (DEC) and EPA the City's long-term CSO program to further improve the quality of local water bodies and sewersheds. Many of the initiatives have been memorialized in an Order on Consent. As federal and state funding for such initiatives has all but evaporated, DEP has been strategically tailoring actions that will achieve national goals while keeping water and sewer rates manageable for most NYC residents.

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 2013on all regulators tributary to each treatment plant is attached as Attachment A 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 replacementof manhole rungs and the cleaning of all sensors within the chambers.

Two locations were not inspected once per month: BBL-22A, 54th Avenue west of 2nd Street (BB), construction prevented access to the location between January and May, 2013; Gowanus tide gates, construction of the pumping station and flushing tunnel prevented access to the gates.

Beach Protection

During the Enhanced Beach Protection period from May 15 through September 30, inspections of beach sensitive regulators are performed twice per day using telemetry. Shift engineers from Collection Facilities Operations (CFO) monitor these locations at the beginning of their shifts and at the end of their shifts; when telemetry is inoperable, field crews perform site inspections until the telemetry is corrected. See Attachment A for locations that were inspected due to the telemetry being inoperable (designated by an 'x' in the column EBPP).

(b) "The permittee shall 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 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 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. 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 2013: Bowery Bay drainage area in February, May, July, August, September and October; Newtown Creek-Manhattan in March and April; Port Richmond in January; Red Hook in August; Owls Head in February and Rockaway in December.

Attachment A contains a summary of PM and CM performed during 2013 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 2013: WIB-68, East 149th Street & East River (both gates), WIM-31, E.120th Street & FDR Drive, WIM-32, E.121st Street & FDR Drive, HP-14, Edgewater Park, NCM-25, FDR Drive north of NCM-24 (in aprk), NCM-37, E.18th Street & Avenue C (both gates) and NCM-42, E.33rd Street east of First Avenue.

Analysis of calendar year 2013 shows that the following six WWTPs exceeded the twelve month rolling average of influent chlorides concentrations of 400 mg/l:

Wards Island, Coney Island, Newtown Creek, Red Hook, Rockaway and Port Richmond.

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

Comparative yearly analysis of CY 2012 and CY 2013 average tidal inflow(Appendix 1, Table 2) indicates:

A decrease in estimated tidal inflow occurred at eight plants:
Wards Island, North River, Hunts Point, 26 Ward, Coney Island, Owls Head, Newtown Creek, Red Hook, , Bowery Bay, and Port Richmond.

An increase in estimated tidal inflow occurred at four plants:

Jamaica, Tallman Island, Rockaway and Port Richmond.

(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 for in the Omnibus IV Consent Order, DEC Case # R2-0045-93-05. At present, the upgraded system at 101 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 2013, Collections Operations field personnel responded to a total of 813 regulator related alarms sent by the SCADA System.

7 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 the bypass event. See Appendix 1, Table 3

(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. "

In-line Storage in Interceptors – 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, and (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 SEE at Flushing Bay CSO Retention Facilitymonitors approaching storms and notifies the plant Operations SEEs to begin reducing their wet-well elevations immediately prior to the onset of rain. This action will help to increase available capacity in the interceptor;the increased capacitycan reduce CSO volumes. Each plant has established low-well elevation set points for impending rain events that are documented in itsWet 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 ofthe 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. 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, and the facility was placed into service at that time. The Paerdegat Basin CSO retention facility was projected to induce 10 MG of in-line storage in the influent sewers and another 20 MG in the upstream combined sewers.

- Gowanus Canal CSO Facilities Upgrade – This facility is being upgraded pursuant to the CSO Order. The RH-034 CSO outfall screens include a combination of fixed weirs and hydraulically operated outfall gates that will not only direct flow through the CSO screens but will induce inline storage within the combined sewers upstream of the outfall. DEP

estimates, using InfoWorks models, that this inline storage will reduce CSOs by about 16 MG/yr. The Notice to Proceed to Construction for the Gowanus facilities was issued by DEP on September 14, 2009. Construction is 78% complete and the projected completion date is September 2014.

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 on Consent entered into by NYC and DEC on January 14, 2005, modified on April 14, 2008, and amended on March 8, 2012. DEP provides quarterly updates to DEC on the status of these and other projects in the CSO Quarterly Report and at the Consent Order quarterly meetings. 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 will 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 two dam sites are located upstream of regulators B-6 (Newtown Creek, Brooklyn drainage area) and R-20 (Red Hook drainage area) and are operational.

Port Richmond Throttling Facilities – The throttling facility was constructed on the west interceptor of the Port Richmond WWTP and was placed into service in 2009.

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 Project

DEP's Bureau of Wastewater Treatment (BWT) completed the upgrade work on the SCADA project in 2013.The overall projectinvolved 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 the year DEP and its Maintenance contractor were working on calibrating the system 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.

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	9/28/2011	New Gate	Contract REG-025L
NC(M)-21	Complete	9/28/2011	New Gate	Contract REG-025L
NC(M)-23	Complete	9/28/2011	New Gate	Contract REG-025L
NC(M)-33	Complete	9/28/2011	New Gate	Contract REG-025L
WI(M)-24	Contract Awarded	Scheduled Completion 4/13	New pull box	Contract REG-025L
Oakwood Beach Flume	Canceled			DEC instructed not to install this gate

BBLL1,3,4,8, 9,11,17,18,21,2 23,30, HL-2	In Design	Estimated Completion December 2015	21 New Gates	JOC Contract
NCB-1,6,7,9,14	Complete	1/2/2013	15 New Gates	JOC Contract

RH-9,11,15	Complete	1/2/2013	4 New Gates	JOC Contract
PR-9E,11E,13E, 16E,36	Complete	2/22/2013	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	To be initiated	Estimated completion – October 2015	6 New Gates	JOC Contract
26W-02	To be initiated	Estimated completion - October 2015	16 New Gates	JOC Contract
WIB -68	Design	Estimated completion - December 2014	2 New Gates	JOC Contract
TI-1,2,4, & 5	To be initiated	Estimated completion – June 2015	4 New Gates	JOC Contract
HP-14	To be initiated	Estimated completion – June 2015	1 New Gates	JOC Contract

Interceptor Improvement Program

In 2013, BWT continued with its intercepting sewer inspection and cleaning program.

Scope of Work Completed in 2013

In 2013 citywide, 81,458 linear feet of intercepting sewers were inspected and 6,107 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 1,835 cubic yards which is detailed by asset in Appendix 2, (DEP BWT) (Table 2).

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

Drainage Area	Inspected Length (feet)	Sediment Removed (CY)
26 Ward		-
Bowery Bay	12,024	-
Coney Island	1,426	3,975
Hunts Point		-
Jamaica	31,741	1,122
Newtown Creek	943	-
North River		-
Oakwood Beach		-
Owls Head		-
Port Richmond		161
Red Hook		-
Rockaway	26,907	730
Tallman Island	8,417	111
Wards Island		8
Totals	**81,458**	**6,107**

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 (ex. 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) 2013 are summarized in Table 2-1. Maps of the cleaning activities

for the CMOM Section and NYC Department of Design and Construction (DDC) have been printed by Community Board and are in Appendix 2, (DEP BWSO)

Sewer Maintenance Complaint Inspection and Response:

The Bureau of Water & Sewer Operations (BWSO) Division of Field Operations has personnelincluding construction laborers, supervisors, and technical staff whose primary function is operation, maintenance, and repair ofthe sewer collection system and water distribution system. For the sewer collection system, this Divisionperforms 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. They also perform programmatic work involving sewer cleaning, and catch basin survey inspections and cleaning. They work in conjunction with the Bureau of Wastewater Treatment's (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 2013, there were 11,813 customer service requests that resulted in sewer inspections. Of those requests, 8,479 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 234.19 miles of sewer. This number either represents actual footage, or represents an estimate of 150 linear feet between 2 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 we started in 2011 called Sewer Operations and Analysis Program (SOAP). Quarterly, areas of the city with recurring confirmed sewer back-up (SBU) complaints are assigned to each of the sewer yards for inspection.

Using our Geospatial Information System, the city is segmented into over 157,700 sewer segments. A sewer segment is defined as a City block, street center line to street center line. Our analysis has shown that approximately 0.92% of our overall sewer segments experienced a confirmed SBU, while only 0.43% 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.

BWSO, working jointly with BWT, has improved its program to address Fats, Oils and Grease (FOG). DEP manages FOG issues of varying severity individually to ensure effective resolution and future maintenance. Recurring FOG conditions are added to our Programmatic Degreasing List. These locations are then tracked, visited and mechanically, hydraulically, or chemically cleaned according to an established programmatic schedule. During CY 2013, 186.68 miles of sewer were proactively cleaned under this program. Some of these footages 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 byDEP's CMOM Investigation Unit. Once the scope is defined, it can be assigned to DEP's City-Wide 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 2013. 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 for 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 746,719 linear feet (or 141.42 miles) of sewers at 1,215 locations throughout the city during CY 2013. 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 doneprior 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.

City-Wide 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 hasequipment capableof cleaning sewers with diameters up to and including 204." Using the City-wide sewer cleaning contractor resources, DEP cleaned 535,761 linear feet or approximately 101.47 miles of sewers in CY 2013, as shown in the Table 2-2**.** The cost of this work was about $4,193,900.

Site-Specific Sewer Cleaning Contracts

When the scope of a sewer cleaning effort required is larger than can be accommodated throughthe City-Wide contracts, DEP develops site-specific contracts to clean specified larger areas of sewers. Using these contract resources, DEP cleaned 8,884 linear feet or approximately 1.68 miles of sewers in CY 2013, as shown in Table 2-2: Summary of Sewers Inspected & Cleaned by DEP BWSO CMOM Unit in CY 2013. The areas cleaned and associated dates are also included in Appendix 2. The cost of this work was $729,356.

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 2013, DEP lined 45,598 linear feet (or 8.64 miles) of sewer at a cost of $4,259,455.
In CY 2013, DEP gunited 8,769 linear feet (or 1.66 miles) of sewers at a cost of $3,600,100.

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 79,130 linear feet or 14.99 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 2013

METHOD	INSPECTED (miles)	CLEANED (miles)
In-House (Reactive)	234.19	234.19
In-House (Proactive)	529.69	529.69
CMOM Unit*	141.42	103.58
Lining	8.64	8.64
Guniting	1.66	1.66
Inspections & Cleaning (DDC)	14.99	14.99
TOTALS:	**930.59**	**892.75**

*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 2013			
METHOD	**INSPECTED (miles)**	**CLEANED (miles)**	**COST ($)**
CMOM Sewer Investigations	38.27	0.43	N/A
City-Wide Contract Inspection & Cleaning	101.47	101.47	$4,193,900
Site Specific Contracts	1.68	1.68	$729,356
TOTALS:	**141.42**	**103.58**	**$4,923,256**

3. Maximize Flow to POTW

"Factors cited in Item 2 above shall also be considered in maximizing flow to the POTW. Maximum delivery to the POTW is particularly critical in treatment of "first-flush" flows. The treatment plant shall be physically capable of receiving the peak design hydraulic loading rates for all process units. The treatment plant shall be physically capable of: receiving a minimum of 2 x DDWF (Design Dry Weather Flow) through the plant headworks; a minimum of 2 x DDWF through the primary treatment works (and disinfection works if applicable; and a minimum of 1.5 x DDWF 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, regulating devices and head works must be capable of delivering these flows during wet weather. If the wet weather operating plan (WWOP) identifies any physical limitations, such as the secondary bypass channel, the permittee shall submit a capital compliance schedule within 6 months of DEC approval of the WWOP."

For this BMP, EPA's 1995 Nine Minimum Control guidance states, "Compare the current [wet weather] flows with the design capacity of the overall facility." The design capacities for NYC'sWWTPs are specified by DEC in each facility's SPDES permit as a "12-month rolling average," "defined as the average of the current month with the eleven previous months." The SPDES permits also require that the plants be "physically capable of receiving" twice their design capacity during wet weather.

In the mid-1990s, DEP developed a methodology forassessing the quantities of wet weather flows received at each of the NYC WWTPs through an analysis of the top ten storms. In prior CSO BMP annual reports, instantaneous wet weather flows at the treatment plants were assessed. DEP recognized that whether a plant instantaneously maintains exactly twice design flow at every second during a throttling period or it averages twice flow during the throttling period, the same quantity of CSO reaches the receiving waters. This is a simple mathematical calculation that substantiates the environmental equivalency of the two approaches. Given that NYC'splants were designed and constructed, and are permitted by DEC according to 12-month rolling average flows, painstakingly assessing instantaneous flows is not warranted. As indicated in the attached graphs (Attachment 1), all of the City's plants are physically capable of receiving (i) a minimum of twice their permit-rated design flow through primary treatment and disinfection or (ii) their DEC-approved Wet Weather Operating Plan capacities.

The Top Ten Storm Analysis methodology involves first identifying the storms that produced the most rainfall in a given year. The top (largest) ten storms are determined on the basis of storm volumes at the four area rain gauges maintained by the National Oceanic and Atmospheric Administration (NOAA) (i.e., LaGuardia Airport (LGA), JFK Airport (JFK), Central Park (CPK) and Newark Airport (EWR)). Rainfall events observed at each gauge are sorted and ranked based on storm volume (events featuring snow at any gauge are removed from consideration). For each storm, the ranks at the four gauges are then averaged. These average ranks are then sorted to identify the top ten storms at all gauges. This methodology ensures that the selected storms are area-wide, frontal-type storms, rather than isolated thunderstorms.

Table 3-1 identifies the overall top ten storms developed for 2013.

Table 3-1: CY2013 Top-Ten Storms			
Storm Rank	**Citywide Storm Started Mo/Day/Yr/Hr**	**Citywide Storm Ended Mo/Day/Yr/Hr**	**4-Gauge Average Rainfall (in)**
1	6/6/2013 6:00 PM	6/8/2013 2:00 AM	4.33
2	11/26/2013 3:00 PM	11/27/2013 7:00 PM	2.29
3	5/8/2013 8:00 PM	5/8/2013 1:00 PM	2.00
4	2/26/2013 8:00 PM	2/27/2013 12:00 PM	1.29
5	6/10/2013 9:00 AM	6/11/2013 3:00 AM	1.32
6	12/29/2013 11:00 AM	12/29/2013 6:00 PM	1.23
7	9/21/2013 9:00 PM	9/22/2013 4:00 AM	1.06
8	6/13/2013 7:00 PM	6/14/2013 4:00 AM	1.03
9	7/1/2013 9:00 AM	7/1/2013 4:00 PM	0.91
10	1/30/2013 7:00 PM	1/31/2013 8:00 AM	0.79

* Start and End Times are based on the Central Park rain gauge.

The maximum flow that can reach a particular WWTP is controlled by (1) the regulators in the drainage area, (2) the storm intensities within different areas of the collection system, and (3) by plant operators, who can restrict flow using “throttling” gates located at the WWTP entrance to protect the WWTP from flooding and process upsets. DEP’s operations engineers are trained on how to maximize pumped flows without impacting the treatment process, critical infrastructure, or public safety. This is a very complex process, particularly when flows into the collection system quickly spike or drop during a sudden downpour. The speed at which these flows change can exceed the capability of the plant’s mechanical equipment, like hydraulically-actuated gates, main sewage pump pneumatic systems, and bar screen rakes, to adjust to such rapid changes. For the Wards Island plant, where some of the operating equipment is miles away at the Bronx Grit Chamber and the Manhattan Grit Chamber, there are additional challenges for the operations engineer.

For guidance, DEP’s operations engineers follow their plants’ DEC-approved Wet Weather Operating Plans, which specifythe “actual process control set points,”including average flows, as per Section VIII (3) and (4) of the SPDES permits. The systems at the treatment plants are not physically capable of responding instantaneously to changes in runoff entering the collections system. The stationary engineers monitor wet well elevations and differentials on each side of the bar screens, speed up or slow down 4,160-volt main sewage pumps – some that have a capacity of over 100 MGD each – and then adjust large, hydraulically-actuated throttling gates. Each action

can take several minutes to perform. This process is even more complex at locations where there are separate high- and low-level wells, or where there are off-site facilities.

If storm flow changessuddenly, such as in the example below, it is not physically possible for 2xDDWF to be instantaneously maintained. In this instance, throttling ended (as denoted by the open diamond) after plant flows dropped below instantaneously-measured 2xDDWF, because a storm suddenly ended and flows dropped more quickly than the stationary engineer and his equipment could react. As stated in the May 1995 EPA Nine Minimum Control guidance document, "maximizing flow to the POTW entails simple modifications to the CSS and treatment plant to enable as much wet weather flow as possible to reach the treatment plant." Undertaking capital upgrades at the City's very large treatment plants in order to make them physically capable of maintaining instantaneous flow rates would certainly not constitute "simple modifications." Such major upgrades are, therefore, far beyond EPA's guidance related to this BMP.

As mentioned above, DEP had included assessments of short-duration flows in prior Annual CSO BMP Reports. Such reporting, however, did both the public and DEP a disservice. Based on the City's past reporting practices, reports such as the 2009 Interstate Environmental Commission Annual Report Brief for NY, NJ and Connecticutpresented misleading results to the public:

(http://www.iec-nynjct.org/reports/2010/IEC.annual.brief.2009.pdf).

The 2009 Brief stated that, of the 200 bypasses that occurred during that year in NYS, 198 were from the five boroughs. In fact, these results directly reflect the fact that DEP had reported events that other municipalities were not required to report. However, the public was not informed that the data reported by DEP were based on different criteria fromthose to which other dischargers in the State are held. As a result, IEC's Brief makes it appear that DEP's performance is well below that of other wastewater operators, giving the public a false understanding of the performance of the City's WWTPs. Such misinformation can only have a negative effect when DEP must explain to the public the need to pay for the continued massive investments the City has made, and will continue to make, in its wastewater infrastructure. In addition, DEC's position that DEP should be the only entity in the state held to the higher, impossible standard that is inconsistent with the DEC-approved WWOPs, exposes DEP to a disproportionate number of potential enforcement actions.

Also of note is that an assessment of instantaneous flows conflicts with the other provision of the SPDES permits that specifically pertains to wet weather flows – the Critical Equipment provision. Critical equipment is defined in each permit as "wastewater treatment equipment required to achieve a minimum of primary treatment and disinfection **up to two times the permitted flow."** Under this permit provision, twice design capacity is set as a maximum flow level, not a minimum sustained flow.

In summary, the Top Ten Storms analyses, as shown in the Attachment 1, clearly indicate that DEP's facilities complied with this BMP during 2013.

Combined Sewer Overflows Annual Report Checklist

The third question in Section 4 Maximize Flow to POTW, "If the answer to either of the above questions was No, has a plan and schedule to accomplish this been submitted to the Department?," refers to whether or not in the past year, the headworks, primary treatment works, secondary treatment works and disinfection works were able to pass the flows specified in the permit for all wet weather flows. DEP answered "No" to the first two questions because we were not able to pass the flows specified in the permit for **all** wet weather flows at **all** WWTPs in the past year. DEP answered "Yes" to the third question, a plan and schedule to accomplish this is being developed as part of the CSO BMP Order 2014 which is still in the draft form.

Combined Sewage and Floatables Percent Capture at NYC WWTPs

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 NYCDEP 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 wet weather operating plan containing procedures so as to operate unit processes, including any regional CSO treatment/retention facilities listed in this permit, to treat maximum flows while not appreciably diminishing effluent quality or destabilizing treatment upon return to dry weather operation. The wet weather operating plan will establish process control procedures and set points to maintain the stability and efficiency of Biological Nitrogen Removal (BNR) process, if required, for the host WPCP. The wet weather operating plan shall be written in accordance with the NYSDEC publication, Wet Weather Operations & Wet Weather Operating Plan Development for WWTPs, and submitted to the Region 2 Office for review and approval."*

Wet Weather Operating Plans (WWOPs) are required for each WPCP and CSO retention facility. Appendix 4 summarizes the latest dates that the WWOP for each WWTP was submitted to DEC. One revision to a WWOPwas submitted in 2013: Newtown Creek.

Combined Sewer Overflows Annual Report Checklist

To the second question in Section 5Wet 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 answered "Yes." In the past year, effluent violations have been reported for parameters such as daily maximum total suspended solids (TSS) concentrations, 7-day maximum fecal coliform geometric mean, 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 loadings values (e.g., for copper) due to the calculation of loadings which multiplies the concentration by flow and a conversion factor. Please refer to the monthly Discharge Monitoring Report submittals for specific information.

The seventh question in Section 5Wet Weather Operating Plan (WWOP) is "Does the plant identify the maximum flows through preliminary, primary, secondary treatment, tertiary, and disinfection units?" DEP answered "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 bypasses. As a result of DEP's continuing efforts in this regard in calendar year2013, pump station and regulator bypasses continue to remain at low levels.

The occurrence of any dry weather overflow ispromptly abated and reported to DEC Region 2 Office within 24 hours. A written report is also submitted within five (5) days of the confirmed time of occurrence.

Total bypasses from the NYC collection system during the reporting period were 27.66 MG, and are listed in Appendix 5.

A yearly comparison of regulator, pump station and WWTP dry weather bypassing is attached in Appendix 5.

For the period from January 1, 2013 to December 31, 2013, dry weather bypasses from pump stations and regulators were0.001% (4.04 MG) of total 416,661 MG dry flow treated by NYC's 14 WWTPs .

Pump station and regulator failures that resulted in bypassing during the calendar year 2013 were categorized by cause and grouped by cause code. Major causes were further sub-coded and identified in more detail. These bypasses were analyzed for trends at particular locations and, as a result, specific locations are being studied for improvements or modifications to reduce future bypassing.

Pump Station Dry Weather Bypassing and Analysis

An evaluation of pumping stations revealed three major causes for bypassing events:

- Electrical Utility and Equipment Failures
- Mechanical Equipment Failures
- Miscellaneous

Electrical Utility and Equipment Failures: (Cause code 2A)

On February 1, 2013, Richmond Hill Road Pump Station experienced a raw sewage bypass due to a power dip on both utility feeders which caused both main breakers at the pumping station to open and a bypass to occur.The shift engineer at the FBCSO Communication Center acknowledged the telemetry alarm (pump & RTU failure) but did not contact Collections personnel. The uninterrupted power supply (UPS) died so the feeder failure alarms were not generated through the telemetry system. Once the station lost power, the on-site generator should have kicked in and run the station. However, the generator batteries were too weak to start the engine so the load was not picked up by the generator. The Collections Facilities South Stationary Engineer Electric (CFS-SEE) arrived at the station and reset both feeders and restored pumping, thus ending the bypass. The telemetry contractor arrived at the station and replaced the old UPS with a new UPS unit. The generator repair contractor replaced the batteries on the generator, and the charging system has been tested and repaired. The shift engineer at the communication center will be disciplined for not following proper protocols on off-hour call-outs.The incident was discovered by the telemetry repair contractor (OCC) who responded to the CFS request to check the communication issues at the station (RTU failure). Once they arrived at the PS, they discovered the station wasn't operating and contacted the CFS-shift engineer.This incident caused the total bypass of 0.038MG.

Electrical Equipment Failure: (Cause codes 3A,3E,3C)

On October 14, 2013, the Mayflower Pump Station had a pump control system malfunction that caused the pumps to go airbound. The surcharge that was created spilled out of a catch basin at Luke Place and Arthur Kill Roadand then into Richmond Creek.The pump control system was reset and the pumps were bled in order to stop the raw sewage from coming out of the catch basin.A BWSO crew responded to a report of the sewers in the area being surcharged. The crew traced the surcharge to the pump station, saw the catch basin overflowing and contacted BWTCC, which then contacted CFS.This incidentcaused a total bypass of 0.357 MG.

On February 19, 2013, the Gowanus Pump Station experienced a raw sewage bypass due to failure of the Rudox emergency generator from overheating. The Gowanus Pump Station is currently undergoing an upgrade and is being operated by the Bureau of Engineering, Design and Construction contractors. Consolidated Edison site power has been unavailable since Hurricane Sandy due to power distribution and transformer equipment damage.A backup generator was provided by NYSto operate the pump station to stop the bypass. Con Ed power has been restored to the pump station. The Rudox generator has been repaired and preventative maintenance performed; the generator remains on-site for standby emergency purposes. This incident caused a total bypass of 1.00MG.

On October 14, 2013, the Mayflower Pump Station had a pump control system malfunction that caused the pumps to go airbound. The surcharge that was created spilled out of a catch basin at Luke Place and Arthur Kill Road and then into Richmond Creek.The pump control system was reset and the pumps were bled in order to stop the raw sewage from coming out of the catch basin.A BWSO crew responded to a report of sewers in the area being surcharged. The crew traced the surcharge to the pump station, saw the catch basin overflowing and contacted BWTCC, which then contacted CFS.This incidentcaused a total bypass of 0.02MG.

Mechanical Equipment Failure: (Cause code 4D)

On January 16, 2013, Cannon Avenue Pump Station experienced a raw sewage bypass due to a broken pump hose in the temporary pump-around system.To rectify the incident, the station

stopped pumping and replaced the broken hose. The incident was discovered by the operations crew.This incidentcaused a total bypass of 0.001MG.

Miscellaneous (Cause code 9C)

As a result of snow melt, many stations were operating with high wet wells and all pumps running.During routine inspection/maintenance at the Conner Street Pumping Station by Collection Facilities North personnel, the supervisor accidently left the main sewage pumps in manual mode when he left the station. As a result of that error, the actuators could not open fully, causing a surcharge in the in-coming sewer even though the pumps were operating. On March 9, a shift engineer from CFN entered the station and found the pumps in manual mode. He immediately changed the sequence to auto mode,the actuators opened fully and the wet well was pumped down. The crew supervisor has been disciplined and will be sent for six weeks of re-training. The incident was discovered through a desktop investigation by CFN senior staff. This incidentcaused a total bypass of 0.5325MG.

Regulators Dry Weather Bypassing and Analysis

An evaluation of the regulator system revealed that a large percentage of total bypassing was caused by two events of blockages at a tide gate chamber and drop pipe. A recurring reason for bypassing isflooding in regulators, but such flooding accountsfor a small percentage of the total bypassing volume.

Regulator Dry Weather Bypassing is categorized as follows:

- Blockages – Regulator, Tide gate chamber, Drop pipe
- Flooding, Other

Blockages remain the most common cause of bypasses from regulators, but, in response to alarms from the telemetry system, operations personnel is able to respond quickly; thus, the bypass amounts are very small.

Blockages: (Cause code 6A)

- Six separatebypass events were caused by blockages, as reported to DEC on 02/26/13,04/05/13,08/01/13, 08/23/13, 12/09/13, and the last one on 12/27/13.
- Two separate bypass events were caused by blockages in the regulators, as reported to DEC on 04/05/13, and 12/27/13.Regulators' bypassing of 0.1178MG was caused by blockages within regulators. Blockages were discovered in the regulator at Newtown Creek, regulator NCM-12.

  On April 2, 2013, Regulator NCM-12, South Street & Old Slip, had a dry weather discharge due to a blockage in the mouth of the drop pipe. Collections Facilities North Wards Island Collections (CFN-WIC) personnel arrived at the regulator and found it surcharged. The Stationary Engineer Electric (SEE) confirmed a discharge into the East River as a result of the surcharge. The crew began investigating and found the problem to be a clog within the mouth of the drop pipe. The crewbegan clearing the blockage with boat hooks and tools from its truck but had intermittent issues with hydrogen sulfide gas. The chamber needed venting and when it was safe to re-enter, the crew returned and cleared the blockage (debris and grease), stopping the discharge. The incident

was discovered during routine monthly inspection of that regulator. A total of 0.00379MG bypass was reported to DEC.

On December 24, 2013, a blockage in NCM Regulator No. M-12 caused a raw sewage bypass. Collections Facilities North (CFN) personnel cleared the blockage from the regulator, allowing the water to flow properly through the regulator.This incident was discovered during routine inspections by BWT personnel.A total of 0.114MG bypass was reported to DEC.

Additional details on the blockages events are listed in **Appendix 5**.

Flooding. Other: (Cause code 8C)

Five bypass events were caused by flooding and reported to DEC: one on 03/13/13, three on 03/22/13, and the last one on 07/19/13

On March 9, 2013, BBHL-09 had a mixed raw sewage and snow melt bypass. Due to excessive snow melt and high flow from 108th Street Pump Station, the regulator bypassed. To address the bypass, the Bowery Bay WWTP was instructed to keep the high level well as low as possible to accommodate the additional flow.The incident was discovered via the SCADA telemetry system.

A total of 0.838 MG bypass was reported to DEC.

On March 19, 2013, Regulator BBHL-09 had a mixed raw sewage snow melt and rain bypass. Due to excessive snow melt and rain the regulator bypassed.CFN personnel arrived at the regulator and confirmed the bypass. A brief investigation revealed no blockage in the regulator chamber. CFN-SEE contacted the Bowery Bay Treatment Plant and asked the plant to keep the High Level wet well as low as possible to accommodate the additional flow. Once this action was completed and the wet well level was lowered, the bypass was abated.The incident was discovered by an alarm from the SCADA telemetry system.

A total of 0.335 MG bypass was reported to DEC.

On March 19, 2013, regulator BBHL-02 had a mixed raw sewage snow melt and rain bypass. Due to excessive snow melt and rain the regulator bypassed.CFN personnel arrived at the regulator and confirmed the bypass. A brief investigation revealed no blockage in the regulator chamber. CFN-SEE contacted the Bowery Bay Treatment Plant and asked the plant to keep the High Level wet well as low as possible to accommodate the additional flow. Once this action was completed and the wet well level was lowered, the bypass was abated.The incident was discovered by an alarm from the SCADA telemetry system.

A total of 0.127 MG bypass was reported to DEC.

On March 19, 2013, regulator BBHL-03 had a mixed raw sewage snow melt and rain bypass. Due to excessive snow melt and rain the regulator bypassed.CFN personnel arrived at the regulator and confirmed the bypass. A brief investigation revealed no blockage in the regulator chamber. CFN-SEE contacted the Bowery Bay Treatment Plant and asked the plant to keep the High Level wet well as low as possible to accommodate the additional flow. Once this action was completed and the wet well level was lowered, the bypass was abated.The incident was discovered by an alarm from the SCADA telemetry system.

A total of 0.0064 MG bypass was reported to DEC.

On July 15, 2013, the Wards Island Regulator No. 67 tipped due to excessive water flow from opened fire hydrants.Operations personnel began closing fire hydrants to stop the excessive flow of water.The incident was discovered via normal operation from telemetry readings.A total of 0.614 MG bypass was reported to DEC.

Additional details on the events, yearly comparisons and Report of Non-Compliance Event 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 (New York State DEC 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 (IU) amending permit number and a graph of trends in metals loading to NYC WWTPs. In 2013, the average loading of metals discharged by all regulated industries to theNYC WWTPs was 13.9 lbs/day. The total amount of metals being discharged by regulated IUs remains very low. If the same percentage of CSO bypass (1.5%) from the CSO report is applied to the current data, then on average, approximately 0.2 lb/day of total metals from year 2013 regulated industries was included in CSO bypasses. Over the years, the total amount of metals being discharged by regulated IUs has declined. 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. A list of regulated IUs with their associated average daily wastewater discharge flows and average pollutant loadings issummarized in the 2013 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 2013. 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 2013, 61,690 programmatic catch basin inspections were completed.DEP also cleaned 36,593 catch basins in 2013. Catch basin cleaning is performed both in response to a complaint and on a proactive cleaning schedule. Table 7.1-2: "CY 2013 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 2013 for each borough. Thesedata arebased 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 2013, DEP hooded 471 catch basins; no replacement exceeded the 90-day period from the date of inspection. Overall, the average time to install a hood was 12 days – significantly lower than the 90-day period allotted.

Tables 7.1-3: CY 2013 Catch Basin Hooding, present a summary of hoods replaced during 2013 for each WWTP drainage area. Thesedata arebased 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 couldbe 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 WWT'PSPDES 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,

[1] "*The permitteeshall 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."

and/or 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 2013 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 throughDEP's Hansensystem 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."*

DEP maintains 23 permanent floatable containment facilities and one temporary for a total of 24, corresponding to stormwater and combined sewer drainage areas totaling approximately 60,000 acres. Floatable containment site locations and offloading facilities are depicted in Figure 7-2.

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 a DEP contractor. The contractor also provides containment site inspection, maintenance and repair and vessel maintenance and repair services.
Skimmer vessels are dispatched to retrieve floatables from booms and nets as indicatedbyinspections 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 enable crews to retrieve small amounts of floatables, so that 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 2013, 927.00 cubic yards of floatable material were retrieved from the 24 containment facilities and various water bodies. Total floatable recovery for each year is provided in Figure 7-3 and in Appendix 7C, Table 7C-1. Floatable recovery totals for 2013 per each of the boom and net sites are included in Appendix 7C, 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 DEP's 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 2013, 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 2012. Through these activities and initiatives, *Keep New York CityBeautiful* programs not only increased the public's awareness of the impact of litteringg, 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* - 2013 Activities**
DEP organized six successful post-Sandy clean-ups of the Staten Island Blue Belts. Volunteers were recruited through multiple channels including direct mail, email, Pipeline, posters, our agency website, the NYC Service website, and social media. Volunteers collected more than 420 cubic yards of litter and debris over the course of the cleanups
Together with partners from the EPA, NYC Departments of Sanitation (DOS) and Parks (DPR), and the NY Aquarium, DEP launched the 2013 Clean Streets=Clean Beaches

campaign with an event at MCU Park in Coney Island on July 9, showcasing a new poster and other outreach materials, including a new beach bag. The poster appeared on all DOS sweepers and collection vehicles as well.

Enhanced the collection of floatable litter by conducting beach and shoreline cleanups through a DEP initiative, including a Summer 2013 Post-Sandy cleanup, which ran every day for six weeks removing approximately 707 bags of trash and filling 173 recycling bags from nine locations throughout the city.

DEP generously provided support to the Littoral Society in 2013 to help complete their projects. For Earth Day, the Littoral Society worked with the Church Of God Volunteers to clean shorelines at two sites in Floyd Bennett Field. DEP provided 2 dumpsters and 200 volunteers removed more than 15,000 tons of debris, including 2 large boats and docks. For New York Beach Cleanup Day held every third Saturday in September, DEP provided a dumpster at a site in the Jamaica Bay Wildlife Refuge. Approximately 150 volunteers removed 12,000 tons of debris.

DEP also provided an advisor to the Jamaica Bay Marsh Restoration Initiative, who provided information on best practices and methods to complete the restoration effectively. DEP employees volunteered to help harvest spartina seed, and 18-25 DEP employees spent 52 hours in Jamaica Bay harvesting seed.

DEP continued to promote NYC tap water by setting up Water-On-the-Go stations that helped keep 595,000 New Yorkers hydrated through the popular NYC Water-on-the-Go program. The 2013 season kicked off with a press event at City Hall Park on June 21st, the first official day of summer, and ran through the end of October. In addition to manual traffic counters, meter-reading devices were installed on each fountain to track water usage by location. 225,000 gallons of water flowed through these fountains in 2013.

Other City-wide cleanup and beautification efforts include:

EVENTS

1. # of events held: **42**
2. # of volunteers: **3,000**
3. # of volunteer hours: **120**

EVENT ACCOMPLISHMENTS

4. Pounds of litter & debris collected: (1 bag of litter = est. 20 lbs.): **23,400**
5. Acres of land impacted/cleaned: **100**
6. Miles of waterways cleaned: **20**
7. # of illegal dump sites cleaned: **960**
8. # of bags of newspaper recycled : **59,000,000**

9. # of tires collected for recycling
(1 tire=24 lbs.): **16,000**
10. # or tonnage of electronics collected: **50,000**
11. # of trees planted: **43,000**

EDUCATION:

12. # of training workshops held: **250**
# of people in attendance: **6,800**
(at above workshops)

Littoral Society Earth Day Clean up

7.d.2 DEVELOPMENT OF BMPS 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 NYCwith 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 2013, 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 2013. The total number of sites adopted and maintained by local community groups, companies, or individuals is 108, covering an area of 32,800 square feet.

Volunteer Cleanups – In 2013, probationers from the NYCDepartment of Probation and the Federal Community Service Program for Probationers contributed 207 days and 70 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 2013.

Youth Conservation Corps – This program continued in 2013 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 8 to August 16 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 Interceptors Program

DEP continues to develop the Expanded Grease Trap Program. For a detailed description of this program, please see the CY2013 CSO BMP Annual Report. The following summarized activities during calendar year 2013:

- 1249 initial inspections were performed
- 2239 follow ups / maintenance inspections were performed
- 2132 Commissioner's Orders were issued
- 910 Notices of Violation were issued,
- 2656 new grease interceptor installations were required

In addition, the Bureau of Public Affairs – Economic Development Unit (EDU), conducted 97 door-to-door visits, out of which 79 food service establishments were provided an invitation to a local meeting on proper grease management, and 18 restaurants were provided grease regulatory information; conducted 2 workshops for the hospitality industry and 8 workshops for property managers/residents to educate and bring awareness of grease compliance issues; distributed an article on grease management to approximately 1600 Licensed Master Plumbers; mailed 186 and 2659 "Cease the Grease" posters and flyers respectively to property managers for distribution to tenants; provided 300 food service establishment permittees with grease regulatory information; distributed grease package (grease awareness flyer and plastic cap for used cooking oil recycling) to approximately 2399 tenants in a DEP-identified grease hotspot (Queens, NY); provided grease regulatory information to 332 food service business in the same hot spot area; attended 2 trade shows where grease awareness literature was distributed; and emailed our grease video to 2 major hospitality associations for distribution and to 454 food service businesses; In addition, leaflets on residential grease disposal tips were distributed at various public outreach events. Detailed information on these events is available from the Bureau of Wastewater Treatment, Compliance Engineering Section.

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 2013, 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 2013, DEP continued to educate the public and raise awareness about the NYCwastewater treatment and water supply systems, floatable reduction, proper disposal of grease, green infrastructure, and water conservation. DEP developed, through its Bureau of Public Affairs (BPA), a comprehensive education and outreach program featuring:

- School Programs
- Visitor Center at Newtown Creek Programs
- Professional Development for formal and non-formal educators
- Special education programs and events
- Public Exhibitions
- Public Event-Based Programs
- Multi-Media
- Volunteer Programs
- Publications
- Promotional Items
- Website

The following sections describe the status of these programs during 2013. For a full description of these programs, please see the CY2009 CSO BMP Annual Report.

7.d.6.1 **School Programs**

BPA's school programs continued to reach thousands of young people and adults in 2013. For a description of the specific elements of these programs, please see the CY2008 CSO BMP Annual Report. Some specific examples of these programs that occurred in 2013 are presented below.

7.d.6.1. **1 Education**

In 2013, DEP conducted hundreds of education programs with young people and adults through ongoing school visits, field trips, Visitor Center at Newtown Creek programs, career days, science fairs, teacher workshops, and other educational programs and events. Education materials, including background information about NYC's wastewater treatment and water supply systems, lesson plans and student activities, and education resource guides were also sent to thousands of recipients throughout NYC. Detailed information on these programs is available from BPA's Education office and DEP's Website.

The Visitor Center at Newtown Creek, located at the Newtown Creek WWTP in Greenpoint, Brooklyn, is an important resource for young people and adults to learn about NYC's water supply and wastewater treatment systems, including infrastructure, green solutions to stormwater management, harbor water monitoring and anti-littering campaigns, proper disposal of grease and ways to become effective stewards of the environment. The Visitor Center provides the setting for DEP educators to present hands-on, multi-disciplinary lessons that align with the Common Core State Standards for grades prekindergarten through college students. The Visitor Center, filled with interpretive exhibits is open to school groups five days a week for programs and teacher workshops. A new exhibit about green roofs and stormwater management was added to the popular dollhouse exhibit.

In May 2013, DEP conducted its 27th Annual Water Resources Art & Poetry award ceremony, to recognize students' knowledge of the city's valuable water resources through their creative expression using art and poetry. Approximately 800 second through 12th grade students from NYCand watershed public, charter, independent and parochial schools participated in the program. Students submitted entries online where their poetry, photographs, digital art, paintings, and crafts are featured on DEP's Website. An award ceremony was held at Tribeca Performing Arts Center, where the DEP Commissioner honored the hundreds of students, in the presence of family, teachers and school principals, for their outstanding work featuring environmental themes.

In 2013, DEP continued to collaborate with Trout Unlimited with the Trout in the Classroom (TIC)

program, a watershed environmental education initiative for elementary through high-school students. In October, over 200 educators from NYC and the East and West of Hudson watersheds attended the Fall TIC Teacher Conference, where they participated in workshops presented by DEP professionals and veteran TIC teachers. Trout eggs, distributed by DEC, were hatched and raised by students in more than 120 classrooms (serving approximately 6,000 students) in NYC and the East and West of Hudson watersheds. In the spring, more than 1,600 NYC students released their trout into watershed streams and participated in hands-on on activities focusing on water stewardship.

Throughout the year, DEP hosted additional professional development workshops for formal and non-formal educators with the NYCDepartment of Education (DOE) and their more than one thousand Sustainability Coordinators, NYS Parks, Center for Urban Pedagogy, and other cultural and environmental organizations. Participants learned about creative ways to incorporate the study of water into their curriculum using activities and background information focusing on NYC's water resources and stewardship opportunities. DEP also partnered once again with Groundswell Community Mural Project on a New York Water Cycle mural at Riverbank State Park. Located on the top of the North River WWTP, the mural showcases the flow of water from the Catskills, to the spray fountain at Riverbank, to wastewater treatment, release cleaned into the Hudson River and back again into the water cycle. This was a major project, performed by high school students and seen by Riverbank's thousands of annual visitors.

7.d.6.2 **Publications**

In 2013, DEP expanded the notification process for letting people know that the 2012 Drinking Water Supply and Quality Statement was available. The agency sent postcards to all its approximately 840,000 bill-paying customers of the reports availability on the DEP website, and distributed approximately 8,800 hard copies to as follows:

- 4,500 copies of the 2012 Report were sent to New York City's Libraries.
- More than 1,000 copies of the 2012 Report were distributed to teachers and administrators in public, private and parochial schools throughout New York City.
- Copies of the 2012 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 2012 Report were distributed at West and East of Hudson Watershed events, and in New York City, at all DEP sponsored tabling events and DEP speaking engagements, and to the general public upon request.

Additional publications updated and produced for distribution and posting on DEP's Website for water consumers include:

2012 New York Harbor Water Quality Report

2012 State of the Sewers Report

- Check the Facts, Follow the Tips! Save Hundreds of Gallons of Water a Day
- New York Harbor Survey Program: Celebrating 100 Years
- How Restaurants Can Lower Their Water and Energy Bills
- Safety Net Referral Program: Assistance Programs Offered to Eligible Water and Sewer Customers
- Rooftop Detention
- How to Pay Your Water and Sewer Bill
- 2009 New York Harbor Survey Report
- Newtown Creek Nature Walk brochure and Scavenger Hunt booklet
- Water Debt Assistance Program
- Important Information about Lead in Household Plumbing
- Assistance for Senior Citizen Water and Sewer Customers
- Protecting our Water: New York City's Cross Connection Control Program
- Jamaica Bay Education Resource Directory

In 2013, DEP continued its on-going education outreach efforts through its presences at highly visible locations throughout the city with its Water-On-the-Go program. DEP's Water On-the-Go fountains were set up daily at public plazas, greenmarkets, parks, and special events to decrease attendees drinking bottled water and reduce litter. 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 Water On-the-Go Outreach Ambassadors the opportunity to interface and facilitate questions from the public, distribute useful promotional items and educational literature that helped to reinforce the message.

The Water On-the-Go Outreach Ambassadors raised awareness of Clean Streets = Clean Beaches and helped reduce floatables by distributing reusable, BPA-free NYC Water bottles and encouraged the public to fill the bottles with tap water at the Water O-the-Go fountains instead of purchasing bottled water. . The presence at various Greenmarkets throughout the program gave Water On-the-Go Outreach Ambassadors the opportunity to interface with the public who visited the market to purchase fresh fruit, vegetables, and other locally produced products straight from regional farmers, thus keeping sustainability top of mind. The staffers performed outreach with the Water-On-the-Go program from June through Labor Day weekend.

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 2013 "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 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 to clean waterfront properties affected by Hurricane Sandy in July and August. DEP also gave away thousands of reusable tote bags at city beaches throughout the summer that people can use instead of disposable plastic bags that can end up on the streets. 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.

7.d.6.3 **Future Actions**

In 2014, DEP will continue 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 2014, DEP will continue its engagement in the programs described earlier in this Section (and in the CY2009 CSO BMP Annual Report) using the successful approach used since 2000.

The following describe specific, notable plans for 2014 for several programs:

- School Programs: In 2014, DEP will expand the Water Resources Art and Poetry Contest to include new themes to 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 and presentations enhanced at the Visitor Center at Newtown Creek,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 will continue in schools located in the pilot area and the message will expand in schools citywide. A new green-infrastructure online education module for students and teachers will be created and housed on the DEP website.

- Publications: Specific documents that will receive updates in 2011 include the New York Harbor Water Quality Report and the Drinking Water Supply and Quality Report.

7.d.6.4 **Conclusions**

DEP currently manages an extensive education and outreach program that targets NYCstudents, teachers, parents, school administrators, curriculum specialists, 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, public exhibitions, support of volunteer programs, literature and publication distribution, promotional item distribution, and the DEP website. In 2014, DEP plans to continue these programs and to expand outreach at the Visitor's Center at Newtown Creek.

7.d.7 POLLUTION PREVENTION ACTIVITIES UNDERTAKEN BY DEP AND/OR OTHER CITY ENTITIES

7.d.7.1 Pollution Prevention

In 2013, DEP continued to engage in Pollution Prevention Programs. For a full description, please see the CY2009 CSO BMP Annual Report. The following sections describe the status of the programs.

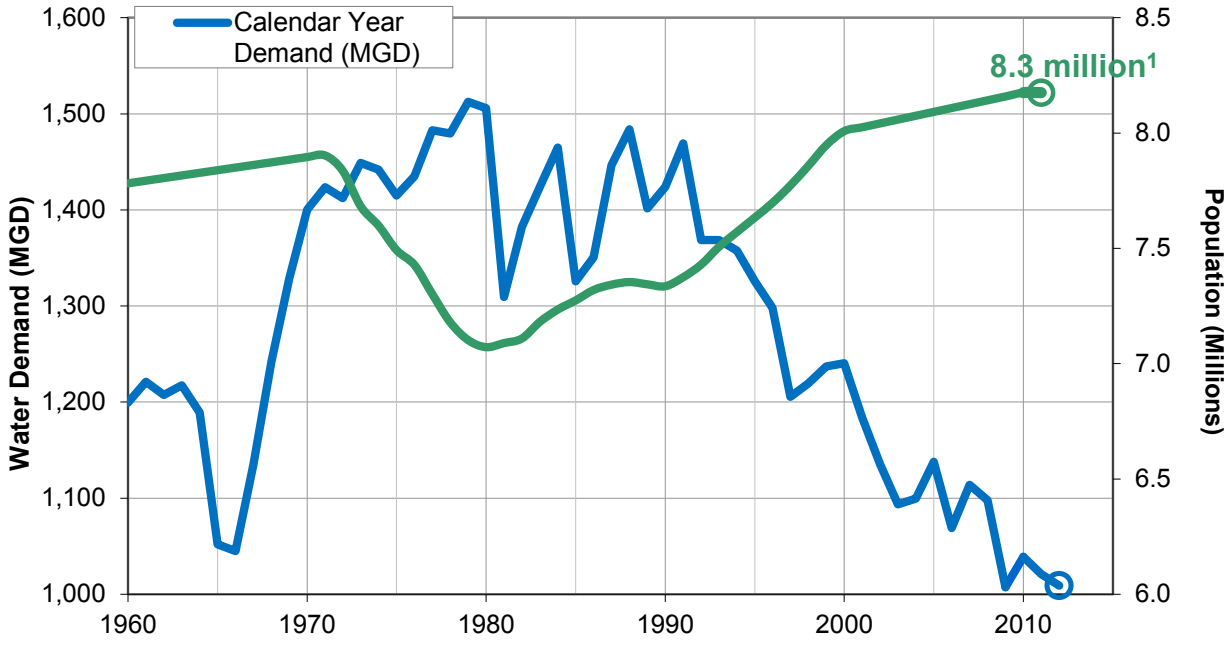
- Water Conservation
    - Metering
    - Municipal Water Efficiency Program
    - Toilet Replacement Program
    - City Codes for Low Flow Fixtures
    - Leak Detection
    - Water Restrictions
    - Fire Hydrant Caps
    - Public Education
    - Water Reuse Program

- Industrial Pretreatment
    - Water and Sewer Permits
    - Economic Development Unit (EDU)
    - Compliance Assistance
    - Pollution Prevention
    - Business Development (including Green Business Development)
    - Financial Referrals
    - Regulatory Reform
    - Water Bills & Infrastructure Assistance
    - Green Buildings
    - Mayor's Office of Long Term Planning and Sustainability
    - Climate Change Program
    - Public Education

7.d.7.2 – Water Conservation

DEP values the role of water conservation and demand management in the responsible long-term management of NYC'swater supply. As a result, actual water demand is down 30% since the 1990s, despite consistent increases in population. With predictions of warmer temperatures and greater variability in precipitation due to climate change, however, DEP must consider this increasing uncertainty in its management of the City's water supply and the corresponding demand for this resource. Further, the leaking of the Delaware Aqueduct and its planned shut-down and repair in 2021 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 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 for the Future (WFF) Program was designed to address leaks in the Delaware Aqueduct, which must be shut down for a period of 6-15 months to enable its repair. The primary initiatives of this program, all of which have now begun in earnest, include:

- Repairs to leaking sections of the Delaware Aqueduct, including construction of a two-and-a-half mile bypass tunnel between the Towns of Newburgh and Wappinger
- Rehabilitation of the Catskill Aqueduct to ensure its structural integrity, extend its useful life, and restore its ability to deliver historically high amounts of water
- Innovative water conservation efforts to reduce consumption prior to scheduled shutdowns
- Upgrades and rehabilitation of a city-owned groundwater system that will be used to supplement the water supply during planned outages

The goal of DEP's water conservation efforts is to reduce water use in NYCand in upstate communities by a total of 5% from the 2012 demand level by approximately 2020. This is equal to a reduction of approximately 50 million gallons of water per day. The five major strategies that DEP will implement to reduce water use include:

1. Municipal Water Efficiency Program – involving retrofits of city-owned properties – saving up to nine million gallons of water per day

2. Residential Water Efficiency Program – centered upon the Toilet Replacement Program for multi-family buildings and other residential properties – saving up to 30 million gallons per day
3. Non-Residential Water Efficiency Program – including collaborations with private sector organizations like businesses, hospitals, universities and theatres
4. Water Distribution System Optimization – entailing system repairs and upgrades, managing water pressure, and refining water meter accuracy and leak detection
5. Water Supply Shortage Management – requiring the review and revision of plans to prepare for a drought and other water shortages

The following paragraphs summarize the progress DEP has made during the calendar year of 2013 in the design and implementation of efforts supporting each of the strategies listed above.

DEP made significant strides in the implementation of Strategy 1 during 2013 – establishing working partnerships with two key municipal partners - the NYC DOE and DPR - and executing a total of 112 individual retrofit projects in partnership with them. Through its new partnership with the DOE, DEP funded the replacement of over a thousand old toilets and urinals with high-efficiency fixtures in nine schools in Brooklyn and Queens. As part of its new partnership with the DPR, DEP funded the retrofitting of spray showers in 103 parks across Brooklyn, the Bronx, Manhattan and Queens with push-button activation features to prevent water from being wasted when no one is around to enjoy it. As DEP executed these initial projects with its partners, it also laid the groundwork in project management practices and experience to enable it to significantly scale-up these efforts in 2014. With the DOE, DEP plans to execute school bathroom fixture retrofit projects in over 80 additional schools in 2014. With the DPR, DEP plans to retrofit a hundred additional park spray showers and potentially execute other water-saving projects. DEP also plans to develop working partnerships with additional municipal agencies in 2014, including the Fire Department of New York, City University of New York, and hopefully others. In conjunction with the execution of these projects, DEP has begun preparations to host educational sessions at schools and other public forums to explain the importance of these conservation projects and the role of each individual New Yorker in their success. As DEP recognizes the advantage of working with an engaged public that understands and as a result, is largely supportive of its efforts, DEP plans to continue to emphasize the importance of public awareness and participation in its conservation projects throughout 2014.

Progress made under Strategy 2 primarily involved the development of plans, the project management framework, and the contracting of partners required to prepare for the launch of the Residential Toilet Replacement Program, expected in early 2014. This program will offer eligible building owners who are part of the Multi-family Conservation Program $125 vouchers to replace old, inefficient toilets with high-efficiency, WaterSense-certified toilets. Preparations included the undertaking of a negotiated acquisition with six toilet wholesale vendors who will accept the vouchers and provide the toilets to consumers, the creation of an online application tool, the design of a feasible solution to enable the recycling of the discarded toilets (an initiative with which DEC

is already well familiar), among other activities. While the feasibility of the recycling of discarded toilets is still currently being explored, DEP is confident that all other aspects of this program have been well prepared and that it will soon be ready for launch. This program alone could save up to 30 million gallons of water per day, and DEP is excited to see the savings begin to materialize from the impending launch of its first phase.

In addition to the establishment of the Toilet Replacement Program, DEP has offered the service of complementary household water surveys, conducted by its contractor Honeywell, to building owners to promote water conservation at their properties. In these surveys, Honeywell helps the building owners identify opportunities for water savings, as well as any leaks which may exist. In 2013, on behalf of DEP, Honeywell conducted surveys in 433 apartment buildings and in a total of 13,286 individual apartments. They additionally surveyed 3,086 1-3 unit properties, and 6,761 individual units within these properties. While residential properties are the primary focus of this service offering, 352 small commercial properties and 11 restaurants were also surveyed in 2013.

To advance efforts under Strategy 3, DEP explored several types of potential partnerships with private sector organization partners. In June, 2013 DEP officially launched an initiative in partnership with the Mayor's Office, the Hotel Association of New York, and eleven NYC hotels called The Mayor's Water Challenge to Hotels. The Challenge encourages participating hotels to reduce their annual water consumption by an average of 5% from their baseline year (measured as the twelve month-period prior to the beginning of the Challenge). DEP has hosted quarterly workshops as part of the Challenge to help educate participating hotels on how to make their facilities more water efficient, and DEP prepares monthly reports for participants to help them track their own consumption, as well as track their performance against the other hotels in the Challenge. This Challenge is set to conclude in May of 2014.

Water Distribution System Optimization entails system repairs and upgrades, managing water pressure, and refining water meter accuracy and leak detection. In 2013, DEP surveyed 3,866 miles of water mains for leaks; as a result of leaks proactively found and repaired, DEP estimates that 0.891 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 2013, DEP repaired 10,764 hydrants, replaced another 1,549, and provided other maintenance services to 5,267.

DEP's efforts to achieve universal metering of all DEP water and sewer accounts is 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 2013, DEP installed 53 new meters and replaced 9,995 others, for a grand total of 10,048 meters, an increase of more than nine times last year's total.

DEP's efforts to reach universal metering of all DEP water and sewer accounts is 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 - most times associated with a financial incentive for consumers to reduce water waste. DEP's universal metering initiative is also critical to measuring the success of many of the other demand management strategies of DEP. Accurate consumption data provided by newly installed or replaced meters will enable 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 2013, DEP installed 53 new meters and replaced a total of 9,995 meters, reaching a grand total of 10,048 meters – an increase of over nine times the amount of last year's total.

For Strategy 5, in 2013 DEP completed a fully revised draft of the Emergency Drought Rules. With this revision, DEP has proposed regulations which address the wider variety of drought and water shortage conditions that NYC may face over the next years, whether weather-related or otherwise. DEP has proposed that this body of regulation be referred to as the 'Water Shortage Rules', thereby replacing the more narrow definition provided by the previous title. The revised rules document is now under review with the Mayor's Office of Operations and with the City Law Department. DEP completed the initial stakeholder involvement in the review of the revised rules, and has begun the environmental review of the revised rules. DEP anticipates that formal approval of the rules will be obtained in 2014.

The more detailed Water Demand Management Plan can be found here:

http://www.nyc.gov/html/dep/pdf/conservation/water-demand-management-plan-single-page.pdf

7.d.7.3 Industrial Pretreatment

7.d.7.3.1 Program Description

This program continued in 2013. In 2013, 907 inspections were performed on regulated industries, and 53 Notices of Violation were issued. In 2013 the average total metals discharged by all regulated industries to the NYC Publicly Owned Treatment Works (POTW) was 13.9 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 0.2 lb/day of total metals from year 2013 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 2013, 907 IU inspections were performed, and 53 Notices of Violation were issued to IUs.

7.d.7.4 Water & Sewer Permits

Section 7.d.7.4.1 Program Description:

Any connection to a combined, storm or sanitary sewer requires the application for a permit to make either a new connection or repair/relay an existing sewer connection. A condition for obtaining a permit for a new sewer connection is the 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 which was submitted by a NYS Licensed Professional Engineer or Registered Architect.

Section 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 know whether the amount of sewage entering the collection system conforms to the City's Drainage Plan, and the sewage generated will be conveyed without fear of sewage back-ups to the plants for treatment.

Section 7.d.7.4.3 Contextual Characterization:

This program is predicated on several statutes in the Administrative Code and the Rules of the City of New York (RCNY), promulgated through 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 specifically 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 staff 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 Economic Development Unit (EDU) - Working with and for the New York City Business Community

EDU is the Economic Development Unit of DEP's Bureau of Public Affairs. EDU's mission is to foster the joint goals of economic development and environmental protection by offering assistance with compliance, best management practices and financing incentives to NYC businesses.

In 2013, EDU continued its core programs, including Compliance Assistance, Green Business Development, Financial Referrals & Incentives, and Water Bill and Infrastructure Assistance. Through these programs, EDU continued to work with its primary partners including Local Development Corporations (LDCs), Business Improvement Districts (BIDs), Chambers of Commerce, Merchant Associations, and trade associations. DEP 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 2013 EDU also continued to enhance compliance with DEP's grease management requirements through workshops (conducted with the Bureau of Wastewater Treatment) and on-site visits to food-service establishments as well as through outreach to NYC property managers. (For a further details on EDU's 2013 grease activities see section 7.d.4). In 2013 EDU continued to distribute (produced in conjunction with NYC Media) our 3 "Business-How-To" videos including to NYC "Restaurant Week" participants (see http://on.nyc.gov/howtovideos)

The following table summarizes selected EDU's outreach activities during 2013.

Selected EDU Outreach Program Activities[(1)] During 2013

Outreach Type	Compliance Assistance	Green Business Development	Business Development & Financial Referrals/ Incentives	Water Bills & Infrastructure Assistance & Other	Total Unique Contacts
Tel./Email/Walk-in Inquiries[(2)]	167	29	34	84	286
On-Site Visits[(3)]	97	97			97
Dedicated Mailings[(4)]	7284	7321	76	696,099	703,541
Articles[(5)]	1600	1600		25,830	27,430
Workshops[(6)]	26	11	2		26
Trade Shows[(7)]	5	5	5	5	5

Grand Total					731,385

(1) Contacts include some primarily non-water related outreach (air compliance, Right-to-Know, etc.)

(2) Includes 28 inquiries counted in ≥ 1 category (e.g., Compliance *and* Financial Referrals)

(3) All Grease related (all counted in Compliance & Green Business)

(4) Includes 7239 mailings counted ≥ 1 category; includes estimate of 64,179 recipients (derived from 27,904 units @ an estimated 2.3 occupants/unit); each mailing to business groups counted as one contact—if passed on to their memberships will result in higher totals than indicated above (member lists can be confidential); approx. 75 Bus. Devel./Financing hand delivered (RBAT Sandy recovery program); 696,099 figure is for Consumer Confidence Report outreach

(5) Estimated circulation of publications and # of recipients receiving article (1600 contacts counted in Compliance & Green Business)

(6) By category: Grease 10, Right-to-Know 7, Noise 1, Multi-topic compliance 4, Incentives & multi-topic compliance 2, Regulatory Outreach 2 (note: 13 workshops counted in ≥ 1 category)

(7) All counted under Compliance, Green Business, Business Development & Financial Referrals/Incentives, and Water Bills & Infrastructure Assistance

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 possible. 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 onsite detention. Since the rule took effect, over 300 sites throughout the City in combined areas have been required to comply with the rule. A key component of PlaNYC and the 2010 NYC Green Infrastructure Plan, the stormwater rule is one of several Green Infrastructure strategies that DEP will continue to track and evaluate as part of DEP's CSO Long-Term Control Plan (LTCP) development process.

In conjunction with the implementation of the new stormwater rule, DEP published a companion document, *Guidelines for the Design and Construction of Stormwater Management Systems*, to assist NYC'sdevelopment community and licensed professionals in the selection, planning, design and construction of onsite source controls that comply with the new rule. The guidelines were developed in consultation with DOB, and feature guidance on siting, design, and construction considerations for various stormwater control systems. DEP also went through an extensive peer review process that incorporated input from representatives of multiple city agencies, members of the design, engineering, and real estate communities as well as leaders in sustainability.

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 NYCGreen 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. The tax abatement extension was signed by the Governor in December of 2013, and is expected to be adopted into the City Administrative code in 2014.

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 NYCDepartment of Finance on a pro rata basis.

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 that do not receive City water service. DEP's stormwater charge increased from $0.05 to $0.06 per square foot in 2013, to account for rate structure increases. The program billed 455 parking lot accounts in 2013, an increase of 75 from 380 accounts in 2012. DEP billed a total of $274,773 in Fiscal Years 2011 and 2012. In 2013, DEP identified 143 additional stand-alone parking lots that will be billed approximately $50,000 in 2014. Parking lot owners who implement green infrastructure practices are exempt from the stormwater discharge fee.

7.d.7.9 Mayor's Office of Long-Term Planning and Sustainability/PlaNYC

The Mayor's Office of Long-Term Planning and Sustainability (OLTPS) completed the last PlaNYC Update in April 2011. As part of this effort, DEP provided updated information for a number of sustainability initiatives and projects that were included in PlaNYC as milestones to improve water quality in receiving waterbodies surrounding the City. Several of these milestones are actively being implemented or have recently been completed including: exploring the

incorporation of more stormwater retention efforts into NYC Housing Authority (NYCHA) sites; work within a multi-agency task force to assess opportunities for expanding the blue network across the City for water-based recreation; work with other departments to release a Street Design Manual; complete the Paerdegat Basin and Alley Creek CSO facilities; complete the Avenue V pumping station; complete upgrades to Gowanus Canal pumping station and Gowanus Canal Flushing Tunnel; complete a destratification facility at Shellbank Creek; complete 60 miles of new or rehabilitated sewers; inspect all tide gates in the city and repair as needed; clean 138 miles of interceptor sewers; expand the Bluebelt system into Queens; complete 30 green infrastructure pilot projects; implement a green infrastructure grant program; require greater onsite detention and infiltration for new development and redevelopment; evaluate the efficacy of the green roof tax abatement; complete Paerdegat Basin restoration; invest $15 million in wetlands restoration in Jamaica Bay; expand oyster pilot project and conduct additional research; complete ribbed mussel bed pilot; complete eel grass pilot. The next PlaNYC Update is scheduled for April 2013.

Resiliency Coordination Working Group

On June 11, 2013, the City released "A Stronger, More Resilient New York", a comprehensive plan that contains actionable recommendations both for rebuilding the communities impacted by Sandy and increasing the resilience of infrastructure and buildings citywide. Following the release of the report, the Mayor's Office of Long-Term Planning and Sustainability formed the Resiliency Coordination Working Groupto bring together City agencies to coordinate implementation of the initiatives set forth in the plan. DEP, along with other stakeholders, is working to assess the vulnerabilities and risk from climate change and increase the resilience of the City's built and natural environments. In 2012, using analyses already underway as part of ongoing climate change analyses, DEP contributed an in-depth flooding survey of three WWTPs and eight pumping stations to the Task Force's assessment of citywide infrastructure risk. Following Hurricane Sandy, DEP expanded this study to assess the risk to all of its WWTPs and pumping stations in the coastal floodplain to provide recommendations to the Mayor's Special Initiative on Rebuilding and Resiliency. The risk assessment and adaptation recommendations were described in details in the NYC Wastewater Resiliency Plan (October, 2013) and summarized below under the section of "Climate Change Resiliency Planning".

Hurricane Sandy Impact: Ongoing and New Initiatives

Hurricane Sandy resulted in extensive flooding, beyond the boundaries of what was considered the 500-year floodplain. All of DEP's operating Bureaus implemented storm preparedness in anticipation of the storm. Nonetheless, Hurricane Sandy caused an estimated damage of $77 million to DEP's wastewater infrastructure. Out of the 14 WWTPs, 10 were adversely affected by Hurricane Sandy with an estimated recovery cost of $29.3 million with Rockaway WWTP being most affected. Of the 42 pumping stations that failed during the storm, half were damaged by flooding, and the other half by loss of power supply. An additional $17 million was spent on clean-up efforts around the city.

Limited water quality impacts were observed harbor-wide due to discharges. A recreational water advisory was issued for Hudson River, East River, New York Harbor, Jamaica Bay and Kill Van Kull on October 31st. The Division of Emergency Response and Technical Assessment (DERTA)

is responsible for responding to hazardous material emergencies in the City and conducted approximately 200 inspections by November 30th in flood zones including Far Rockaway, Howard Beach, Coney Island, Red Hook, Paerdegat, Staten Island and Lower Manhattan. Eighty-five percent of all inspection reports indicated that owners could account for all chemicals that were on site.

DEP will adopt a risk management approach to designing and upgrading infrastructure in the low-lying areas, incorporating new knowledge about potential risks as it emerges. DEP has incorporated the new FEMA flood advisory maps into its planning. Operational bureaus have developed new design criteria incorporating climate change resiliency recommendations. DEP has expanded its climate change study to examine critical assets city-wide. DEP's expanded study will focus on the site specific nature of impacts, interdependencies between DEP infrastructure and the electrical grid, and risks posed to surrounding communities, receiving waterbodies, and sensitive areas from potential failures of critical services.

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 ofmanagingone inch of runoff from 10% of impervious surfaces within combined sewer areas by 2030 and interim milestones for green infrastructure implementation including management of 1.5% of impervious surfaces or commitment of $187 million by 2015. To achieve these milestones, DEP established the Office of Green Infrastructure (OGI) in January 2011. In March 2012, DEC and DEP signed a Modified Consent Order which incorporates green infrastructure implementation into the regulatory regime governing combined sewer overflows.

Within the City's combined sewer watersheds, OGI has coordinated with the Bureau of Environmental Planning and Analysis (BEPA) and BWT to further target priority tributary areas. These priority tributary areas represent the wet weather drainage area for the combined sewer outfalls that have the highest volumes, most frequent overflow events, and the worst water quality. OGI has formed partnerships with other city agencies including DPR, DDC, and Department of Economic Development Corporation (EDC), to manage Area-Wide Contracts to build Right of Way Bioswales in the sidewalk. Built upstream of existing catch basins, ROW Bioswales manage stormwater flowing along the curb line. OGI is also partnering with NYC School Construction Authority (SCA), NYC DOE, the non-profit Trust for Public Land, and NYCHA to retrofit City-owned properties with green infrastructure projects such as rain gardens, green roofs and subsurface detention where cost-effective.

In consultation with the NYS DEC, OGI identified three Neighborhood Demonstration Areas within the priority tributary areas to test the effectiveness of green infrastructure systems on a larger scale. Approximately 20 acres each, the Neighborhood Demonstration Areas will feature ROW Bioswales, and offer opportunities to build green infrastructure on NYCHA properties. DEP installed monitoring devices and rain gauges in fall 2011 to gather baseline wet weather glow data within combined sewer pipes. As construction is completed in each area, DEP is collecting and analyzing wet weather flows within the three Demonstration Areas. The data will be synthesized in the Post Construction Monitoring (PCM) report and will inform future siting for green infrastructure installations, the cost effective installation rate, and the CSO LTCPs.

DEP's Office of Green Infrastructure also manages a robust public engagement program. The Green Infrastructure Grant Program began in 2011 and provides funding for the design and construction of green infrastructure installations on private properties including universities, private schools, businesses, and local organizations in the combined sewer areas of NYC.

DEP also educates and engages with the general public by coordinating an annual Citizens Group meeting, hosting quarterly Green Infrastructure Steering Committee meetings, sending construction notification postcards to all mailing addresses within project areas and delivering presentations to Community Boards, Elected Officials and local community and organizations. OGI, with NYC MillionTrees, has developed a BioswaleCare program to engage residents living near ROW Bioswales in supporting and providing stewardship for the GI Program.

7.d.7.11 Climate Change Resiliency Planning

Hurricane Sandy demonstrated the risks that NYCfaces from storm surge today, and the types of risks that the City may increasingly face as a result of climate change. Even though tenWWTP's (WWTPs) and 42 pumping stations were damaged during Sandy, DEP was treating99% of all NYCwastewater within two days of the storm.

Since 2008, long before Hurricane Sandy, DEP has been an active leader in climate risk planning and investigating the impacts of climate change on its infrastructure not only for wastewater facilities, but also for drinking water supply and stormwater management facilities. In 2013, DEP completed the *City-Wide Risk Assessment and Adaptation Study* which presents a comprehensive assessment of facilities at-risk from future storms, potential costs for adaptation, and suggested measures to protect critical equipment and reduce the risk of damage and loss of services. It follows the recent release of Mayor Bloomberg's *A Stronger More Resilient New York*, which committed the City to harden its WWTPs and pumping stations. Through the study, DEP developed a set of recommended design standards and cost-effective protective measures that are tailored to each facility to improve resiliency in the face of future flood events. In determining potential costs, DEP considered not only the value of wastewater assets but also potential impacts to the population and critical facilities and beaches.

The study used a consistent and flexible framework to assess flood risk and identify appropriate protective measures. This framework can be applied as prototype to protect a wide range of vital City infrastructure beyond wastewater facilities. The framework is comprised of 3 major modules: Climate Analysis, Vulnerability Analysis and Adaptation Analysis. The Climate Analysis investigated the question "What to adapt to?". The FEMA 100-year flood event was selected as the maximum surge assessed in this study. An additional 30 inches of flooding was also added to account for future sea level rise by the 2050s, the high end of the projections from the NYC Panel on Climate Change. Vulnerability Analysis identified which infrastructure will be affected in flood events through site visits, analysis of facility blueprints and interviews with facility personnel. The elevations of flood pathways and infrastructure compared to the flood elevation defined in the climate analysis to determine the infrastructure at risk. Cost estimates for replacement of at-risk equipment under emergency conditions, cleaning of facilities, and temporary power and pumping were developed, and then used as a metric to inform the prioritization of vulnerabilities. Adaptation Analysis identified what can be done to protect vulnerable infrastructure from surges and how much it will cost. DEP performed an extensive literature review of strategies being considered around the globe to protect against climate change and narrowed the list down to six measures that

would work best for the NYC's infrastructure. These protective measures were then evaluated for use at each wastewater facility and recommendations were based on feasibility, effectiveness, and cost.

Prioritizing investments for capital improvements is an important aspect of planning since the required economic funding needs are greater than the available resources. In order to aid with prioritization, a number of criteria were applied including operational, environmental, social and financial metrics. These metrics included historical flooding frequency at each pumping station, proximity to beaches and sensitive water bodies, population served, number of critical facilities served (eg. hospitals, nursing homes, fire and police stations), and whether the particular asset is scheduled for upgrades in DEPs' 10 year capital plan for improvements. Based on these criteria the top five priorities at risk pumping stations are identified as Van Brunt, Howard Beach, Throgs Neck, Nautilus Creek and 40th Road pumping stations. DEP has also selected WWTPs that can affect bathing beaches as high priority for implementing protective measures. These plants include 26th Ward, Coney Island, Hunts Point, Jamaica, Oakwood Beach, and Rockaway.

Study results indicated that all 14 WWTPs and 60% of pumping stations (58 out of 96) are at risk of flood damage. In fact, of the almost 47,700 total assets at these facilities, about 4,000 that are necessary for primary treatment and 10,600 other facility assets were shown to be vulnerable. The study estimates that more than a billion dollars' worth of equipment are at risk and require additional protection. The recommended protective measures, totaling $315 million in improvements, are costly but critical. Increased resiliency not only reduces damage to DEP's assets, but also enables rapid recovery of full service to the community following a flood event, reduces risk of sewer backup into homes, and reduces the likelihood of the release of untreated sewage into the environment. DEP will work to implement the recommended actions to increase resiliency through new design standards and capital projects, and is currently seeking funding through the EPA Storm Mitigation Loan Program.

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

The NYC Department of Environmental Protection (NYC DEP) has been tasked through its State Pollutant Discharge Elimination System (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 the NYCDEP has achieved

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 (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 and Volunteer Survey Program monitoring stations increased from 25 sites in 2006 to 96 sites in 2013. 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 2012 (i.e., BS23 Crooke's Point, BS53 Fort Wadsworth and CIC-3 Coney Island 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 Combined Sewer Overflow (CSO) LTCP (LTCP). The investigations were able to provide a step toward this goal although no debris was visible at the time of the investigation.

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 the DOS 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 seven years with clear improvements in the percent acceptable and percent filthy ratings. Scorecard Program results for the past thirty-nine years are summarized in Appendix 7 (DEP BWT) Figure 7-3.

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 NYSDOH.

DEP has finalized the design of a comprehensive amended Drainage Plan in 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 system in this combined sewer area in Brooklyn. DEP has initiated a series of capital projects to implement these plans, which is in conjunction with CSO order 602-20110512-25. Once built, they will allow for a reduction in CSO volume, which will improve water quality in Fresh Creek.

A high level storm sewer (HLSS) is installed to take the street storm water flow, reducing this flow to the existing combined sewer. The originally combined sewers when supplemented by a HLSS would still be classified as combined, since it still takes 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, NYCDEP, 1985. See amended table Appendix 1, Exhibit 2 shows status of all sewer projects in Rockaway WPCP drainage area.

The first Capital Project in Coney Island - CONISPH01 is currently in construction and is currently scheduled to be completed in the summer of 2015.

The project will includes 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. Subsequent phases (CONISPH2A and CONISPH2B) are currently in design with the DDC. Infrastructure work 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.

These subsequent phases have been funded in the budget for FY 14 and 15. Additional phases (CONISPH3A and CONISPH3B) have been funded in FY17.

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 one (1) private sewer extension was completed in 2013. The private sewer extension is done in accordance to the City drainage plan. The sewer does not extend 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 2013, 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 continued unchanged since the 2012 Annual BMP Report issued on March 31, 2013.

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 certification 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 Appendix8.

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 *2013 NYC Beach Surveillance and Monitoring Report* can be accessed at:

http://www.nyc.gov/html/doh/downloads/pdf/beach/beach-report-2013.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 twenty three permitted beaches. Approximately 1650 samples were collected and analyzed from these beaches between April and September 2013. The only illnesses reported to DOHMH in 2013 from beach water contact were two complaints related to swimmer's itch. This condition is a type of skin rash caused by tiny snails which naturally occur in the area. The allergic reaction of swimmer's itch can

be extremely annoying but is self-limiting and non-transmissible. For more information about swimmer's itch please go to the following link on the cities website

http://www.nyc.gov/html/doh/html/diseases/beach_risks1.shtml.

There were 12 pollution advisory and two closure days for public beaches during the 2013 bathing season; because of reconstruction after Super Storm Sandy, Wolfe's Pond Beach was closed for bathing during the entire 2013 season.Private beaches had 92 closure days and 98 pollution advisory days. The repetitive North Easterly track of summer thunderstorm activity has an impact on private beaches in the Bronx which are susceptible to runoff resulting in elevated bacteriological levels. Douglaston Manor Beach in Queens had Pollution Advisories posted for 44 days and was closed a total of 64 days during the season because of localized elevated bacteria levels, likely due to failing septic systems in the area. The specific Advisory and Closure dates for each beach, are shown in Appendix 10: 2013 Advisories & Closures Summaries.

Inspections

During the 2013 bathing season, a total of 117inspections were conducted by the Department at permitted beaches, and both general violations and public health hazard violations were observed at both public and private beaches.

The specific Advisory and Closure dates, and reasons for issuing these advisories and closures are shown in **Appendix 10** Tables B-1 and B-2 - 2013 Advisories & Closures.

Appendix 10, Table A, shows Public Beach Advisories and Closure comparisons for 20010 to 2013. Tables B-1 and B-2 show all Beach Advisory and Closure summaries for Public and PrivateBeaches.

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/beachand 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. 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 11th annual report summarizing the implementation of the BMP's performed by DEP in calendar year 2013.

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'12 Chloride Concentrations Rolling Average Summary

Table 2 - Yearly Average Tidal Inflow Comparison for CY '12 – '13

Table 3 - CSO Alarm Summary

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(e)), Red Hook (Section XIII(e)), Wards Island (Section XIII(e)) and North River (Section XII(e)).

Sincerely yours,

for Alfonso R. Lopez, P.E.
Deputy Commissioner

SR/fk

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

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 Truck # : _____ **REGULATOR and TIDE GATE Inspection Log** 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					

70 96 80

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 426D/427D	B. 141st Street, etc.	Completed
SE 196/372	Camp Road, etc.	Completed in June 1991
SE-772/87HW Formerly SEQ200350	Beach 71st Str.	Completed
SEQ-002355	B. 43rd Street, etc	Completed in April 1991
SEQ-200239	Rockaway Freeway, etc.	Completed
SEQ-200240	Rockaway Freeway, etc.	Completed
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

Project No.	Locations	Status
SEQ-200254	Beach 108th Street, etc.	Completed in November 1998
SEQ-002402	Beach 45th Street, etc.	Completed in September 1997
SEQ-002413/ R 200275	Collier Avenue, etc.	Completed March 2005
SEQ-002426 1998	Bay 25th Street, etc.	Completed in September,
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.	Projected Construction Start 07/2011
SEQ-002428	Healy Avenue, etc.	Completed
SEQ-200305	Amstel Blvd, etc.	Completed May 2000
SEQ-002460	WestBourne Ave, etc.	Completed November 2000
SEQ-002499	B 61st St.	Completed July 2000
SEQ-200311	B 35th St.	Edgemere Project Completed April 2002
SEQ-002507/ 200356	Beach 69th St.	Canceled; Included in HWQ631
SEQ- 200358	Beach 87th St.	Completed October 2002
SEQ-002511/ 200347	Beach 36th St.	Completed April 2002
SEQ- 200324	Beach Channel Dr.	Included in Edgemere Projects HD153 series
SE-426C/427C	Beach 69th St.	Completed Jan 2003

Project No.	Locations	Status
SEQ-002571/ 200412	Hope VI Phase A	Completed
SEQ-002538/ 200371	Beach 18th St.	Completed in August 2003
SEQ- 002546/ 200425	Grandview Terrace	Completed in 2003
SEQ- 200368	Redfern Ave.	Completed
SEQ- 200381	Beach 53th St.	Scheduled for FY 2002 Cancelled due to LIPA issues
SEQ002550/ 200390	Beach 40 St. (Edgemere Phase BHD153B)	Completed
SEQ002516/ 200352	Cornaga Ave.	Part of QED965 complete
SE-795	Chandler St.	Projected Construction Start 06/2011
SEQ002511/ 200347	Beach 36 St.	Completed
SEQ200378	Seagirt Blvd.	Completed September 2002 In SEQ200358
SEQ002551/ 200398	Edgemene Phase B1. (HD153B1)	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
SEQ-200407/002564	Edgemene Phase C1 and C2	Actual Construction Start 04/2009
SEQ-200426 (HWQ1126B)	Hope VI Phase B	On Hold

Project No.	Locations	Status
SEQ-02479/QED-983/SEQ-200341	Rockaway Bch. Blvd	Projected Construction Start 07/2010
SEQ-200508	BEACH 32nd St.	Projected Construction Start 08/2011
QED-982	Rockaway Beach Blvd	Projected Construction Start 06/2012
SEQ002681 (HWQ631B2)	Sommerville B2	Projected Construction Start 06/2013
SEQ200523	New Haven Avenue, etc	Projected Construction Start 07/2011
SEQ200533	Beach 42nd Street	Actual Construction Start 06/2010
QED-983	Beach 88th Street	Projected Construction Start 03/2011
SEX20039	Fairfax Avenue (Bronx)	Construction completed on 11/10/11

EXHIBIT 2

Rockaway Projects

Updates & construction start dates as of 01/09/2014 are as follows:

HD153C2/SEQ200421/SEQ002576 Edgemere C2 - Actual Construction Start 09/2011,
Project completion 9/20/14

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

HWQ631B1/SE-789 - Actual Construction Start 01/22/2009
Projected Finish 4/16/2014

HD153C1/SEQ200406/2562/Edgemere C1 - Actual Construction Start 04/2009,
Projected Finish 11/30/2014

SEQ200426/HWQ1126B - On Hold – DOT issue

QED983 - Construction Start Actual 09/2011,
Projected completion 4/15/14

SEQ200508 - Actual Construction Start 05/2012,
Projected completion 8/2014

QED982 - Projected Construction Start 01/15/16

SEQ002681/HWQ631B2 - Projected Construction Start 01/2020

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

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

TABLE1

2013 12-Month Rolling Average Influent Chlorides (mg/L)

	Jan-2013	Feb-2013	Mar-2013	Apr-2013	May-2013	Jun-2013	Jul-2013	Aug-2013	Sep-2013	Oct-2013	Nov-2013	Dec-2013
Wards Island	480	470	480	480	470	450	430	410	400	390	380	380
North River	394	395	403	391	388	367	340	318	302	278	252	262
Hunts Point	270	280	290	290	282	282	284	286	293	273	222	229
26th Ward	360	360	310	310	310	300	300	310	310	260	250	260
Coney Island	850	860	870	840	840	830	800	770	780	700	670	650
Owls Head	240	240	240	240	240	230	230	240	240	220	200	190
Newtown Creek	860	850	840	820	790	760	720	700	700	640	620	620
Red Hook	420	440	450	450	450	430	430	440	440	410	380	360
Jamaica	280	290	290	300	310	320	330	340	330	320	310	300
Tallman Island	240	240	250	250	250	240	230	230	230	250	250	240
Bowery Bay	410	410	430	420	400	380	370	360	340	310	290	320
Rockaway	2,610	2,680	2,750	2,790	2,800	2,800	2,800	2,840	2,850	2,900	2,860	2,780
Oakwood Beach	390	400	410	420	430	420	430	440	440	320	280	270
Port Richmond	460	460	470	450	520	520	550	570	570	550	540	550

(*)The chloride concentration limit for WPCP is 400mg/l.

TABLE 2 **YEARLY AVERAGE TIDAL INFLOW COMPARISON FOR CY '12-'13**

WPCP	JANUARY - DECEMBER '12		JANUARY - DECEMBER '13		VARIANCE		REMARKS*
	INFLOW (MGD)	% DWF	INFLOW (MGD)	% DWF	INFLOW (MGD)	%	
WARDS ISLAND	9.713	5.1%	8.599	4.5%	-1.114	-0.59%	12.95%DECREASE
NORTH RIVER	5.334	4.9%	4.419	4.1%	-0.915	-0.78%	20.71%DECREASE
HUNTS POINT	2.054	1.8%	2.050	1.8%	-0.004	0.00%	0.21%DECREASE
26th WARD	0.985	2.2%	0.835	2.0%	-0.150	-0.15%	17.91%DECREASE
CONEY ISLAND	4.767	5.6%	4.514	5.4%	-0.253	-0.26%	5.61%DECREASE
OWLS HEAD	1.333	1.5%	1.305	1.5%	-0.028	-0.03%	2.18%DECREASE
NEWTOWN CREEK	16.346	7.5%	12.701	6.3%	-3.644	-1.14%	28.69%DECREASE
RED HOOK	0.864	3.3%	0.864	3.4%	0.000	0.11%	0.05%DECREASE
JAMAICA	1.250	1.8%	1.578	2.1%	0.329	0.34%	20.82%INCREASE
TALLMAN ISLAND	0.776	1.5%	0.813	1.5%	0.037	0.04%	4.60%INCREASE
BOWERY BAY	3.118	3.1%	2.625	2.7%	-0.493	-0.37%	18.77%DECREASE
ROCKAWAY	2.792	17.8%	2.986	19.8%	0.194	1.96%	6.49%INCREASE
OAKWOOD BEACH	0.821	2.9%	0.794	2.9%	-0.027	-0.06%	3.41%DECREASE
PORT RICHMOND	0.864	3.4%	1.118	4.6%	0.254	1.23%	22.74%INCREASE

Tidal Inflow (MGD) seasonal percentage change.

Table 3

CSO Alarm Summary CY' 13

Location	Date	Time of alarm	Nature of alarm	Cause of interruption	Bypassing analysis
Cannon Avenue PS	01/16/13	9:00AM	CSO ALARM	BYPASS	Reduced.Reported to DEC.Item#5231
Richmond Hill Rd. PS	02/01/13	10:20AM	CSO ALARM*	BYPASS	Reduced.Reported to DEC.Item#5233
Gowanus PS	02/19/13	08:00AM	CSO ALARM	BYPASS	Reduced.Reported to DEC.Item#5235
Conner Street PS	03/08/13	02:00PM	CSO ALARM	BYPASS	Reduced.Reported to DEC.Item#5243
NC-Reg. No. M-12	04/02/13	09:45AM	CSO ALARM	BYPASS	Reduced.Reported to DEC.Item#5248
Clearview PS	06/11/13	3:54AM	CSO ALARM	BYPASS	Reduced.Reported to DEC.Item#5265
Mayflower Ave.PS	10/14/13	7:08 PM	CSO ALARM	BYPASS	Reduced.Reported to DEC.Item#5285
NC-Reg. No. M-12	12/24/13	08:30AM	CSO ALARM	BYPASS	Reduced.Reported to DEC.Item#5297

*The incident was discovered through the CSO telemetry system.

APPENDIX 2

DEP BWSO

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

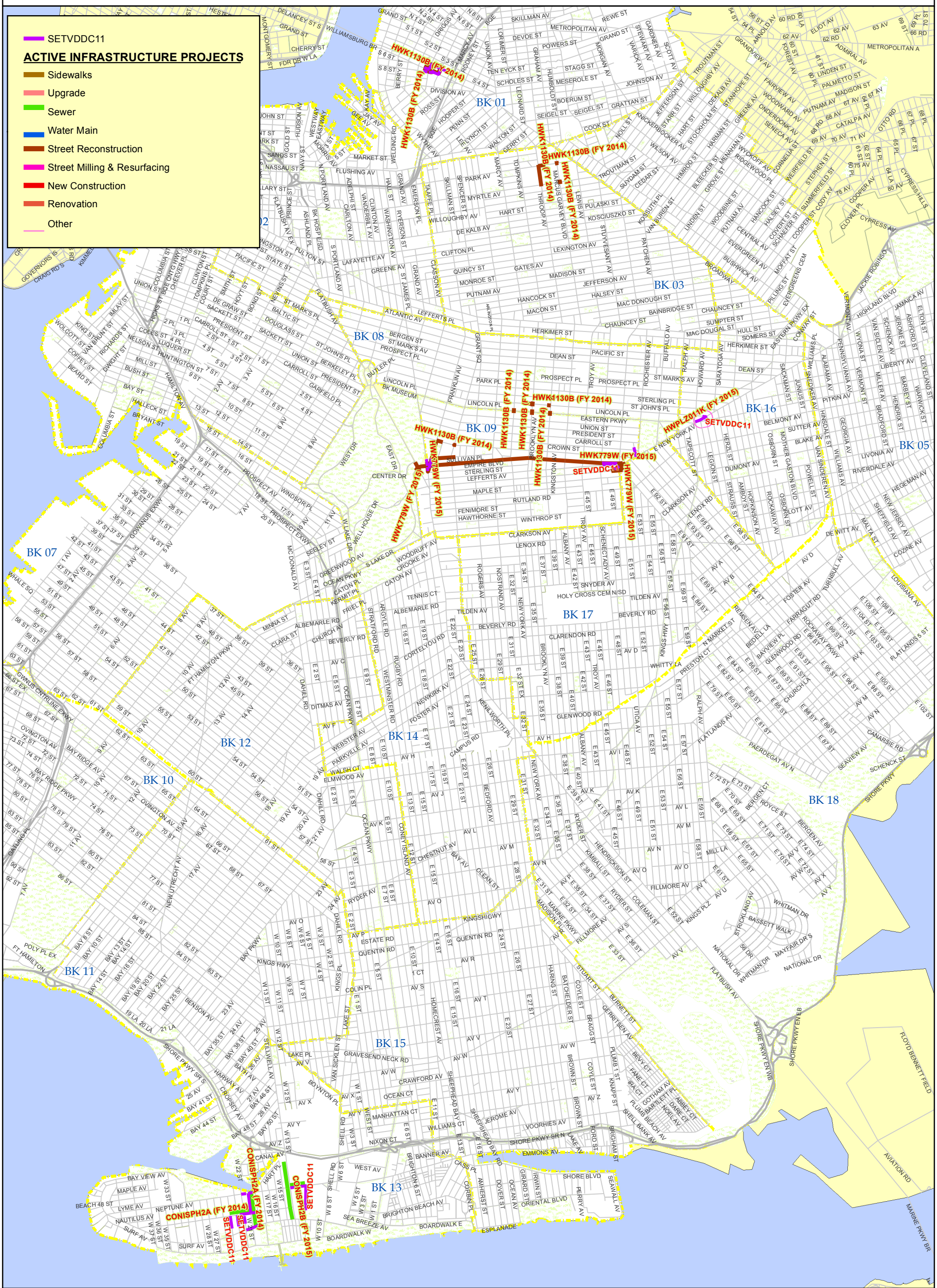
Maps of Cleaning Activities for CMOM Section: NYC Public Sewers Inspected, Cleaned or Televised in CY 2013 (Borough Map 1-6)

Maps of Cleaning Activities for CMOM Section: NYC Public Sewers Inspected, Cleaned or Televised in CY 2013 (Community Board Map 1-59)

CMOM Section Inspected Locations

BROOKLYN

SETVDDC11 - SEWERS TELEVISED IN 2013



Hon.Bill de Blasio, Mayor

1.5 0.75 0 1.5 Miles

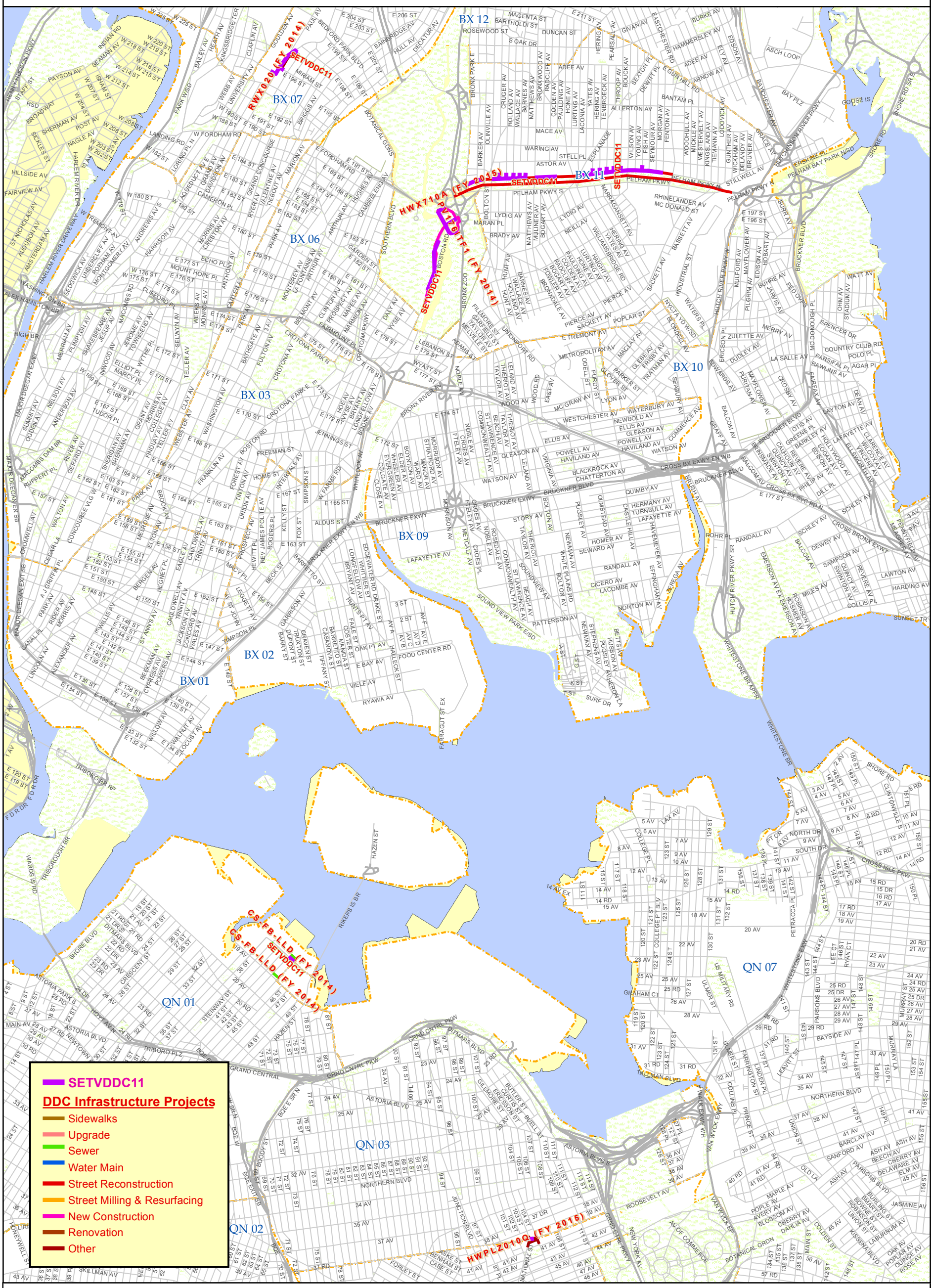
N

NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION

Data Source: DDC GIS - Map No. 4517 - March 10, 2014

BRONX

SETVDDC11 - SEWERS TELEVISED IN 2013



Hon. Bill de Blasio, Mayor

NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION

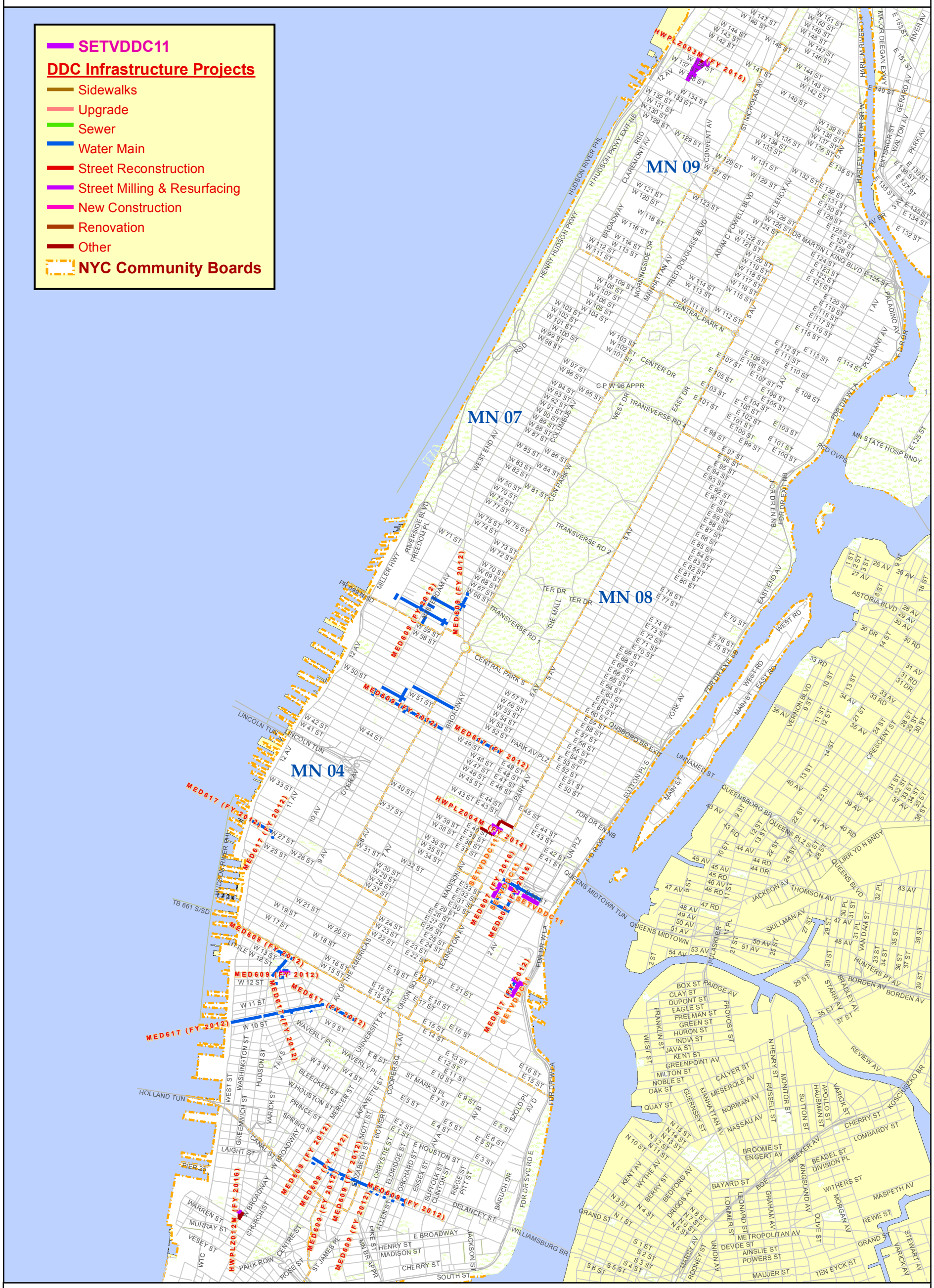
1 0.5 0 1 Miles

N

Data Source: DDC GIS - Map No. 4521 - March 10, 2014

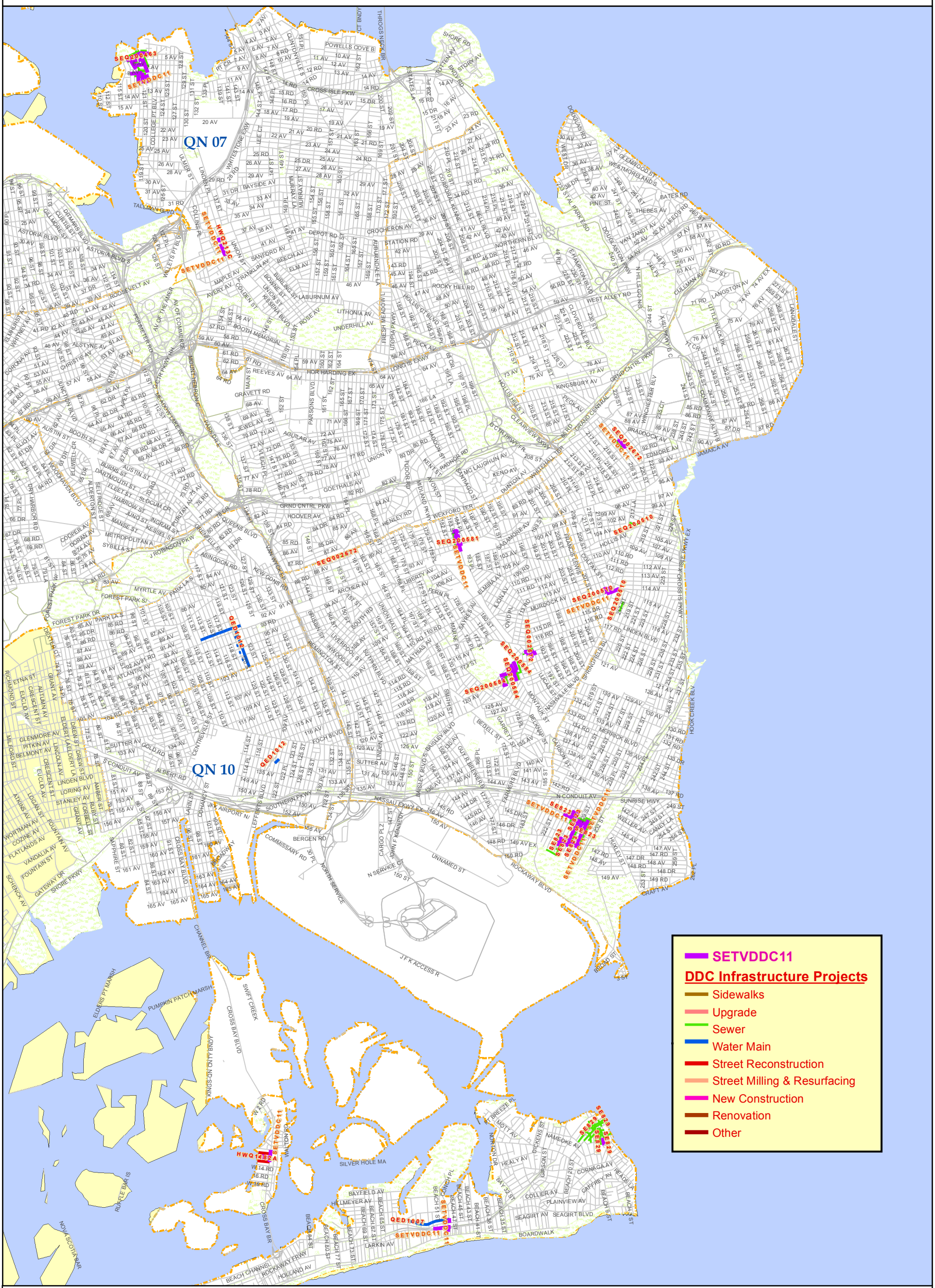
MANHATTAN

SETVDDC11 - SEWERS TELEVISED IN 2013



QUEENS

SETVDDC11 - SEWERS TELEVISED IN 2013



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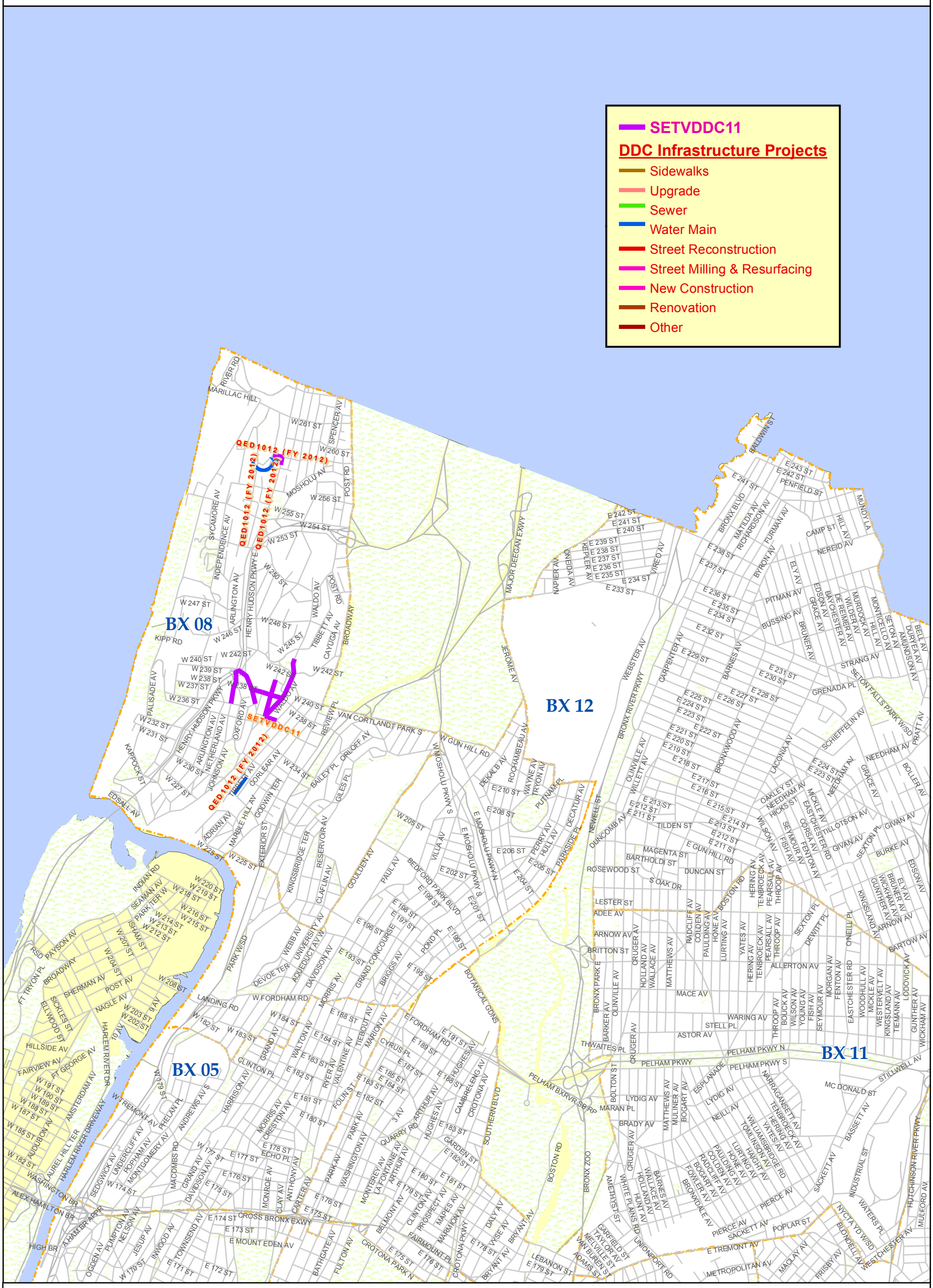
Data Source: DDC GIS - Map No. 4536 - March 10, 2014

QUEENS AND BRONX
SETVDDC11 - SEWERS TELEVISED IN 2013



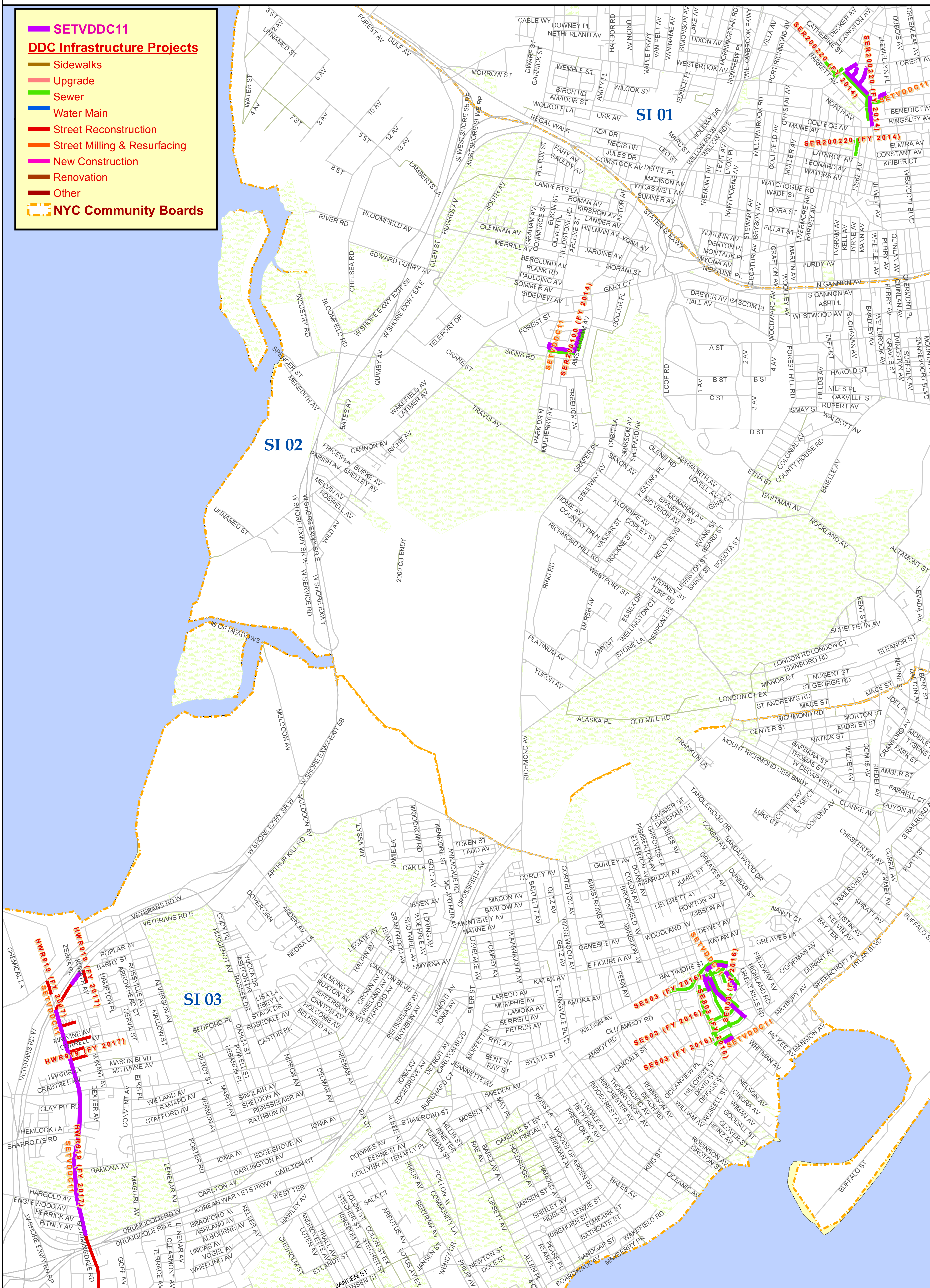
Hon. Bill de Blasio, Mayor

NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION

Data Source: DDC GIS - Map No. 4536 - March 10, 2014

STATEN ISLAND

SETVDDC11 - SEWERS TELEVISED IN 2013



Hon. Bill de Blasio, Mayor

NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION

Data Source: DDC GIS - Map No. 4538 - March 10, 2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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

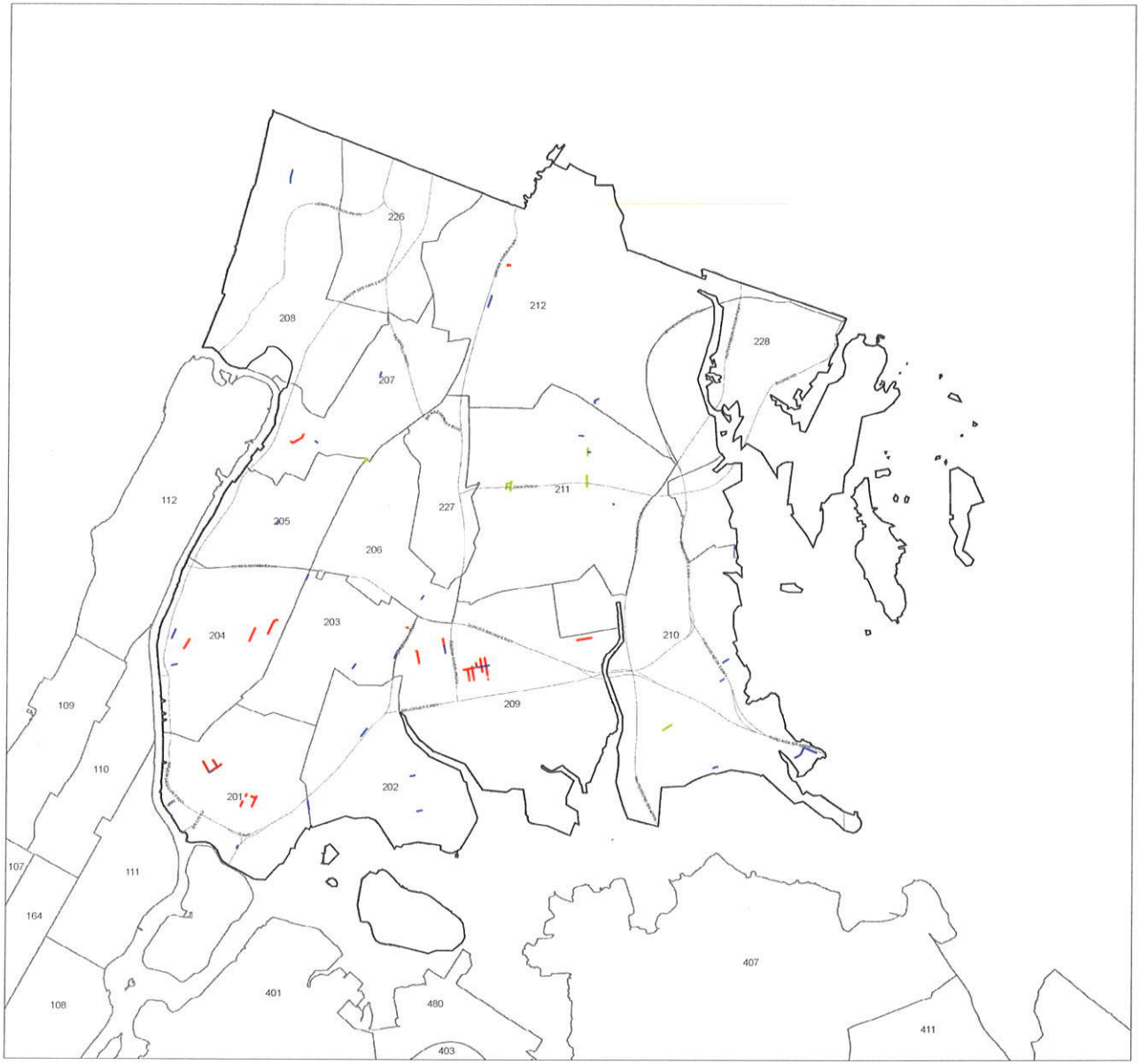
NYC LOCATION MAP

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

Borough Map

Datum and Projection: NAD, 1983 StatePlane NY Long Island	Manhattan
0 0.25 0.5 1 1.5 Miles — 1 inch equals 2,407 feet	

Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- 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

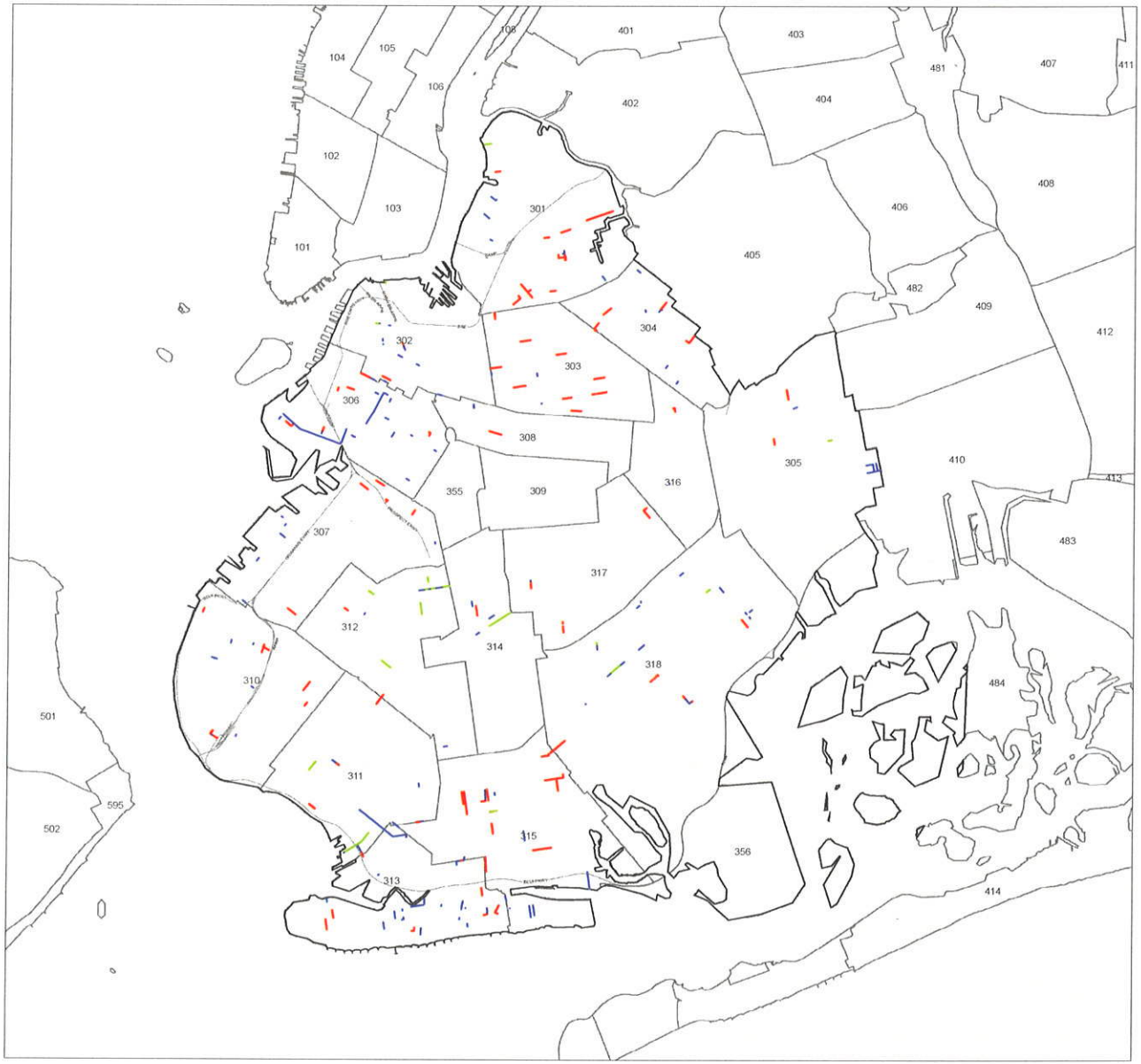
Datum and Projection:
NAD, 1983 StatePlane NY Long Island

The Bronx

0 0.25 0.5 1 1.5 Miles

1 inch equals 2,407 feet

Prepared By the Mapping Unit on 3/7/2014

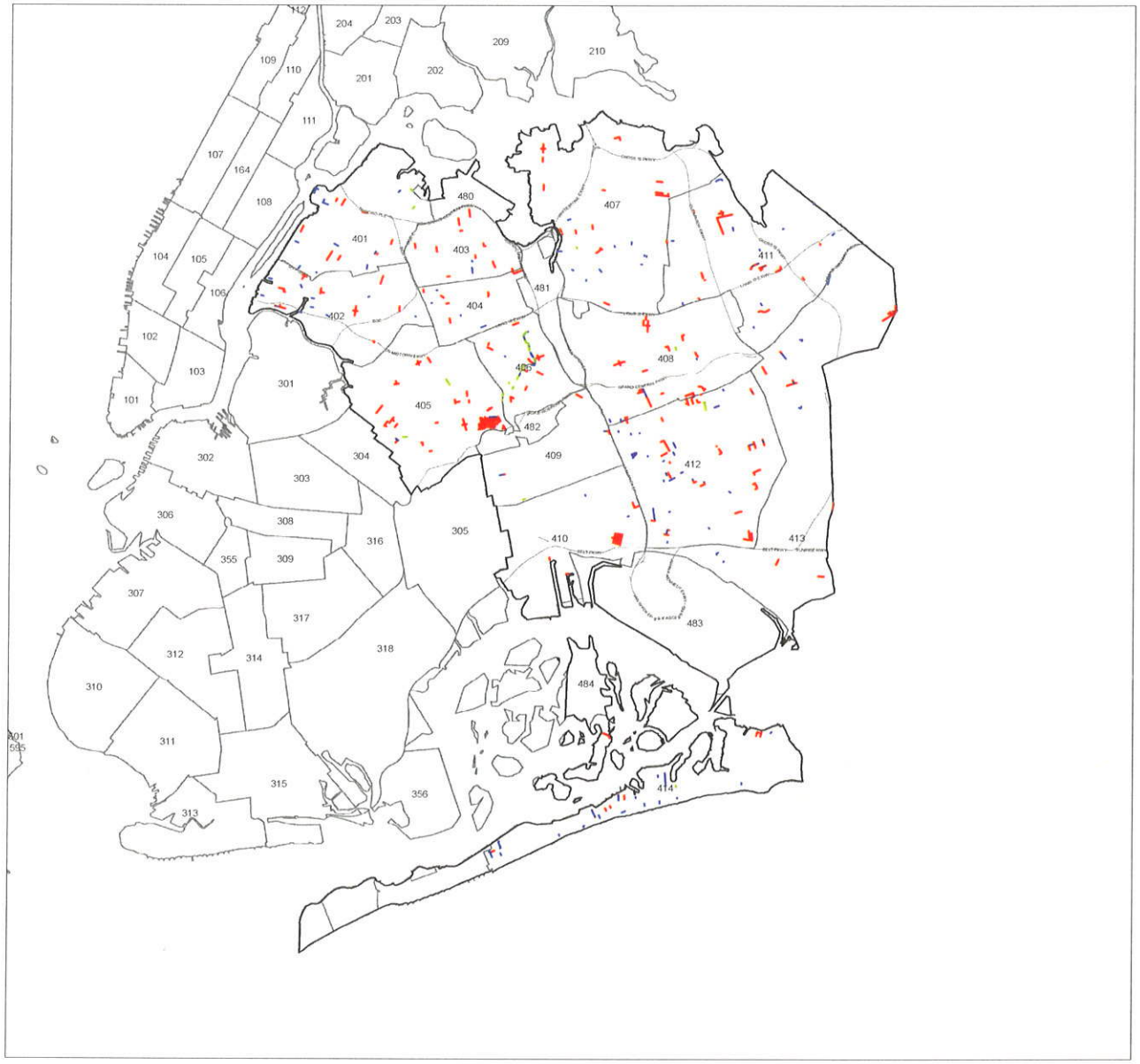


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- 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	Brooklyn
0 0.25 0.5 1 1.5 Miles	1 inch equals 2,407 feet
Prepared By the Mapping Unit on 3/7/2014	



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- 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

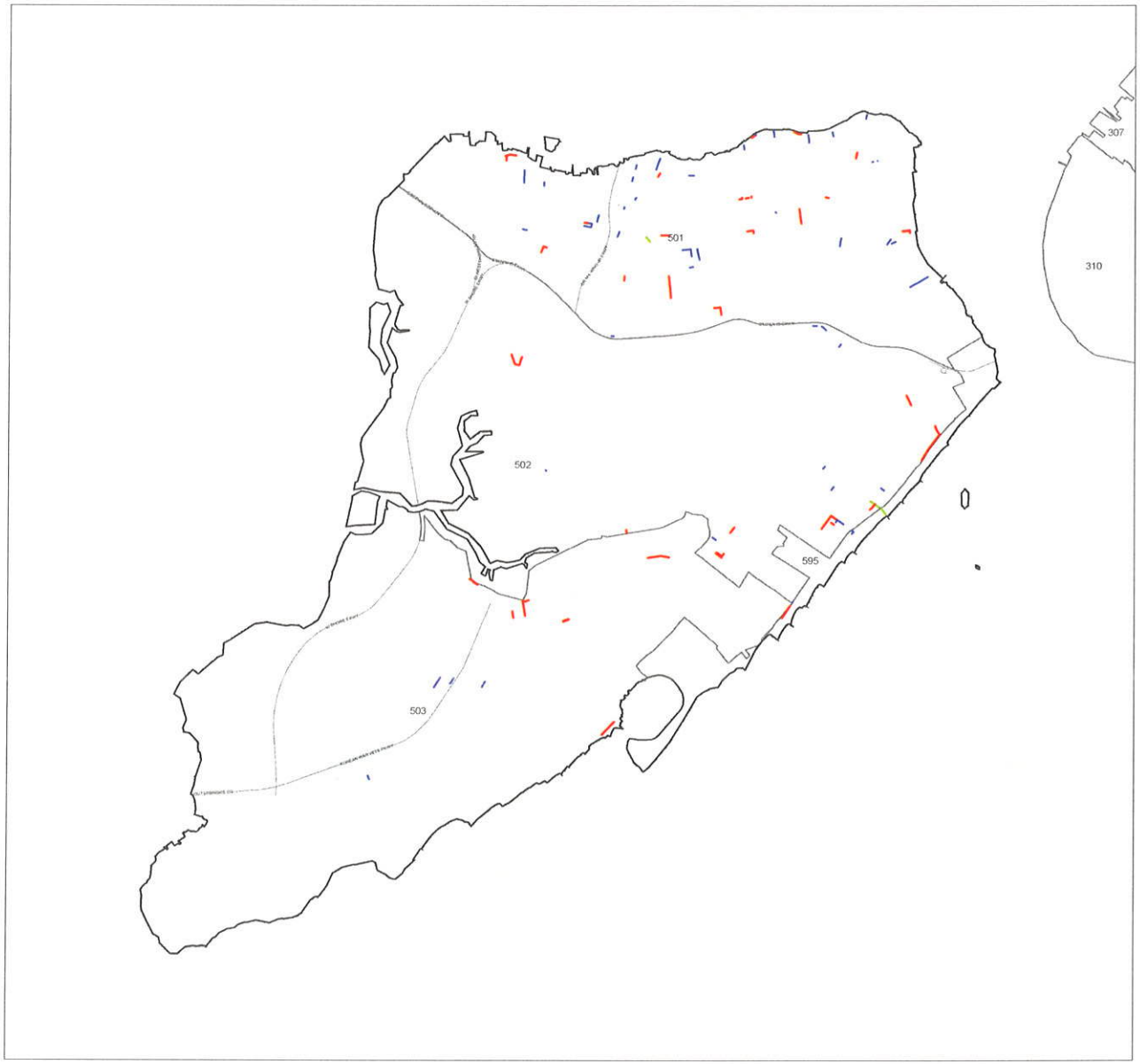
Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Queens

0 0.25 0.5 1 1.5 Miles

1 inch equals 2,407 feet

Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- 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

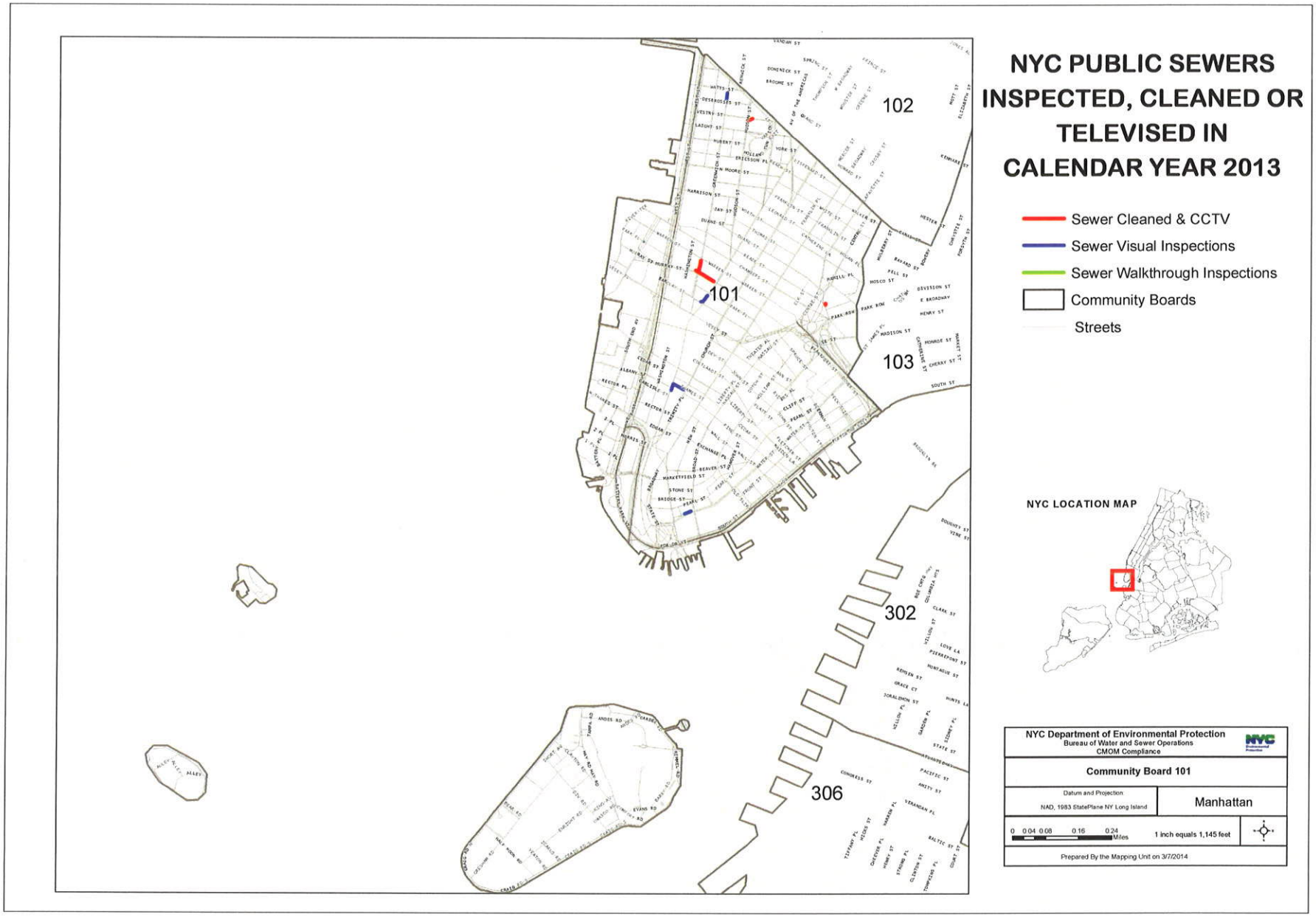
Datum and Projection:
NAD, 1983 StatePlane NY Long Island

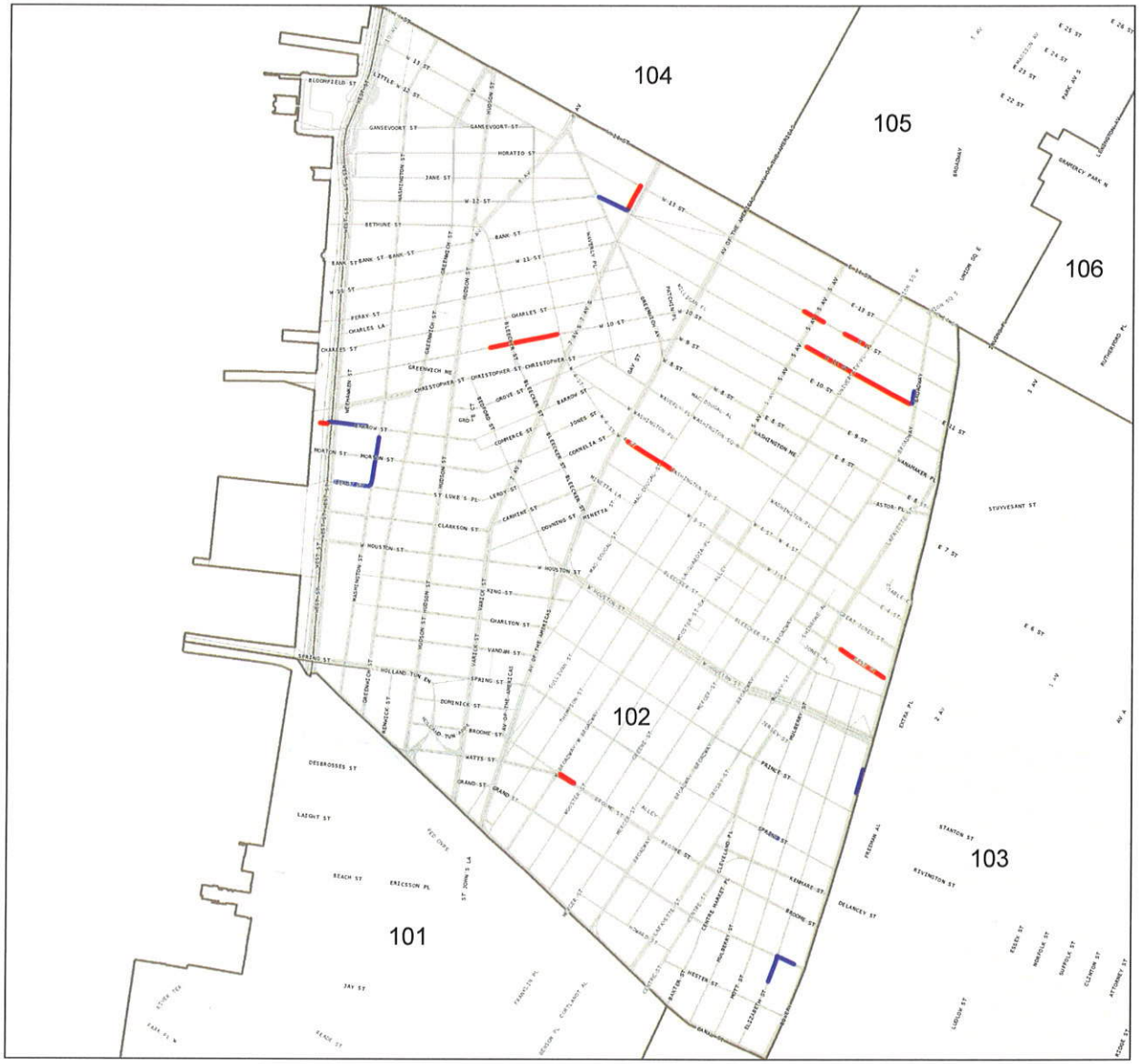
Staten Island

0 0.25 0.5 1 1.5 Miles

1 inch equals 2,407 feet

Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
102
101
103
302
306
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 101
Datum and Projection
NAD, 1983 StatePlane NY Long Island
Manhattan
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 102

Datum and Projection	Manhattan
NAD, 1983 StatePlane NY Long Island	

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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

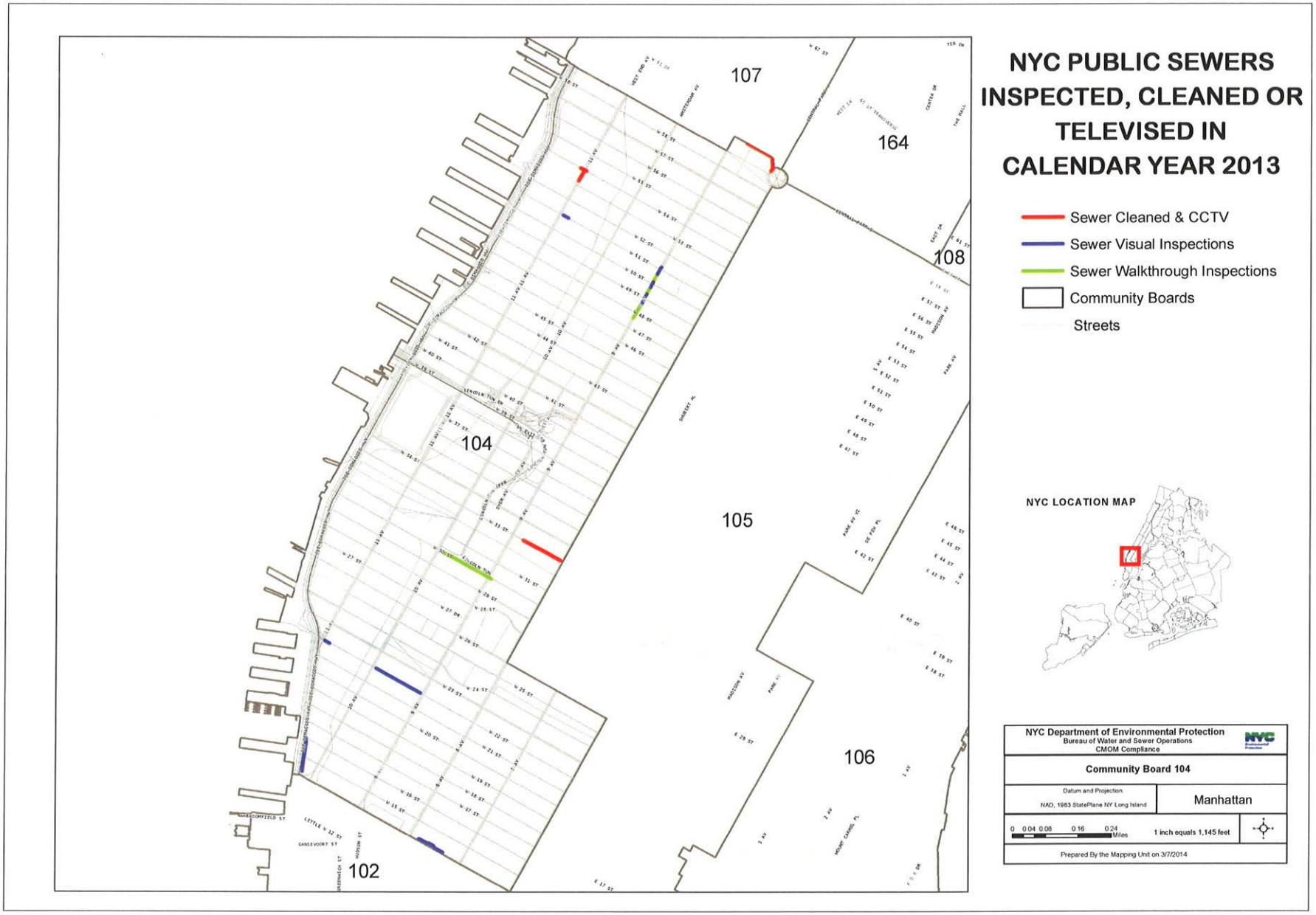
NYC LOCATION MAP

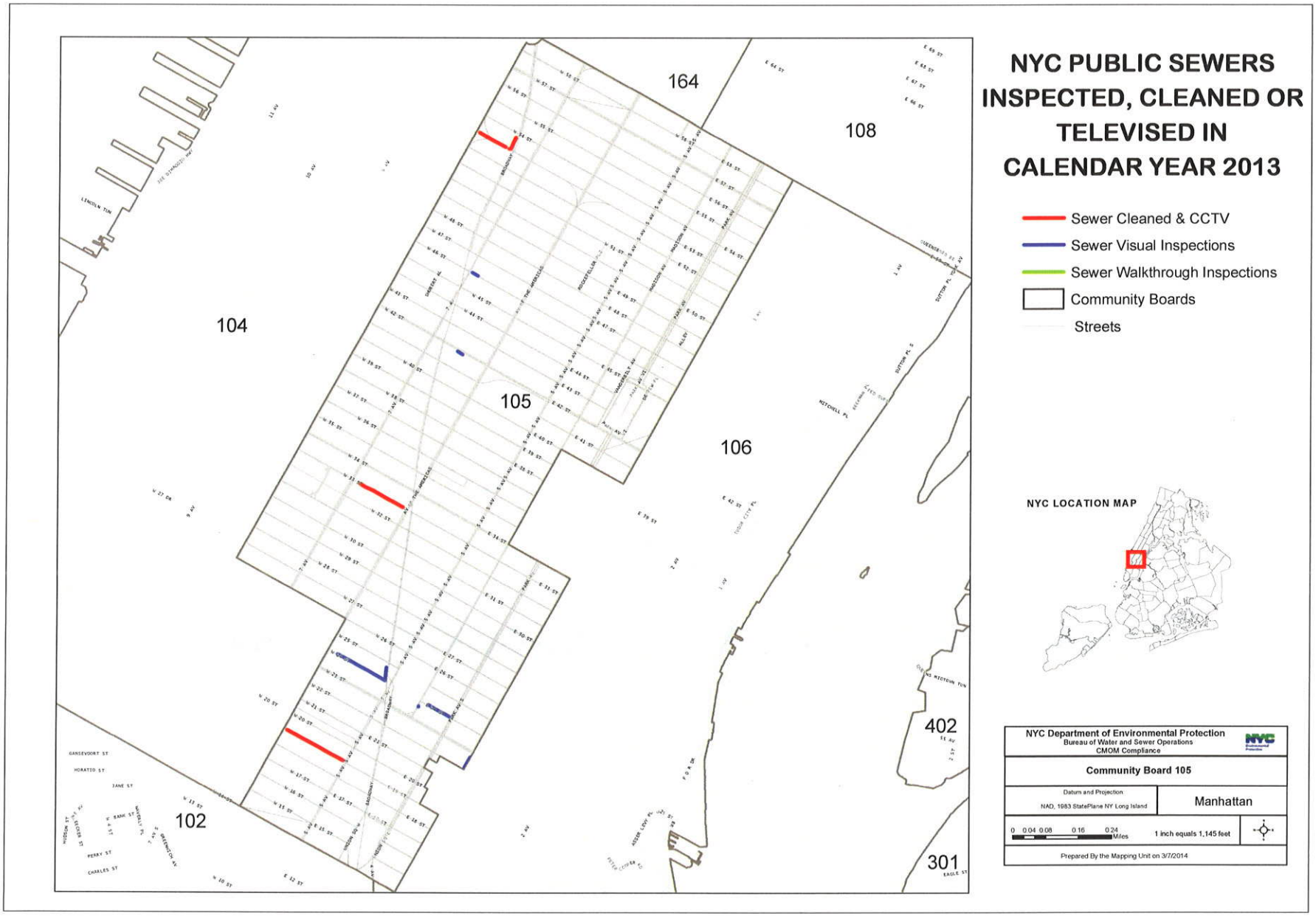
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance

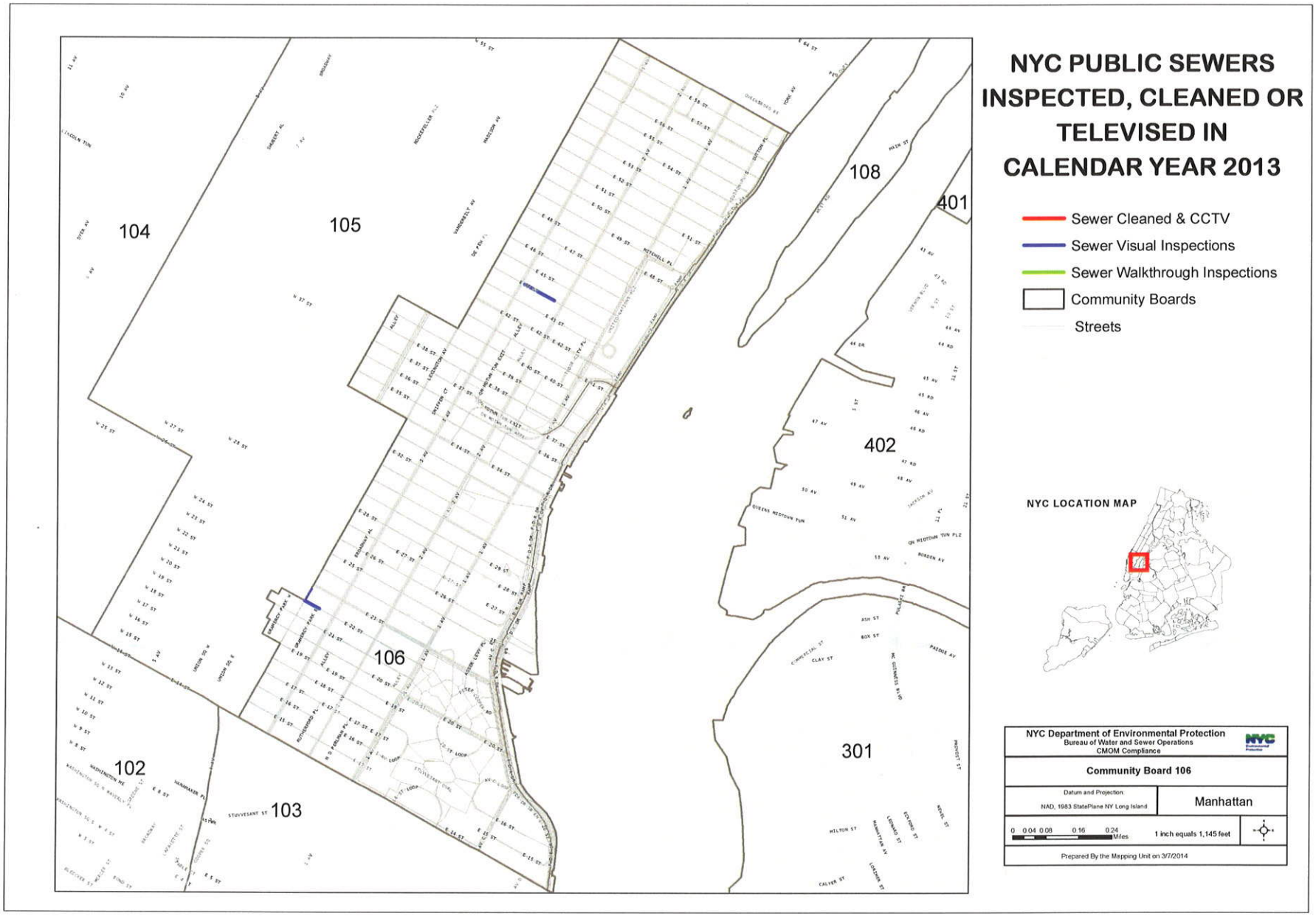
Community Board 103

Datum and Projection	Manhattan
NAD, 1983 StatePlane NY Long Island	
0 0.04 0.08 0.16 0.24 Miles	1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
107
164
108
104
105
106
102
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 104
Datum and Projection
NAD, 1983 StatePlane NY Long Island
Manhattan
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
164
108
104
105
106
102
402
301
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 105
Datum and Projection:
NAD, 1983 StatePlane NY Long Island
Manhattan
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
104
105
106
102
103
108
401
402
301
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 106
Datum and Projection:
NAD, 1983 StatePlane NY Long Island
Manhattan
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 107

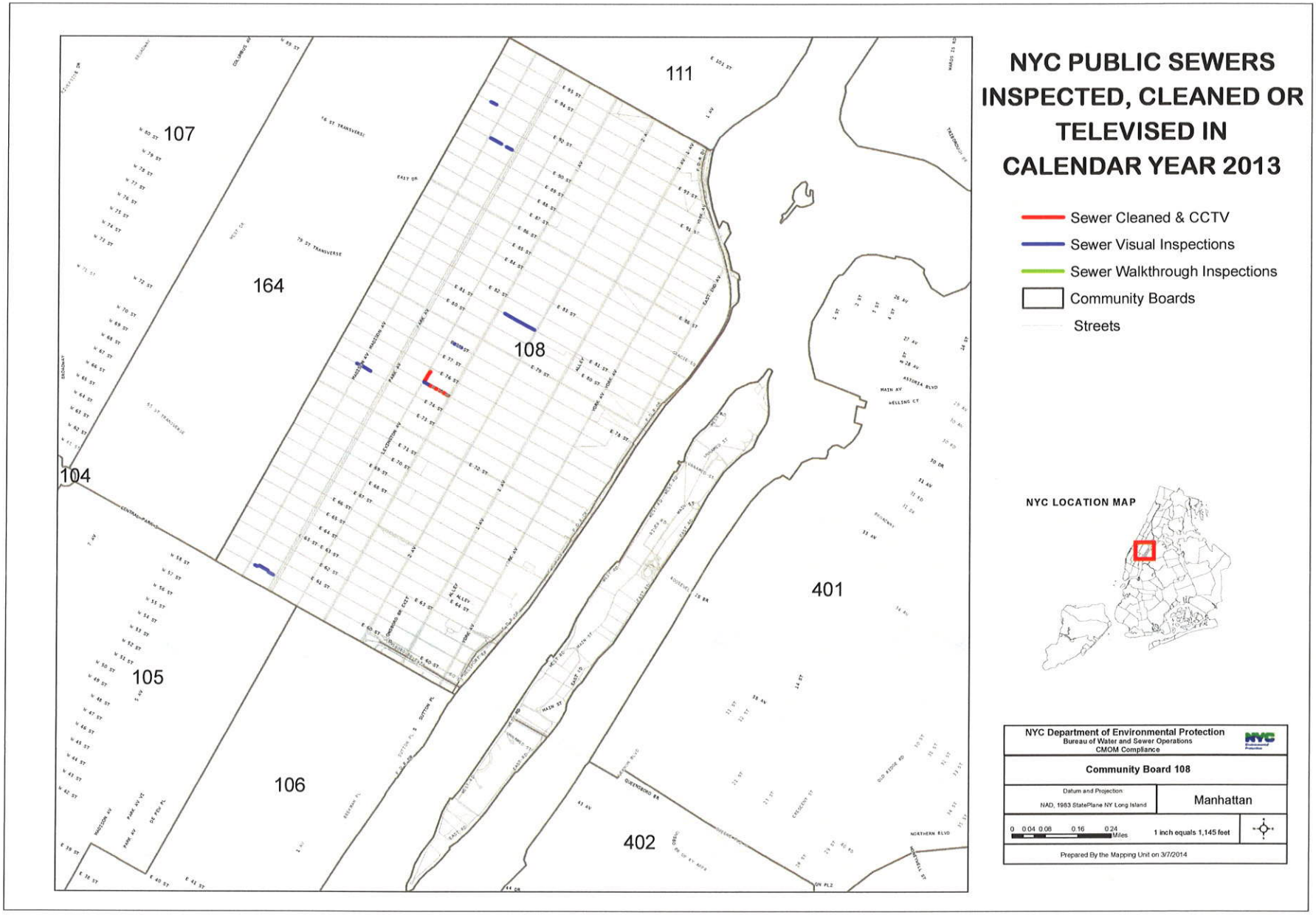
Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Manhattan

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
111
107
164
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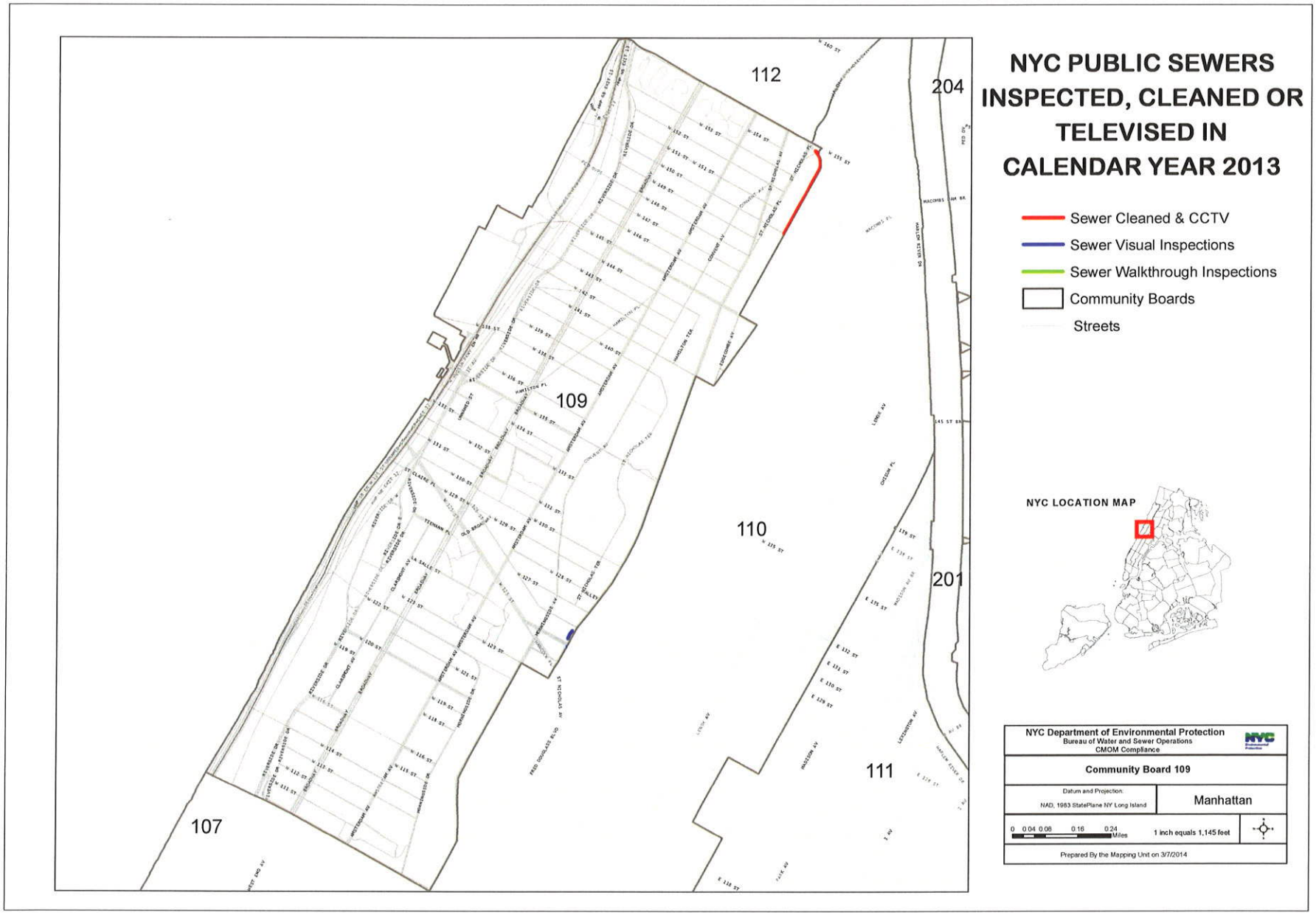
401
402
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 108
Datum and Projection:
NAD, 1983 StatePlane NY Long Island
Manhattan
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


112
204
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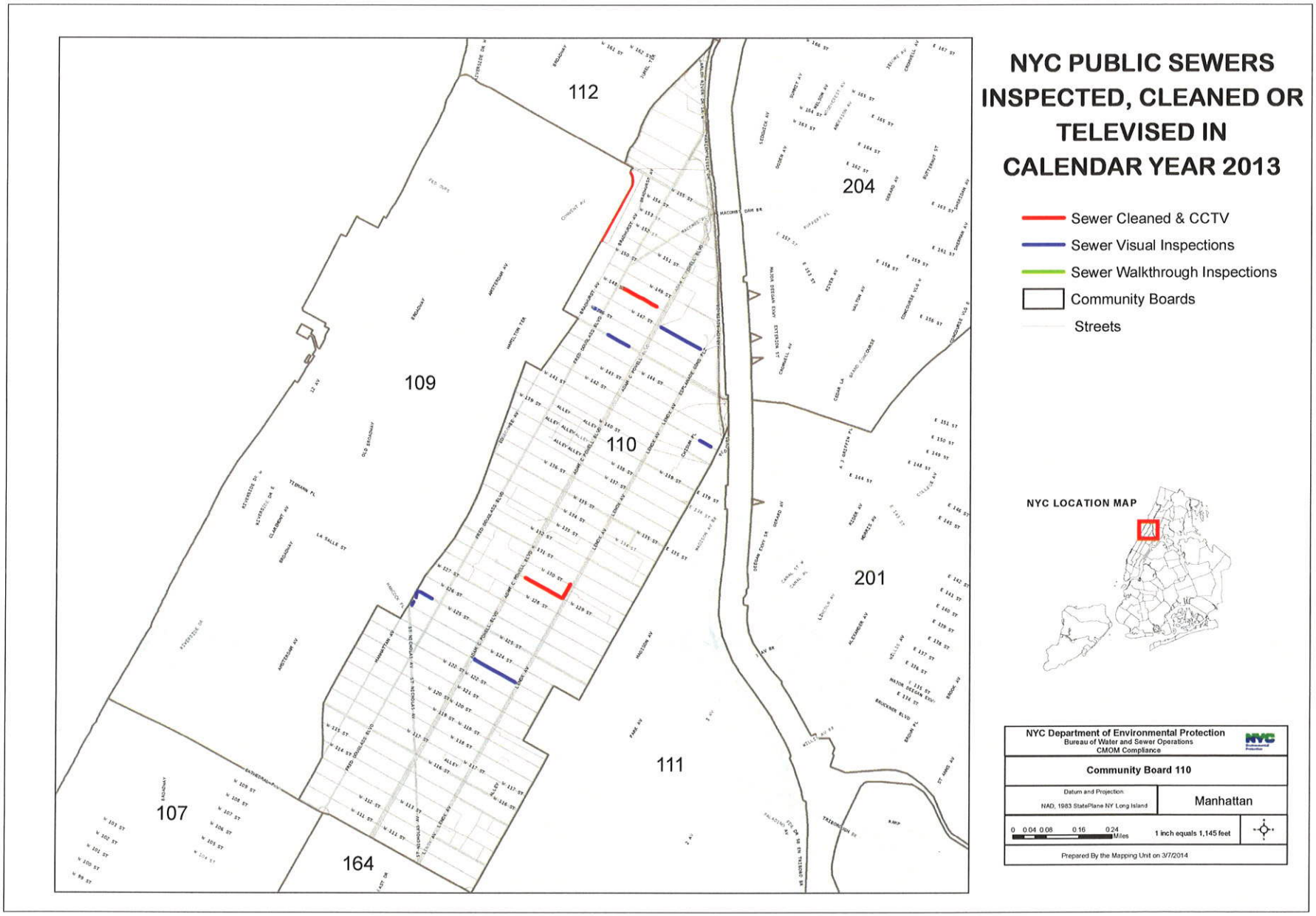
107
NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 109
Datum and Projection:
NAD, 1983 StatePlane NY Long Island
Manhattan
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


112
204
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164
NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
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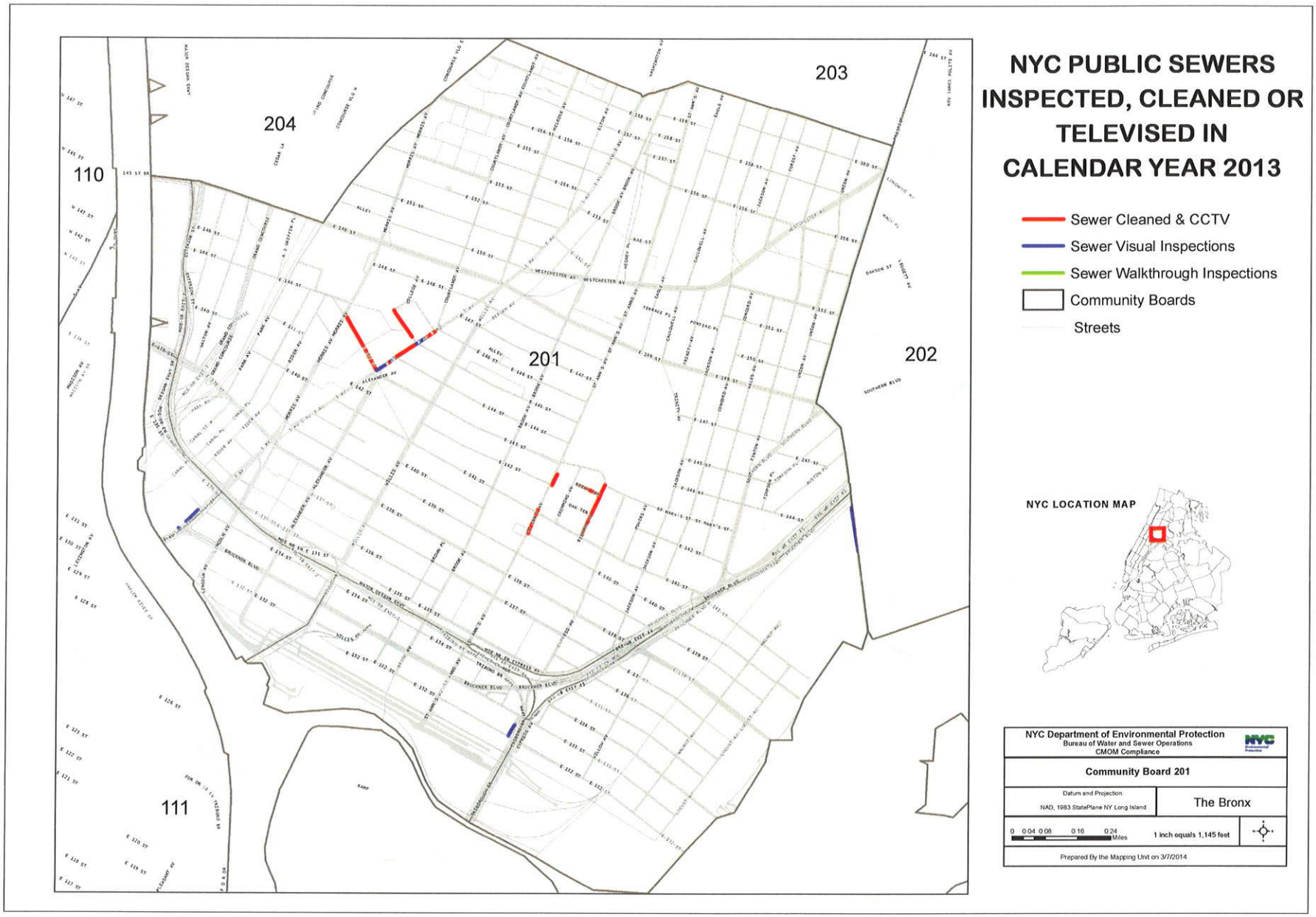
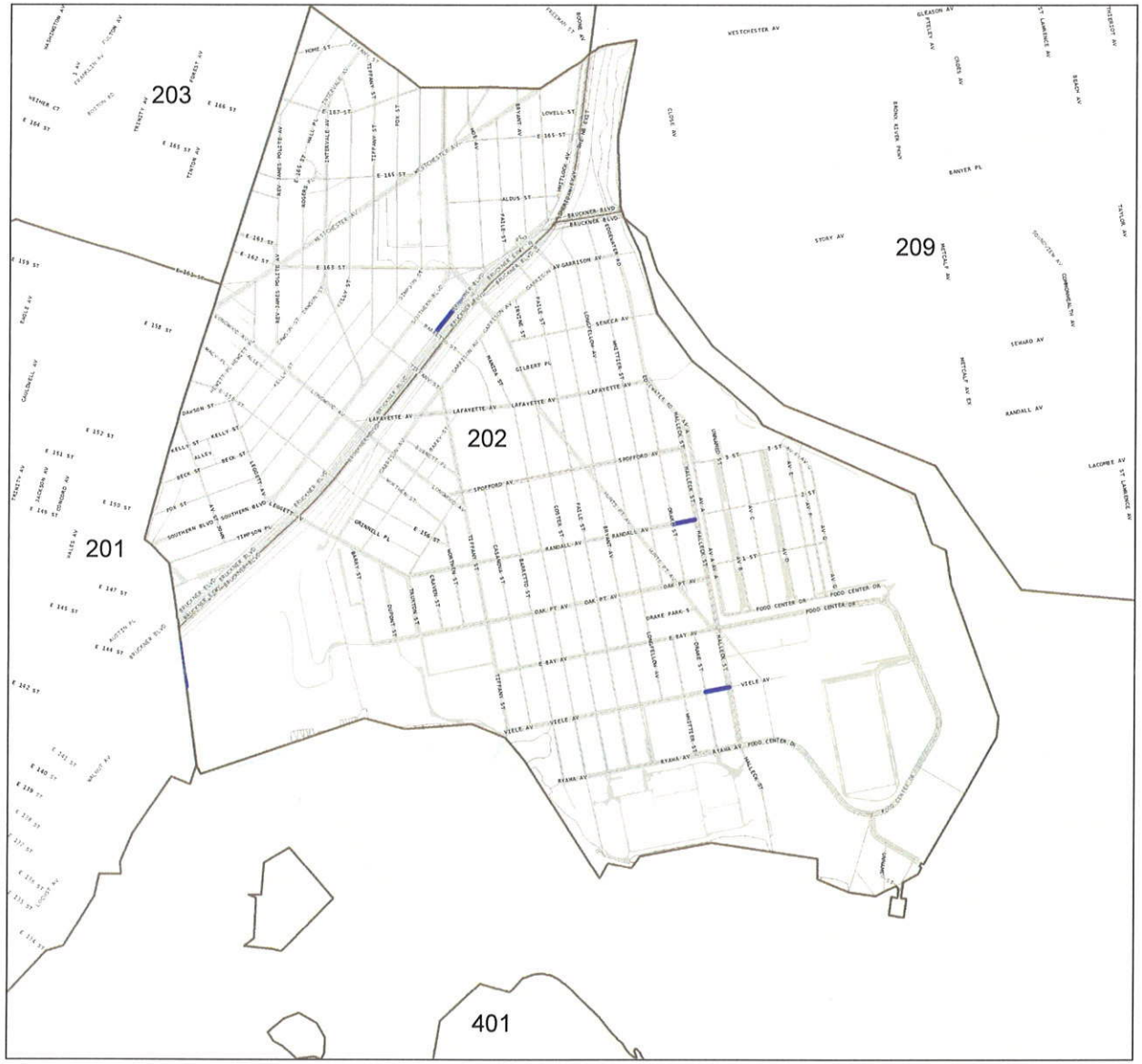
CMOM Compliance
Community Board 110
Datum and Projection
NAD, 1983 StatePlane NY Long Island
Manhattan
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
203
204
110
201
202
111
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 201
Datum and Projection
NAD, 1983 StatePlane NY Long Island
The Bronx
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 202

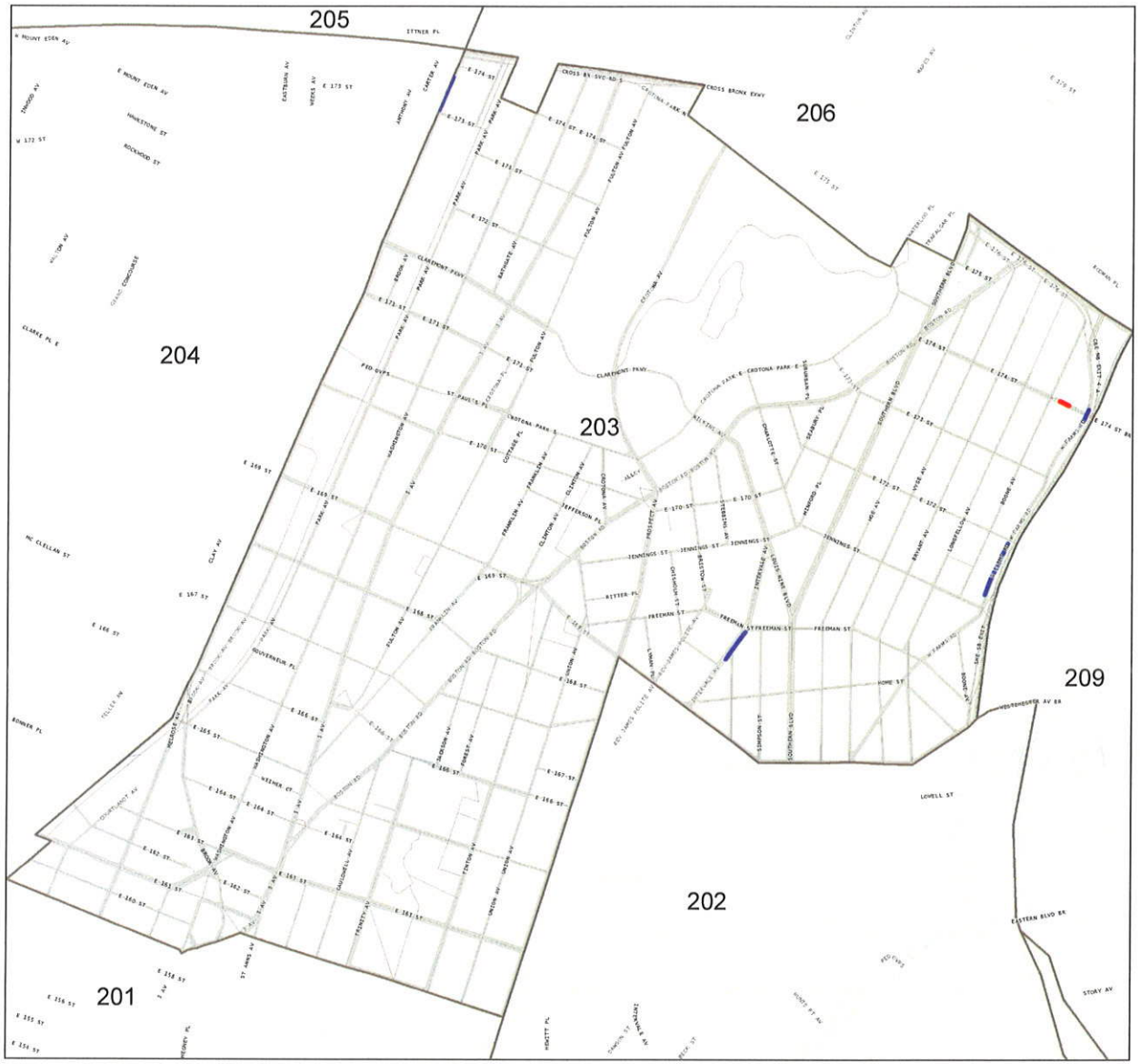
Datum and Projection:
NAD, 1983 StatePlane NY Long Island

The Bronx

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 203

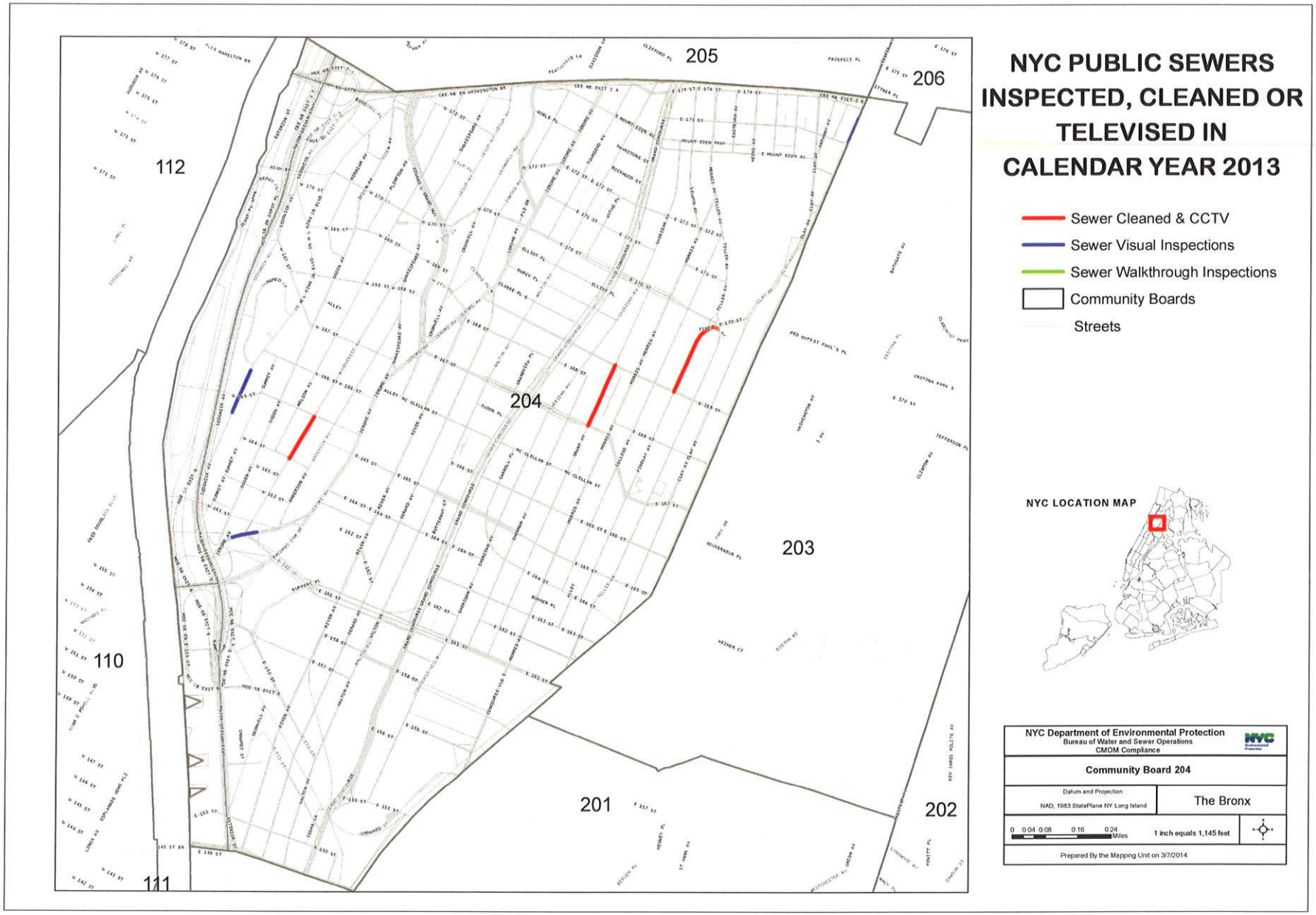
Datum and Projection: NAD, 1983 StatePlane NY Long Island

The Bronx

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
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202
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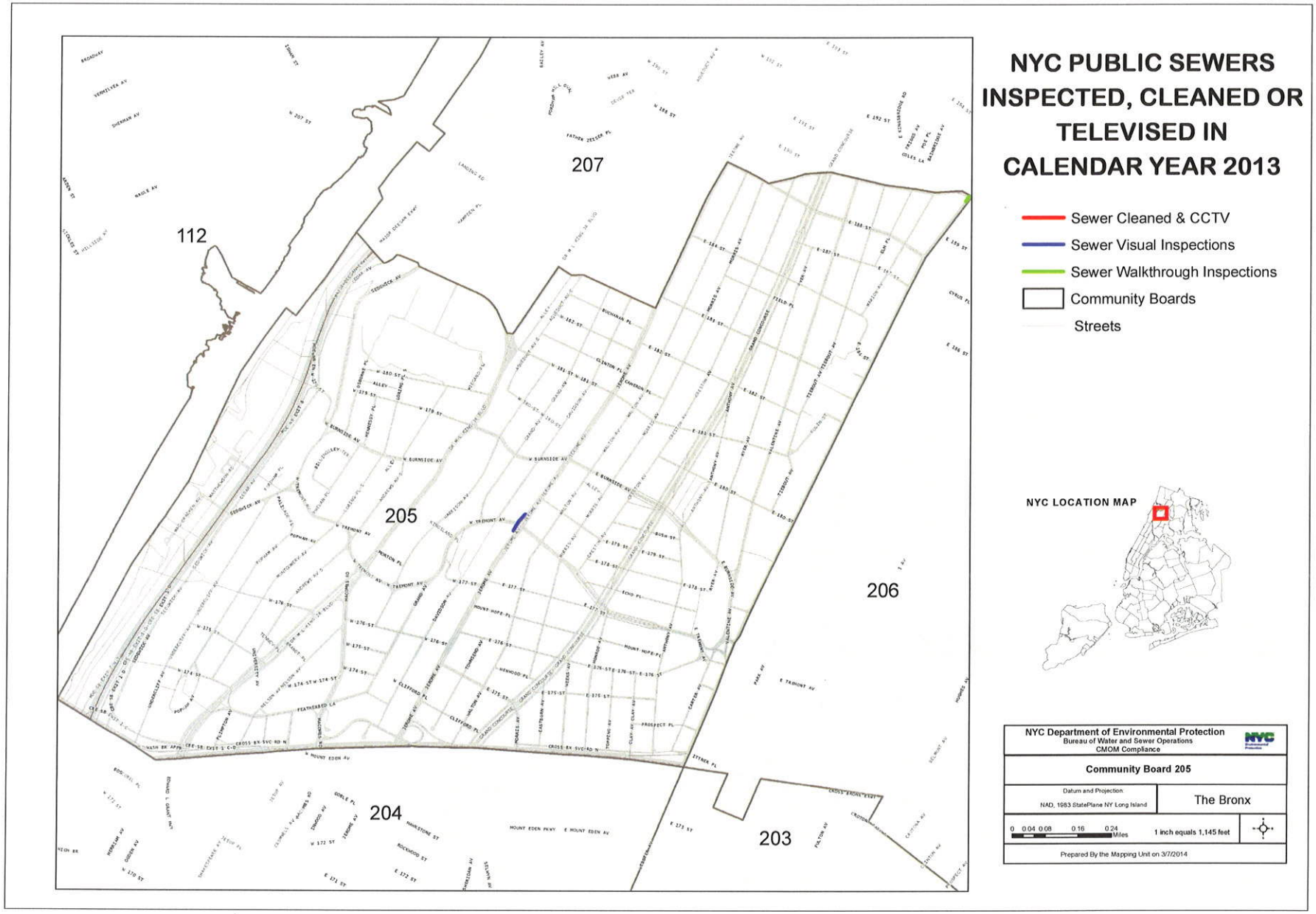
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 204
Datum and Projection
NAD, 1983 StatePlane NY Long Island
The Bronx
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
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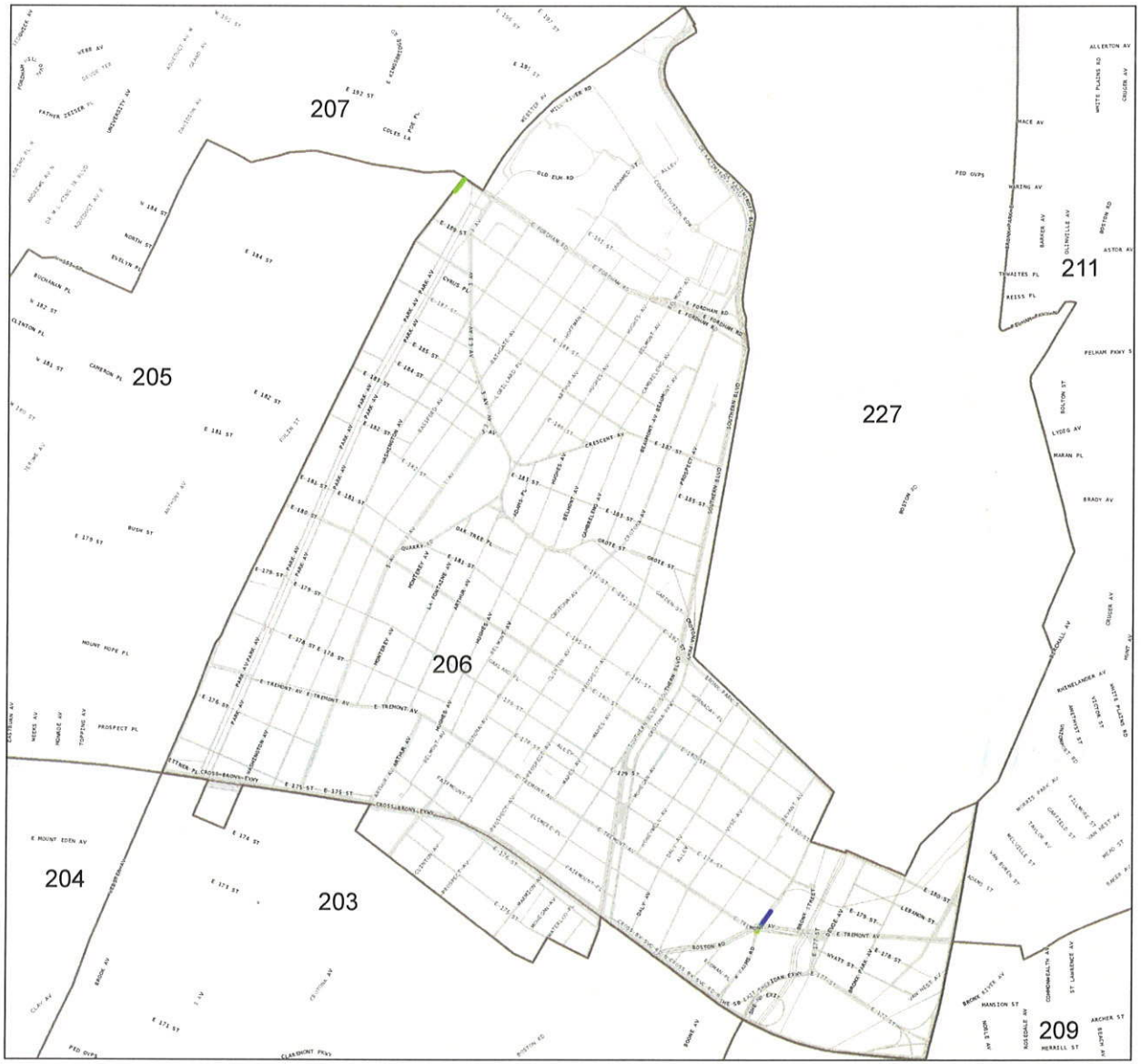
204
203
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 205
Datum and Projection
NAD, 1983 StatePlane NY Long Island
The Bronx
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 206

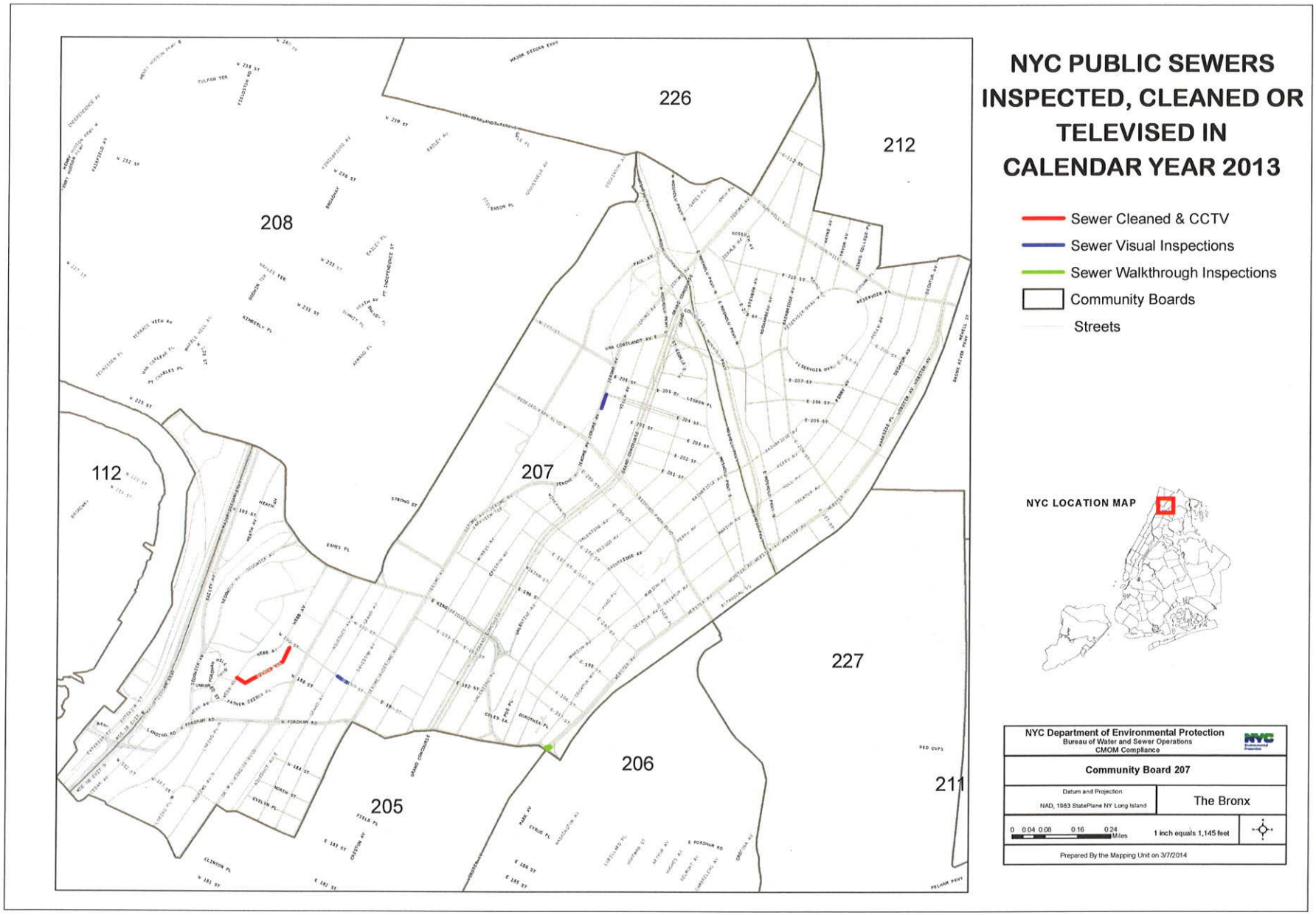
Datum and Projection:
NAD, 1983 StatePlane NY Long Island

The Bronx

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
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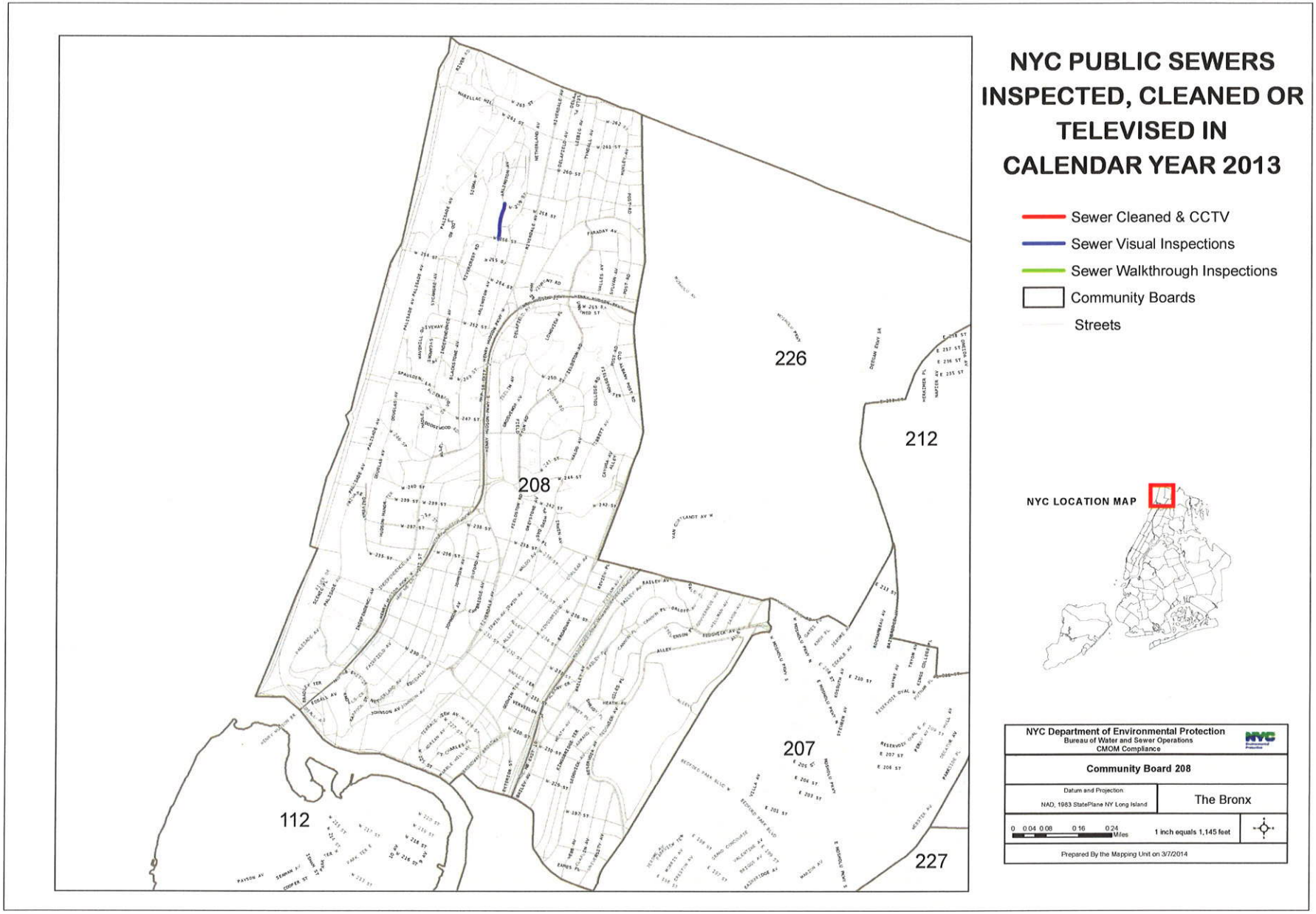
207
227
206
211
205
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 207
Datum and Projection:
NAD, 1983 StatePlane NY Long Island
The Bronx
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
226
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207
112
227
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 208
Datum and Projection:
NAD, 1983 StatePlane NY Long Island
The Bronx
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 209

Datum and Projection	The Bronx
NAD, 1983 StatePlane NY Long Island	

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 210

Datum and Projection: NAD, 1983 StatePlane NY Long Island	The Bronx
0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet	
Prepared By the Mapping Unit on 3/7/2014	

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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

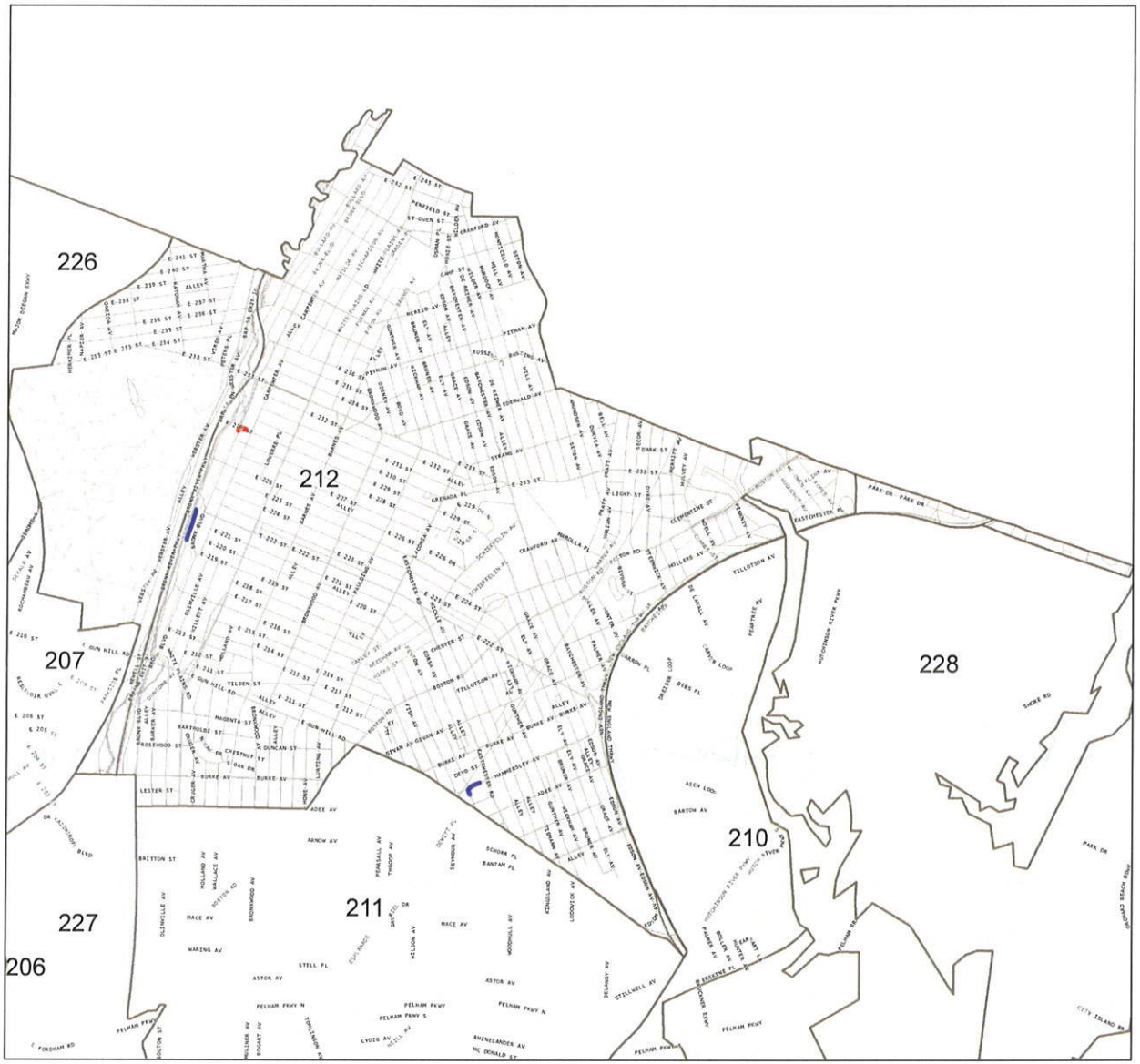
NYC LOCATION MAP

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

Community Board 211

Datum and Projection: NAD, 1983 StatePlane NY Long Island	The Bronx
0 0.04 0.08 0.16 0.24 Miles	1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 212

Datum and Projection: NAD, 1983 StatePlane NY Long Island	The Bronx
0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet	

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 301

Datum and Projection	Brooklyn
NAD, 1983 StatePlane NY Long Island	

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 302

Datum and Projection	Brooklyn
NAD, 1983 StatePlane NY Long Island	

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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

NYC LOCATION MAP

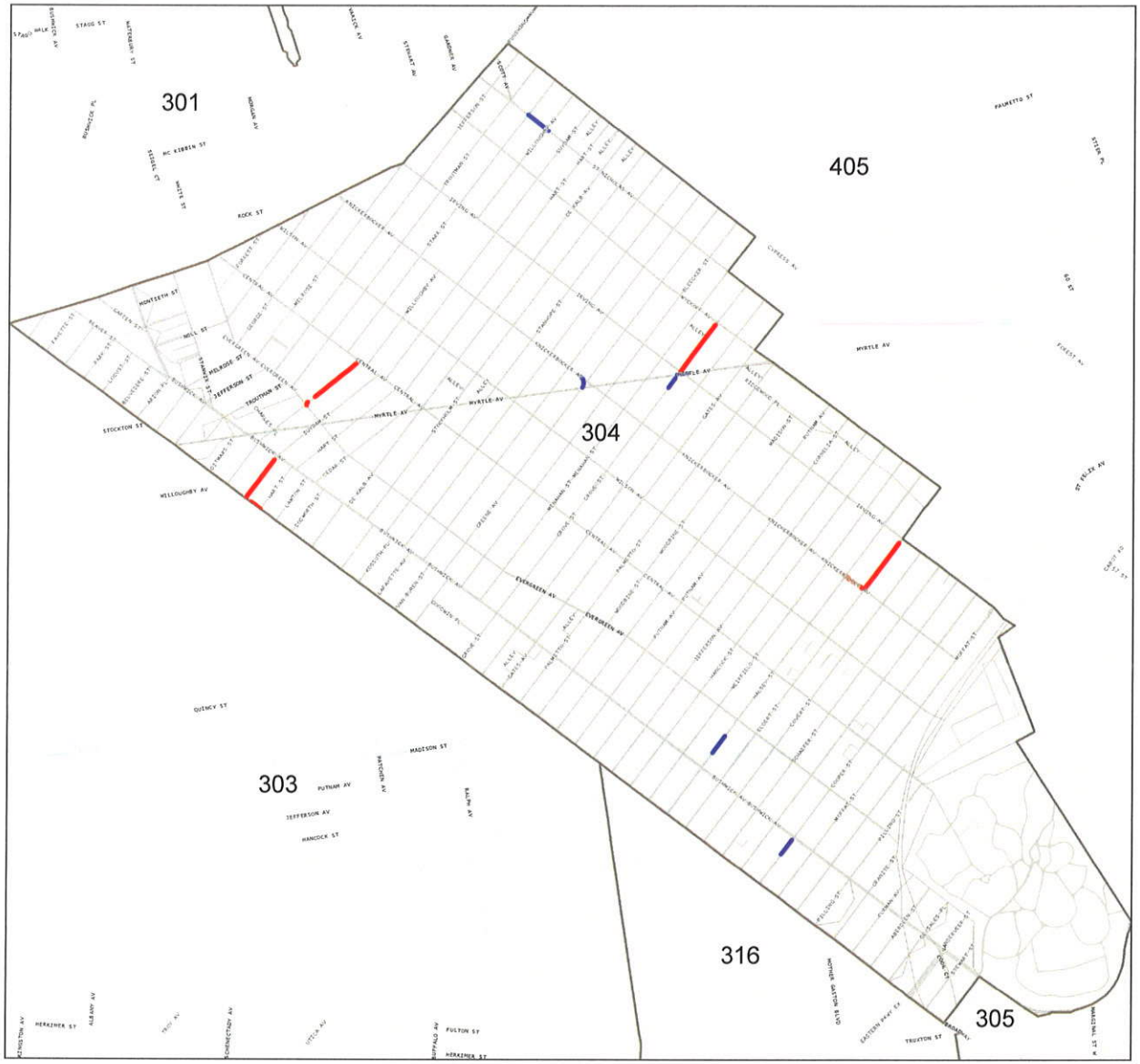
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance

Community Board 303

Datum and Projection: NAD, 1983 StatePlane NY Long Island	Brooklyn

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 304

Datum and Projection	Brooklyn
NAD, 1983 StatePlane NY Long Island	

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 305

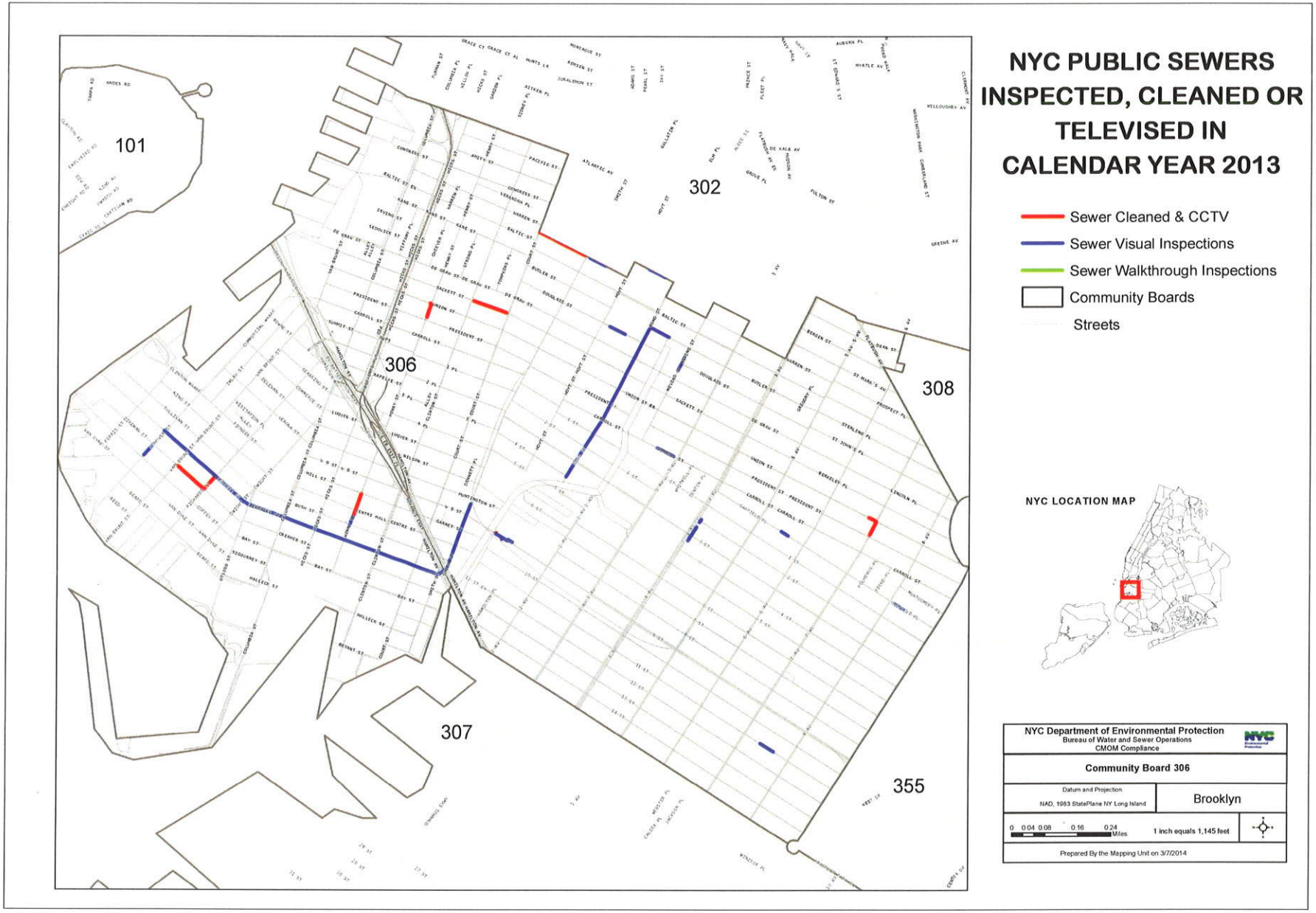
Datum and Projection: NAD, 1983 StatePlane NY Long Island

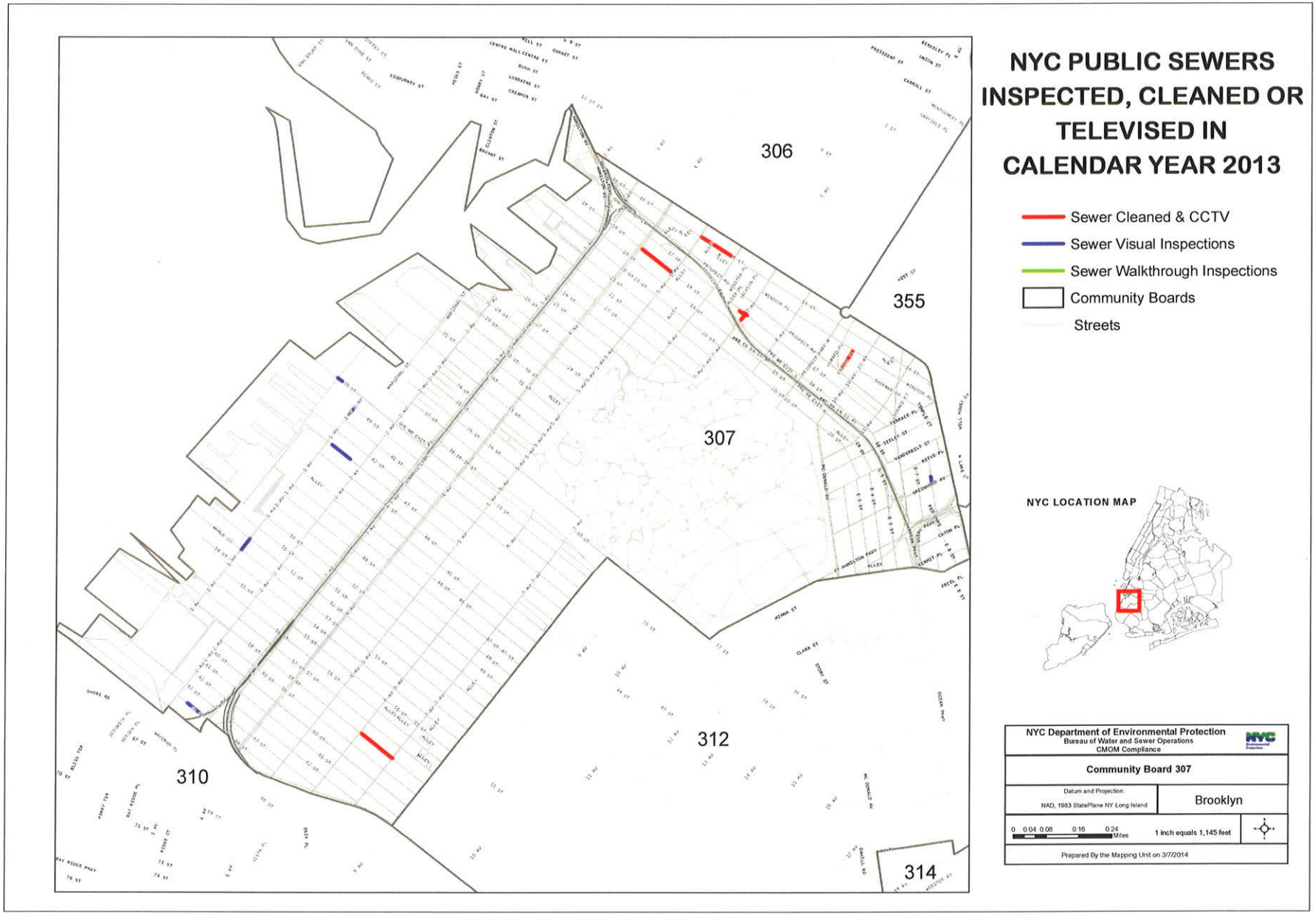
Brooklyn

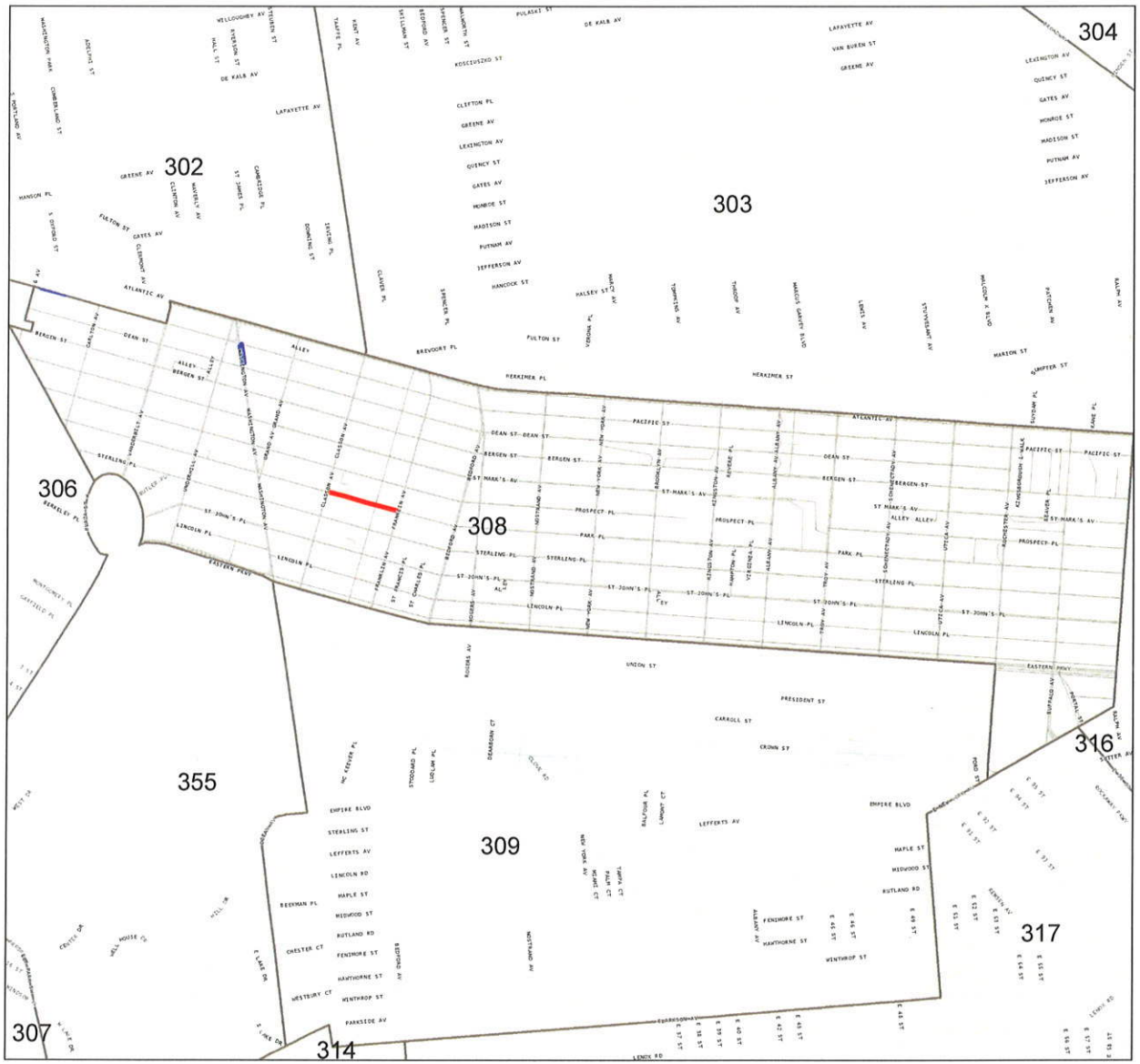
0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
101
302
306
308
307
355
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 306
Datum and Projection
NAD, 1983 StatePlane NY Long Island
Brooklyn
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
306
355
307
312
310
314
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 307
Datum and Projection:
NAD, 1983 StatePlane NY Long Island
Brooklyn
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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

NYC LOCATION MAP

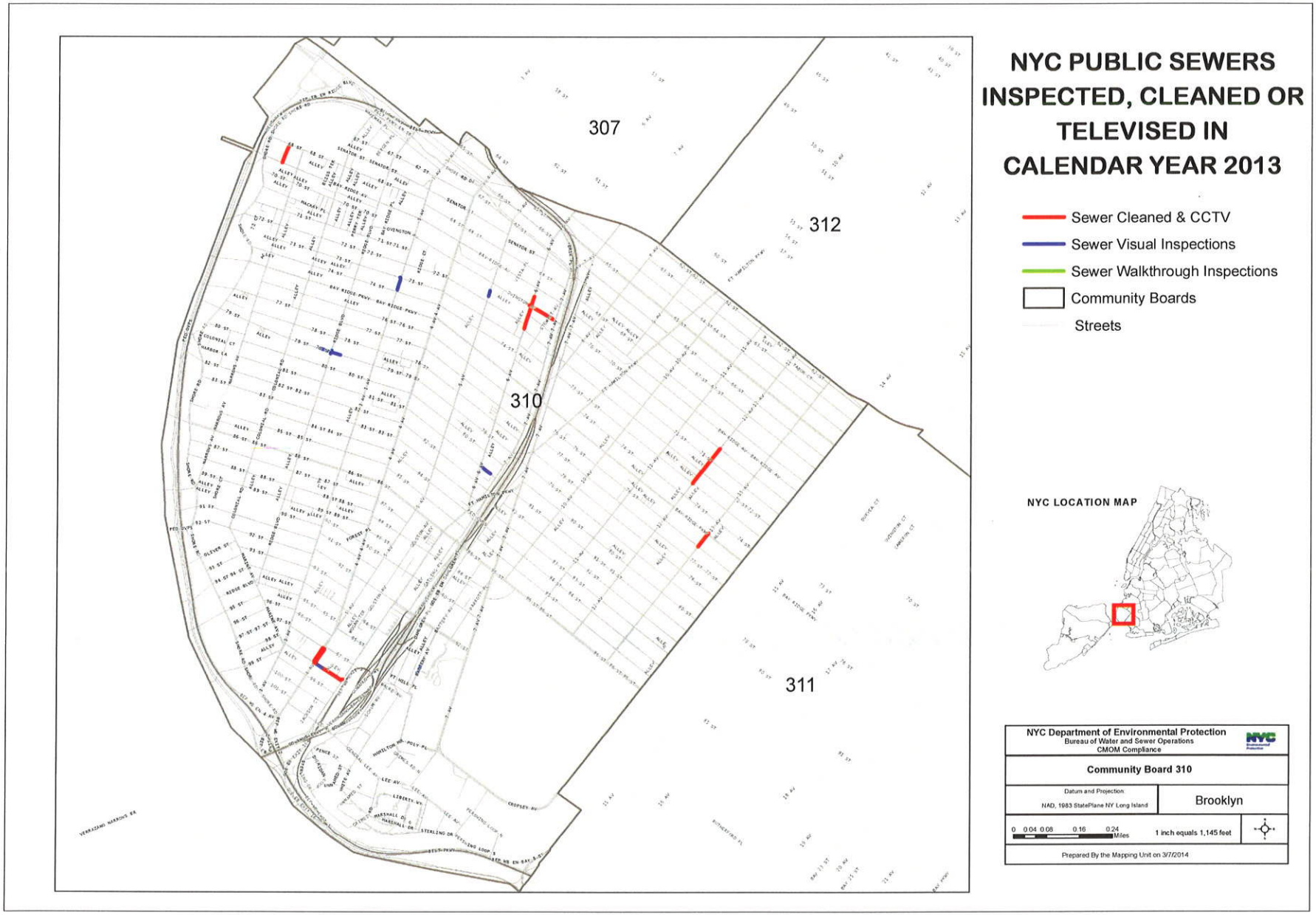
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance

Community Board 308

Datum and Projection: NAD, 1983 StatePlane NY Long Island	Brooklyn

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
307
312
310
311
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 310
Datum and Projection
NAD, 1983 StatePlane NY Long Island
Brooklyn
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014

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- Streets

NYC LOCATION MAP

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

Community Board 311

Datum and Projection:	Brooklyn
NAD, 1983 StatePlane NY Long Island	

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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- Streets

NYC LOCATION MAP

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

Community Board 312

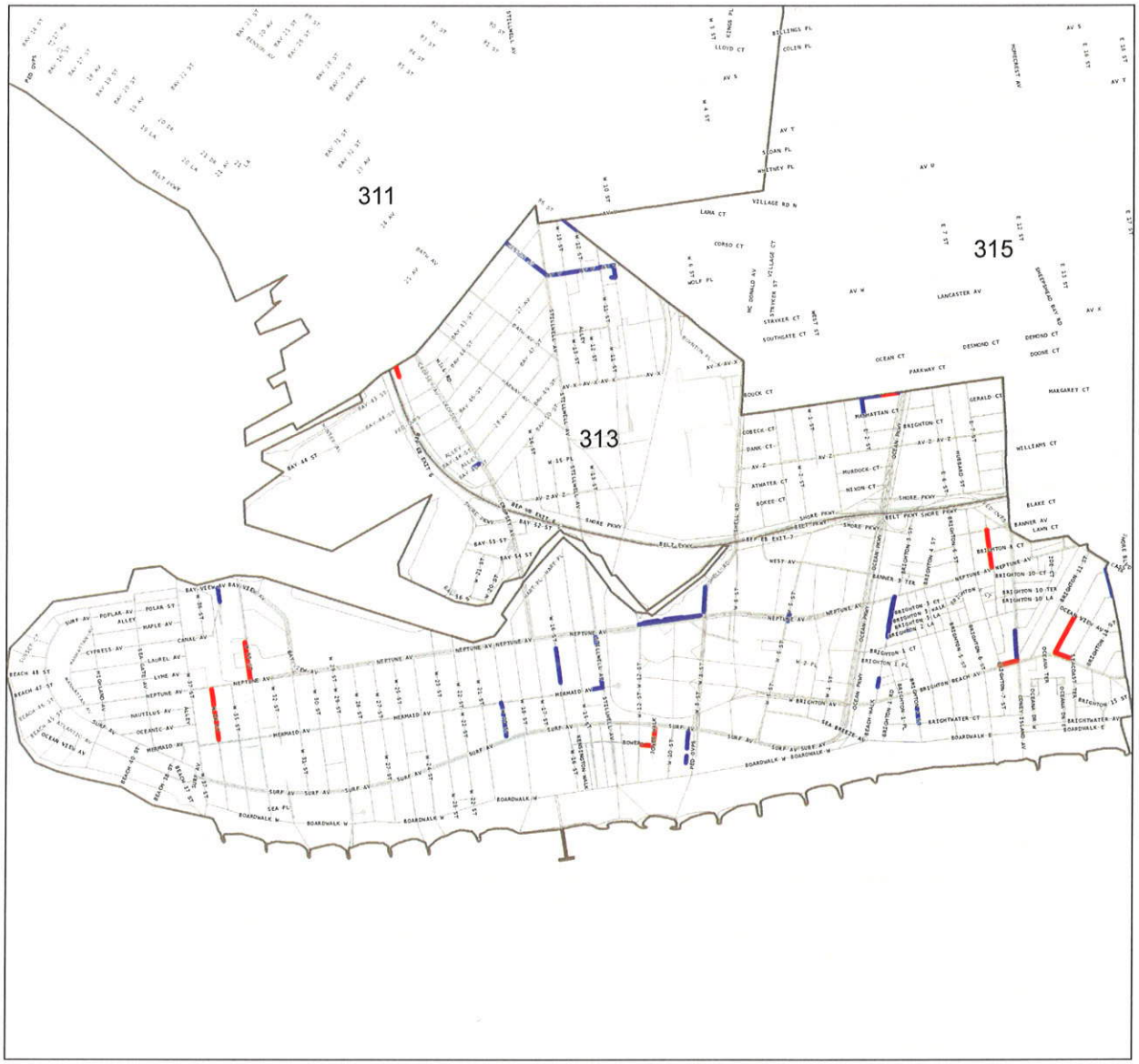
Datum and Projection: NAD, 1983 StatePlane NY Long Island

Brooklyn

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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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

Datum and Projection
NAD, 1983 StatePlane NY Long Island

Brooklyn

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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- Streets

NYC LOCATION MAP

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

Community Board 314

Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Brooklyn

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
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- Sewer Walkthrough Inspections
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- Streets

NYC LOCATION MAP

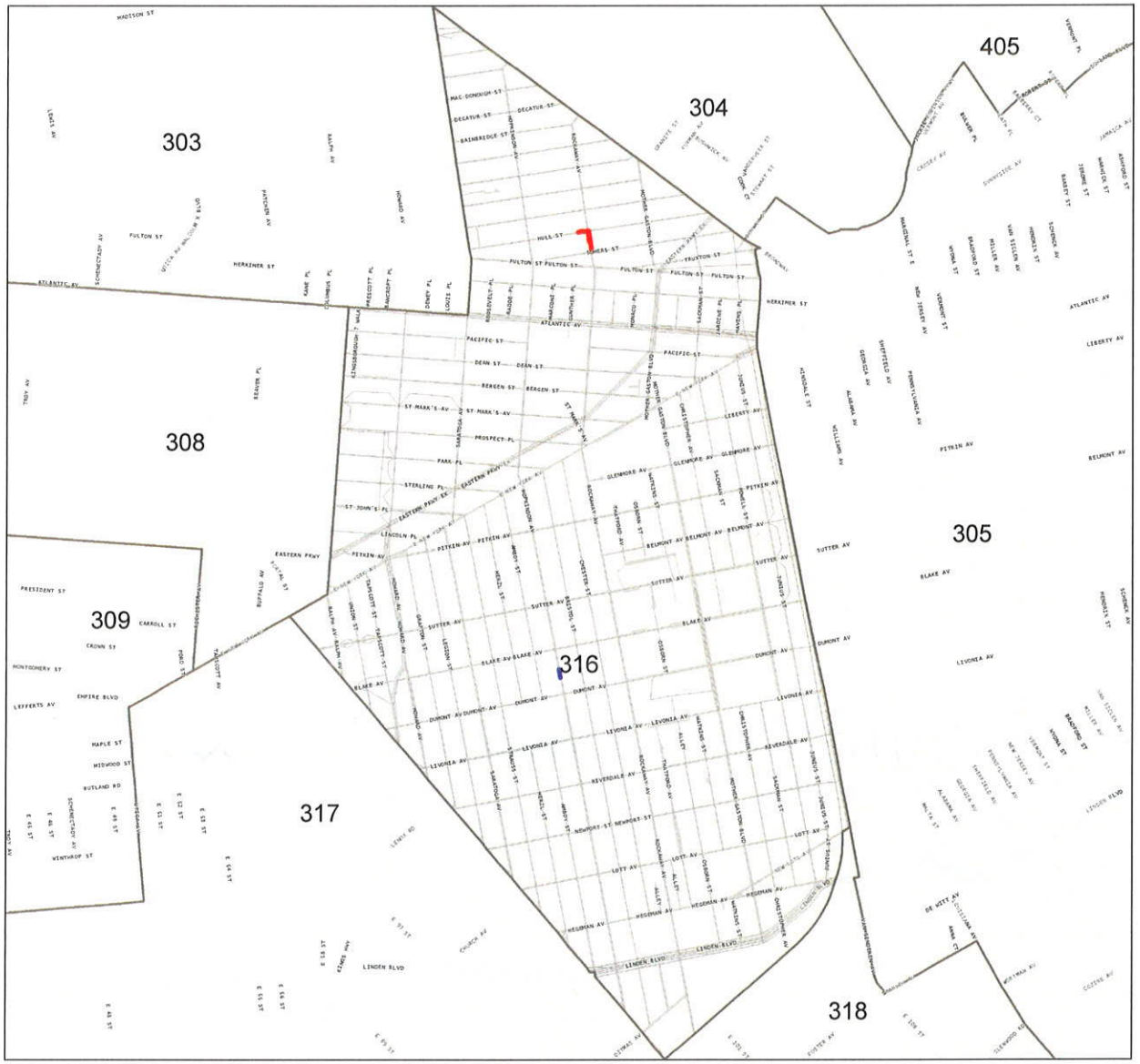
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance

Community Board 315

Datum and Projection: NAD, 1983 StatePlane NY Long Island	Brooklyn

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 316

Datum and Projection	Brooklyn
NAD, 1983 StatePlane NY Long Island	

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 317

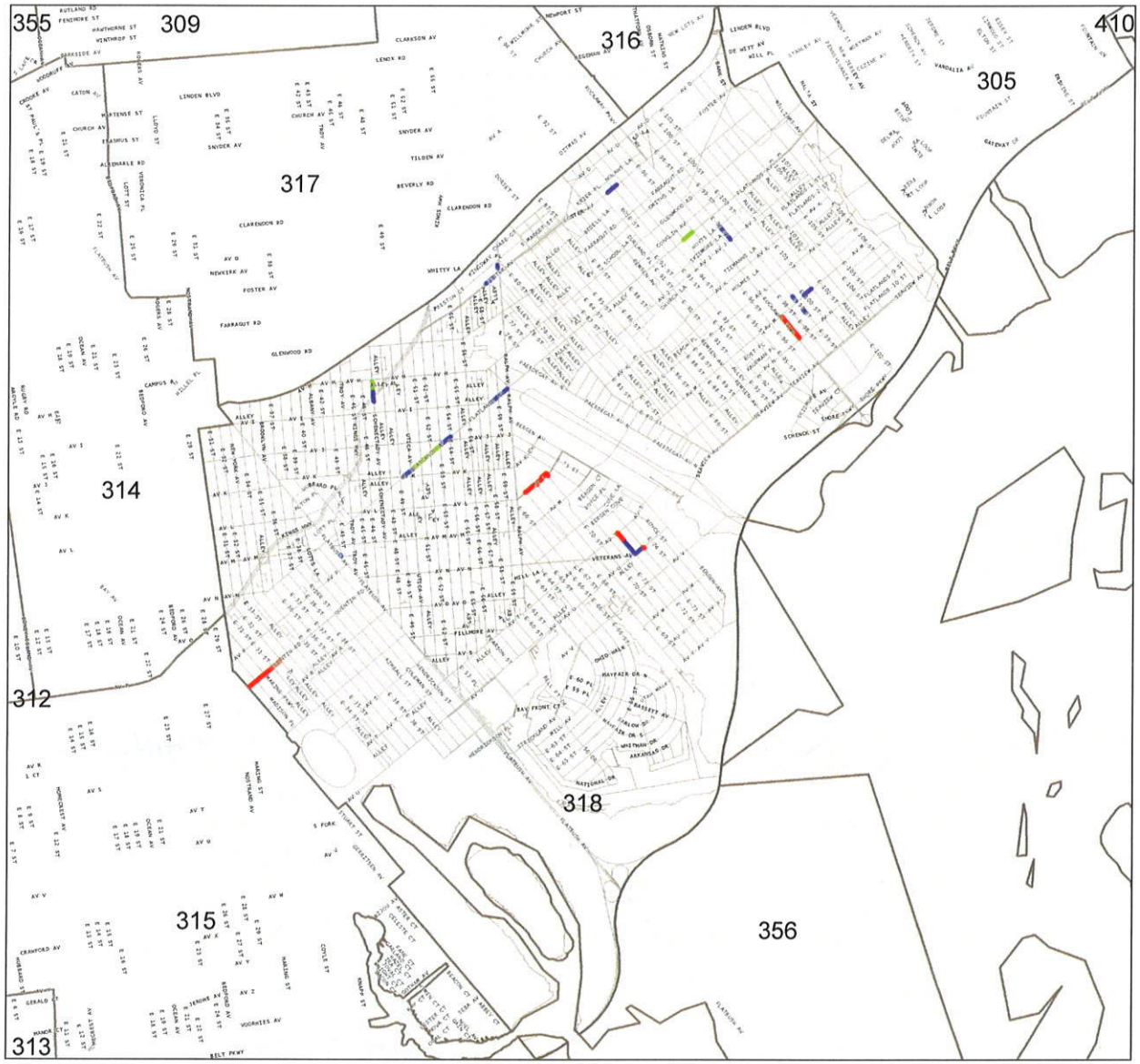
Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Brooklyn

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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

NYC LOCATION MAP

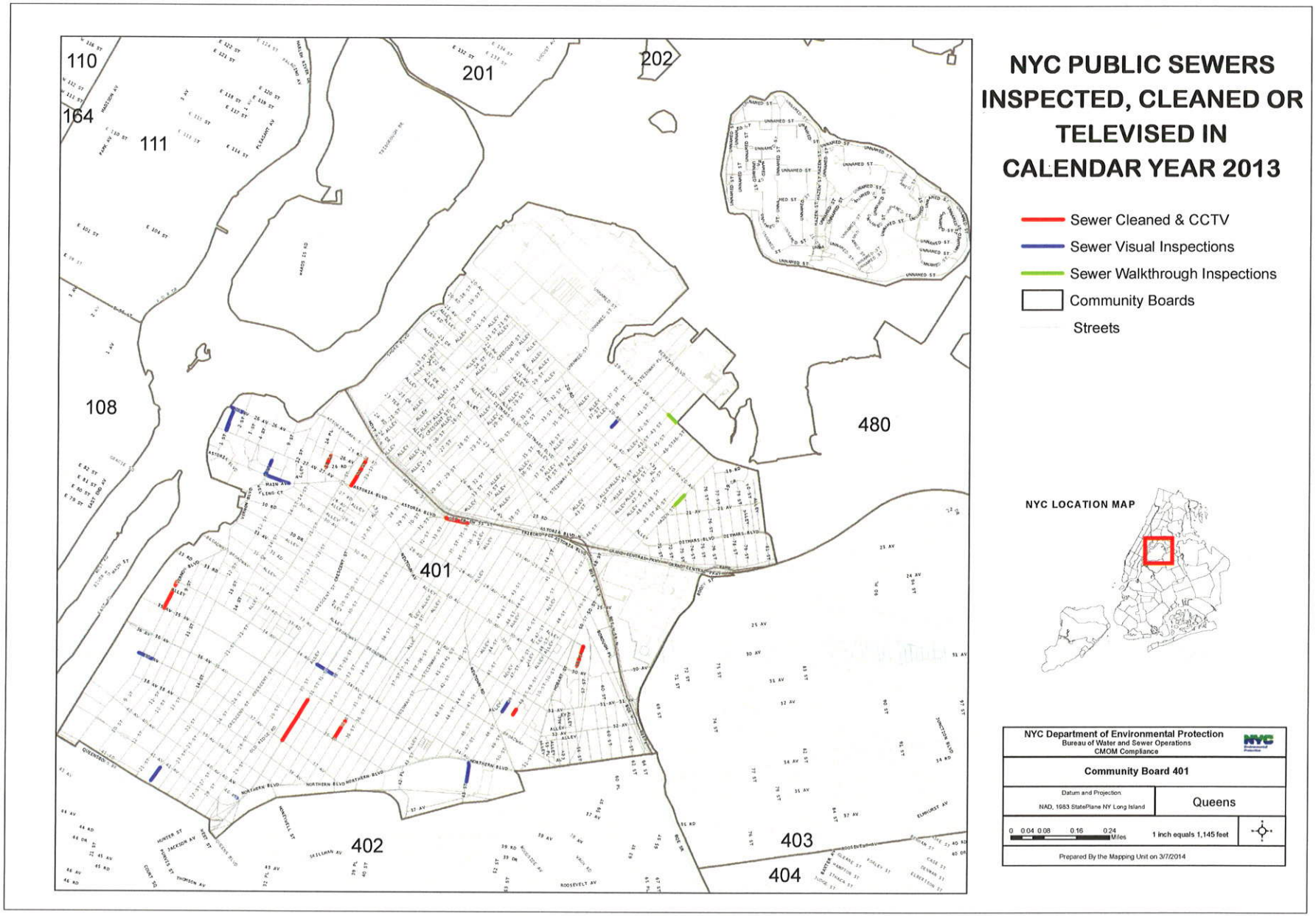
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance

Community Board 318

Datum and Projection: NAD, 1983 StatePlane NY Long Island	Brooklyn

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014


110
164
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202
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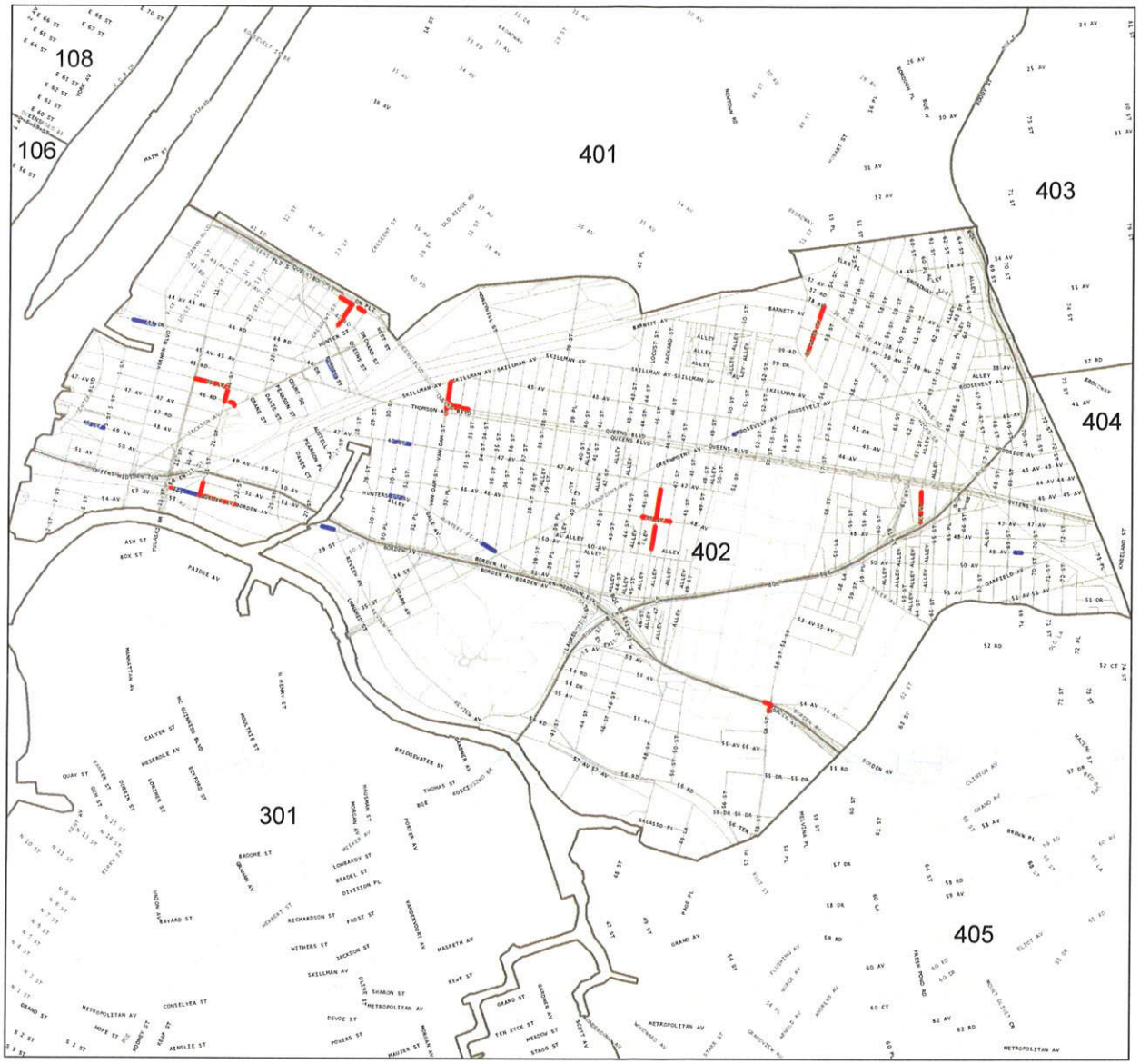
404
NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 401
Datum and Projection
NAD, 1983 StatePlane NY Long Island
Queens
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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

NYC LOCATION MAP

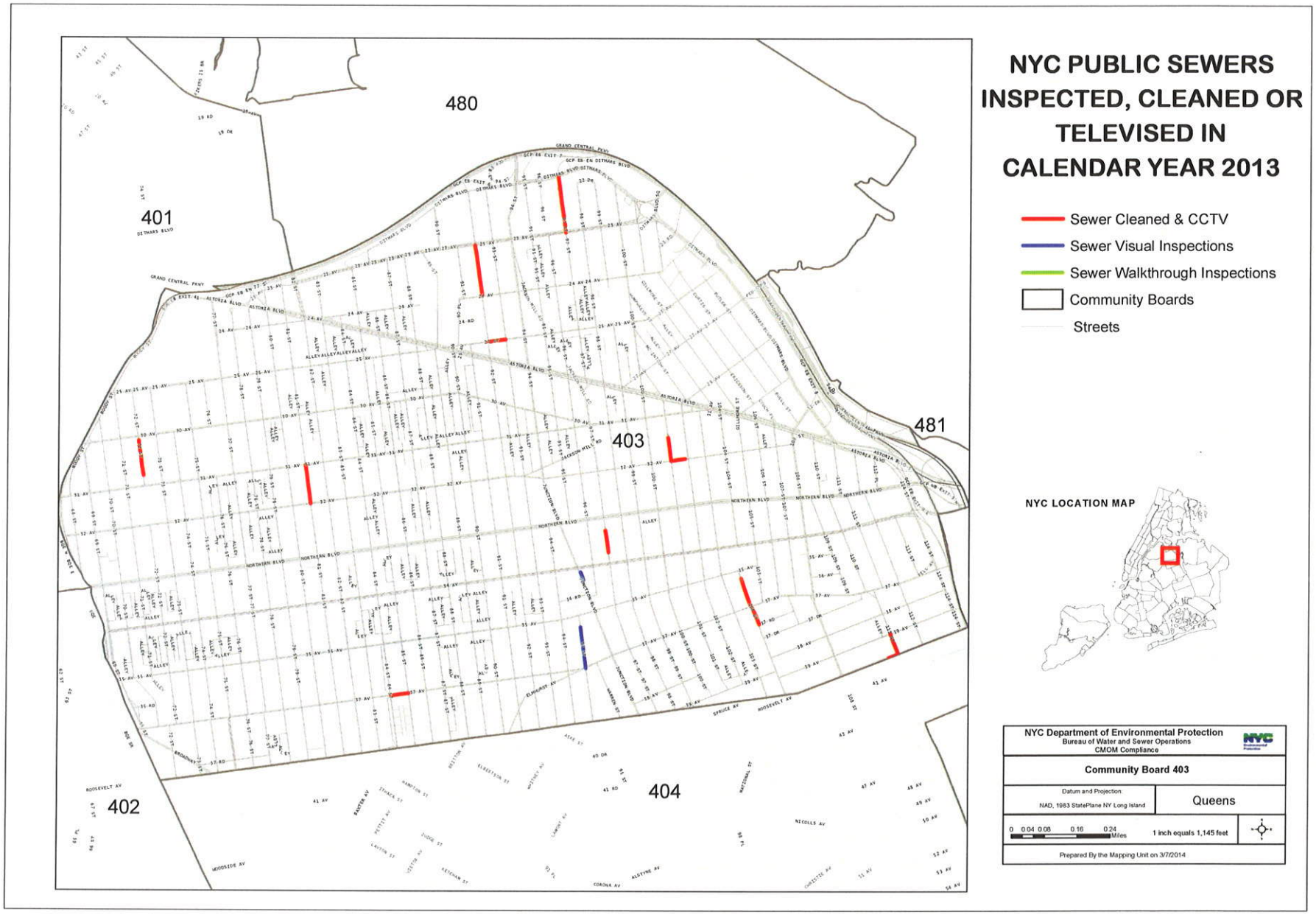
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance

Community Board 402

Datum and Projection	Queens
NAD, 1983 StatePlane NY Long Island	

0 0.04 0.08 0.16 0.24 Miles — 1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
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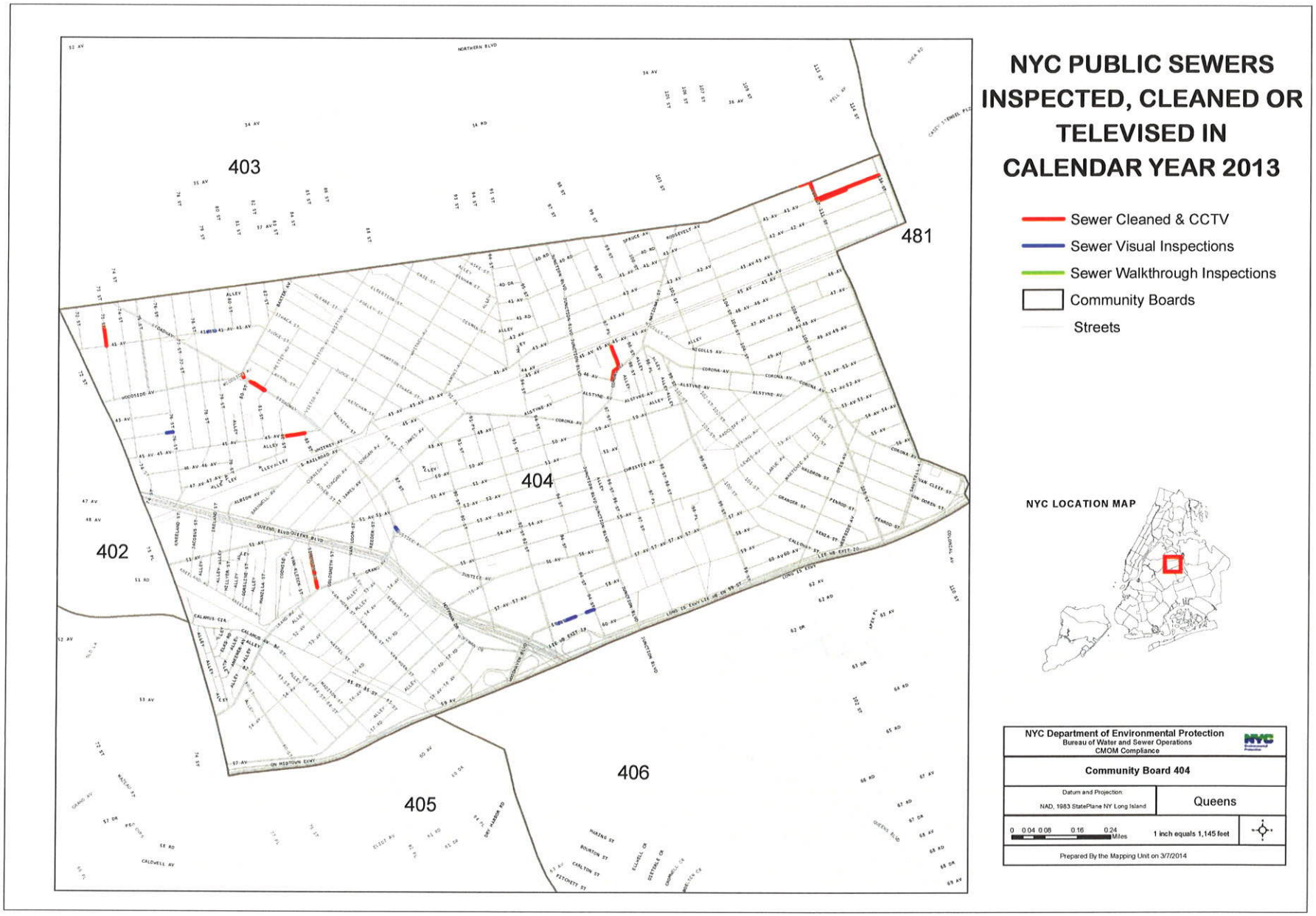
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 403
Datum and Projection
NAD, 1983 StatePlane NY Long Island
Queens
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


403
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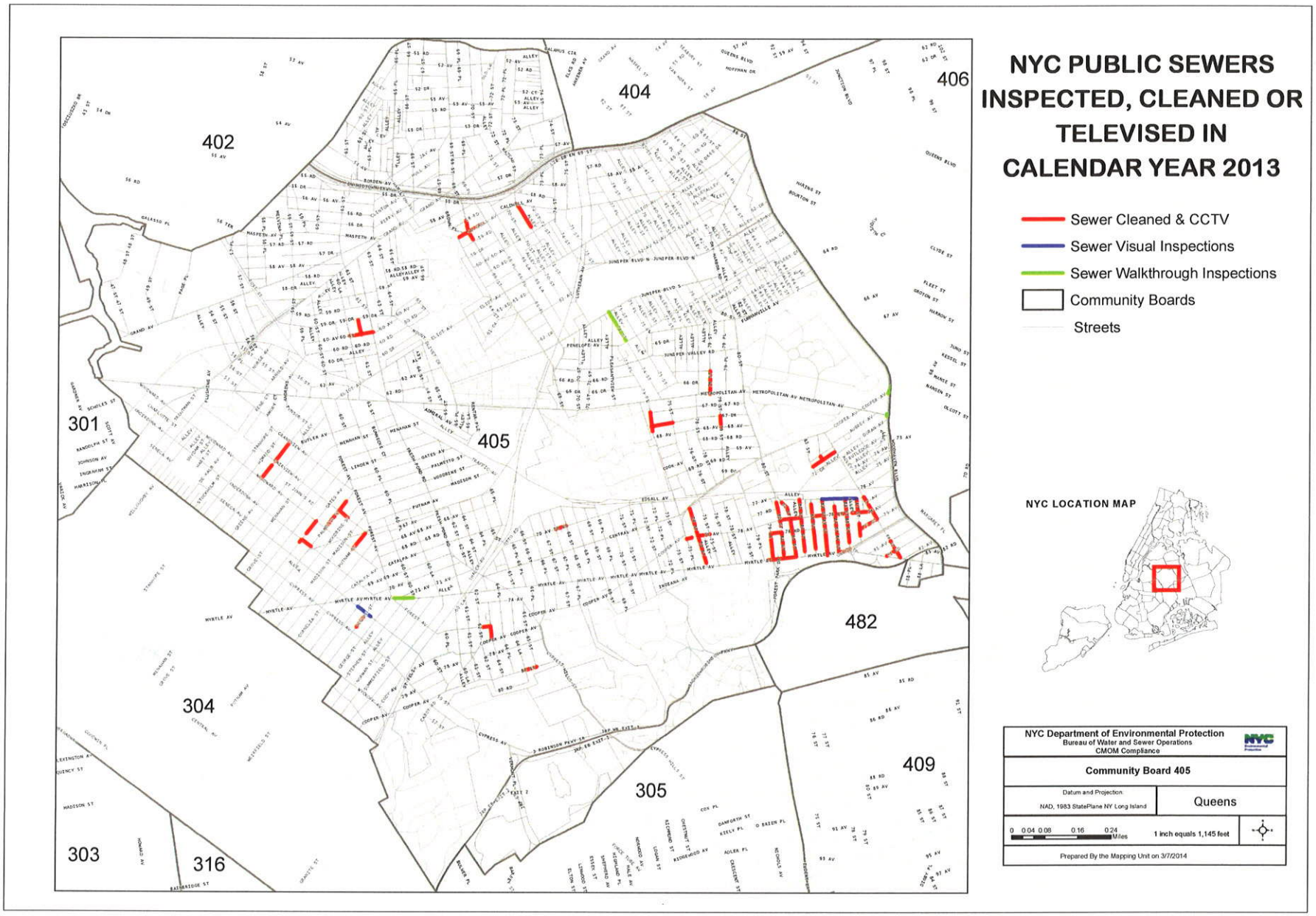
NORTHERN BLVD
QUEENS BLVD
JUNCTION BLVD
ROOSEVELT AV
CORONA AV
ALSTYNE AV
57 AV
ON MIDTOWN EXWY
LONG IS EXPY
LEE HW EXIT 20
NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 404
Datum and Projection:
NAD, 1983 StatePlane NY Long Island
Queens
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
402
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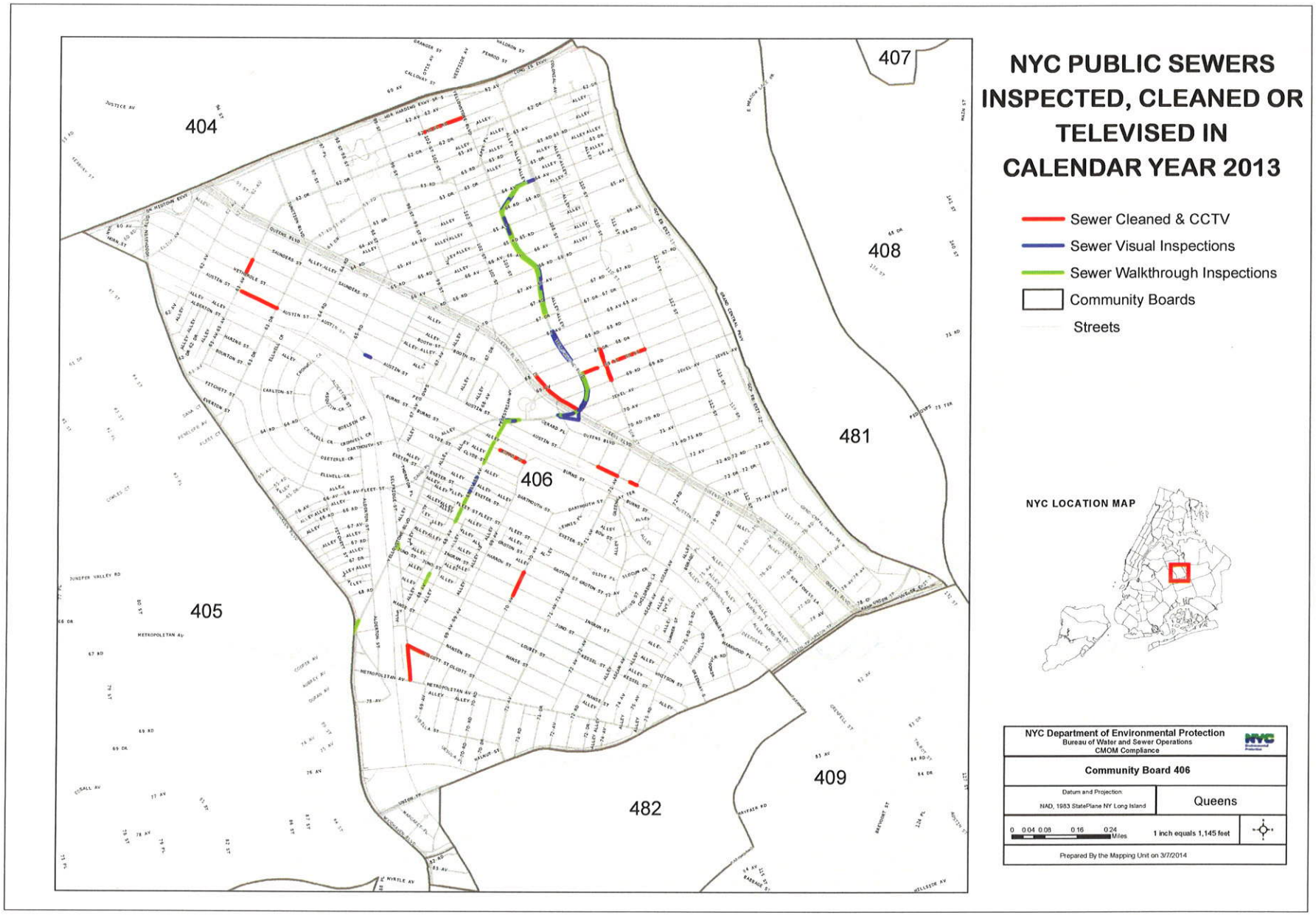
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 405
Datum and Projection
NAD, 1983 StatePlane NY Long Island
Queens
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
404
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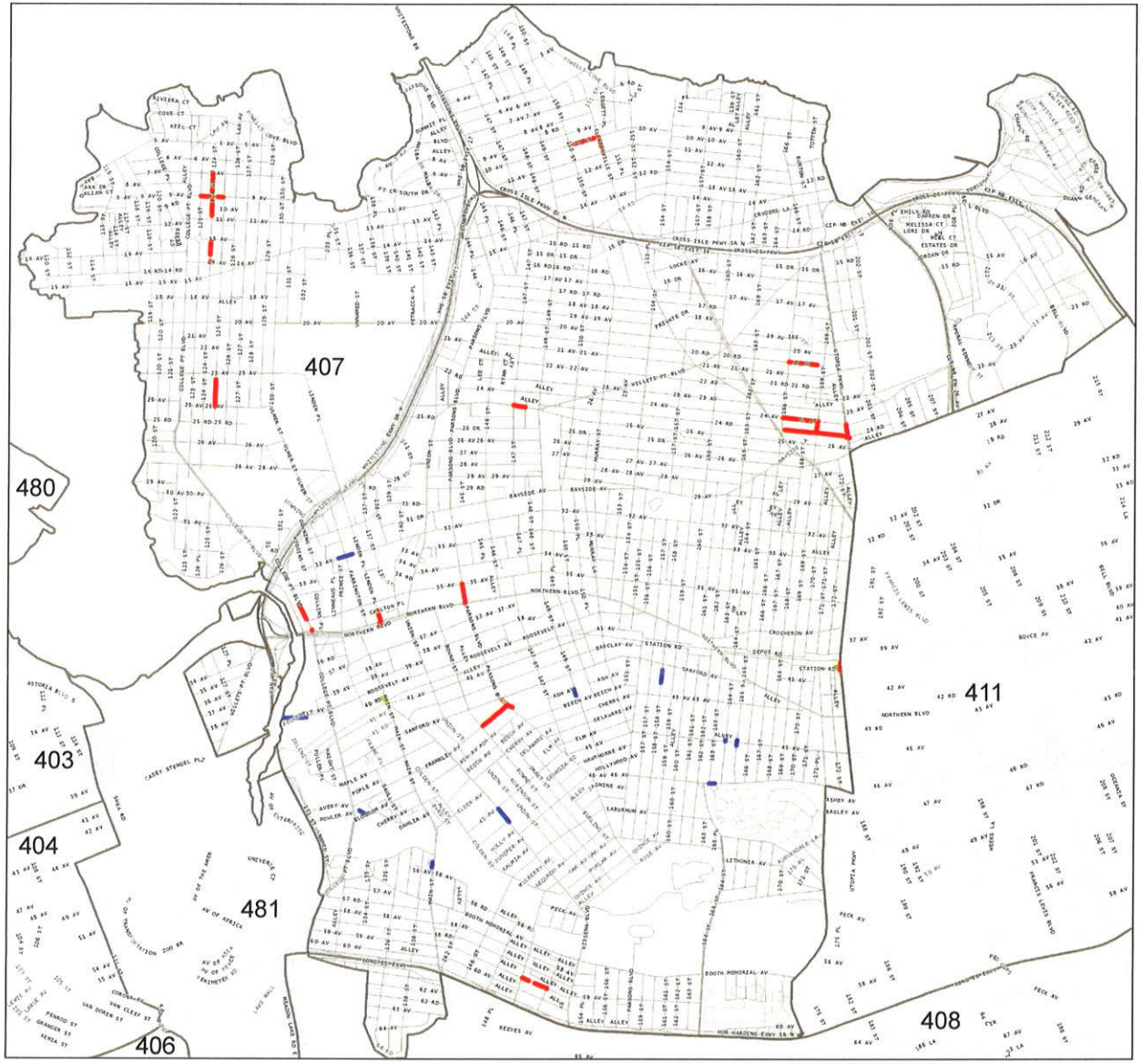
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 406
Datum and Projection
NAD, 1983 StatePlane NY Long Island
Queens
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 407

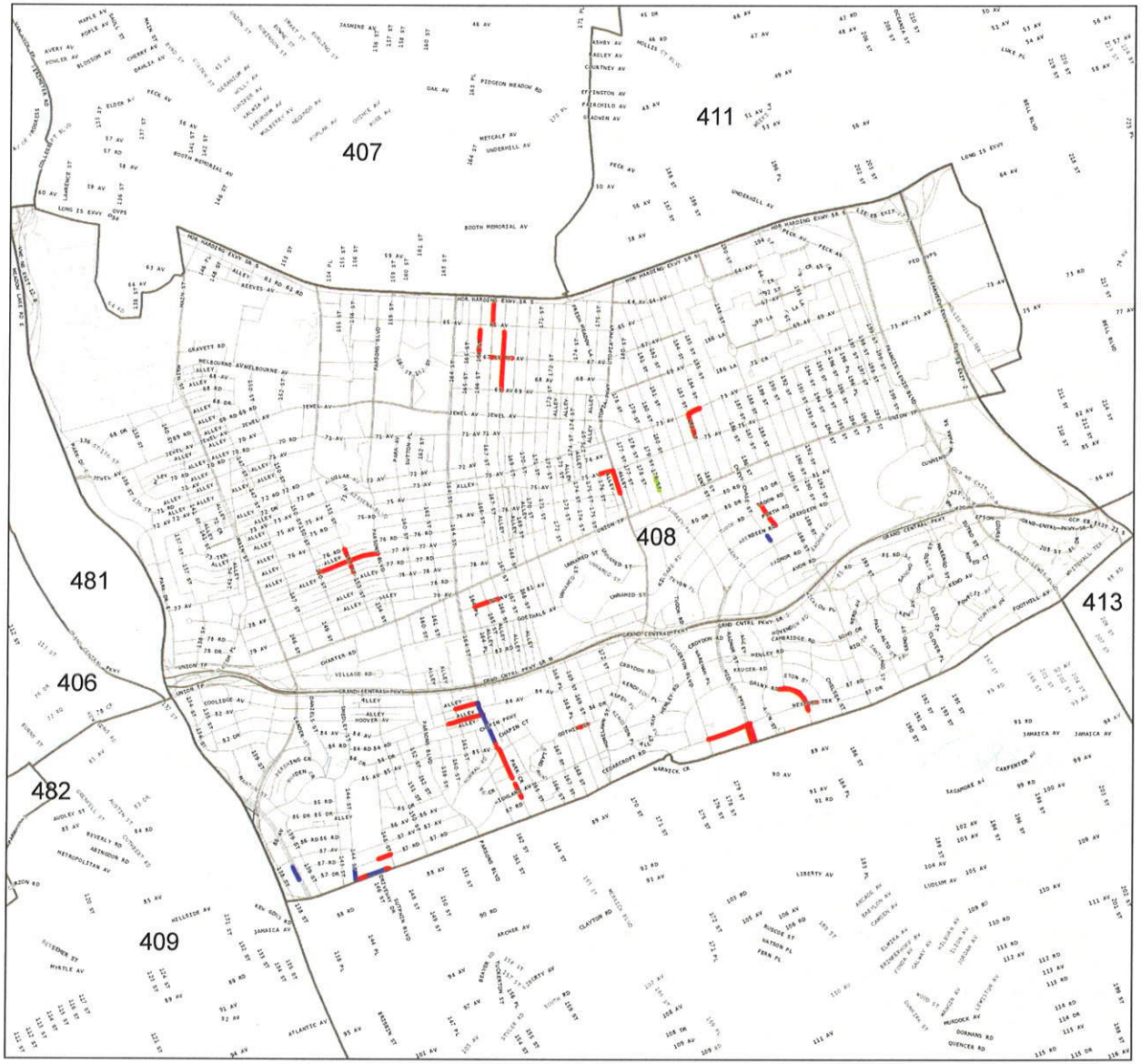
Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Queens

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 408

Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Queens

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 409

Datum and Projection
NAD, 1983 StatePlane NY Long Island

Queens

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 410

Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Queens

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
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- Streets

NYC LOCATION MAP

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

Community Board 411

Datum and Projection: NAD, 1983 StatePlane NY Long Island

Queens

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
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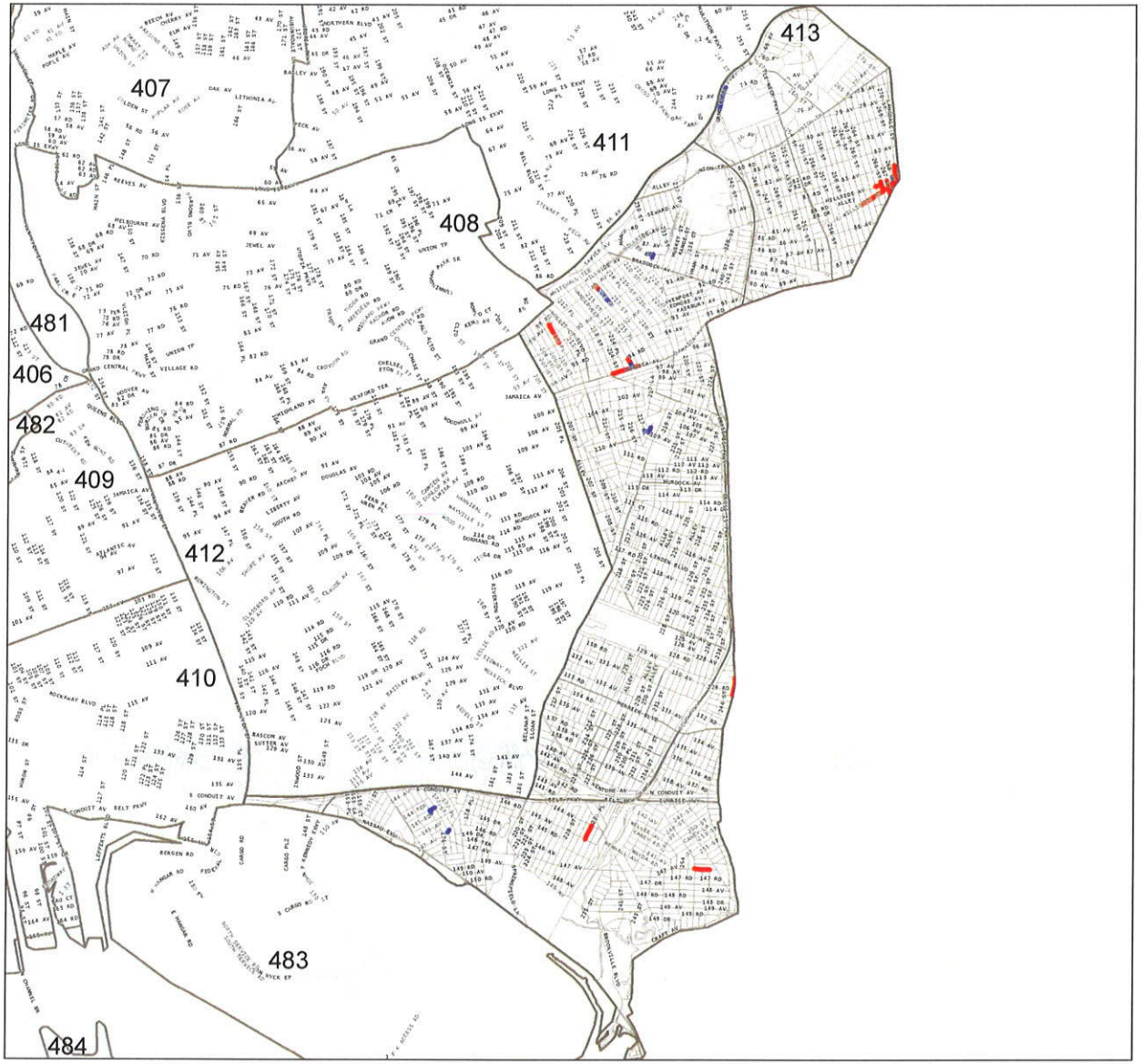
- Sewer Walkthrough Inspections
- Community Boards
- Streets

NYC LOCATION MAP

NYC Department of Environmental Protection Bureau of Water and Sewer Operations CMOM Compliance	
Community Board 412	
Datum and Projection: NAD, 1983 StatePlane NY Long Island	Queens
0 0.04 0.08 0.16 0.24 Miles	1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014	



NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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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

Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Queens

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 414

Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Queens

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 501

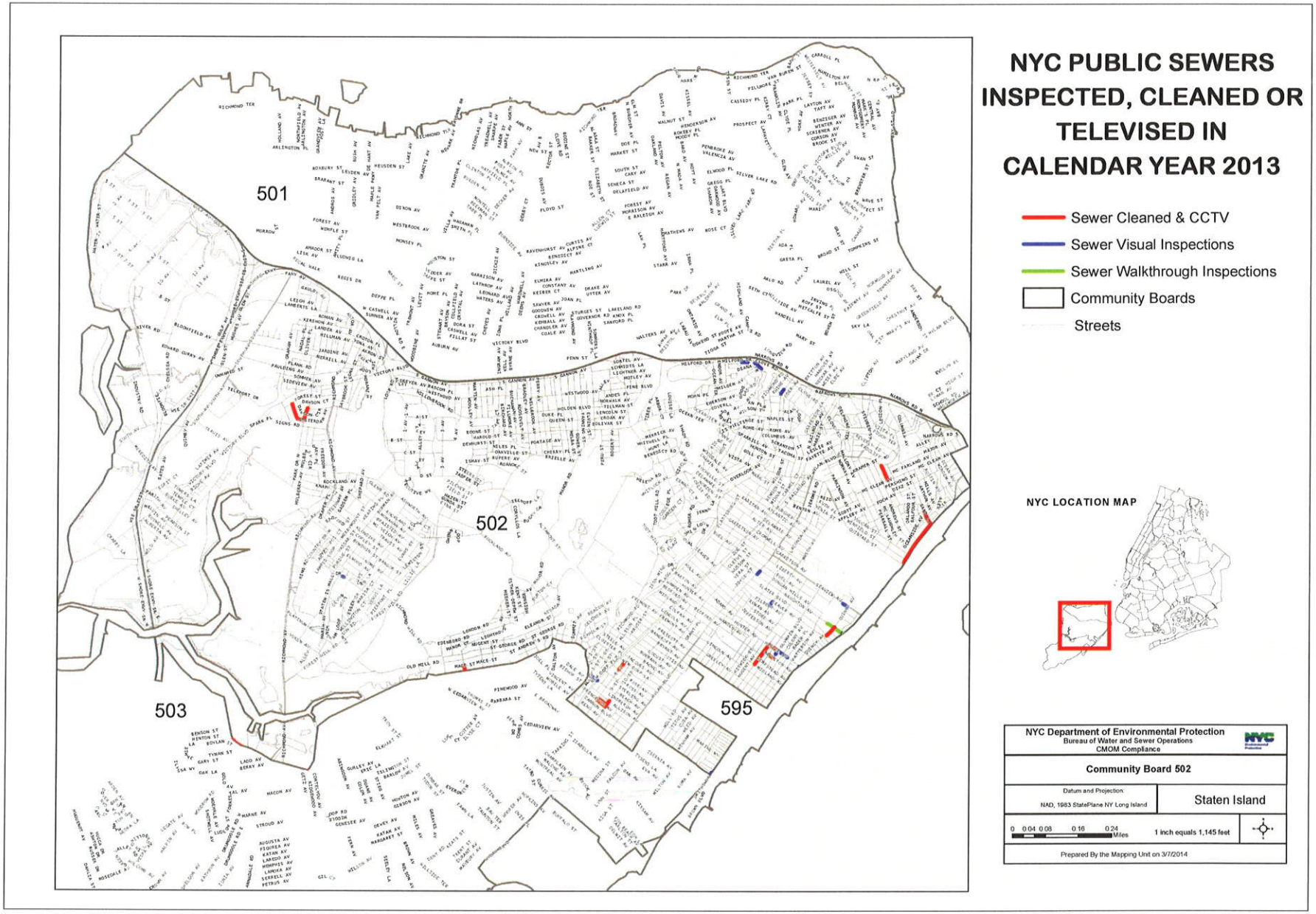
Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Staten Island

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014


NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013
Sewer Cleaned & CCTV
Sewer Visual Inspections
Sewer Walkthrough Inspections
Community Boards
Streets
NYC LOCATION MAP
501
502
503
595
NYC Department of Environmental Protection
Bureau of Water and Sewer Operations
CMOM Compliance
Community Board 502
Datum and Projection:
NAD, 1983 StatePlane NY Long Island
Staten Island
0 0.04 0.08 0.16 0.24 Miles
1 inch equals 1,145 feet
Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

- Sewer Cleaned & CCTV
- 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 503

Datum and Projection: NAD, 1983 StatePlane NY Long Island

Staten Island

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

NYC PUBLIC SEWERS INSPECTED, CLEANED OR TELEVISED IN CALENDAR YEAR 2013

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- Sewer Walkthrough Inspections
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- Streets

NYC LOCATION MAP

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

Community Board 595

Datum and Projection:
NAD, 1983 StatePlane NY Long Island

Staten Island

0 0.04 0.08 0.16 0.24 Miles

1 inch equals 1,145 feet

Prepared By the Mapping Unit on 3/7/2014

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

Inspected Locations

N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF) Cleaned	Surveyed	Walked
		2013							
		Site Specific							
		Brooklyn							
1	13-383	Paerdegat Av & Flatlands Av	DE		5/15/2013	6/19/2013			
2	13-561	Bond- Lorraine	CJ		7/31/2013	9/27/2013	8,138		
		The Bronx							
3	13-350	Schley Av & Buttrick Av	DE		5/6/2013	7/12/2013	746		
		2013 Site Specific Total, LF: **8,884** (1.68 mi)			**5/6/2013**	**9/27/2013**	**8,884**		
		Operating Expenses, $ **729,356**							

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

In-House Survey

Brooklyn

N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF) Cleaned	Surveyed	Walked
4	11-222	64 St (250) bt 2 Av and Shore Pkwy	CJ		7/9/2013	7/9/2013		332	
5	11-366	Prospect Pl (1924) bt Eastern Pkwy and Rockaway Av	IS		8/14/2012	7/17/2013			
6	11-432	Wilson Av (168) bt Hart St and DeKalb Av	IS		4/24/2012	7/15/2013			
7	11-473	Herkimer St (1385) bt Eastern Pkwy and Sherlock Pl	IS		4/12/2012	7/15/2013			
8	11-477	Bay Ridge Av (476) bt 4 Av and 5 Av	IS		2/14/2013	2/14/2013			
9	12-068E	Benson Av,33 Av,B 34 St,B 35 St,24 Av 11Q4G05 (1448)	MS		1/24/2013	2/15/2013		4,354	
10	12-082	Van Sicklen St (228) bt Av T and Av U	IS		1/2/2013	5/2/2013			
11	12-256	Putnam Av (372) at Marcy Av and Tompkins Av	IS		11/14/2012	4/15/2013			
12	12-307	Fountain Av (38) bt Atlantic Av and Wells St	IS		8/21/2012	7/15/2013			
13	12-330	Liberty Av (391) bt New Jersey Av and Vermont St	IS		8/13/2012	4/15/2013			
14	12-344	E 17 St (629) bt Newkirk Av and Foster Av	MS		9/11/2013	10/29/2013			1,951
15	12-400	Menahan St bt Knickerbocker Av and Wilson Av	IS		11/14/2012	2/14/2013			
16	12-441	President St (1711)	IS		10/5/2012	9/3/2013			
17	12-442	60 St (644) bt 6 Av and 7 Av	IS		11/30/2012	2/8/2013			
18	12-460	Kings Hwy (573) bt E 4 St and E 5 St	IS		10/25/2012	4/16/2013			
19	12-473	Lincoln Pl (1257) bt Troy Av and Schenectady Av	IS		10/25/2012	2/14/2013			
20	12-498	Madison St (338)	IS		11/14/2012	4/15/2013			
21	12-499	Hicks St (509)	IS		11/30/2012	2/13/2013			
22	12-535	Fulton St (484)	LJ		1/24/2013	1/24/2013		347	
23	12-544	Myrtle Av and Knickerbocker Av	CJ		3/6/2013	5/13/2013			286
24	12-546	Halsey St (501)	IS		2/13/2013	3/13/2013			
25	12-548	12 Av (4520)	MS		2/1/2013	2/1/2013			126
26	12-552	Wythe Av	LJ		1/22/2013	1/22/2013		500	
27	13-004	Flatlands Av (101-13)	IS		1/16/2013	2/16/2013			
28	13-005	Linwood St (172)	IS		1/16/2013	1/16/2013			
29	13-007	Cadman Plaza (east side) (225) bt Red Cross and Tlhary St	MS		1/24/2013	1/28/2013		299	598
30	13-012	Atlantic Av (3143)	LJ		2/17/2013	2/17/2013		929	
31	13-015	S 4 St (78) bt Wythe Av and Berry St	IS		1/16/2013	1/28/2013			
32	13-016	Pilling St (43) bt Broadway and Bushwick Av	IS		1/16/2013	4/23/2013			
33	13-017	40 St (1112) bt Ft Hamilton Pkwy and 12 Av	MS		2/1/2013	2/1/2013			429
34	13-047	Warwick St (702) bt Newlots Av and Hegeman Av	IS		2/14/2013	3/14/2013			
35	13-057	West 8 St	AQ		2/5/2013	2/5/2013		1,685	
36	13-058	West 2 St	IS		2/22/2013	3/5/2013			
37	13-059	New Brighton Comfort Station	AQ		3/5/2013	3/5/2013		226	
38	13-064	Brighton 2 St	LJ		3/11/2013	3/11/2013		215	
39	13-069	Flatbush Av (532) bt Lafferts Av and Lincoln Rd	IS		2/8/2013	4/15/2013			
40	13-074	E 82 St (1241)	IS		2/1/2013	7/22/2013			
41	13-075	Troy Av (1444) btFoster Av and Farragut Rd	IS		2/1/2013	4/16/2013			
42	13-096	Beverly Rd (507) bt E 5 St and Ocean Pkwy	MS		2/20/2013	2/21/2013		246	2,013
43	13-104	Fulton St and Bridge St	IS		2/20/2013	2/27/2013			
44	13-108	Neptune Av (809)	LJ		4/25/2013	4/25/2013		2,638	
45	13-119	Sheepshead Bay Rd (1784)	RB		4/12/2013	7/31/2013			
46	13-120	Cornelia St (73)	IS		3/5/2013	3/5/2013			
47	13-123	Marcy Av (957)	LJ		3/10/2013	3/10/2013		30	
48	13-142	Lefferts Pl (10) bt St. James Pl and Grand Av	IS		3/5/2013	7/24/2013			
49	13-143	Greene Av (741)	IS		3/5/2013	4/5/2013			
50	13-170	Force Tube Av (K)	IS		3/26/2013	3/26/2013			
51	13-174	E 98 St (1198)	DE		3/11/2013	3/11/2013		461	
52	13-175	3 Av (7316)	DE		3/7/2013	3/7/2013		249	
53	13-176	Brighton 2 Path (53)	DE		3/7/2013	3/7/2013		191	
54	13-198	Stanhope St (194)	IS		3/26/2013	6/5/2013			

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
55	13-200	Exeter St (159)	AQ		4/9/2013	4/16/2013		2,476	
56	13-204	Neptune Av (380)	AQ		4/9/2013	4/16/2013		2,442	
57	13-205	39 St bt 2 Av and Water Front	AQ		4/18/2013	5/15/2013		194	
58	13-214	Flatbush Av (2027)	IS		4/8/2013	4/8/2013		80	
59	13-219	5 Av (7124)	IS		4/10/2013	4/10/2013		107	
60	13-237	W 5 St and Neptune Av	AQ		4/16/2013	4/16/2013		197	
61	13-239	53 St (1609) bt 16 Av and 17 Av	MS		4/2/2013	4/2/2013			562
62	13-244	Garfield Pl (104)	IS		4/5/2013	4/5/2013		124	
63	13-272	Bushwick Av (1454)	IS		5/2/2013	8/29/2013			
64	13-273	Av U bt Homecrest Av and E 13 St	MS		5/7/2013	5/7/2013			521
65	13-280	Mermaid Av (2002) bt W 20 St and W 21 St	LJ		5/16/2013	5/16/2013		517	
66	13-281	Thomas Boyland St to Hopkinson Av	IS		4/18/2013	4/18/2013		125	
67	13-282	Oxford Av (186) bt Sore Blvd and Oriental Blvd	IS		4/16/2013	5/16/2013			
68	13-289	Ocean Av (4186)	LJ		4/25/2013	4/25/2013		995	
69	13-290	North 5 St (88)	LJ		5/3/2013	5/3/2013		508	
70	13-309	Coney Island (3154) bt Brighton Beach Av and Brighton 10 St	CP		4/24/2013	4/24/2013		409	
71	13-322A	Conover St bt Dikeman St and Pioneer St (RH)	KD		4/27/2013	4/27/2013		262	
72	13-322B	Wolcott St bt Conover St and Van Brunt St (RH)	KD		4/27/2013	4/27/2013		282	
73	13-322C	Lorraine St bt Henry St and Clinton St (RH)	KD		4/27/2013	4/27/2013		268	
74	13-322D	Smith St bt Lorraine St and Centre St (RH)	KD		4/27/2013	4/27/2013		306	
75	13-322E	Carroll St bt 3Av and Nevins St (RH)	KD		4/27/2013	4/27/2013		284	
76	13-322F	Nevins St bt Degraw St and Douglass St (RH)	KD		4/27/2013	4/27/2013		284	
77	13-322G	Butler St bt Bond St and Nevins St (RH)	KD		4/27/2013	4/27/2013		274	
78	13-322H	Doughlass St bt Bond St and Hoyt St	KD		4/27/2013	4/27/2013		290	
79	13-322I	Warren St bt Hoyt St and Smith St	KD		4/27/2013	4/27/2013		264	
80	13-322J	Wyckoff St bt Bond St and Hoyt St	KD		4/27/2013	4/27/2013		264	
81	13-322K	Pacific St bt 6 Av and Carlton Av	KD		4/27/2013	4/27/2013		360	
82	13-323A	Foster Av bt E 92 St and E 95 St (CI-OH)	CJ		5/1/2013	5/1/2013		322	
83	13-323B	Foster Av bt E 59 St and Ralph St (CI-OH)	CJ		5/1/2013	5/1/2013		250	
84	13-323C	Foster Av bt E 21St and Bedford Av (CI-OH)	CJ		5/1/2013	5/1/2013		280	
85	13-323D	Newkirk Av bt Ocean Av and E 21 St (CI-OH)	CJ		5/1/2013	5/1/2013		442	
86	13-323E	Marlborough Rd bt Cortelyou Rd and Dorchester RD (CI-OH)	CJ		5/1/2013	5/1/2013		262	
87	13-323F	Av O bt E 5 St and E 4 St (CI-OH)	CJ		5/1/2013	5/1/2013		262	
88	13-323G	W 5 St bt Kings Hwy and Highlawn Av (CI-OH)	CJ		5/1/2013	5/1/2013		250	
89	13-323H	86 St bt Stillwell Av and W 13 St (CI-OH)	CJ		5/1/2013	5/1/2013		376	
90	13-323I	92 St bt Dahlgren Pl and Gelston Av (CI-OH)	CJ		5/1/2013	5/1/2013			
91	13-323J	1 Av bt 54 St and 51 St (CI-OH)	NG		5/2/2013	5/2/2013		263	
92	13-323K	43 St bt 1 Av and 2 Av (CI-OH)	NG		5/2/2013	5/2/2013		438	
93	13-323L	4 Av bt 3 St and 2 St (CI-OH)	NG		5/2/2013	5/2/2013		508	
94	13-337	Ralph Av (1474) and E 80 St	IS		5/8/2013	5/8/2013		187	
95	13-359	Van Buren St (304) bt Lewis Av and Stuyvesant Av	IS		5/15/2013	6/3/2013			
96	13-361	E 2 St (523) bt Av C and Cortelyou Rd	MS		5/14/2013	5/14/2013			849
97	13-372	Shore Pkwy (2081)	IS		5/10/2013	5/10/2013		105	
98	13-383	Paerdegat Av & Flatlands Av	MS		6/6/2013	6/21/2013			7,439
99	13-388	E 17 St (2283) bt Gravesend Neck Rd and Av W	RB		5/21/2013	9/3/2013		151	
100	13-403	Blake Av (515) bt SNEDIKER Av and Hinsdale St	IS		5/23/2013				
101	13-404	Corbin Pl (7)	AQ		6/4/2013	6/19/2013		812	
102	13-405	Flatbush Av (1433)	LJ		6/5/2013	6/5/2013		502	
103	13-447	Jay St and Tillary St	IS		7/10/2013	7/10/2013		125	
104	13-472	E83 St(1379) bt Av M and Av N	IS		7/8/2013	7/18/2013			
105	13-473	52 St (457) bt 4 Av and 5 Av	IS		7/8/2013	1/31/2014			
106	13-474	Smith St (187) bt Wyckoff St and Warren St	IS		7/2/2013				
107	13-475	81 St (614) 6 Av and 7 Av	RB		6/18/2013			187	
108	13-477	St Nicholas Av (54) bt Starr St and Willoughby Av	MS		8/5/2013	12/3/2013		295	
109	13-479	Mackenzie St (181) bt Shore Blvd and Oriental Av	IS		8/16/2013	8/16/2013			
110	13-484	Bragg Sr from Shore Pkwy S Rd to the Outfall	MS		12/5/2013	12/5/2013		1,322	
111	13-492	Huron St from West St to Quay St	MS		8/21/2013	11/26/2013			593

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
112	13-495	Nostrand Av (1694) bt Beverly Rd & Cortelyou Rd	DE		7/16/2013	7/16/2013		183	
113	13-496	Henry St (770) bt Centre Mall & Bush St	DE		7/16/2013	7/16/2013		501	
114	13-497	Ocean Av (2765) bt Av W & Av X	DE		7/12/2013	7/16/2013		701	
115	13-498	Forbell St (742) bt Loring Av & Stanley Av	DE		7/16/2013	7/16/2013			
116	13-499	U Av (7203) bt E 72 St & E 73 St	DE		7/17/2013	7/17/2013		749	
117	13-500	E 21 St (2119) bt Av T & Av U	DE		7/12/2013	7/20/2013		629	
118	13-532	Ocean Pkwy (2488) bt Parkway Ct and Av Y	RB		7/11/2013	9/20/2013		1,018	
119	13-533	Av S (4101) bt Coleman St and Hendrickon St	RB		7/11/2013				
120	13-541	Bayridge Pkwy (1271)	IS		8/16/2013				
121	13-547	Cooper St (37A)	LJ		8/14/2013	8/14/2013		224	
122	13-551	Corbin pl (7)	LJ		7/18/2013	7/18/2013		49	
123	13-556	Emerald St bt Stanley Av and Loring Av	LJ		8/7/2013	8/7/2013		526	
124	13-557	Stanley Av bt Sapphire St and Drew St	LJ		8/8/2013	8/8/2013		526	
125	13-558	Amber St bt Loring Av and Stanley Av	LJ		8/8/2013	8/8/2013		532	
126	13-559	Loring Av bt Emerald St and Ruby St	LJ		8/7/2013	8/7/2013		1,582	
127	13-561	Bond- Lorraine	RF		7/18/2013	7/18/2013		2,478	
128	13-563	176 Ave U bt W 7 St & W 6 St	RF		7/19/2013	7/24/2013		529	190
129	13-568	25 Av Outfall at Shore Rd	MS		8/15/2013	8/23/2013		374	2,554
130	13-571	Havemeyer St (149)	IS		7/29/2013	8/29/2013			
131	13-572	E 85 St (755A)	IS		8/16/2013	8/16/2013			
132	13-578	Coney Island Av (453) bt Friel Pl and Church Av	IS		9/3/2013	12/18/2013			
133	13-579	Herkimer St (1069) bt Dewey Pl and Louis Pl	IS		8/16/2013				
134	13-580	Madison St (736) bt Malcolm X Blvd and Patchen Av	IS		7/29/2013	8/15/2013			
135	13-581	Fulton St (1589) bt Albany Av and Marcus Garvey Blvd	IS		8/29/2013	8/29/2013			
136	13-582	83 St (1835) bt 18 Av and 19 Av	RB		8/2/2013	10/23/2013		548	
137	13-585	Halsey St (1047) bt Bushwick Av and Evergreene Av	CJ		11/20/2013	11/20/2013		236	236
138	13-587	E 88 St (1019) bt Av J AND Church Ln	RB		8/2/2013	9/27/2013			
139	13-588	Garfield Pl bt 8 Av and Prospect Pkwy W	RB		9/16/2013	11/27/2013		155	
140	13-592	Stillwell Av bt Neptune Av and Mermaid Av	TB		7/31/2013	8/6/2013		353	
141	13-604	Jay St (370)	IS		8/28/2013	8/28/2013		102	
142	13-641	Gold St (445)	LJ		8/28/2013	8/28/2013		325	
143	13-644	Albany Av (738)	IS	1	9/3/2013	9/3/2013			
144	13-645	Albany Av (690)	IS	1	9/3/2013	9/3/2013			
145	13-646	Jay St (370) (Willoughby St)	IS		9/11/2013	9/11/2013		87	
146	13-648	W 16 St (2825)	LJ		9/9/2013	9/9/2013		639	
147	13-651	Classon Av (410)	AQ		9/18/2013	9/18/2013		220	
148	13-666	E 5 St (308) bt Albemarle Rd and Church Av	CJ		10/2/2013	10/2/2013			360
149	13-673	17 Av (8682) bt 86 St and Benson Av	MS		11/21/2013	11/21/2013			810
150	13-689	49 St (1724) bt Old New Utrecht Rd and 18 Av	RB		9/6/2013	11/27/2013			
151	13-697	E 14 St (1954)	IS		9/4/2013	9/4/2013		167	
152	13-701	Grove St (322)	LJ		10/2/2013	10/2/2013		261	
153	13-709	Graham St (57)	LJ		10/3/2013	10/3/2013		187	
154	13-711	Van Siclen Av (833) bt Linden Blvd and Stanley Av	RB		10/3/2013	2/4/2014			
155	13-712	Bayview Av (3326) bt W 33 St and W 35 St	RB		9/26/2013			210	
156	13-713	Flatlands Av (9522 bt E 95 St and E 96 St	MS		12/10/2013	12/10/2013			316
157	13-715	Pearl St bt John St and DE (Body of Water)	MS		9/13/2013	9/13/2013			252
158	13-719	177 Patchen Av bt Jefferson Av & Hancock St	DE		9/11/2013	9/11/2013		1,039	
159	13-721	132 Bushwick Av bt Maujer St & Ten eyck St	DE		9/11/2013	9/11/2013		535	
160	13-732	Bay 41 St and Shore Pkwy SR WB (1871)	RB		9/27/2013	12/30/2013		641	
161	13-734	Westend Av (37)	LJ		10/25/2013	10/25/2013		437	
162	13-740	Brighton 1 Ln (67)	IS		10/7/2013	10/7/2013		122	
163	13-754A	Marine Av bt 4 Av and Ft Hamilton Pkwy	CJ		10/7/2013	10/7/2013		570	
164	13-755	Ashland Pl (250)	LJ		11/4/2013	11/4/2013		233	
165	13-779	4 Av (5413) bt 54 St and 55 St	IS		10/25/2013	10/25/2013			
166	13-784	South 1 St (190)	AQ		10/17/2013	10/17/2013		198	
167	13-795	Knickerbocker Av (91) bt Grattan St and Thames St	CJ		11/19/2013	11/19/2013			996
168	13-798	Washington Av (591)	AQ		11/19/2013	11/20/2013		496	

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
169	13-800	Halsey St 1006) bt Broadway and Bushwick Av	IS		10/18/2013	1/29/2014			
170	13-804	N 8 St (207)	LJ		12/5/2013	12/5/2013		392	
171	13-825	Marcy Av (805) bt Gates Av and Monroe St	MS		10/30/2013	10/31/2013		426	204
172	13-829	Sherman St (264)	IS		11/1/2013	11/1/2013		104	
173	13-842	11 St (531)	IS		11/21/2013	11/21/2013		120	
174	13-843	Ocean Av (41-55)	AQ		12/5/2013	12/5/2013		20	
175	13-856	E 83 St (1245) bt Av L AND Av M	IS		11/15/2013	11/15/2013			
176	13-858	Oakland Pl (18) bt Albemarle Rd and Tilden Av	IS		11/15/2013				
177	13-926	7 Av (9216)	IS		11/26/2013	11/26/2013		139	
178	13-932	Decatur St (245) bt Lewis Av and Stuyvesant Av	IS		12/10/2013	12/10/2013			
179	13-933	Lexington Av (160) bt Franklin Av and Bedford Av	IS		12/10/2013	12/10/2013			
180	13-958	Sutter Av (1298) bt Pine St and Crescent St	MS		12/18/2013	12/18/2013			271

Manhattan

181	10-110	W 148 St and Harlem Dr	TB		6/5/2013	6/5/2013			85
182	12-243	Grand St and Suffolk St	MS		3/1/2013	3/1/2013			168
183	12-487	West End Av bt W 59 St and W 60 St	IS		10/19/2012	1/4/2013			
184	12-556	9 Av bt W 51 St and W 48 St	MS		12/18/2012	12/18/2012			905
185	13-009	44 St Ventilation Plant	IS		1/18/2013	2/14/2013			
186	13-039	Bowery St (250)	IS		2/17/2013	2/17/2013	201		
187	13-077	Federal Plaza (26) inlet 1	AQ		3/10/2013	3/10/2013			
188	13-078	Federal Plaza (26) inlet 2	AQ		3/10/2013	3/10/2013			
189	13-084	E 44 St (219)	LJ		2/17/2013	2/17/2013		532	
190	13-097	11 Av (718)	LJ		2/24/2013	2/24/2013		97	
191	13-099	E 74 St (201)	IS		2/15/2013	4/23/2013			
192	13-115	W 42 St (136)	IS		2/24/2013	4/8/2013			
193	13-137	W 181 St (729)	LJ		3/27/2013	3/27/2013		102	
194	13-160	E 92 St (20)	LJ		3/27/2013	3/27/2013		135	
195	13-172	Hamilton Terr (19)	IS		4/23/2013				
196	13-181	Washington St (700)	RB		3/27/2013	11/4/2013		1,101	
197	13-186	Fredrick Douglas Blvd bt W 147 St and W 148 St	CP		3/18/2013	3/18/2013		302	
198	13-187	W 12 St bt 7 Av and Greenwich Av	CP		3/18/2013	3/18/2013		286	
199	13-235	W 129 St bt Lenox Av and Adam C Powell Blvd	YL		3/18/2013	3/18/2013		300	
200	13-295	Broadway (1107)	LJ		4/23/2013	4/28/2013		1,084	
201	13-330A	E 106 St bt 1 Av and FDR Dr (WI)	CJ		5/2/2013	5/2/2013		196	
202	13-330B	E 110 St bt 1 St Av and FDR Dr (WI)	CJ		5/2/2013	5/2/2013		373	
203	13-330C	N of E 120 St bt Pleasant Av and FDR Dr (WI)	CJ		5/2/2013	5/2/2013		311	
204	13-330D	Cypress Av bt E 132 St and E 133 St (WI)	CJ		5/2/2013	5/2/2013		269	
205	13-330E	E 149 St and Bruckner Blvd (WI)	CJ		5/2/2013	5/2/2013		450	
206	13-330F	W 145 St bt Lenox Av and Harlem River Dr (WI)	CJ		5/2/2013	5/2/2013		314	
207	13-330G	Lenox Av bt W145 St and W 146 St (WI)	NG		5/2/2013	5/2/2013		299	
208	13-330H	W 145 St bt Fred Douglass Blvd and Adam C Powell Blvd (WI)	CJ		5/2/2013	5/2/2013		390	
209	13-334	Barclay St bt Broadway and Greenwich St (WTC Campus Security	RB		5/2/2013	10/24/2013		173	
210	13-345	Lexington Av (1065) bt E 75 St and E 76 St	YL		5/15/2013	1/23/2014		90	
211	13-346	Sherman Av bt Dyckman Av and Academy Av	YL		5/21/2013	5/21/2013		376	
212	13-347	W 135 St bt Broadway and Riverside Av	YL		5/21/2013	5/21/2013		502	
213	13-358	6 Av (968) bt W 35 St and W36 St	IS		5/10/2013	12/6/2013			
214	13-368	W 22 St (430)	LJ		5/20/2013	5/20/2013		803	
215	13-377	E 90 St (57 59 61)	LJ		5/19/2013	5/19/2013		413	
216	13-451	Park terrace East (42)	IS		7/10/2013				
217	13-454	E 60 St (45)	LJ		6/30/2013	6/30/2013		351	
218	13-480	Madison Av (2022)	LJ		7/1/2013	7/1/2013		163	
219	13-481	Spring St (33)	AQ		6/24/2013	7/11/2013		97	
220	13-491	Water St (6)	LJ		7/14/2013	7/14/2013		136	
221	13-525	W 125 St (319) bt 8 Av & St Nicholas Av	YL		7/18/2013			626	
222	13-526	W 30 St bt 10 Av and 9 Av (MED598B)	MS		7/2/2013	7/2/2013			842
223	13-531	Greenwich St (464)	LJ		7/15/2013	7/15/2013		133	

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
224	13-577	W 55 St (250) (Boston Tower)	IS	1	8/21/2013	9/27/2013			
225	13-601	Madison Av (5) and E 24 St	LJ		8/25/2013	8/25/2013		486	
226	13-607	Lexington Av (17)	IS		9/5/2013	9/5/2013		203	
227	13-608	E 22 St (135)	IS		9/5/2013	9/5/2013		141	
228	13-609	E 22 St (137)	IS		9/5/2013	9/5/2013		116	
229	13-610	E 78 St (155)	LJ		8/25/2013	8/25/2013		425	
230	13-612	W 14 St (245)	LJ		9/3/2013	9/3/2013		435	
231	13-613	W 123 St (139)	LJ		9/8/2013	9/8/2013		760	
232	13-694	Avenue A (98)	LJ		9/22/2013	9/22/2013		95	
233	13-695	W 46 St and 7 Av	LJ		10/1/2013	10/1/2013		93	
234	13-696	Avenue D bt E Houston St and 3 St	LJ		9/22/2013	9/22/2013		166	
235	13-700	W 146 St (303)	LJ		9/6/2013	9/6/2013		147	
236	13-722	Vesey St and W Broadway	LJ		9/22/2013	9/22/2013		133	
237	13-726	5 Av (815)	LJ		9/30/2013	9/30/2013		152	
238	13-741	Thames St (22)	LJ		10/27/2013	10/27/2013		350	
239	13-777	E 36 St(134) bt Park Av and Lexington Av	IS		10/15/2013	10/17/2013			
240	13-796	Grand St (223-227)	LJ		10/27/2013	10/27/2013		531	
241	13-821	W 22 ST (559)	IS		11/1/2013	11/1/2013		81	
242	13-852	Broadway	IS		11/20/2013	11/20/2013		106	
243	13-883	E 74 S (31)t	IS		11/20/2013	11/20/2013		252	
244	13-924	W 109 St (209)	NG		11/19/2013	11/19/2013		118	
245	13-981	3 Av (1992)	LJ		12/22/2013	12/22/2013		214	
246	13-982	E 81St (222)	LJ		12/22/2013	12/22/2013		560	
247	13-985	Joe Dimaggio Hwy bt W 14 St and W16 St	LJ		12/29/2013	12/29/2013		546	
248	13-986	Joe Dimaggio Hwy bt W 14 St and W 16 St	IS		12/29/2013	12/29/2013		94	

Queens

249	10-137	Hillside Av (172-35)	RB		7/8/2010	10/12/2012			
250	11-375	102 Rd (88-03) bt 88 St and 89 St	MS		1/4/2013	1/4/2013			250
251	11-448	Utopia Pkwy and Station Rd	MS		1/15/2013	1/15/2013			107
252	12-104A	Mcbride St (13-12) bt Mott Av and Dix Av	IS		4/1/2012	3/6/2013			
253	12-456	81 St and 19 Av SE-814	MS		1/15/2013	1/15/2013			170
254	12-461	Rockaway Freeway (105-38) bt B 105 St and B 106 St	IS		10/9/2012	10/9/2013			
255	12-537	44 Av (74-34)	LJ		1/15/2013	1/15/2013		95	
256	13-001	149 St (42-46)	LJ		1/17/2013	1/17/2013		158	
257	13-003	Redfern Av (13-01)	LJ		1/10/2013	1/10/2013		152	
258	13-011	176 St (145-94)	LJ		1/31/2013	1/31/2013		126	
259	13-020	Contract HBQ 1203 Rehabilitation of Roosevlt Av Bridge Over	RF		3/14/2013	3/14/2013		428	
260	13-037	22 St (41-54)	LJ		2/15/2013	2/15/2013		585	
261	13-038	Steinway St (20-21)	AQ		1/29/2013	1/29/2013		265	
262	13-042	46 Av (163-06)	LJ		1/30/2013	1/30/2013		126	
263	13-043	45 Av (164-11)	LJ		1/30/2013	1/30/2013		122	
264	13-046	Foch Blvd (130-02) bt 130 St and 131 St	RB		1/25/2013	3/19/2013		138	
265	13-053	Beach 32 St	LJ		2/20/2013	2/20/2013		474	
266	13-054	Beach 59 St	LJ		2/20/2013	2/20/2013		82	
267	13-055	Beach 66 St	LJ		2/20/2013	2/20/2013		280	
268	13-056	Beach 73 St	LJ		1/31/2013	2/20/2013		60	
269	13-060	Beach 86 St	IS		1/31/2013	4/2/2013		828	
270	13-061	Beach 97 St	LJ		2/20/2013	2/20/2013		173	
271	13-062	Beach 106 St	AQ		2/18/2013	4/26/2013	119	144	
272	13-063	Beach 116 St	LJ		2/20/2013	2/20/2013		117	
273	13-079	Halletts Point 26 Av	LJ		2/28/2013	2/28/2013		1,304	
274	13-090	69 St (49-01)	LJ		2/20/2013	2/20/2013		123	
275	13-095	167 St (119-48)	LJ		2/13/2013	2/13/2013		399	
276	13-121	130 Av (145-19)	IS		3/6/2013				
277	13-122	Northern Blvd (29-85)	LJ		3/1/2013	3/1/2013		175	
278	13-130	88 Av (80-87)	IS		3/6/2013	5/15/2013			

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
279	13-133	Corporal Stone St (35-30)	KD		2/20/2013				
280	13-134	203 St Bt 38 Av and 39 Av	KD		2/20/2013				
281	13-135	B 97 St (184)	KD		2/20/2013				
282	13-139	Beach 99 St (162)	RB		3/18/2013			380	
283	13-141	B 63 St (637 and 643)	IS		3/6/2013	7/22/2013			
284	13-148	Yellowstone System from Woodhaven to Queens Blvd	MS		3/13/2013	4/25/2013		613	7,993
285	13-154	142 Pl (120-20)	KD		3/4/2013	3/4/2013		1,370	
286	13-155	Linden Blvd (157-11)	KD		3/4/2013	3/4/2013		595	
287	13-156	111 Av (155-04)	KD		2/12/2013	2/12/2013		240	
288	13-159	161 St (134-33)	LJ		3/18/2013	3/18/2013		141	
289	13-164	77 Av and 80 St and Myrtle Av and 88 St	MS		3/11/2013	3/11/2013		781	
290	13-165	B 67 St (540)	NG		2/20/2013	2/20/2013		200	
291	13-166	201 St (93-18)	NG		3/11/2013	3/11/2013		113	
292	13-167	169 St (116-31)	NG		3/11/2013	3/11/2013		130	
293	13-168	159 St (110-53)	NG		3/11/2013	3/11/2013			
294	13-177	114 Rd (194-56)	DE		3/11/2013	3/11/2013		618	
295	13-178	164 Pl (107-18)	DE		2/13/2013	2/13/2013		590	
296	13-179	Guy R Brewer Blvd (108-51)	DE		2/13/2013			324	
297	13-180	B 64 St b/t Almeda Av and Beach Channel Dr	DE		3/14/2013	8/8/2013		6,254	
298	13-182	95 St bt 35 Av and 37 Av	CP		3/7/2013	3/7/2013		605	
299	13-183	144 St bt 87 Rd and Hillside Av	CP		3/7/2013	3/7/2013		237	
300	13-184	Hillside Av bt 146 St and Sutphin Blvd	CP		3/7/2013	3/7/2013		360	
301	13-185	87Rd bt 144 St and 148 St	CP		3/7/2013	3/7/2013		786	
302	13-193	Seneca Av	KD		3/18/2013	3/18/2013		365	
303	13-197	B 32 St (333)	IS		7/22/2013				
304	13-203	164 St Grease Pilot Area	KD		2/19/2013			1,163	
305	13-207	45 Av (163-21)	LJ		4/2/2013	4/2/2013		114	
306	13-208	Myrtle Av at 84 St	CJ		3/27/2013	3/27/2013			
307	13-230	183 St bt 90 Av and Jamaica Av	CJ		5/23/2013	5/24/2013			1,153
308	13-231	Jamaica Ave (214-57)	NG		3/25/2013	3/25/2013		376	
309	13-232	216 St (89-23)	NG		3/25/2013	3/25/2013		734	
310	13-238	115 St (107-32)	LJ		4/2/2013	4/2/2013		138	
311	13-240	213 St (79-45)	LJ		4/2/2013	4/2/2013		145	
312	13-241	Beach 87 St (319)	NG		3/29/2013	3/29/2013		590	
313	13-242	Community Board 9 CB Inspection	NG	2072	4/1/2013	7/15/2013			
314	13-274	Intersection of Arverne Blvd and B 59 St	MS		12/12/2013	12/12/2013			362
315	13-275	74 St bt Penelop Av and Pleasanville St	MS		5/28/2013	5/28/2013			761
316	13-277	Rockaway Blvd (134-05) bt 134 St and 135 St	IS		4/13/2013	4/13/2013			
317	13-283A	Main St bt Peck Av and 56 Av	CJ		4/15/2013	4/16/2013		110	
318	13-283B	188 St and L.I.E	CJ		4/15/2013	4/16/2013		290	
319	13-283C	220 St bt 74 Av and 73 Av	CJ		4/15/2013	4/16/2013		241	
320	13-283D	Northern Blvd and Alameda Av	CJ		4/15/2013	4/16/2013		508	
321	13-283E	Kissena Blvd and Geranium Av	CJ		4/15/2013	4/16/2013		379	
322	13-283F	Station Rd bt 189 St and 191 St	CJ		4/15/2013	4/16/2013		254	
323	13-283G	158 St bt 43 Av and Sanford Av	CJ		4/15/2013	4/16/2013		280	
324	13-283H	Chevy Chase St bt Aberdeen Rd and Miland Pkwy	CJ		4/15/2013	4/16/2013		247	
325	13-283I	32 Av and Farrington Av	CJ		4/15/2013	4/16/2013		326	
326	13-283J	Avery Av and College Point Blvd	CJ		4/15/2013	4/16/2013		263	
327	13-283K	57 Av bt 225 St and 226 St	CJ		4/15/2013	4/16/2013		378	
328	13-283L	56 Av bt Springfield Blvd and 223 St	CJ		4/15/2013	4/16/2013		259	
329	13-287	Monterey St (108-16)	LJ		5/14/2013	5/14/2013		449	
330	13-297	164 St (82-20) bt Goethals Av and 82 Rd	IS		4/24/2013	5/17/2013		53	
331	13-310	E Beach 101 St (320) bt B Channel Dr and Constance Ct	CP		5/7/2013	5/7/2013		802	
332	13-311	Northern Blvd (255-07) bt Glennwood St and Morgan St	CP		5/13/2013			180	
333	13-321	Myrtle Av bt 60 St and Forest Av	MS		12/11/2013	12/11/2013			429
334	13-326A	Borden Av bt Review Av and DE (BBL)	NG		5/2/2013	5/2/2013		223	
335	13-326B	Hunters Pt Av bt 35 St and 36 St (BBL)	NG		5/2/2013	5/2/2013		285	

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
336	13-326C	Hunters Pt Av bt 30 St and 31 St (BBL)	NG		5/2/2013	5/2/2013		266	
337	13-326D	47 Av bt 30 St and 30 PL (BBL)	NG		5/2/2013	5/2/2013		284	
338	13-326E	Purvis St bt Jackson Av and Railroad (BBL)	NG		4/30/2013	4/30/2013		322	
339	13-326F	49 Av bt 5 St and Center Blvd (BBL)	NG		5/2/2013	5/2/2013		358	
340	13-326G	44 Dr bt 10 St and 11 St (BBL)	NG		4/30/2013	4/30/2013		225	
341	13-326H	44 Dr bt Vernon Blvd and DE (BBL)	NG		4/30/2013	4/30/2013		393	
342	13-326I	37 Av bt Vernon Blvd and 9 St (BBL)	NG		4/30/2013	4/30/2013		399	
343	13-326J	34 Av and 31 St (BBL)	NG		4/30/2013	4/30/2013		524	
344	13-326K	48 St bt 31 Av and Broadway (BBL)	NG		4/30/2013	4/30/2013		303	
345	13-326L	Astoria Blvd bt 8 St and Main Av (BBL)	NG		4/30/2013	4/30/2013		458	
346	13-336	101 Av (143-26) bt Allendale St and Liverpool St	LJ		6/4/2013	6/4/2013		2,565	
347	13-344	57 Av (254-10)	AQ		6/10/2013	6/25/2013		1,190	
348	13-349	Roosevelt Av (50-18)	IS		5/7/2013	5/7/2013		146	
349	13-354	Ash Av (147-45)	IS		5/17/2013	5/17/2013		265	
350	13-367	EQUAL ponding investigatig South Queens	EC		5/8/2013				
351	13-384	19 Av from Chamber number 2 at 45 St to 43 St	CJ		10/25/2013	10/25/2013			272
352	13-387	26 Av (215-25)	LJ		6/12/2013	6/12/2013		798	
353	13-414	Borden Av (11-03)	LJ		7/2/2013	7/2/2013		543	
354	13-416	191 St (88-32)	IS		7/10/2013	7/10/2013		145	
355	13-425	Grand Central Pkwy	LJ		6/12/2013	6/12/2013		1,063	
356	13-445	Austin St (65-50)	AQ		6/12/2013	6/18/2013		204	
357	13-487	149 St (42-50)	LJ		7/9/2013	7/9/2013		158	
358	13-488	149 St (42-50)	LJ		6/28/2013	6/28/2013		158	
359	13-502	31 St (35-50) bt 35 Av & 36 Av	CP		7/26/2013	7/26/2013			
360	13-503	35 St (23-07) bt 23 Av & 24 Av	CP		7/26/2013	7/26/2013			
361	13-506	179 St (111-71) bt 112 St & Bend	CP		1/9/2014				
362	13-507	121 Av (190-16) bt benton St & St Lucas St	CP		7/17/2013	7/17/2013			
363	13-513	157 St (109-17) bt 109 Av & Brinkerhoff Av	NG		11/18/2013	11/18/2013			
364	13-529	Spinnaker Dr (73-05)	IS		7/10/2013	7/10/2013		123	
365	13-530	Spinnaker Dr (73-09)	IS		7/10/2013	7/10/2013		123	
366	13-537	59 Av bt 92 St and 94 St	LJ		8/18/2013	8/18/2013		695	
367	13-540	Broadway (86-15) bt 51 St Av and Justic Av	CJ		7/16/2013	7/16/2013			65
368	13-545	133 Av (75-11)	IS		7/22/2013				
369	13-562	Hazen St (20-32, 20-40) bt 74 St and 20 Rd	CJ		7/22/2013	10/8/2013			260
370	13-576	Project HWQ213C Reconstruction of Main St	CJ		7/30/2013	7/30/2013			172
371	13-593	Broadway (79-01)	IS		8/14/2013	8/14/2013		97	
372	13-603	109 St (35-29)	IS	1	8/15/2013	8/15/2013			
373	13-605	Sutphin Blvd (107-05)	IS		10/25/2013	10/25/2013			
374	13-707	B 79 St (245) bt B 74 St and B Channel Dr	RB		9/20/2013			144	
375	13-710	112 Rd (162-25)	AQ		9/24/2013	9/24/2013		297	
376	13-728	8 St bt Astoria Blvd and 28 Av	AQ		10/11/2013	10/17/2013		462	
377	13-735C	146 St and 133 Rd,120 Av and 147 St,Sutphin Blvd bt 112 and 113	TB		10/2/2013	1/16/2014		2,536	
378	13-739	Guy R Brewer Blvd (114-15)	IS		10/4/2013	10/4/2013			
379	13-756	Astoria Blvd (12-02)	IS		10/24/2013	10/24/2013			
380	13-757	Guy R Brewer Blvd (114-15)	LJ		10/24/2013	10/24/2013		240	
381	13-780	Horatio Pkwy and 50 Av	RB		10/15/2013	1/17/2014		134	
382	13-785	145 Av (175-06)	LJ		10/28/2013	10/28/2013		1,313	
383	13-793	179 St (75-43) bt 75 Av and Union Tpke	MS		11/14/2013	11/14/2013			309
384	13-805	Guy R Brewer Blvd (116-30)	IS		10/22/2013	10/22/2013			
385	13-806	Hillside Av (163-02)	IS		10/22/2013	10/22/2013			
386	13-807	89 Av (196-01)	IS		10/22/2013	11/13/2013			
387	13-822	56 Av (222-11)	IS		10/31/2013	10/31/2013			
388	13-823	56 Av (222-11)	IS		10/31/2013	10/31/2013		130	
389	13-828	Junction Blvd (34-20)	IS		11/22/2013	11/22/2013		125	
390	13-838	48 St	AQ		12/16/2013	12/19/2013	880		
391	13-839	Ash Av (147-51)	LJ		11/8/2013	11/8/2013		265	
392	13-872	28 St bt Skillman Av and Dutch Kills	AQ		11/27/2013	11/27/2013		27	

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
393	13-884	80-28 89 Av	CP		11/18/2013	11/18/2013		456	
394	13-885	123-16 Irwin Pl	CP		11/18/2013	11/18/2013		221	
395	13-887	115-48 165th Street	CP		11/18/2013	11/18/2013		263	
396	13-888	135-14 Jamaica Av	CP		11/18/2013	11/18/2013		384	
397	13-900	216 St (40-29)	CP		11/18/2013	11/18/2013		352	
398	13-901	210 Pl (89-36)	CP		11/18/2013	11/18/2013		505	
399	13-902	Hillside Av (268-05)	NG		11/19/2013	11/19/2013		122	
400	13-903	87 Av (139-12)	NG		11/19/2013	11/19/2013		296	
401	13-904	88 Av (227-29)	NG		11/19/2013	11/19/2013		415	
402	13-905	109 Av (157-08)	NG		11/19/2013	11/19/2013		132	
403	13-913	200 St (114-08)	NG		11/19/2013	11/19/2013		288	
404	13-914	110 Av (212-20)	CP		11/18/2013	11/18/2013		240	
405	13-917	Hillside Av (180-18)	NG		11/19/2013	11/19/2013		136	
406	13-929	Jamaica Av (185-02)	LJ		12/23/2013	12/23/2013		1,216	
407	13-947A	255 St and 75 Av	RB		12/6/2013				
408	13-947B	Langston Av and 73 Av	RB		12/6/2013				
409	13-947C	263 St and 73 Av	RB		12/6/2013				
410	13-947D	260 St and 74 Av	RB		12/6/2013				
411	13-954	82 St (58-14)	IS		12/9/2013				
412	13-955	25 Rd (146-26)	IS		12/9/2013	1/24/2014			

Staten Island

413	11-150U	South Av and ForestAv (HWR 300-03)	RF		7/30/2013	7/30/2013		276	
414	12-145	Van Duzer St (636) bt Shelterview Dr and Broad St	IS		9/12/2012	7/26/2013			
415	12-465	Beach Av and 7 St	RB		1/8/2013			201	
416	12-553	Beniger Av (130)	LJ		1/9/2013	1/23/2013		594	
417	13-002	Broad St and Quinn St	LJ		1/24/2013	1/24/2013		655	
418	13-014	Nicholas Av	IS		1/24/2013	1/31/2013	196	413	
419	13-019	Main Av (60)	LJ		1/24/2013	1/24/2013		220	
420	13-041	Taft Av (10)	LJ		1/24/2013	3/13/2013	184	371	
421	13-065	Concession Building at Jefferson Av	LJ		3/28/2013	3/28/2013		365	
422	13-066	Beach in Cedar Grove	LJ		3/13/2013	3/13/2013		100	
423	13-103	Baltic Av (29)	LJ		3/13/2013	3/13/2013		246	
424	13-116	Harvard Av (161)	IS		2/28/2013	5/20/2013			
425	13-117	Bang Terr (35)	IS		2/28/2013	4/29/2013			
426	13-118	Villanova St (32) bt Brunswick St and Rocknes St	IS		3/26/2013				
427	13-124	Forest Av and Kissel Av	RB		2/27/2013	4/3/2013		143	
428	13-153	Willow Av (66)	KD		2/22/2013	2/22/2013		1,357	
429	13-161	Maple Av	LJ		3/13/2013	3/13/2013		772	
430	13-162	North Gannon Av (471)	IS		4/3/2013	5/6/2013	161		
431	13-173	Naughton Av and Fr.Cpodanno Blvd	MS		3/18/2013	3/18/2013			85
432	13-206	Foster Rd (62)	AQ		4/10/2013	4/10/2013		289	
433	13-210	Wirt Av (115)	IS		4/5/2013	4/5/2013			
434	13-236	Westport St and Marsh Av	RB		4/1/2013	7/31/2013		75	
435	13-246	Sharpe Av (117)	AQ		4/10/2013	4/17/2013		1,048	
436	13-255	Dixon Av (236)	KD		4/5/2013	4/5/2013		775	
437	13-256	Mapleton Av	KD		4/5/2013	4/5/2013		1,101	
438	13-285	Wiman Av (65) bt Driggs St and Presley St	IS		4/17/2013	6/11/2013			
439	13-292	Dongan Hills Av and Hylan Blvd	RB		4/25/2013			160	
440	13-293	S Greenleaf Av and Maine Av	IS		4/25/2013	5/8/2013		300	
441	13-296	Crescent Av (140) bt Bismark Av and Jersey St	IS		4/25/2013				
442	13-317	Benedict Av (110) bt Manor Rd and S Greenleaf Av	RB		4/29/2013	9/30/2013		2,043	
443	13-318A	South Av bt Arlington Pl and Richmond Terr	NG		5/1/2013	5/1/2013		521	
444	13-318B	Lockman Av bt Richmond Terr and DE	NG		5/1/2013	5/1/2013		330	
445	13-318C	Nicholas Av bt Slaight St and Richmond Terr	NG		5/1/2013	5/1/2013		260	
446	13-318D	Nicholas Av bt Clastleton Av and Herrison Av	NG		5/1/2013	5/1/2013		328	
447	13-318E	Treadwell Av bt Blackford Av and Clinton Pl	NG		5/1/2013	5/1/2013		300	

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
448	13-318F	Van Riper St bt Dixon Av and Port Richmond Av	NG		5/1/2013	5/1/2013		280	
449	13-318G	Benment Av bt Richmond Te and Howard Ct	NG		5/1/2013	5/1/2013		298	
450	13-318H	Kissel Av bt Richmond Te and Delafield Pl	NG		5/1/2013	5/1/2013		250	
451	13-318I	Clinton Av bt Richmond Te and Van Buren St	NG		5/1/2013	5/1/2013		533	
452	13-318J	Franklin Av bt Fillmore St and Van Buren St	NG		5/1/2013	5/1/2013		275	
453	13-318K	St. Peter's Pl bt Carroll Pl and Richmond Terr	TB		5/2/2013	5/2/2013		267	
454	13-318L	Canal St bt Broad St and Wright St	TB		5/2/2013	5/2/2013		450	
455	13-338	Snug Harbor Area (se-846)	CJ		5/30/2013	6/18/2013			300
456	13-376	Jefferson Blvd and Drumgoole Rd West	LJ		6/6/2013	6/6/2013		650	
457	13-386	Emerson Dr	AQ		6/6/2013	6/20/2013		1,217	
458	13-389	Barrett Av and Cortlandt St	MS		9/6/2013	9/6/2013			425
459	13-399	Beach Av (95) bt 3 St and Behan Ct	RB		5/23/2013	6/14/2013		175	
460	13-415	Dubois Av	LJ		5/29/2013	5/31/2013			
461	13-452	Duncan Rd (35)	AQ		7/3/2013	7/31/2013	503	592	
462	13-457	Amboy Rd (5971)	RB		6/13/2013				
463	13-467	Sheldon Av (310)	RB		6/14/2013			779	
464	13-469	Naughton Av Outfall Insspection	DE		6/19/2013	7/3/2013			3,438
465	13-527	Annadale Rd (703)	IS		7/8/2013	7/8/2013		141	
466	13-528	Annadale Rd (705)	IS		7/8/2013	7/8/2013		141	
467	13-574	Creston St bt Finley Av and DE	RB		8/5/2013	8/7/2013		250	
468	13-575	Richmond Ter and Davis Av	CJ		10/3/2013	10/3/2013			
469	13-591	Maple Av	AQ		7/31/2013	7/31/2013		412	
470	13-606	Annadale Rd (671)	IS		8/22/2013	8/22/2013		140	
471	13-688	Saxon Av (110) bt Gadsen Pl and Steinway Av	RB		9/10/2013	9/10/2013		450	
472	13-702	Delfield Av	AQ		9/26/2013	9/26/2013			
473	13-716	Mapleton Av (37) and Olympia Blvd	IS		9/13/2013				
474	13-797	SE 846 Snug Harbor Area Kissel Av	MS		10/11/2013	10/31/2013		345	345
475	13-809	Heberton (54) bt Bend and Ann St	IS		10/29/2013				
476	13-815	Fingerboard Rd(169)	IS		11/15/2013	11/15/2013			
477	13-816	Hasbrouck Rd (36)	IS		11/15/2013	11/15/2013			
478	13-817	Richmond Rd (561)	IS		11/14/2013				
479	13-818	Westervelt Av (323)	IS		11/15/2013	11/15/2013			
480	13-819	Pleasant Valley Av (85)	IS		11/15/2013	11/15/2013			
481	13-820	N Mada Av (2)	IS		10/25/2013				
482	13-830	Richmond Ter (1828)	IS		11/1/2013	11/1/2013		225	
483	13-859	South Av (135) bt Richmond Ter	IS		10/31/2013				
484	13-889	Pulaski Av (377)	LJ		12/10/2013	12/10/2013		458	

The Bronx

485	11-378	Mace Av and Seymour Av	MS		5/21/2013	5/21/2013			458
486	11-393	E Tremont Av and Boston Rd	MS		5/29/2013	5/29/2013			240
487	12-007	3 Av (2535) bt E 137 St and E 138 St	IS		7/3/2013	7/18/2013			
488	12-240	E 233 St (812) bt Barnes Av and Bussing Av	IS		6/5/2012	6/10/2013			
489	12-271	Rosewood (700)	IS	1	10/18/2013	10/18/2013			
490	12-371	E 221 St (1017)	IS		9/11/2012				
491	12-412	Commonwealth Av (1466)	IS		9/20/2012	1/28/2013			
492	12-522	Leland Av (1246)	IS		11/21/2012	7/23/2013			
493	12-545	Holand Av (1710)	IS		12/27/2012	5/3/2013			
494	13-006	Jennings St (870)	IS	1	1/16/2013	1/16/2013			
495	13-045	Hammersley Av (1450) bt Fenton Av and Eastchester Rd	RB		2/12/2013			413	
496	13-094	Webster Av (2960)	AQ	1	3/1/2013	6/10/2013			
497	13-1001	Irwin Av (3217)	IS	1	12/30/2013	12/30/2013			
498	13-150	St Lawrence (1141)	YL		3/4/2013	3/20/2012		811	
499	13-151	Rosedale Av (1215)	YL		3/4/2013	3/22/2013		476	
500	13-157	St Anns Av (350) bt E 141 St and E 142 St	YL		3/20/2013			733	
501	13-163	Findlay Av (1365)	YL		3/20/2013	3/20/2013			
502	13-169	Graff Av (276)	IS		3/26/2013	7/9/2013			

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
503	13-171	Soundview Av (100)	RB		3/12/2013	3/12/2013		150	
504	13-209	Westchester Av (3191)	LJ	1	3/29/2013	3/29/2013			
505	13-211	Huntington Av (355)	IS		4/18/2013				
506	13-212	Fairfax Av (1224)	IS		4/3/2013	4/4/2013			
507	13-233	Elder Av (1215)	YL		3/20/2013				
508	13-234	Radcliff Av bt Mace Av and Allerton Av	YL		3/20/2013				
509	13-245	Arlington Av (5655)	AQ		5/16/2013	5/16/2013		734	
510	13-279	Bainbridge Av (2670) bt E 194 St and E 196 St	IS		4/18/2013				
511	13-284	Webster Av (3101) bt E 203 St and E 204 St	IS		4/18/2013	7/25/2013			
512	13-294	3 Av (2403) bt Amtrak RR and Bruckner Blvd	LJ		5/30/2013	5/30/2013		326	
513	13-298	McDonald St (1615) bt Stillwell Av and Bassett Av	IS		5/14/2013	5/14/2013		98	
514	13-330I	Jerome Av bt Ogden Av and Woodycrest Av (WI)	CJ		5/2/2013	5/2/2013		285	
515	13-330J	Webster Av bt E 174 St and E 173 St (WI	CJ		5/2/2013	5/2/2013		341	
516	13-330K	Jerome Av bt E 179 St and E Tremont Av (WI)	CJ		5/2/2013	5/2/2013		252	
517	13-330L	Major Deegan Exp and S of W225 St (WI)	CJ		5/2/2013	5/2/2013		257	
518	13-348	Marine St (50) City Island Av and DE	YL		6/3/2013				
519	13-350	Schley Av & Buttrick Av	YL		6/4/2013	7/15/2013			861
520	13-355A	Viele Av bt Drake St and Halleck (HP) St	CJ		4/29/2013	4/29/2013		260	
521	13-355B	Randall Av bt Whitter St and Drake St (HP)	CJ		4/29/2013	4/29/2013		260	
522	13-355D	Intervale Av bt Freeman St and Chisholm St (HP)	CJ		4/29/2013	4/29/2013		295	
523	13-355E	Sheridan Exp and 172 St (hp)	CJ		4/29/2013	4/29/2013		278	
524	13-355F	Bronx Park E bt Bronxdale Av and Unionport Rd (HP)	CJ		4/29/2013	4/29/2013		305	
525	13-355G	Bronx Blvd and E 222 St (HP)	CJ		4/30/2013	4/30/2013		672	
526	13-355H	Allerton Av bt Young Av and Fish Av (HP)	CJ		4/30/2013	4/30/2013		255	
527	13-355I	Bay Shore Av bt Watt Av and Ampere Av (HP)	CJ		4/30/2013	4/30/2013		442	
528	13-355J	Phillip Av bt Vincent Av and Ellsworth Av (HP)	CJ		4/30/2013	4/30/2013		315	
529	13-355K	Randall Av bt Hollywood Av and Throg Neck Exp (HP)	CJ		5/2/2013	5/2/2013		281	
530	13-355L	Schurz Av bt Huntington Av and Brinsmade Av (HP)	CJ		4/30/2013	4/30/2013		263	
531	13-360	Wickham Av (2957) bt Arnow Av and Adee Av	IS		5/10/2013	6/3/2013			
532	13-369	Eastcheser Rd (1776)	IS		5/15/2013	5/15/2013		197	
533	13-371	University Av and W 165 St	AQ		5/30/2013	6/10/2013		572	
534	13-373	Phelan Pl (1805) bt W Tremont Av and Billingsley Ter	IS		6/4/2013	10/23/2013			
535	13-374	Locust Point	MS		6/4/2013	6/4/2013		1,612	60
536	13-397	Union Av (1236) bt E 168 St and E 169 St	IS		6/10/2013	3/4/2014			
537	13-455	Quincy Av (351)	IS		7/23/2013	7/23/2013			
538	13-485	Southern Blvd and Hunts Point Av	LJ		7/14/2013	7/14/2013		574	
539	13-521	3 Av (2733) bt E 145 St & 146 St	YL		7/15/2013			317	
540	13-522	Beekman Av (352) bt Oak Ter & beech Ter	YL		7/15/2013	7/18/2013		213	
541	13-523	Morrison Av (1322) bt E172 St & E174 St	YL		7/15/2013	7/15/2013		382	
542	13-536	West Farm Rd	AQ		7/15/2013	8/22/2013		489	
543	13-550	Tinton Av (880)	IS	1	7/23/2013	7/23/2013			
544	13-552	E 163 St (488)	IS	1	7/23/2013	7/23/2013			
545	13-553	E 161 St (507)	IS	1	7/23/2013	7/23/2013			
546	13-554	E 161 St (501)	IS	1	7/23/2013	7/23/2013			
547	13-555	Washington Ave (890)	IS	1	7/23/2013	7/23/2013			
548	13-565	3213 3rd Av	AQ	1	7/23/2013	7/23/2013			
549	13-573	E 156 St (787)	IS	1	7/23/2013	7/23/2013			
550	13-650	Cross Bronx Exp (1926)	AQ	1	9/10/2013	9/10/2013			
551	13-724	Jerome Av (3110)	LJ		10/8/2013	10/8/2013		204	
552	13-731	Lafayette Ave (1550)	IS	1	10/18/2013	10/18/2013			
553	13-742	Pelham Pkwy (Project HWX710a)	CJ		10/9/2013	10/22/2013			2,538
554	13-743	Soundview Av (715)	IS	1	10/18/2013	10/18/2013			
555	13-778	Walton Av (2159) bt E 181 St and Cameron Pl	IS		10/23/2013				
556	13-789	E Fordham Rd and Webster Av	CJ		10/22/2013	10/22/2013			573
557	13-801	Soundview Av (715)	IS	1	10/18/2013	10/18/2013			
558	13-834	New England Thruway (2107)	IS		11/13/2013	3/6/2014			
559	13-835	Hollywood Av (286) bt Lawton Av and Miles Av	IS		11/18/2013				

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
560	13-836	Boller Av (3683)	IS		11/18/2013				
561	13-848	West Farm Rd (1745)	IS		12/19/2013	12/19/2013		144	
562	13-857	Sedgwick Av (2274) bt W 183 St and Bend	IS		11/18/2013				
563	13-934	Chisholm St (1296)	IS	1	12/4/2013	12/4/2013			
564	13-935	3 Av (3593)	IS	1	12/5/2013	12/5/2013			
565	13-953	W Burnside Av (57)	IS	2	12/10/2013	2/4/2014			

2013 In-House Survey Total, LF:	**202,074** (38.27 mi)	**2,096**	**1/2/2013**	**12/30/2013**	**2,244**	**154,648**	**45,182**
Operating Expenses, $							

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

CITYWIDE

Brooklyn

566	10-265	Hancock St (867) bt Ralph Av and Howard Av	DL		5/23/2013	5/28/2013	678		
567	12-288	Brighton 8 St (2791) bt Banner Av and Brighton 8 Ct	DL		1/3/2013	1/3/2013	578		
568	12-337	Suydam St (17) bt Broadway and Bushwick Av	DL		4/12/2013	4/16/2013	521		
569	12-344	E 17 St (629) bt Newkirk Av and Foster Av	RF		9/20/2013				
570	12-418	Homecrest Av (2242) Av V and Gravesend Neck Rd	DL		4/2/2013	4/8/2013	1,415		
571	12-450	7 Av and 17 St	DL		4/15/2013	5/14/2013	341		
572	12-455	Varet St and Manhattan Av	DL		1/17/2013	1/29/2013	405		
573	12-479	Highland Pl (145) bt Ridgewood Av and Arlington Av	DL		4/26/2013	5/14/2013	705		
574	12-480	6 Av (7109) bt 71 St and 72 St	DL		1/3/2013	1/3/2013	281		
575	12-481	12 Av bt 70 St and 73 St	DL		12/26/2012	1/2/2013	693		
576	12-526	Av L bt E 69 St and E 70 St	DL		1/4/2013	1/7/2013	1,531		
577	12-527	Greene Av (292) bt Classon Av and Franklin Av	DL		2/1/2013	2/6/2013	792		
578	12-549	Hart St bt Nostrand Av and Marcy Av	JL		2/1/2013	2/1/2013	785		
579	12-555	E 39 St (1193) bt Av I and Av J	EC		12/31/2012	1/4/2013	839		
580	12-557	Av R (3302) bt E 33 St and E 34 St	EC		1/4/2013	1/8/2013	1,568		
581	13-018	Rockaway Av and Hull St	DL		5/16/2013	5/22/2013	500		
582	13-023	Av Y Bt E 27 St and E 28 St	LLB		1/9/2013	1/9/2013	240		
583	13-024	E 2 St (2072) bt Av T and Av U	LLB		1/9/2013	1/10/2013	1,787		
584	13-025	Brighton 6 St (2839) bt Banner Av and Brighton 4 Rd	EC		1/11/2013	1/11/2013	599		
585	13-030	48 St bt 10 Av and Ft.Hamiltan Av	DL		1/18/2013	1/29/2013	300		
586	13-031	Clifford Pl (6) bt DobbinSt and Calyer St	JL		1/17/2013	1/30/2013	903		
587	13-032	Scott Av (175) bt Scholed St and Metropolitan Av	EC		1/18/2013	1/30/2013	1,021		
588	13-033	Flatbush Av (33) bt Nevins St and Livinston St	JL		2/25/2013	2/26/2013	736		
589	13-034	Patchen Av (177) bt Jefferson Av and Hancock St	JL		1/14/2013	1/17/2013	1,152		
590	13-035	Putnam Av (965) bt Ralph Av and Hward Av	JL		1/16/2013	1/17/2013	541		
591	13-044	123 Bay 29 St	LLB		1/14/2013	1/15/2013	3,382		
592	13-048	E 16 St (455) bt Dorchester Rd and Ditmas Av	EC		1/28/2013	2/5/2013	2,990		
593	13-068	Calyer St (79) bt West St and Fraklin St	DL		5/14/2013	5/14/2013	398		
594	13-070	Mac Donough St (163) bt Throop Av and Marcus Garvey Blvd	DL		4/30/2013	4/30/2013	760		
595	13-073	W 36 St (2832) bt Neptune Av and Mermaid Av	DL		3/6/2013	3/6/2013	748		
596	13-081	Sutter Av (133)	RF		1/31/2013	2/14/2013	333		
597	13-082	18 Av (63-02) bt 63 St and NYCTA Subway	RF		2/4/2013	2/6/2013	1,836		
598	13-083	E 53 St (1084) bt Av H and Av I	RF		2/14/2013	2/15/2013	567		
599	13-086	Av X (2115) BT e 21 St and E 22 St	EC		2/14/2013	2/22/2013	2,794		
600	13-087	Bay 47 St (36) btBath Av and Harway Av	AQ		2/25/2013	2/26/2013	1,531		
601	13-088	Flatlands 10 St (105-51)	RF		2/22/2013	2/26/2013	1,524		
602	13-089	55 St (816) bt 8 Av and 9 Av	RF		2/7/2013	2/11/2013	545		
603	13-100	Willoughby St bt Gold St and Flatbush Av	EC		3/12/2013	3/13/2013	121		
604	13-101	St.John Pl (1250) bt Albany St and Troy Av	DL		2/15/2013	2/21/2013	741		
605	13-102	Gaylord Dr (35) bt Utah Walk and Bassat Av	DL		2/21/2013	2/21/2013	518		
606	13-106	Ocean Av (2123) bt Kings Highway and Quentin Rd	RF		2/26/2013	2/27/2013	878		
607	13-107	Walton St (101) bt HarrisonAv and Throop Av	EC		3/27/2013	3/27/2013	247		
608	13-109	7 Av(180) bt 1 St and 2 St	DL		3/15/2013	3/15/2013	425		
609	13-110	Stuyvesant Av (125) bt Lafayette Av and Van BUREN St	RF		2/27/2013	2/27/2013	267		
610	13-111	Lafayette Av (1010) bt Stuyvesant Av and Malcolm Blvd	DL		2/28/2013	3/12/2013	789		
611	13-112	Noll St (100) bt Evergreen Av and Central Av	EC		3/26/2013	3/26/2013	626		
612	13-113	5 Av (350) bt 4 St and 5 St	DL		3/15/2013	3/15/2013	225		
613	13-126	Eldert St (338,340) bt Knickerbocker Av and Irving Av	EC		5/16/2013	6/9/2013	919		
614	13-127	Henry St bt Union St and President St	DL		4/15/2013	4/16/2013	225		
615	13-131	Myrtle Av (642) bt Kent Av and Franklin Av	JL		2/26/2013	2/27/2013	337		
616	13-132	Myrtle Av bt Nostrand Av and Marcy Av	JL		2/27/2013	2/28/2013	851		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
617	13-136	Franklin Av bt Flushing Av and Park Av	DL		2/27/2013	2/27/2013	649		
618	13-140	Siegel St (192) btBushwick Av and McKibbin Ct	DL		3/1/2013	3/11/2013	1,141		
619	13-144	Haring St (1958)	DL		3/29/2013	4/1/2013	1,458		
620	13-145	Jay St and Pearl St	EC		3/14/2013	7/31/2013	255		
621	13-146	Ocean Av (2855)	JL		3/8/2013	3/26/2013	1,310		
622	13-158	Remsen Av (855) bt LI RR and Av D	DL		3/5/2013	3/8/2013	350		
623	13-202	Shore Pkwy (2795) bt West St and Ocean Av	EC		3/20/2013	3/21/2013	1,241		
624	13-216	Grant Av (315) bt Fulton St and Atlantic Av	DL		3/27/2013	3/27/2013	150		
625	13-224	Bath Av bt Bay pkwy and Bay St	JL		4/2/2013	4/2/2013	272		
626	13-248	Ashford St (361) bt Pitkin Av and BelmontAv	DL		4/8/2013	4/12/2013	429		
627	13-273	Av U bt Homecrest Av and E 13 St	DE		7/30/2013	8/13/2013	529		
628	13-309	Coney Island (3154) bt Brighton Beach Av and Brighton 10 St	JL		5/13/2013	5/14/2013	695		
629	13-319	Park Pl (623) bt NYCTA Subway and Franklin Av	DL		5/6/2013	5/13/2013	914		
630	13-320	Orient Av (11) bt Metropolitan Av and Bend	DL		5/7/2013	5/22/2013	735		
631	13-324	Coney Island Av (28-01)	JL		5/6/2013	5/7/2013	1,055		
632	13-327	Rockaway Pkwy (1899) bt Av M and Av N	JL		5/8/2013	5/8/2013	684		
633	13-356	Jones Walk (16-18) bt Surf Av and Bowery	DL		6/10/2013	6/10/2013	370		
634	13-378	Shore Pkwy and 25 Av	NG		5/10/2013	5/12/2013	1,450		
635	13-388	E 17 St (2283) bt Gravesend Neck Rd and Av W	JL		5/23/2013	5/23/2013	395		
636	13-390	Harrison Av and Lynch St	JL		5/24/2013	5/28/2013	1,514		
637	13-391	E 96 St and Willmohr St (soap)	EC		5/23/2013	6/11/2013	992		
638	13-392	Brighton Beach Av and Brighton E 13 St	JL		5/29/2013	5/29/2013	870		
639	13-410	Ocean Pkwy bt Av S and Av T	DL		6/10/2013	6/12/2013	1,660		
640	13-411	Herkimer St (507) bt Albany Av and troy Av	KD		5/28/2013	5/28/2013	732		
641	13-413	Quentin Rd (2939) b Stuartt St and Burnett St	DL		5/29/2013	8/8/2013	1,026		
642	13-441	Jefferson Av (673) bt Stuyvesant Av and Malcom X Blvd	EC		10/8/2013	10/8/2013	784		
643	13-442	7 Av (100) bt President St and Union St	EC		6/6/2013	6/6/2013	238		
644	13-448	18 St bt 5 Av and 4 Av	EC		6/4/2013	6/5/2013	706		
645	13-458	Flatbush Av (716) bt Winthrop St and Parkside Av	CP		6/16/2013	6/23/2013	643		
646	13-459	Flatbush Av (1060) and Beverly Rd	DE		6/16/2013	6/24/2013	835		
647	13-461	Stagg Walk bt Bushwick Av and Humboldt St	JL		9/9/2013	9/10/2013	1,479		
648	13-470	9 St and 2 Av	NG		6/14/2013	6/14/2013	408		
649	13-471	Myrtle Av and N Portland Av	RF		6/25/2013	6/26/2013	536		
650	13-476	Van Buren St (120) bt Throop Av and Marcus Garvey Blvd	DL		6/19/2013	6/19/2013	767		
651	13-478	Macdonough St (410-436) bt Stuyvesant Av and Malcolm Blvd	RF		6/26/2013	6/26/2013	848		
652	13-493	Maspeth Av (254) bt Vandervoort Av and Body of Water	JL		6/28/2013	7/15/2013	2,106		
653	13-495	Nostrand Av (1694) bt Beverly Rd & Cortelyou Rd	JL		9/24/2013	9/25/2013	589		
654	13-496	Henry St (770) bt Centre Mall & Bush St	AQ		11/4/2013	1/2/2014	495		
655	13-499	U Av (7203) bt E 72 St & E 73 St	JL		8/26/2013	8/27/2013	971		
656	13-501	Homecrest Av (1981) bt Av S & Av T	DL		7/18/2013	7/24/2013	1,350		
657	13-532	Ocean Pkwy (2488) bt Parkway Ct and Av Y	DL		7/24/2013	8/21/2013	900		
658	13-542	Dikeman St (86) bt Richards St and Vanbrunt St	DL		7/17/2013	7/17/2013	745		
659	13-543	Bergen St (170) bt Hoyt St and Bond St	DL		7/12/2013	7/16/2013	653		
660	13-563	176 Ave U bt W 7 St & W 6 St	DL		7/19/2013	7/19/2013	281		
661	13-568	25 Av Outfall at Shore Rd	RF		8/19/2013		996		
662	13-582	83 St (1835) bt 18 Av and 19 Av	JL		10/16/2013	10/16/2013	643		
663	13-583	Warren St (278) bt Court St and Smith St	DL		8/22/2013	8/23/2013	761		
664	13-584	Grove St (355) bt Irving Av and Wyckoff Av	RB		8/22/2013	8/23/2013	648		
665	13-586	13 Av (7510) Bay Ridge Pkwy and 76 St	DL		8/8/2013	8/8/2013	291		
666	13-589	Willoughby Av (999) bt Evergreen Av and Central Av	DL		8/9/2013	8/19/2013	737		
667	13-590	Devoe St (143) bt Manhattan Av and Graham Av	EC		8/7/2013	8/19/2013	424		
668	13-665	19 Ln (1932) bt 19 Av and Bend	DL		10/1/2013	10/7/2013	1,036		
669	13-667	Gerritsen Av (1879) bt Brown St and Fillmore Av (soap)	DE		9/3/2013	9/4/2013	1,592		
670	13-668	E 5 St (1893) bt Av R and av S (SOAP)	JL		9/5/2013	9/5/2013	888		
671	13-670	Fuller Pl (8) bt Windsor Pl and Prospect Av	DL		10/4/2013	10/4/2013	398		
672	13-671	Owls Head Ct (6813) bt 68 St and Bay Ridge Av	RB		10/8/2013	10/8/2013	304		
673	13-690	58 St (650) bt 6 Av and 7 Av	DL		9/30/2013	10/2/2013	745		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
674	13-692	Sackett St (269) bt Clinton St and Court St	DL		10/4/2013	10/4/2013	524		
675	13-703	Hart St and Broadway	DL		9/25/2013	9/25/2013	206		
676	13-704	Putnam Av (234) btBedford Av and Norstrand Av	AQ		9/24/2013	9/30/2013	885		
677	13-705	Bay 13 St and Shore Pkwy	DL		10/7/2013				
678	13-714	6 Av and Ovington Av	RB		10/8/2013	10/8/2013	641		
679	13-718	396 Marcy Av bt Middleton St & Lorimer St	EC		10/29/2013	10/30/2013	908		
680	13-719	177 Patchen Av bt Jefferson Av & Hancock St	JL		9/17/2013	9/19/2013	1,157		
681	13-732	Bay 41 St and Shore Pkwy SR WB (1871)	JL		10/16/2013	10/17/2013	1,029		
682	13-754	447 Marine Av bt 4 Av & Ft Hamilton Pkwy	JL		10/11/2013	10/15/2013	1,184		
683	13-786	E 38 St bt Farragut Rd and Glenwood RD	DE		10/29/2013	10/29/2013	773		
684	13-788	16 St 223 bt 5 Av and 6 Av	DE		10/30/2013	10/30/2013	703		
685	13-874	W 33 St (2729)bt Bayview Av and Neptune Av	JL		12/9/2013		572		
686	13-892	Quentin Rd (3114) bt E 31 St and E 32 St	JL		11/27/2013	11/29/2013	1,446		
687	13-925	43 St bt 2 Av and 3 Av. 3 Av bt 42 St and 43 St	RF		11/29/2013	12/31/2013	1,516		
688	13-980	Bay 52 St and W 22 St	JL		12/10/2013	12/10/2013			
689	13-V007	E 56 St (2030) bt Ave T and Ave U	NA		7/26/2013	7/26/2013	585		
690	13-V008	2200 E 21 St	NA		7/22/2013	7/25/2013	2,222		
691	13-V019	332 Driggs Ave	NA		7/30/2013	7/30/2013	720		
692	13-V020	179 7 Ave	NA		7/29/2013	7/29/2013	429		
693	13-V055	Av U b/t E 55 St Flatbush Av	NA		8/21/2013	8/21/2013	1,092		
694	13-V064	York Ave and Jay St	NA		9/24/2013	9/24/2013			
695	13-V065	W 30 St and Surf Ave	NA		9/23/2013	9/23/2013			
696	13-V084	Quentin Rd	NA		10/1/2013	10/2/2013	1,852		
697	13-V085	246 Siegel St bt White St and Mckibbin St	NA		9/10/2013	9/11/2013	919		
698	13-V086	152 10 St bt 2 Ave and 3 Ave - 142 Central Ave	NA		9/13/2013	9/13/2013	515		
699	13-V087	135 Imlay St	NA		9/12/2013	9/12/2013	492		
700	13-V088	1308 park pl bt Troy and Schenectady	NA		9/16/2013	9/16/2013	767		
701	13-V090	E 17 St and Foster Ave	NA		9/9/2013	9/11/2013			
702	13-V091	1810 E 22 St	NA		10/9/2013	10/10/2013	1,816		
703	13-V093	2236 Batchelder St	NA		10/22/2013	10/23/2013	2,043		
704	13-V094	Ave R and E 28 St	NA		10/18/2013	10/18/2013	1,162		
705	13-V152	20 Rewe St bt Vanderoort St and Ivy Hill Rd	NA		10/24/2013	10/24/2013	440		
706	13-V168	Ashland Pl	NA		12/8/2013	12/8/2013	233		
707	13-V202	Maspeth Ave bt Vandervoort Ave and Body of Water	NA		12/13/2013	12/13/2013			
708	13-V203	1140 Bushwick Ave	NA		12/23/2013	12/23/2013			
709	13-V204	1397 Fulton St bt Tompkins Ave and Marcy Ave	NA		12/24/2013	12/24/2013			

Manhattan

710	11-293	E 11 St (03) bt Unversity Pl and Broadway	YL		6/25/2013	7/19/2013	1,080		
711	11-294	Edgecombe Av (381) bt W 150 St and bend	EC		5/1/2013	5/7/2013	1,298		
712	12-350	Greenwich St and Murry St	DE		7/10/2013	8/15/2013	599		
713	12-416	W161 St (609) bt Broadway and Ft Washington Av	RB		5/3/2013	5/24/2013	208		
714	12-417	Bond St bt Lafayette St and Bowery	EC		6/25/2013	7/11/2013	569		
715	12-462	W 19 St (5) bt 5 Av and 6 Av	EC		6/16/2013	8/27/2013	914		
716	12-463	W 33 St (139) bt 6 Av and 7 Av	EC		6/25/2013	8/27/2013	685		
717	12-496	NYCHA Baruch Houses Degreasing	DL		1/8/2013	2/4/2013	1,189		
718	13-071	11 Av and W 54 St	DL		1/30/2013	1/30/2013	303		
719	13-138	1 Centre St bt 9 St and Andrews Plaza	EC		2/28/2013	3/1/2013	163		
720	13-181	Washington St (700)	DE		11/18/2013	11/19/2013	373		
721	13-186	Fredrick Douglas Blvd bt W 147 St and W 148 St	DL		7/18/2013		676		
722	13-187	W 12 St bt 7 Av and Greenwich Av	DL		6/4/2013	6/6/2013	283		
723	13-235	W 129 St bt Lenox Av and Adam C Powell Blvd	JL		8/20/2013	8/21/2013	2,011		
724	13-261	Carmine St bt 7 Av and South and Bedford St	JL		4/17/2013	4/17/2013	331		
725	13-262	W Broadway bt Grand St and Broome St	JL		4/11/2013	4/15/2013	331		
726	13-263	Orchard St bt Delancey St and Rivington St	JL		4/16/2013	4/16/2013	312		
727	13-264	W Broadway bt Worth St and Leomard St	JL		4/14/2013	4/16/2013	424		
728	13-265	E Broadway (5) bt Catherine St and St James Pl	DE		4/17/2013	4/17/2013	500		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
729	13-266	Baxter St bt Walker St and Bayard St	JL		4/7/2013	4/10/2013	400		
730	13-268	Greenwich Av (17) bt W 10 St and Christopher St	DE		4/18/2013	4/18/2013	295		
731	13-269	Canal St bt Cortlandt Alley and Lafayette St	JL		4/7/2013	4/11/2013	512		
732	13-299	Water St bt Wall St and Pine St	JL		6/2/2013	6/3/2013	722		
733	13-300	Charles St bt Waverly Pl and Greenwich Av	JL		6/3/2013	7/2/2013	653		
734	13-301	W 109 St bt Amsterdam Av and Broadway	JL		6/10/2013	6/24/2013	2,147		
735	13-302	W 135 St bt Broadway and Riverside Dr	JL		6/10/2013	6/25/2013	1,145		
736	13-303	Hudson St bt Franklin St and N.Moore St	JL		6/4/2013	6/6/2013	520		
737	13-304	W 207 St bt Post Av and Sherman Av	JL		6/27/2013	6/27/2013	250		
738	13-305	E 78 St bt Lexington Av and 3 Av	KD		6/7/2013	6/9/2013	1,700		
739	13-307	E 86 St bt Madison AV AND Park Av	KD		6/7/2013	6/9/2013	1,025		
740	13-334	Barclay St bt Broadway and Greenwich St (WTC Campus Security	YL		7/3/2013	7/3/2013	172		
741	13-345	Lexington Av (1065) bt E 75 St and E 76 St	DE		8/14/2013	8/19/2013	636		
742	13-401	W 144 St (560) bt Amsterdam Av and Broadway	EC		5/22/2013	5/23/2013	975		
743	13-443	Carmine St and Bleecker St	JL		6/2/2013	6/3/2013	448		
744	13-444	W 4 St (150) bt Mac Dougal St and Avenue of The America	DE		7/24/2013	8/15/2013	502		
745	13-449	W 10 St bt Bleeker St and W 4 St	EC		6/12/2013	6/20/2013	608		
746	13-450	E 9 St (710) bt Av C and Av D	DL		6/12/2013		651		
747	13-456	W 53 St bt Bdwy and 8 Av	EC		6/25/2013	7/17/2013	640		
748	13-600	Broome St (492) bt Wooster St and Watts St	DE		8/5/2013	8/15/2013	254		
749	13-611	W 33 St bt 8 Av and 9 Av	DE		8/18/2013	8/19/2013	635		
750	13-725	West End Av and W 65 St	DE		9/18/2013	9/19/2013	478		
751	13-831	Broadway (1845) bt W 61 St and 60 St	EC		10/30/2013	11/18/2013	1,014		
752	13-870	E 106 St (5) bt 5 Av and Madison Av	RB		12/2/2013				
753	13-949	Vestry St bt Hudson St and Verick St	JL		12/15/2013		102		
754	13-983	5 Av and E 12 St and Vicinity	EC		12/9/2013	12/11/2013	389		
755	13-V006	Pine St bt South St and Front St	NA		7/9/2013	7/11/2013	200		
756	13-V017	W 174 St bt Broadway and Fort Washington Ave	NA		7/30/2013	7/30/2013	202		
757	13-V018	Crosby St bt Broome St and Spring St	NA		7/26/2013	8/2/2013	1,025		
758	13-V043	Jane St bt 8 Ave and Hudson St	NA		8/7/2013	8/8/2013	600		
759	13-V089	655 E 43 St	NA		9/18/2013	10/9/2013	2,201		

Queens

760	11-123	Jamaica Av and 165 St	DE		6/6/2013	6/6/2013	797		
761	11-304	71 St bt Caldwell Av and 60 Av	DL		4/2/2013	4/3/2013	648		
762	11-448	Utopia Pkwy and Station Rd	DL		2/8/2013	2/8/2013	318		
763	11-450	230 Pl (144-46) bt 144 Av and 145 Av	DL		4/3/2013	4/3/2013	666		
764	12-030	Hook Creek Blvd bt 129 Dr and 130 Dr	DL		2/4/2013	2/5/2013	759		
765	12-043	130 Av (145-19) 145 St and Inwood St	DL		2/5/2013	2/5/2013	496		
766	12-077	Bell Blvd and 41 Rd	JL		3/19/2013	3/20/2013	813		
767	12-078	Burns St (68-04) bt 68 Av and 69 Av	AQ		3/8/2013	3/8/2013	545		
768	12-092	Gothic Dr (168-32) bt 168 Pl and 169 St	DL		2/8/2013	2/8/2013	265		
769	12-094	Broadway (80-20) bt 80 St and 81 St	DE		7/14/2013	8/7/2013	713		
770	12-113	146 Av and 157 St	DL		5/17/2013				
771	12-541	Hillside Av & 180 St	DL		2/7/2013	2/8/2013	1,835		
772	13-008	559 Beach 68 St bt Elizabeth Av and Almeda Av	EC		1/8/2013	1/11/2013	1,304		
773	13-013	B 65 St (335) bt Dead End and B Channel Drive	EC		1/11/2013	1/15/2013	1,042		
774	13-021	94 St (40-69) bt 40 Dr and Benham St	EC		1/15/2013	2/11/2013	1,075		
775	13-022	181 St bt 67 Av and 69 Av	EC		1/10/2013	1/10/2013	526		
776	13-027	B 122 St (134) bt Ocean Promenade and Rockaway B Blvd	EC		1/17/2013	1/18/2013	871		
777	13-029	Nielson St (1213) bt Channing Rd and Central Av	EC		1/18/2013	1/18/2013	502		
778	13-036	Battery Rd and Pinson St	NA		1/12/2013	1/12/2013	541		
779	13-049	81 Av (88-15) bt 88 St and Woodhaven Blvd	CJ		3/8/2013	3/13/2013	649		
780	13-050	Roosevelt Av (111-15A) bt 111 St and 112 St	DL		3/20/2013	3/21/2013	377		
781	13-051	123 St (109-46) bt 109 Av and 111 Av	DL		3/14/2013	3/14/2013	689		
782	13-052	Thursby Av (72-42) bt B 72 St and Dead End	JC		3/4/2013	3/5/2013	422		
783	13-072	Bell Blvd and 36 Av	CP		2/13/2013	3/22/2013	5,210		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
784	13-080	Liberty Av (92-10)	EC		2/4/2013	2/4/2013	234		
785	13-128	166 St from 65 Av to 67 Av	RF		3/12/2013	4/1/2013	552		
786	13-139	Beach 99 St (162)	RF		3/1/2013	3/4/2013	296		
787	13-147	Cross Bay Blvd and Vicinty	RF		3/1/2013	3/1/2013			
788	13-164	77 Av and 80 St and Myrtle Av and 88 St	EC		3/29/2013	5/16/2013	14,314		
789	13-166	201 St (93-18)	DE		7/26/2013	7/26/2013	1,261		
790	13-167	169 St (116-31)	EC		10/2/2013	10/2/2013	778		
791	13-177	114 Rd (194-56)	DL		3/26/2013	4/2/2013	1,145		
792	13-178	164 Pl (107-18)	DL		3/26/2013	3/26/2013	599		
793	13-180	B 64 St b/t Almeda Av and Beach Channel Dr	JL		7/5/2013	7/9/2013	1,520		
794	13-184	Hillside Av bt 146 St and Sutphin Blvd	DE		7/25/2013	8/11/2013	723		
795	13-185	87Rd bt 144 St and 148 St	EC		7/28/2013	9/3/2013	1,663		
796	13-188	75 St (37-54) bt 37 Av and 37 Rd	DL		3/19/2013	3/19/2013	580		
797	13-189	33 St (31-84) bt 31 Av and Bdwy	EC		3/26/2013	3/26/2013	901		
798	13-190	35 Av (95-04) bt 95 St and Junction Blvd	DL		3/18/2013	3/18/2013	523		
799	13-191	Cross Bay Blvd bt 156 St and 157 St	DE		3/15/2013	3/15/2013	301		
800	13-192	59 Av (150-37) bt 150 St and 153 St	JL		5/9/2013	5/9/2013	597		
801	13-194	Northern Blvd (100-02) bt 100 St and 101 St	RF		3/22/2013	3/22/2013	232		
802	13-195	70 St (41-60) bt Woodside Av and BQE (east bound)	EC		3/25/2013	3/25/2013	368		
803	13-196	168 St (82-02) bt Gothals Av and 82 Rd	DL		3/25/2013	3/25/2013	382		
804	13-199	Queens Blvd WB SR bt 69 Av to Jewel Av	EC		5/13/2013	6/6/2013	893		
805	13-201	159 St (109-30)	AQ		5/10/2013	5/10/2013	128		
806	13-203	164 St Grease Pilot Area	JL		9/13/2013	11/1/2013	2,115		
807	13-220	B 67 St (564) bt Thursby Av and Almeda Av	DE		3/28/2013	3/28/2013	691		
808	13-221	Mott Av (15-02) bt Gateway Blvd and Cornaqe Av	CP		3/29/2013	3/29/2013	693		
809	13-222	B 27 St (192) bt Broadwalk and Seagirt Av	DE		3/28/2013	3/28/2013	883		
810	13-223	Dix Av (22-59) bt Chandler St and Mc Bride St	CP		3/29/2013	3/29/2013	423		
811	13-225	Mc Bride St (13-86) bt Dix Av and Nameoke Av	CP		3/29/2013	3/29/2013	621		
812	13-226	Rockaway B Blvd (92-24) bt B 92 St and B 94 St	CP		4/1/2013	4/1/2013	287		
813	13-227	Briar Pl (516) bt Collier Av and Brookhaven Av	CP		4/1/2013	4/1/2013	171		
814	13-228	247 St (138-36) bt S Condut Av and 139 Av	RF		4/9/2013	4/9/2013	321		
815	13-229	229 St (146-22) bt 146 Avand 147 Av	RF		4/2/2013	4/2/2013	1,152		
816	13-231	Jamaica Ave (214-57)	DE		7/29/2013	9/3/2013	1,530		
817	13-232	216 St (89-23)	DL		7/25/2013	7/25/2013	1,035		
818	13-241	Beach 87 St (319)	DL		7/30/2013	7/30/2013	589		
819	13-249	Colfax St (112-47) bt 210 St and 113 Av	RF		4/9/2013	4/12/2013	1,058		
820	13-250	110 Av (212-10) 110 Av bt 212 St and 213 St	LJ		4/17/2013	4/18/2013	1,906		
821	13-251	Billings St (88-14) bt 88 Av & Braddock Av	LJ		4/19/2013	4/19/2013	834		
822	13-252	119 Rd (171-18) bt Ring Pl & Merrill St	RF		4/16/2013	4/16/2013	522		
823	13-253	Hillside Av (268-05) bt 268 St & Langdale St	RF		4/15/2013	4/16/2013	640		
824	13-254	148 Av (249-44) bt 249 St & 253 St	RF		4/22/2013	4/22/2013	316		
825	13-310	E Beach 101 St (320) bt B Channel Dr and Constance Ct	DL		5/16/2013	8/26/2013	905		
826	13-312	Inwood St (128-26) bt Sutter Av and 139 Av	AQ		5/9/2013	5/10/2013	648		
827	13-313	Van Wyck Exp (114-40)	RF		5/7/2013	5/8/2013	544		
828	13-314	Mwxico St (115-05) bt Dormans Rd	RF		5/1/2013	5/2/2013	572		
829	13-315	133 Av (176-12) bt DE and Farmers Blvd	AQ		4/29/2013	4/30/2013	1,490		
830	13-316	107 Av (155-07) bt 155 St and 156 St	RF		4/26/2013	4/29/2013	577		
831	13-325	142 Pl (120-20) bt 120 Av and 123 Av	JL		5/17/2013	5/21/2013	1,650		
832	13-340	Dillon St (112-11) bt Clade Av and Mathias Av	RF		5/8/2013	5/8/2013	431		
833	13-341	Springfield Blvd (90-49) bt 90 Av and 91 Av	RF		5/9/2013	5/10/2013	653		
834	13-342	148 Dr (253-14) bt 253 St and Weller Ln	RF		5/6/2013	5/7/2013	898		
835	13-343	118 Rd (168-10) bt Marsden St and Ring Pl	RF		5/3/2013	5/3/2013	690		
836	13-365	178 Pl and 145 Av	DL		5/16/2013	5/22/2013	260		
837	13-379	164 Av (99-33) bt DE and 104 St	RF		5/13/2013	5/14/2013	1,187		
838	13-380	194 St (bt 120 Av and 122 Av	NG		5/16/2013	5/17/2013	620		
839	13-381	216 St bt 94 Rd and Jamaica Av	NG		5/16/2013	5/16/2013	554		
840	13-382	229 St (115-51) bt 115 Av and 115 Rd	RF		5/14/2013	5/15/2013	792		

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							Cleaned	Surveyed	Walked
841	13-393	214 St (93-40) bt 93 Av and 94 Av	AQ		5/20/2013	5/20/2013	549		
842	13-394	252 St (81-07) bt 81 Av and 82 Av	RF		5/24/2013	5/24/2013	609		
843	13-395	97 Av (134-29) bt 134 St and Van Wyck Expy	EC		5/21/2013	5/21/2013	406		
844	13-402	64 St (75-18) bt 75 Av and Cooper Av	DL		6/3/2013	6/3/2013	441		
845	13-412	Birdsall Av (21-06) btRedfern Av and B Channel Dr	DL		5/29/2013				
846	13-417	B28 St (229) bt Seagirt Av and Seagirt Blvd	RF		5/28/2013	7/1/2013			
847	13-420	Mott Av (24-21) bt Bay 24 St and Bay 25 St Extended to Dicken St	NA		7/2/2013	7/2/2013	180		
848	13-421	Sage St (13-28) bt Central Av and Brunswick Av	RF		5/31/2013	5/31/2013	272		
849	13-422	119 E 6 Rd bt Church Rd and Walton Rd	DL		6/13/2013	6/13/2013	1,047		
850	13-423	14-34 McBride St bt Nameoke Ave and Battery Rd	DL		6/14/2013	6/20/2013	810		
851	13-424	14-40 Gipson St bt Enright Rd and Dead End	DL		6/14/2013		143		
852	13-426	14-04 Pinson St bt Nameoke Ave and Battery Rd	DL		6/20/2013	6/21/2013	568		
853	13-427	97 Av (145-09) bt Waltham St and Sutphin Blvd	NA		6/17/2013	6/26/2013	200		
854	13-429	165 St (107-13) bt 107 Av and 108 Av	NA		6/24/2013	6/24/2013	375		
855	13-430	107 Av (146-54) bt Waltham St and Sutphin Blvd	NA		6/25/2013	6/26/2013	695		
856	13-432	156 St (111-16) bt 111 Av and 113 Av	RB		6/27/2013	6/27/2013	971		
857	13-433	Waltham St (107-07) bt 107 Av and Shore Av	NA		6/25/2013	6/25/2013	305		
858	13-434	Francis Lewis Blvd(114-51) bt 114 Rd and 114 Dr	RF		6/11/2013	6/12/2013	701		
859	13-435	Francis Lewis Blvd (114-10) bt Murdock Av and 114 Rd	RF		6/10/2013	6/11/2013	746		
860	13-436	Murdock Av (219-20) bt 219 St and 221 St	DE		6/7/2013	6/10/2013	1,168		
861	13-437	Murdock Av (199-09) bt 199 St and 200 St	RF		6/4/2013	6/6/2013	673		
862	13-438	178 St (114-18) bt Murdock Av and 114 Rd	RF		6/3/2013	6/5/2013	1,256		
863	13-439	Farmers Blvd (112-06) bt Keeseville Av and 112 Av	EC		6/14/2013	6/14/2013	705		
864	13-440	B 68 St (560) bt Elizabeth Av and Almeda Av	NA		6/27/2013	6/27/2013	730		
865	13-462	Newport Av bt 145 St and 147 St	DL		7/3/2013	7/3/2013	524		
866	13-463	57 Av bt 223 St and 226 St	EC		7/2/2013	7/2/2013	1,230		
867	13-464	56 Av bt Springfield Blvd and 223 St	EC		6/28/2013	6/28/2013	1,042		
868	13-466	B 84 St bt Rockaway Freeway and Rockaway B Blvd	DL		7/3/2013		435		
869	13-468	Horace Harding Exp (229-09) (S.R.North) bt 229 St and 230 St (sct	DL		6/13/2013	6/17/2013	889		
870	13-502	31 St (35-50) bt 35 Av & 36 Av	YL		9/19/2013	9/27/2013	1,156		
871	13-505	196 St (114-11) bt Murdock Av & 114 Rd	DL		8/2/2013	8/5/2013	1,343		
872	13-506	179 St (111-71) bt 112 St & Bend	JL		9/16/2013	9/16/2013	1,217		
873	13-507	121 Av (190-16) bt benton St & St Lucas St	DL		8/1/2013	8/1/2013	1,102		
874	13-510	Union Hall St (107-11) bt 107 Av & 108 Av	JL		9/30/2013	9/30/2013	622		
875	13-511	Union Hall St (106-60) bt South Rd & 107 Av	JL		9/30/2013	10/1/2013	1,041		
876	13-517	178 St (88-10) bt 88 Av 7 89 Av	JL		9/11/2013	9/11/2013	848		
877	13-518	185 St (141-15) bt 141 Av & Bend	DL		7/29/2013	7/29/2013	881		
878	13-520	Beach 95 St (179) bt Shore Front Pkwy & Rockaway beach Blvd	DL		7/31/2013	7/31/2013	1,005		
879	13-538	131-13 Rockaway Blvd b/t 131 St and 120 Av	NA		6/18/2013	6/18/2013			
880	13-540	Broadway (86-15) bt 51 St Av and Justic Av	EC		7/14/2013	7/14/2013	224		
881	13-562	Hazen St (20-32, 20-40) bt 74 St and 20 Rd	DL		8/5/2013	8/5/2013	27		
882	13-566	Dalny Rd (183-19)	EC		8/1/2013	8/7/2013	2,148		
883	13-567	Putnam Av (1934)	DE		8/13/2013	8/13/2013	419		
884	13-569	79 St (67-65)	AQ		8/1/2013	8/1/2013	244		
885	13-594	45 Av bt 82 St and 83 St	DL		8/12/2013	8/12/2013	291		
886	13-595	37 Av bt 84 St and 85 St	KD		8/22/2013	8/22/2013	247		
887	13-596	75 Av bt 74 Av and 220 St	DL		8/12/2013	8/13/2013	1,326		
888	13-597	78 Av bt 75 St and 73 Pl	KD		8/22/2013	8/22/2013	718		
889	13-598	108 Av bt 160 St and 157 St	DL		8/13/2013	8/19/2013	725		
890	13-599	181 St bt 89 Av and 90 Av and 90 Av bt 181 St and 182 St	DL		8/26/2013	8/26/2013	524		
891	13-642	Onderdonk Av (681)	EC		8/20/2013	8/21/2013	1,124		
892	13-652	108 St bt 69 Av and Vicinity	DL		9/4/2013	9/5/2013	2,153		
893	13-653	Austin St and 71 Av and Vicinity	EC		9/16/2013	9/19/2013	1,386		
894	13-654	Van Dam St and Queens Blvd and Vicinity	EC		9/22/2013	9/29/2013	1,222		
895	13-655	Palmetto St and Fairview Av and Vicinity	DL		9/6/2013	9/6/2013	1,306		
896	13-656	Selfridge St and Metropolitan Av and Vicinity	DL		9/12/2013	9/12/2013	1,021		
897	13-657	Queens Plaza S and 27 St and Vicinity	EC		9/4/2013	11/5/2013	955		

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							Cleaned	Surveyed	Walked
898	13-658	Caldwell Av and 69 St and Vicinity	DL		9/6/2013	9/11/2013	1,073		
899	13-659	Utopia Pkwy and 75 Av and Vicinity	DL		9/13/2013	9/13/2013	856		
900	13-660	92 St and 23 Av and 24 Av	EC		8/30/2013	9/3/2013	742		
901	13-661	97 St bt Ditmars Blvd and 23 Av	DL		8/30/2013	9/3/2013	835		
902	13-663	124 St and 9 Av and Vicinity	DL		8/29/2013	8/30/2013	1,875		
903	13-664	25 Av bt 92 St and 93 St	DL		9/3/2013	9/3/2013	260		
904	13-669	Hillside Av (182-30) bt 182 St and 183 St	JL		9/5/2013	9/6/2013	94		
905	13-674	60 Av b/t 61 St & Fresh Pond Rd (vicinity)	CJ		9/13/2013	9/20/2013	931		
906	13-675	Centre Av b/t Seneca Av & Cypress Av	CJ		9/24/2013	9/24/2013	504		
907	13-676	Underhill Av b\t 196 St & 196 Pl	DL		9/16/2013	9/16/2013	152		
908	13-677	Doran Av b/t 84 St & Vicinity	DL		9/9/2013		670		
909	13-678	Clintonville St & 10 Av	DL		9/16/2013	9/17/2013	999		
910	13-679	Clearview Expwy SB bt 32 Av and 33 Av	DL		9/16/2013	9/16/2013	112		
911	13-680	Douglason Pkwy & 70 Av	DL		9/12/2013	9/12/2013	481		
912	13-681	167 St b/t HH Expwy & 65 Av	EC		9/9/2013	9/9/2013	481		
913	13-682	Astoria Blvd b/t 33 St & 34 St	EC		9/5/2013	9/26/2013	538		
914	13-683	73 Pl 67 Dr	EC		9/10/2013	11/6/2013	976		
915	13-684	Northern Blvd (EB) @ Linden Pl	EC		9/16/2013	9/29/2013	310		
916	13-685	169 St @ 24 Rd & Vicinity	EC		9/11/2013	9/13/2013	1,666		
917	13-686	Vernon Blvd b/t 35 Av & 34 Av	EC		9/15/2013	9/18/2013	770		
918	13-687	73 St b/t Roosevelt Av & 41 Av	EC		9/5/2013		301		
919	13-706	147 Av (257-15) bt 257 St and 258 St	DL		10/3/2013		658		
920	13-744	97 Pl & Corona Av	EC		10/10/2013	10/10/2013	544		
921	13-745	Austin St b/t 63 Av & 63 DR	DE		10/28/2013	10/28/2013	619		
922	13-746	70 Av (97-12) bt Ingam St & Harrow St	DL		10/9/2013	10/9/2013	391		
923	13-747	41 Av & 111 St	EC		10/8/2013	10/10/2013	1,388		
924	13-748	24 Av (166-43) bt 166 St and 169 St	DL		10/9/2013	10/10/2013	779		
925	13-749	64 St (44-52) bt Queens Blvd and Lourel Hill	DL		10/10/2013	10/10/2013	510		
926	13-751	Roosevelt Av bt 111 St and 112 St	YL		11/7/2013	11/8/2013	1,123		
927	13-752	54 St (38-24) bt 38 Av and 39 Av	NA		10/22/2013	10/22/2013	389		
928	13-758	62 Rd bt 102 St and Yellowstone Blvd	DL		10/15/2013	10/17/2013	665		
929	13-759	36 Av and 70 St	DE		10/30/2013				
930	13-761	31 Av and 72 St	DE		10/24/2013	11/6/2013	582		
931	13-762	18 St bt 24 Av and 24 Rd	DL		10/24/2013	10/24/2013	314		
932	13-763	48 St and 48 Av	DL		10/11/2013	10/15/2013	1,726		
933	13-764	67 Av bt 168 St and 169 St	DL		10/11/2013	10/17/2013	1,789		
934	13-766	37 Av bt 103 St and 104 St	DL		10/16/2013	10/22/2013	839		
935	13-767	58 St bt Borden Av and 54 Av	YL		11/7/2013	11/8/2013	300		
936	13-768	Harman St bt Woodward Av and Fairview Av	DL		10/18/2013	10/21/2013	1,412		
937	13-769	Marathon Pkwy bt LIE Exp SR EB and 57 Av	DE		11/5/2013	11/6/2013	273		
938	13-770	Borden Av and 21 St	EC		10/23/2013	11/4/2013	1,525		
939	13-771	125 St bt 23 Av and 25 Av	DL		10/25/2013	10/25/2013	596		
940	13-772	32 Av bt 101 St and 102 St	DL		10/21/2013	10/21/2013	660		
941	13-773	21St bt 46 Rd and Jackson Av	DL		10/15/2013	10/18/2013	991		
942	13-774	Willets Point Blvd bt 147 St and 148 St	DL		10/25/2013	10/25/2013	259		
943	13-794	160 Av bt 99 St and 100 St	DL		10/23/2013	12/23/2013	264		
944	13-799	College Point Blvd (34-16) bt 34 Av and 35 Av	JL		10/21/2013	10/28/2013	842		
945	13-802	134 ST (115-38)	RB		10/24/2013	10/24/2013	1,142		
946	13-803	184 St (140-19)	JL		10/25/2013	10/29/2013	1,737		
947	13-812	108 St bt 64 Rd and Horace Harding Exp	LJ		10/23/2013		12,084		
948	13-813	Francis Lewis Blvd (50-18) bt 50 Av and 53 Av	DE		11/7/2013	11/13/2013	1,735		
949	13-814	Hillside Av and Midland Pkwy	DE		10/31/2013	11/1/2013	1,543		
950	13-849	153 St and 77 Av	DE		11/13/2013	11/15/2013	1,849		
951	13-851	31 Av and 81 St	DL		11/19/2013	11/19/2013	565		
952	13-853	74 St and 84 Av	DL		11/15/2013		1,661		
953	13-855	Parsons Blvd (35-05) bt 35 Av Northern Blvd	EC		12/2/2013	12/4/2013	418		
954	13-862	Simonson St (51-46) bt Queens Blvd and Grand Av	DL		11/20/2013	11/20/2013	626		

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							Cleaned	Surveyed	Walked
955	13-863	56 Pl (28-34) bt 28 Av and 30 Av	DL		11/19/2013	11/19/2013	487		
956	13-864	Parsons Blvd bt Franklin Av and Ash Av	DL		11/22/2013	11/25/2013	865		
957	13-865	81 Av bt 164 Pl and 166 St	DL		12/23/2013	12/23/2013	521		
958	13-867	119 Av bt 192 St & 196 St	JL		11/15/2013	11/18/2013	1,446		
959	13-869	135 Av (124-09)	JL		11/18/2013	11/25/2013	5,679		
960	13-876	54 St and 39 Av	DL		12/2/2013	12/2/2013	398		
961	13-878	79 St (66-76) bt Metropolitan Av and 66 Rd	DL		12/2/2013	12/2/2013	526		
962	13-879	97 St and 34 Av	DL		12/3/2013		319		
963	13-880	63 Av and Wetherole St	DL		12/5/2013	12/5/2013	259		
964	13-881	Utopia Pkwy and 24 Rd	EC		12/2/2013	12/3/2013	276		
965	13-882	73 Av and 183 St	DE		11/21/2013		1,079		
966	13-884	80-28 89 Av	CP		12/5/2013	12/5/2013	639		
967	13-887	115-48 165th Street	CP		12/5/2013	12/6/2013	418		
968	13-888	135-14 Jamaica Av	EC		12/4/2013	12/5/2013	870		
969	13-893	Haddon St bt Troon Rd and Aberdeen Rd	DL		12/5/2013	12/5/2013	502		
970	13-894	70 Av bt 68 St and 68 Pl	DL		11/26/2013	11/26/2013	499		
971	13-895	20 Rd bt 166 St and 169 St	DL		12/3/2013	12/3/2013	637		
972	13-896	80 Av bt 64 Ln and 65 St	DL		12/5/2013	12/5/2013	260		
973	13-897	81 Rd and 88 St	DL		11/26/2013	11/26/2013	681		
974	13-901	210 Pl (89-36)	RB		12/11/2013	12/12/2013	890		
975	13-902	Hillside Av (268-05)	DL		12/17/2013	12/31/2013	4,108		
976	13-904	88 Av (227-29)	DL		12/31/2013	12/31/2013	451		
977	13-913	200 St (114-08)	RB		12/13/2013	12/13/2013	664		
978	13-916	B 92 St (133)	JL		11/26/2013	11/26/2013	1,110		
979	13-939	23 Av bt 95 St and 96 St	DE		12/26/2013	1/9/2014			
980	13-941	35 St bt 35 Av and 36 Av	DL		12/19/2013	12/20/2013	501		
981	13-942	Ditmars Blvd bt 77 St and 76 St	KD		12/19/2013	1/13/2014			
982	13-944	22 St bt 25 Rd and Astoria Blvd	DL		12/20/2013	12/20/2013	759		
983	13-987	Queens Blvd (120-72)	JL		12/16/2013	12/16/2013	716		
984	13-997	Woodside Av bt 72 St and 73 St	DL		12/24/2013				
985	13-V001	223-04 144 Av	NA		6/19/2013	6/19/2013	1,055		
986	13-V002	Hookcreek Blvd b/t 255 St & 256 St	NA		6/19/2013	6/20/2013	506		
987	13-V003	203 St b/t 116 Av & Linden Blvd	NA		6/24/2013	6/24/2013	560		
988	13-V004	192-63 Hollis Av	NA		7/5/2013	7/5/2013	514		
989	13-V005	Merrick Blvd (109-18) bt 109 Av and 109 Rd	NA		7/3/2013	7/3/2013	775		
990	13-V009	87-49 251 St	NA		7/26/2013	7/26/2013	1,050		
991	13-V010	Merrick Blvd and 105 Ave	NG		7/23/2013	7/25/2013	2,622		
992	13-V011	111 Ave and 227 St	NG		7/22/2013	7/22/2013	532		
993	13-V012	218-01 104 Ave	NA		7/16/2013	7/16/2013	1,315		
994	13-V013	92-08 215 Pl	NA		7/15/2013	7/15/2013	619		
995	13-V014	111 Ave and 227 St	NA		7/18/2013	7/18/2013	385		
996	13-V015	225-36 105 Ave	NA		7/17/2013	7/17/2013	1,505		
997	13-V016	E/B Jackie Robinson Pkwy and Myrtle Ave	NA		7/18/2013	7/19/2013	125		
998	13-V022	Crossbay Blvd from 161 Av to 162 Av (Vicinity)	NA		8/8/2013	8/13/2013	3,730		
999	13-V023	154 St (106-12) bt South Rd & 107 Av	NA		8/14/2013	8/14/2013	580		
1000	13-V024	166 St between 107 Av & 108 Av	NA		7/31/2013	7/31/2013	586		
1001	13-V025	87 Av between 251 St & 254 St	NA		7/29/2013	7/30/2013	1,307		
1002	13-V026	Claude Av between Guy R Brewer Blvd and 111 Av	NA		7/30/2013	7/30/2013	148		
1003	13-V027	Rockaway Blvd & 90 St	NA		8/22/2013	8/22/2013	665		
1004	13-V028	93 Av (219-46)	NA		8/20/2013	8/20/2013	325		
1005	13-V029	198 St (104-19)	NA		8/19/2013	8/19/2013	470		
1006	13-V030	200 St (116-14)	NA		8/16/2013	8/16/2013	590		
1007	13-V031	155 St (109-23)	NA		8/15/2013	8/15/2013	826		
1008	13-V032	196 St (114-53) bt 114 Dr & 115 Av	NA		8/23/2013	8/23/2013	520		
1009	13-V033	89 St bt 91 Av & Atlantic Av	NA		8/26/2013	8/26/2013	625		
1010	13-V034	89 Av bt 80 St & 84 St	NA		8/26/2013	8/26/2013	635		
1011	13-V035	B 125 St to B 135 bt Ocean Pkwy & Rockaway Beach Blvd	NA		8/27/2013	8/30/2013	11,233		

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							Cleaned	Surveyed	Walked
1012	13-V036	191-15 116 Rd bt 191 St & 192 St	NA		8/2/2013	8/7/2013	1,422		
1013	13-V037	172 St between 107 Av & 105 Av	NA		7/9/2013	7/9/2013	655		
1014	13-V038	166 St and 107 Av	NA		8/1/2013	8/1/2013	498		
1015	13-V039	Nashville Blvd between Nellis Av & Milburn Av	NA		7/9/2013	7/10/2013	595		
1016	13-V040	114 Rd between Farmers Blvd & 194 St	NA		7/10/2013	7/11/2013	741		
1017	13-V041	193 St between 118 Av & 117 Rd	NA		7/12/2013	7/12/2013	200		
1018	13-V042	215 Pl between 92 Av and 90 Av	NA		7/12/2013	7/12/2013	375		
1019	13-V045	193 St (117-38) bt 118 Ave and Linden Blvd	NA		8/8/2013	8/8/2013	474		
1020	13-V046	30 Av, 78 Rd, 46 Av and 36 Av	NA		8/9/2013	8/9/2013	1,500		
1021	13-V047	Foothill Ave (198-26)	NA		8/13/2013	8/13/2013	1,870		
1022	13-V048	152 St bt 84 Rd and 84 Dr	NA		8/12/2013	8/12/2013	600		
1023	13-V049	88 St, Horace Harding Expwy, and 30 Av	NA		8/14/2013	8/14/2013	1,371		
1024	13-V050	247 St (84-06) bt 85 Ave and Hillside Ave	NA		8/15/2013	8/15/2013	1,000		
1025	13-V051	141-40 Northern Blvd bt Bowne St & Parsons Blvd	NA		8/7/2013	8/7/2013	400		
1026	13-V053	120-14 155 St b/t 120 Av and 121 Av	NA		8/16/2013	8/16/2013	500		
1027	13-V054	213-30 112 Av b/t 213 St & Delevan St	NA		8/16/2013	8/16/2013	498		
1028	13-V059	216 St and 91 Av	NA		8/20/2013	8/20/2013	642		
1029	13-V060	92-08 215 Pl b/t 92 Av & 92 Rd	NA		8/21/2013	8/21/2013	247		
1030	13-V061	113 Av b/t Sutphin Blvd and 155 St	NA		8/19/2013	8/19/2013	842		
1031	13-V062	172-18 111 Av	NA		8/23/2013	8/23/2013			
1032	13-V063	110-08 203 St	NA		8/26/2013	8/26/2013	1,199		
1033	13-V066	Beach 117/118 St and Ocean Promenade	NA		9/3/2013	9/3/2013	1,502		
1034	13-V067	Beach 119/120 St and Rockaway Beach Blvd	NA		9/4/2013	9/4/2013	1,494		
1035	13-V068	Beach 121/122/123/124 St and Rockaway Beach Blvd	NA		9/5/2013	9/5/2013	2,185		
1036	13-V069	Beach 124/137 St and Rockaway Beach Blvd	NA		9/6/2013	9/6/2013	1,551		
1037	13-V070	Beach 123/138 St and Rockaway Beach Blvd	NA		9/6/2013	9/6/2013	1,603		
1038	13-V071	Beach 135/138 St and Rockaway Beach Blvd	NA		9/9/2013	9/9/2013	1,280		
1039	13-V072	Beach 139/140 St and Rockaway Beach Blvd	NA		9/10/2013	9/10/2013	1,019		
1040	13-V073	Beach 141/142 ST and Rockaway Beach Blvd	NA		9/11/2013	9/11/2013	1,493		
1041	13-V074	Beach 143/144 St and Rockaway Beach Blvd	NA		9/12/2013	9/12/2013	1,450		
1042	13-V075	Beach 145/146 St and Rockaway Beach Blvd	NA		9/13/2013	9/13/2013	1,379		
1043	13-V076	Beach 147/148/149 St and Rockaway Beach Blvd	NA		9/16/2013	9/16/2013	1,998		
1044	13-V077	Beach 108 St and Shore Front Parkway / Bay 32 and Rockaway Fre	NA		9/18/2013	9/18/2013	1,024		
1045	13-V078	Shore Front Pkwy bt 105 St and 102 St	NA		9/19/2013	9/19/2013	863		
1046	13-V079	Shore Front Pkwy and Beach 90 St	NA		9/20/2013	9/20/2013	450		
1047	13-V080	Beach 125/127 ST and Beach Channel Dr	NA		9/23/2013	9/23/2013			
1048	13-V081	Beach 98 St and Beach Channel Dr	NA		9/26/2013	9/26/2013	580		
1049	13-V082	Beach 98 St and Beach Channel Dr / Beach 120 St and Rockaway	NA		9/27/2013	9/27/2013	600		
1050	13-V083	Beach 72 St and Elizabeth Ave	NA		9/30/2013	9/30/2013	436		
1051	13-V095	B 32 and Seagirt Ave/ B 66 & Rockaway Freeway	NA		9/17/2013	9/17/2013	871		
1052	13-V096	93-41 Francis Lewis Blvd	NA		9/17/2013	9/17/2013	950		
1053	13-V099	156-19 109 Ave	NA		10/31/2013	10/31/2013			
1054	13-V100	178-50 Leslie Rd/141-44 183 St	NA		10/30/2013	10/30/2013			
1055	13-V101	104-19 198 St	NA		10/29/2013	10/29/2013	1,456		
1056	13-V102	89-01 Francis Lewis Blvd	NA		10/25/2013	10/28/2013	800		
1057	13-V103	90-26 180 St bt Jamaica Ave and 90 Ave	NA		10/21/2013	10/21/2013	760		
1058	13-V106	104-25 125 St	NA		9/30/2013	9/30/2013			
1059	13-V107	226-03 77 Ave	NA		10/17/2013	10/17/2013	655		
1060	13-V108	32-45 88 St	NA		10/16/2013	10/16/2013	620		
1061	13-V109	84-35 152 St	NA		10/15/2013	10/15/2013	600		
1062	13-V110	Depot Rd and 159 St	NA		10/11/2013	10/11/2013	400		
1063	13-V111	89 Ave bt 161 St and 162 St / 164-10 84 Ave	NA		10/11/2013	10/11/2013	722		
1064	13-V114	109-23 155 St	NA		10/8/2013	10/8/2013	500		
1065	13-V115	215-95 Jamaica Ave	NA		10/7/2013	10/7/2013	500		
1066	13-V116	89-12 162 St	NA		10/4/2013	10/4/2013	218		
1067	13-V117	B 94 St and Rockaway Fwy / B111 St and Rockaway Beach Blvd	NA		10/4/2013	10/4/2013	1,045		
1068	13-V118	Shore front Pkwy and B 108-105 ST / 120 Ave and Van Wyck	NA		10/7/2013	10/8/2013			

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1069	13-V121	187-16 Hillside Ave	NA		11/27/2013	11/27/2013	500		
1070	13-V122	139-07 Southgate Pl	NA		11/26/2013	11/26/2013	1,267		
1071	13-V123	118-21 235 St	NA		11/21/2013	11/21/2013			
1072	13-V124	216 ST bt 91 Ave and 90 Ave	NA		11/20/2013	11/20/2013	785		
1073	13-V125	89-87 214 St	NA		11/19/2013	11/19/2013			
1074	13-V126	57-07 Van Doren St	NA		11/18/2013	11/18/2013	780		
1075	13-V127	186-02 104 Ave	NA		11/14/2013	11/14/2013	1,147		
1076	13-V128	11-52 Van wyck Exp	NA		11/15/2013	11/15/2013	1,421		
1077	13-V129	591 Grassmere Ter	NA		11/13/2013	11/13/2013	711		
1078	13-V130	214 Beach 59 St	NA		11/12/2013	11/12/2013	629		
1079	13-V131	137-47 168 St	NA		11/7/2013	11/8/2013	1,600		
1080	13-V132	134-02 Rockaway Blvd	NA		11/6/2013	11/6/2013	600		
1081	13-V133	188-12 Suffolk Dr	NA		11/4/2013	11/4/2013	900		
1082	13-V134	Queens Blvd + Vicinity	NA		11/1/2013	11/1/2013	315		
1083	13-V135	111-22 Dunkirk St	NA		12/2/2013	12/2/2013	545		
1084	13-V136	175-03 144 Dr	NA		12/3/2013	12/3/2013	710		
1085	13-V137	149 Dr and 154 St	NA		12/4/2013	12/4/2013	753		
1086	13-V138	Beach 13 St bt Davies Rd and Mott Av / 169-16 Hillside Ave	NA		12/5/2013	12/5/2013	176		
1087	13-V139	164 Ave and 98,99 St / 165 Ave and 99 St	NA		11/1/2013	11/1/2013	1,359		
1088	13-V140	114-59 211 St	NA		11/4/2013	11/4/2013	926		
1089	13-V141	Merrick Blvd andf Zoller / 115 Ave and 211 St	NA		11/6/2013	11/7/2013	1,859		
1090	13-V142	84 Rd and Commonwealth Blvd	NA		11/8/2013	11/8/2013	871		
1091	13-V143	81-14 257 St	NA		11/12/2013	11/12/2013	585		
1092	13-V144	95 Ave and Brisbin / 101 Ave and Cresskill Pl	NA		11/13/2013	11/14/2013	903		
1093	13-V145	Queens Blvd	NA		11/15/2013	11/15/2013	676		
1094	13-V146	Brisbin St and 97 Ave / 101 Ave - 108 St	NA		11/18/2013	11/18/2013	591		
1095	13-V147	169-15 Sayres Ave	NA		11/19/2013	11/19/2013	782		
1096	13-V148	114-39 126 St	NA		11/20/2013	11/20/2013	405		
1097	13-V149	167 St - Sayres Ave / 126 St and Linden Blvd	NA		11/21/2013	11/21/2013	278		
1098	13-V150	126 St and Linden Blvd / 160 St bt 109 Ave and 110 Ave	NA		11/26/2013	11/26/2013	278		
1099	13-V151	160 ST bt 109 Ave and 110 Ave	NG		11/27/2013	11/27/2013	629		
1100	13-V155	160 St and 107 Ave / Yellowstone Blvd and Kessel St	NA		10/10/2013	10/10/2013	440		
1101	13-V156	Van Wyck S/R bt Rockaway Blvd and 120 Ave	NA		10/15/2013	10/15/2013	500		
1102	13-V157	Dunkirk St and Hillburn Ave	NA		10/16/2013	10/16/2013	1,029		
1103	13-V158	177 Pl and 120 Ave	NA		10/17/2013	10/17/2013	473		
1104	13-V159	Beach 17/19 ST and Seagirt Blvd	NA		10/18/2013	10/18/2013	878		
1105	13-V160	225 St and 119 Ave / 220 St and 104 Ave	NA		10/21/2013	10/21/2013	745		
1106	13-V161	Crest Rd and Seagirt Blvd	NA		10/22/2013	10/22/2013	758		
1107	13-V162	B 24/27 St and Seagirt Blvd	NA		10/23/2013	10/23/2013	1,653		
1108	13-V163	B 27/29 St and Seagirt Ave	NA		10/24/2013	10/24/2013	1,000		
1109	13-V164	160 Ave and 101 St	NA		10/25/2013	10/28/2013	281		
1110	13-V165	Marsden and 118 Ave / Foch and Smith	NA		10/29/2013	10/29/2013	1,526		
1111	13-V166	120 Ave and 170 St / Marsden and 119 Ave	NA		10/30/2013	10/30/2013	1,366		
1112	13-V167	126 St and Linden Blvd	NA		10/31/2013	10/31/2013	555		
1113	13-V173	92-04 224 St	NG		12/2/2013	12/2/2013	700		
1114	13-V174	169 St & Hillside Ave	NA		12/3/2013	12/3/2013	500		
1115	13-V175	142 St and 120 Ave	NA		12/4/2013	12/4/2013			
1116	13-V176	93-49 Hollis Ct Blvd / 89-33 Moline St	NA		12/5/2013	12/5/2013	1,340		
1117	13-V177	91-35 97 St	NA		12/6/2013	12/6/2013	489		
1118	13-V178	45-59 215 Pl / 56-13 215 St	NA		12/9/2013	12/9/2013	696		
1119	13-V179	45-59 215 Pl	NA		12/9/2013	12/9/2013	528		
1120	13-V180	45-59 215 Pl	NA		12/11/2013	12/11/2013			
1121	13-V181	Francis Lewis Blvd bt 93 Ave and 94 Ave	NA		12/11/2013	12/11/2013	714		
1122	13-V182	83-12 Parsons Blvd	NA		12/12/2013	12/12/2013			
1123	13-V183	187-12 Hillside Ave / 89-29 Moline St	NA		12/13/2013	12/13/2013	860		
1124	13-V184	225-04 104 Ave	NA		12/16/2013	12/17/2013			
1125	13-V185	149 Dr bt Weller La and 254 St	NA		12/17/2013	12/17/2013	792		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF)		
							Cleaned	Surveyed	Walked
1126	13-V186	Rockaway Blvd bt 140 St and 142 St	NA		12/18/2013	12/18/2013			
1127	13-V187	111-40 Springfield Blvd	NA		12/18/2013	12/18/2013			
1128	13-V188	144 St and 116 Ave	NA		12/19/2013	12/19/2013	573		
1129	13-V189	90-03 Rockaway Blvd / 133-01 Boss St	NA		12/19/2013	12/19/2013	518		
1130	13-V190	159-03 131 Ave	NA		12/20/2013	12/20/2013			
1131	13-V191	172-18 125 Ave bt 172 St and 174 Pl	NA		12/20/2013	12/20/2013			
1132	13-V192	95-30 92 St	NA		12/23/2013	12/23/2013			
1133	13-V193	90-04 205 St	NA		12/24/2013	12/24/2013	600		
1134	13-V194	193 St by 119 Ave and 120 Ave	NA		12/26/2013	12/26/2013			
1135	13-V195	14-16 Parsons Blvd	NA		12/26/2013	12/26/2013			
1136	13-V196	89-01 165 St	NA		12/27/2013	12/27/2013			
1137	13-V197	84-12 263 St bt Hillside Ave and E Williston	NA		12/27/2013	12/27/2013			
1138	13-V198	108 Dr and 169 Pl	NA		12/30/2013	12/30/2013	1,057		
1139	13-V199	192 Beach 115 St	NA		12/30/2013	12/30/2013	685		
1140	13-V200	Kissena Blvd from Juniper Ave to Laburnum Ave	NA		12/31/2013	12/31/2013	368		
1141	13-V201	Woodhull Ave and 195 Pl	NA		12/31/2013	12/31/2013	1,015		

Staten Island

1142	11-180	St Austins Pl bt Davis Av and Bard Av	CP		4/17/2013				
1143	11-316	Forest Av bt Hamlin Pl and Ordell Av	EC		3/10/2013	3/11/2013	490		
1144	11-362	Crystal Av (229) bt Leonard Av and Waters Av	EC		11/17/2011	3/5/2013	302		
1145	12-075	Dongan St (197) bt White Pl and Carry Av	DL		4/17/2013	4/18/2013	533		
1146	12-464	Bartlett Av (377) Barlow Av and DE	DL		4/17/2013	4/18/2013	430		
1147	13-092	Barden Pl (365) bt Greeley Av and Dead End	CP		4/17/2013	4/18/2013	410		
1148	13-125	Jewett Av (854)	EC		3/20/2013	6/20/2013	1,815		
1149	13-255	Dixon Av (236)	DL		8/16/2013	8/16/2013	698		
1150	13-256	Mapleton Av	DL		8/16/2013	8/16/2013	828		
1151	13-271	Hancock St (42) bt Cornell Av and Garretson Av	RF		4/8/2013	4/8/2013	125		
1152	13-291	Hickory Av (32) bt Hylan Blvd and Mc Clean Av	DL		5/10/2013	5/21/2013	705		
1153	13-357	Richmond Terr (3348) bt Bend and Federal Pl	JL		5/30/2013	5/31/2013	1,030		
1154	13-362	Pt Richmond Av (154) bt Grove Av	DL		5/10/2013	5/21/2013	497		
1155	13-363	Amsterdam Av (145) and ARLENE St	JL		5/15/2013	5/16/2013	1,538		
1156	13-364	Castleton Av and Portland Pl	DL		5/10/2013	5/21/2013	173		
1157	13-366	Catlin and Pommer Av	JL		5/14/2013	5/15/2013	555		
1158	13-398	Treadwell Av (76) bt SI Rapid Transit and Slight St	DL		5/21/2013	5/21/2013	280		
1159	13-400	Bement Av (590) and Harvest Av	JL		5/31/2013	5/31/2013	548		
1160	13-407	Richmond Av Nome Av	SSF		5/16/2013	5/16/2013			
1161	13-408	Targee St and Clove Rd	SSF		5/15/2013	5/15/2013			
1162	13-409	Targee St and Nallows Rd (s)	SSF		5/14/2013	5/14/2013			
1163	13-418	Russell St (71) bt Osborn Av and Willam Av	RF		5/29/2013	5/29/2013	571		
1164	13-489	Lighthouse Av bt Mace St and Richmond Rd	YL		6/25/2013	6/25/2013			
1165	13-546	8 St (28) bt New Dorp Ln and Rose Av (soap)	DL		8/16/2013	8/20/2013	444		
1166	13-575	Richmond Ter and Davis Av	EC		11/12/2013	11/12/2013	388		
1167	13-643	Smith Ln and Ebbitts St	JL		8/22/2013	8/26/2013	1,051		
1168	13-662	Water St bt Bay St and Front St	JL		8/27/2013	9/3/2013	1,400		
1169	13-672	Tennyson Dr and Groton St	JL		9/12/2013	9/12/2013	1,180		
1170	13-691	Father Capodanno Blvd (809) bt Slater Blvd and Seaver Av	JL		9/23/2013	9/24/2013	857		
1171	13-727	Victory Blvd bt Sommers Ln and Todhill Rd	EC		10/28/2013	10/29/2013	908		
1172	13-736	Ridgewood Av (484) bt Opp Ct and Arthur Kill Rd	JL		10/8/2013	10/10/2013	1,362		
1173	13-737	Cary Av (329) bt Benment Av and N Burgher Av	JL		10/4/2013	10/7/2013	1,891		
1174	13-738	Grimsby St (127) bt Hunter Av and Mapleton Av	JL		10/3/2013	10/4/2013	1,417		
1175	13-775	Jersey St bt Hendricks Av and LAYTON Av	JL		10/9/2013	10/9/2013	371		
1176	13-781	Arthur Kill Rd (110) bt Annadale Rd and Woodrow Rd	JL		10/18/2013	10/18/2013	657		
1177	13-782	Princeton Av (89) bt 8 St and 10 St	JL		10/23/2013	10/23/2013	1,118		
1178	13-787	Elverton Av and Leverett Av	DE		10/22/2013	10/22/2013	787		
1179	13-810	N Richmond Ter and Snug Harbor Rd	EC		11/12/2013		764		
1180	13-811	209 Amber St bt Wilder Av and Andrews Av	DL		10/28/2013	11/4/2013	1,410		

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N	LOG	Location	Ins	CB	Start	Comp	*Footage (LF) Cleaned	Surveyed	Walked
1181	13-840	Hart Blvd bt Foster Av and Rever St	JL		11/7/2013	11/7/2013	979		
1182	13-841	350 Sand Lane b/t Quincy Av & Oceanside Av	JL		11/8/2013	11/13/2013	2,696		
1183	13-844	Amity Pl (85) and Francesca Ln	JL		11/14/2013	11/14/2013	639		
1184	13-846	Cedar St (10) bt Boyd St and Hudson St	CP		12/18/2013				
1185	13-847	Amboy Rd (3130) bt Montreal Av and Clark Av	CP		12/19/2013				
1186	13-V052	Smith La between Cedar Grove Av Ebbits St	NA		8/21/2013	8/22/2013			
1187	13-V056	Front St and Water St	NA		8/22/2013	8/24/2013			
1188	13-V057	Liberty Av and Magnolia Av	NA		8/24/2013	8/24/2013			
1189	13-V058	202 St between 112 Av and 113 Av	NA		8/22/2013	8/22/2013	400		
1190	13-V097	2154 Forest Av/226 Katan Av/1650 Hylan Blvd	NA		9/20/2013	9/20/2013	1,599		
1191	13-V098	Father Capadonna bt Sand La and Seaview Av	NA		9/25/2013	9/25/2013	700		
1192	13-V104	98 David St/115 Driggs St/206 Amber St	NA		9/26/2013	9/26/2013	1,445		
1193	13-V112	66 Sideview Av	NA		9/4/2013	9/4/2013			
1194	13-V113	102 Westervelt Av	NA		9/19/2013	9/19/2013			
1195	13-V119	Fisher Ave and Arthur Kill Rd	NA		10/1/2013	10/1/2013	449		
1196	13-V120	42 Hancock St	NA		10/2/2013	10/2/2013	1,230		
1197	13-V153	Villa Av bt Dixon Av and Van Riper Av	NA		12/9/2013	12/10/2013	816		
1198	13-V207	Allison Ave bt Clawson St and Hyland Blvd / Wood Ave bt Amboy	NA		12/10/2013	12/10/2013	2,085		

The Bronx

1199	11-378	Mace Av and Seymour Av	DL		4/19/2013	4/23/2013	182		
1200	12-095	W 165 St (74) bt Anderson Av and Woodycrest Av	JL		4/30/2013	4/30/2013	596		
1201	12-349	Newbold Av (2321) bt Havemeyer Av and Zerega Av	DL		4/22/2013	4/23/2013	916		
1202	12-365	Findlay Av (1355)	DL		4/22/2013	5/24/2013	1,030		
1203	13-150	St Lawrence (1141)	YL		4/4/2013	5/24/2013	5,305		
1204	13-157	St Anns Av (350) bt E 141 St and E 142 St	JL		8/6/2013	8/13/2013	1,725		
1205	13-247	E 174 St bt Boone Av and West Farm Rd	YL		4/4/2013	4/4/2013	90		
1206	13-288	Garden St (735) bt Croton Av and Prospect Av	RF		4/10/2013	4/10/2013			
1207	13-375	Wheeler Av (1316) bt E 172 St and Bronx River Av	DL		6/18/2013	6/18/2013	738		
1208	13-521	3 Av (2733) bt E 145 St & 146 St	JL		8/14/2013	8/16/2013	1,843		
1209	13-523	Morrison Av (1322) bt E172 St & E174 St	JL		8/19/2013	8/19/2013	817		
1210	13-539	Choctaw Pl (1244) bt Seminole Av and Narraqansett Av	DL		7/22/2013	7/22/2013	961		
1211	13-560	Bronx Blvd and E 229 St	DL		7/23/2013	7/23/2013	503		
1212	13-791	Irwin Av (3130) bt Riverdale Av and W232 St	RB		12/4/2013				
1213	13-833	Grant Av (1246) bt E 167 St and E 169 St	JL		11/6/2013	11/6/2013	802		
1214	13-918	Devoe Ter (2468)	RB		12/2/2013	12/3/2013	1,044		
1215	13-V105	Arthur Av & E 186 St	NA		9/27/2013	9/27/2013			

2013 CITYWIDE Total, LF:	**535,761**	(101.47 mi)			**1/2/2013**	**12/31/2013**	**535,761**		
Operating Expenses, $	**4,193,900**								

2013 CMOM Grand Total, LF:	**746,719**	(141.42 mi)	**2,096**	**1/2/2013**	**12/31/2013**	**546,889**	**154,648**	**45,182**
Operating Expenses, $	**4,923,256**							

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

Appendix 2

DEP BWT

Table 1 - Status of Regulators under SCADA

Map 1 - BWT CY 2013 Wastewater Collection Systems Cleaning Locations

Map 2 - BWT CY 2013 Inspected Interceptors

Table 2 - BWT CY 2013 Wastewater Collection Systems Cleaning Locations

LIST OF REGULATORS UNDER SCADA

Table 1

						UPDATED 03-07-2013			
		NYCDEP - List Of Regulators under SCADA							
	WPCP	Reg#	Location	SPDES	BEACH	Existing	SCADA		CCFISS
	Drainage Area				SENSITIVE	Telemetry System	Contract		Installation date
1	WI(M)	02A	E. 74th ST. & FDR DR.	003		CCFISS	REG-027		7-Aug-12
2	WI(M)	02B	N/O E. 74th ST. & FDR DR.	003		CCFISS	REG-027		7-Aug-12
3	WI(M)	07	E.79th ST. & FDR DR.	008		CCFISS	REG-027		31-Jul-12
4	WI(M)	23	E.106th ST. & FDR DR.	023		CCFISS	REG-027		14-Feb-12
5	WI(M)	24	E.110th ST. & FDR DR.	024		CCFISS	REG-027		25-Sep-12
6	WI(M)	38	E.135th ST. & E/O HARLEM R. DR.	038		CCFISS	REG-027		7-Feb-12
7	WI(M)	45	W.147th ST. & IRT YARD	045		CCFISS	REG-027		14-Dec-11
8	WI(M)	46	W.151 st ST. & PLAYGROUND	046		CCFISS	REG-027		25-Jul-12
9	WI(M)	51	N/S HARLEM RIVER DR. & W.167th ST.	051		CCFISS	REG-027		19-Jul-12
10	WI(M)	52	N/S HARLEM R. DR. & W.176th ST.	052		CCFISS	REG-027		10-Sep-12
11	WI(B)	53	BRUCKNER BLVD. & BROOK AV.	068		CCFISS	REG-027		28-Sep-12
12	WI(B)	58	MAJOR DEEGAN S/S 138th ST.	075		CCFISS	REG-027		10-Apr-12
13	WI(B)	60	JEROME AV. & McCOMB.D PARK	062		CCFISS	REG-027		9-Nov-12
14	WI(B)	62	UNDERCLIFF & SEDGEWICK AV.	060		CCFISS	REG-027		13-Sep-12
15	WI(B)	66	N/O FORDHAM RD. W/S MAJOR DEEGAN	057		CCFISS	REG-027		11-Jan-13
16	WI(B)	67	E.192nd ST. W/O BAYLEY AV.	056		CCFISS	REG-027		28-Aug-12
17	WI(B)	68	E.149th ST. & EAST RIVER	072		CCFISS	REG-027		14-Feb-12
18	NR	N-03	W.201st ST. & HARLEM RIVER	017		CCFISS		REG-026	29-Dec-10
19	NR	N-16	DYKMAN ST. & HENRY HUDSON PKWY.	006		CCFISS	REG-027		16-Feb-12
20	NR	N-18	RIVERSIDE DR. & W.172nd. ST.	004		CCFISS		REG-026	29-Dec-10
21	NR	N-23	ST.CLAIR PLACE & 12th AV.	043		CCFISS		REG-026	29-Dec-10
22	NR	N-26	RIVERSIDE PARK @ W.96th ST.	040		CCFISS		REG-026	29-Dec-10
23	NR	N-28	RIVERSIDE PARK @ 80th ST.	038		CCFISS		REG-026	29-Dec-10
24	NR	N-29A	FREEDOM PL. @ W.66th ST.	046		CCFISS		REG-026	29-Dec-10
25	NR	N-33	TWELFTH AV. @ W.48th ST.	033		CCFISS		REG-026	29-Dec-10
26	NR	N-45	TWELFTH AV @ W.30th ST.	027		CCFISS		REG-026	29-Dec-10
27	NR	N-50	ELEVENTH AV. @ W.18th ST.	023		CCFISS		REG-026	29-Dec-10
28	HP	01	E.177th ST. E/O TIERNEY PL	022	✔	CCFISS	REG-027		17-Jan-12
29	HP	02	SHORE DR. S/O PENNYFIELD AV.	021	✔	CCFISS	REG-027		11-Sep-12
30	HP	03	CALHOUN AV. S/O SCHURZ AV.	019	✔	CCFISS	REG-027		24-Jan-12
31	HP	04	BRUSH AVE & BRUCKNER BLVD	016	✔	CCFISS	REG-027		18-Apr-12
32	HP	05	WHITE PL RD. S/O RIVER AV.	011	✔	CCFISS	REG-027		17-Jan-12
33	HP	06	WHITE PL RD. & 0'BRIEN AV.	011	✔	CCFISS	REG-027		18-Sep-12
34	HP	08	TRUXTON ST. & OAKPOINT AV.	025		CCFISS	REG-027		29-May-12
35	HP	09	TIFFANY ST. & EAST BAY AV.	002	✔	CCFISS	REG-027		13-Sep-12
36	HP	10	HUNTS POINT AV. & RYAWA AVES.	003	✔	CCFISS	REG-027		31-Jan-12
37	HP	11	EMERSON AV. & SCHURZ AV.	017	✔	CCFISS	REG-027		13-Jan-12
38	HP	12	ROBINSON AV. & SCHURZ AV.	018	✔	CCFISS	REG-027		19-Jan-12
39	HP	13	METCALF AV. & SOUNDVIEW PARK	009	✔	CCFISS	REG-027		20-Sep-12
40	HP	14	EDGEWATER PARK	026	✔	CCFISS	REG-027		13-Jan-12
41	HP	15	CONNER ST. E/O HUTCHISON AV.	023					31-Dec-12
42	26W	01	TIDE GATE (26 WARD WPCP)	004	✔	CCFISS	REG-027		6-Dec-12
43	26W	02	WILLIAMS & FLATLANDS AVES.	003	✔	CCFISS	REG-027		4-Oct-12
44	26W	03	CRESENT ST. & FLATLANDS AV.	005		CCFISS	REG-027		5-Sep-12

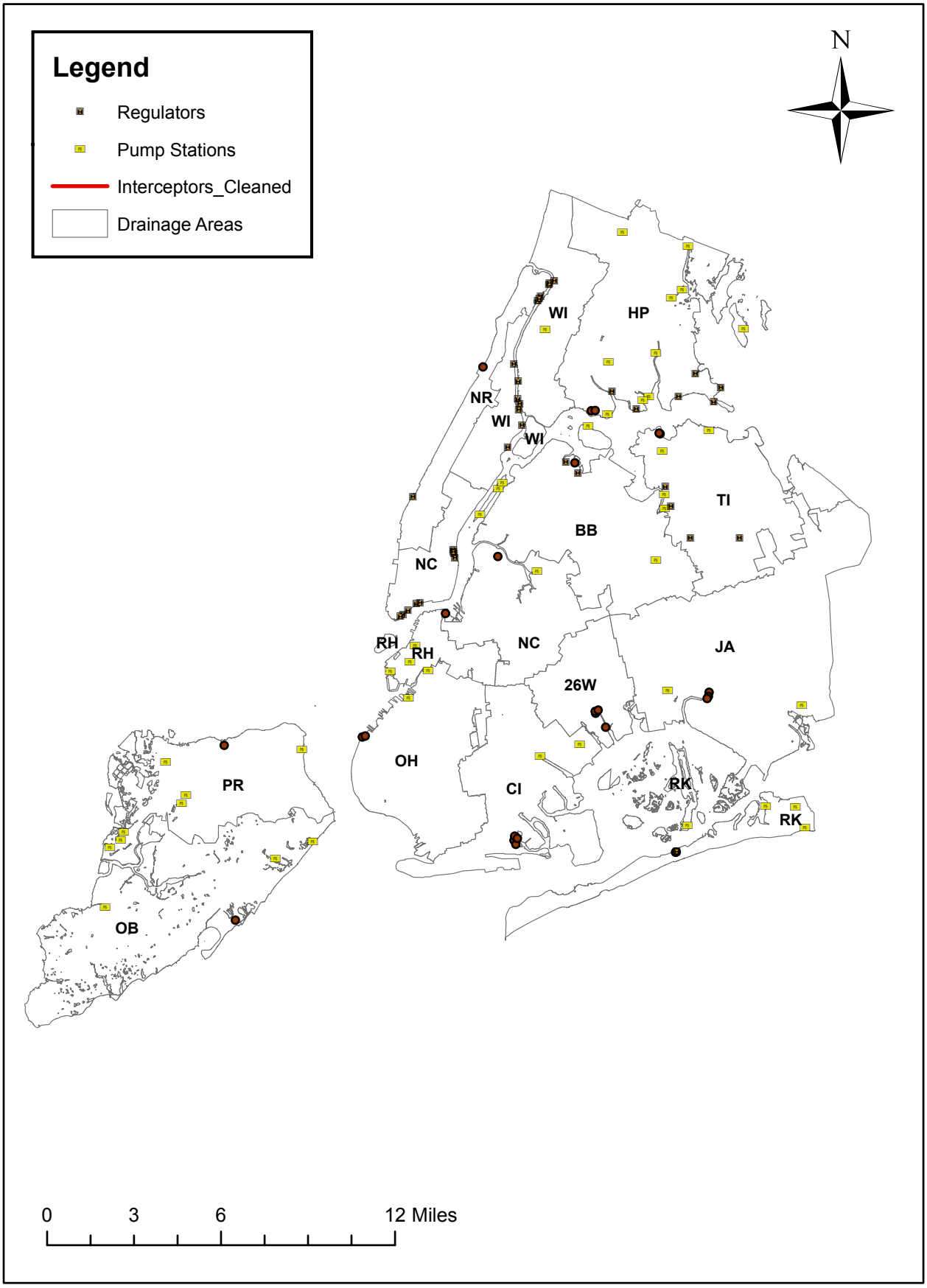
LIST OF REGULATORS UNDER SCADA

	WPCP	Reg#	Location	SPDES	BEACH	Existing	SCADA		CCFISS
	Drainage Area				SENSITIVE	Telemetry System	Contract		Installation date
45	OH	01	92nd ST. & BELT PKWY	017	✔	CCFISS		REG-026	29-Dec-10
46	OH	03	79th ST. E/O BELT PKWY (IN PARK)	018		CCFISS	REG-027		28-Dec-11
47	OH	04	71st ST. E/O BELT PKWY (IN PARK)	019		CCFISS	REG-027		29-Dec-11
48	OH	06	64th ST. BUSH TERMINAL	002		CCFISS		REG-026	29-Dec-10
49	OH	06A	64th ST. IN RR YARD	002		CCFISS		REG-026	29-Dec-10
50	OH	06B	64th ST. IN RR YARD	002		CCFISS		REG-026	29-Dec-10
51	OH	06C	64th ST. BUSH TERMINAL	002	✔	CCFISS		REG-026	29-Dec-10
52	OH	07	49th ST. & 1st AV.	003		CCFISS		REG-026	29-Dec-10
53	OH	07A	49th ST. & 1st AV.	003	✔	CCFISS		REG-026	29-Dec-10
54	OH	07B	49th ST. & 1st AV.	003	✔	CCFISS		REG-026	29-Dec-10
55	OH	07C	49th ST. & 1st AV.	003		CCFISS		REG-026	29-Dec-10
56	OH	07D	43nd ST. & 1st AV.	004	✔	CCFISS	REG-027		19-Jan-12
57	OH	09A	17th AV. & BATH AV.	015	✔	CCFISS	REG-027		15-Nov-11
58	OH	09B	17th AV. & 72nd ST.	015	✔	CCFISS	REG-027		15-Nov-11
59	OH	10	21st AVENUE & 83rd STREET	021		CCFISS	REG-027		7-Feb-12
60	OH	11	AVE. V & W. 11th ST.	021		CCFISS	REG-027		15-Aug-12
61	NC(Q)	Q-01	RUST & 56th ST.	077		CCFISS	REG-027		9/162012
62	NC(B)	B-01	JOHNSON AV. W/O PORTER AV.	015		CCFISS		REG-026	29-Dec-10
63	NC(B)	B-04	KENT AV. & TAYLOR ST.	014		CCFISS		REG-026	29-Dec-10
64	NC(B)	B-05	DIVISION AV. W/O KENT AV.	013		CCFISS		REG-026	29-Dec-10
65	NC(B)	B-06	S.5th AV. W/O KENT AV.	012		CCFISS		REG-026	29-Dec-10
66	NC(B)	B-09	N.12th ST. & KENT AV.	006		CCFISS		REG-026	29-Dec-10
67	NC(M)	M-01	CLARKSON ST. & WEST ST.	076		CCFISS		REG-026	29-Dec-10
68	NC(M)	M-02	N/O CANAL ST. & WEST ST.	075		CCFISS		REG-026	29-Dec-10
69	NC(M)	M-10	SOUTH ST. N/O BROAD ST.	069		CCFISS	REG-027		9-Feb-12
70	NC(M)	M-16	SOUTH ST. N/O DOVER ST.	078		CCFISS		REG-026	29-Dec-10
71	NC(M)	M-17	SOUTH ST. & ROBERT WAGNER ST.	066		CCFISS	REG-027		31-Jan-12
72	NC(M)	M-19	SOUTH ST. S/O CATHERINE SLIP	050		CCFISS		REG-026	29-Dec-10
73	NC(M)	M-21	SOUTH ST & JEFFERSON ST.	063		CCFISS		REG-026	29-Dec-10
74	NC(M)	M-36	FDR DR. & E.14th ST.	052		CCFISS		REG-026	29-Dec-10
75	NC(M)	M-37	E.18th ST. & AV.C	049		CCFISS		REG-026	29-Dec-10
76	NC(M)	M-40	FDR DR. & E.26th ST.	045		CCFISS		REG-026	29-Dec-10
77	NC(M)	M-42	E.33rd ST. E/O 1st AV.	041		CCFISS		REG-026	29-Dec-10
78	NC(M)	M-44	E.41st ST. E/O 1st AV.	037		CCFISS		REG-026	29-Dec-10
79	NC(M)	M-47	FDR DR. & E.49th ST.	036		CCFISS		REG-026	29-Dec-10
80	NC(M)	M-50	FDR DR. & E.61st ST.	032		CCFISS		REG-026	29-Dec-10
81	RH	R-02	WOLCOTT ST. & CONOVER ST.	028		CCFISS		REG-026	29-Dec-10
82	RH	R-20	GOLD ST. @ PLYMOUTH ST.	004		CCFISS		REG-026	29-Dec-10
83	RH	R-20A	GOLD ST. @ PLYMOUTH ST.	004		CCFISS		REG-026	29-Dec-10
84	RH	R-21	HUDSON AVE. @ PLYMOUTH ST.	OO3		CCFISS		REG-026	29-Dec-10
85	RH	R-21A	HUDSON AVE. @ PLYMOUTH ST.	OO3		CCFISS		REG-026	29-Dec-10
86	JA	01	JFK AIRPORT	006		CCFISS	REG-027		23-Oct-12
87	JA	2	79TH STR.N.CONDUIT AVE	26W-005		CCFISS		REG-026	29-Dec-10
88	JA	03	123rd. PLACE & 150th ST.	003	✔	CCFISS		REG-026	29-Dec-10
89	JA	09	LINDEN & SPRINGFIELD BLVDS.	005		CCFISS	REG-027		23-Feb-12
90	JA	14	124th ST. & N.CONDUIT AV.	003a		CCFISS		REG-026	29-Dec-10

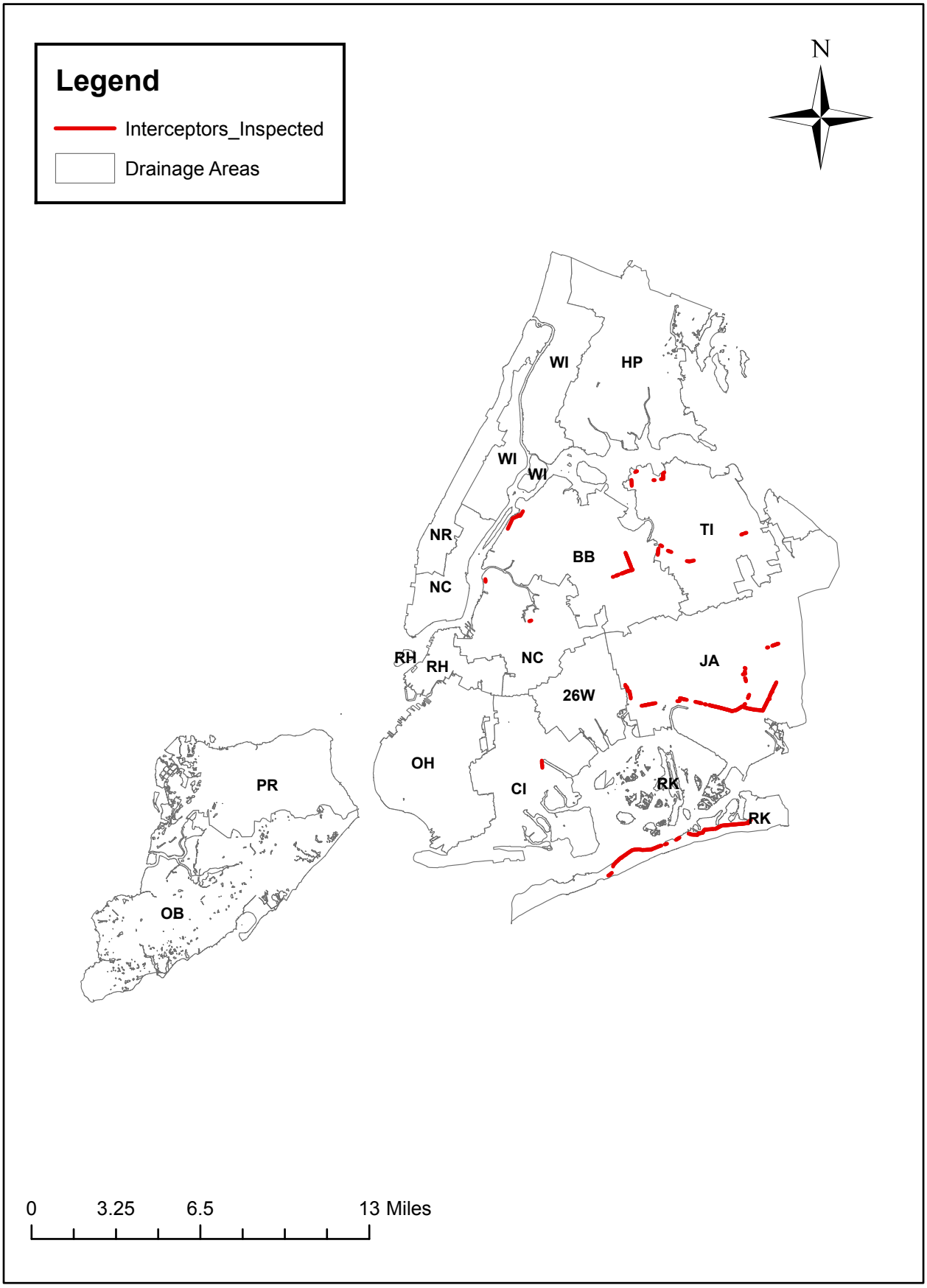
LIST OF REGULATORS UNDER SCADA

	WPCP	Reg#	Location	SPDES	BEACH	Existing	SCADA		CCFISS
	Drainage Area				SENSITIVE	Telemetry System	Contract		Installation date
91	TI	09	LINDEN PL & 32nd AV.	011		CCFISS	REG-027		27-Mar-12
92	TI	10A	144th ST. & E/O MALBA AVE	003		CCFISS	REG-027		15-Jun-12
93	TI	13	15th DR. & WILLETS POINT BLVD.	023		CCFISS	REG-027		15-Aug-12
94	TI	30	QUINCE AV. & KISSENA BLVD.	010		CCFISS	REG-027		26-Jan-12
95	TI	40	FRESH MEADOW La & PECK AV.	010		CCFISS	REG-027		18-Jul-12
96	TI	46	210 th ST. & LIE (N.S)	008	✔	CCFISS	REG-027		26-Jan-12
97	TI	47	218th ST & LIE (N.S)	008	✔	CCFISS	REG-027		10-Apr-12
98	TI	49	220th PL. & 46th AV.	008	✔	CCFISS	REG-027		24-Oct-12
99	BBL	L-04	47th AV. BETW. 28th & 29th ST.	026		CCFISS	REG-027		24-Aug-12
100	BBL	L-21	37th AV. & VERNON BLVD.	028		CCFISS	REG-027		22-May-12
101	BBL	L-22	VERNON BLVD & BROADWAY	O29		CCFISS	REG-027		1-May-12
102	BBL	L-23	30th RD. & VERNON BLVD.	030		CCFISS	REG-027		3-May-12
103	BBL	L-30	ASTORIA PARKS E/O SHORE BLVD.	034		CCFISS	REG-027		16-Feb-12
104	BBH	02	45th ST. & PLANT	002		CCFISS	REG-027		11-Oct-12
105	BBH	03	HAGEN ST. & 19th ST. AV.	003		CCFISS	REG-027		2-Feb-12
106	BBH	06	108th ST.(31st DR)& DITMARS BLVD.	008		CCFISS	REG-027		23-Feb-12
107	BBH	09	108th ST. & 43rd. AV.	008		CCFISS	REG-027		2-Feb-12
108	RK	01	B.106th ST. & BEACH CHANNEL DR.	029		CCFISS	REG-027		31-Dec-12
109	PR	R-13E	CANAL ST. & FRONT ST	031		CCFISS		REG-026	29-Dec-10
110	PR	R-35W	BODINE ST. & RICHMOND TERR.	035		CCFISS		REG-026	29-Dec-10
111	PR	R-06W	RICHMOND TERR. & NICHOLAS AV.	029		CCFISS		REG-026	29-Dec-10
	REG-026 - CONSENT ORDER REGULATOR SCADA								
	REG-027	**- NON-CONSENT ORDER REGULATOR SCADA**							

2013 BWT Cleaning



2013 Inspected Interceptors



BMP 2013 Non Interceptor Assets Cleaned - Table 2

Drainage Area	Asset Type	Asset	Removed (cu yds)
BB	BB Plant	Distribution Channel	11.57
BB	Pump Station	67th Road	5.00
BB	Pump Station	Roosevelt Island Main	1.78
BB	Pump Station	Roosevelt Island North	2.76
BB	Pump Station	Roosevelt Island South	2.76
BB	Regulator	BBLL-1	4.00
BB	Regulator	BBLL-3	5.00
BB	Regulator	TI-42	31.40
CI	Pump Station	Avenue M	1.01
CI	Pump Station	Paerdegat	44.60
HP	HP Plant	Drain Lines	50.00
HP	Pump Station	City Island	6.50
HP	Pump Station	Commerce Avenue	5.00
HP	Pump Station	Co-Op City South	10.00
HP	Pump Station	Ely Avenue	12.00
HP	Pump Station	Gildersleeve Avenue	5.00
HP	Pump Station	Hollers Avenue	12.00
HP	Pump Station	Hunts Point Market	22.50
HP	Pump Station	Metcalf Avenue	3.00
HP	Pump Station	Rikers Island North	85.92
HP	Pump Station	Zerega Avenue	15.00
HP	Regulator	HP-1	25.50
HP	Regulator	HP-11	4.00
HP	Regulator	HP-13	40.00
HP	Regulator	HP-14C	3.00
HP	Regulator	HP-2	4.00
HP	Regulator	HP-5	4.00
JA	Pump Station	Howard Beach	19.27
JA	Sanitary Sewer	M4016932	9.40
NC	Pump Station	49th Street	1.78
NC	Regulator	NCM-11	23.42
NC	Regulator	NCM-12	23.42

Drainage Area	Asset Type	Asset	Removed (cu yds)
NC	Regulator	NCM-13	20.00
NC	Regulator	NCM-17	7.00
NC	Regulator	NCM-18	9.00
NC	Regulator	NCM-37	6.00
NC	Regulator	NCM-38	5.00
NC	Regulator	NCM-38A	11.00
NC	Regulator	NCM-38B	8.00
NR	Regulator	NR-13	6.00
NR	Regulator	NR-14	8.50
NR	Regulator	NR-3	7.50
NR	Regulator	NR-4	13.00
NR	Regulator	NR-41	10.00
NR	Regulator	NR-5	7.00
OB	Pump Station	Mason Avenue	7.62
OB	Pump Station	Mayflower Avenue	26.42
OB	Pump Station	South Beach	25.54
OB	Pump Station	Van Brunt Street	4.22
OH	Pump Station	2nd Avenue	10.79
OH	Pump Station	Bush Terminal	33.41
PR	PR Plant	Forebay	0.52
PR	Pump Station	Auburn Avenue	1.70
PR	Pump Station	Cannon Avenue	13.38
PR	Pump Station	Canterbury Avenue	4.06
PR	Pump Station	Hannah Street	41.54
PR	Pump Station	Mersereau Avenue	55.60
PR	Pump Station	Victory Boulevard	1.82
PR	Pump Station	West Shore Expressway	11.82
PR	Regulator	PR-14E	4.14
RH	Pump Station	Hamilton Avenue	4.65
RH	Pump Station	Howard Beach	3.71
RH	Pump Station	Kane Street	6.73
RH	Pump Station	Van Brunt Street	9.89
RK	Pump Station	Bayswater Avenue	2.05
RK	Pump Station	Broad Channel	8.87

Drainage Area	Asset Type	Asset	Removed (cu yds)
RK	Pump Station	Nameoke Avenue	1.65
RK	Pump Station	Rosedale	4.90
RK	Pump Station	Seagirt Avenue	30.82
RK	Regulator	RK-01	1.25
RK	Regulator	RK-02	1.25
RK	Regulator	RK-1	10.45
RK	Regulator	RK-2	3.50
TI	CSO	Alley Creek	110.00
TI	CSO	Flushing Bay	28.63
TI	Pump Station	15 Avenue	11.00
TI	Pump Station	154th Street	30.00
TI	Pump Station	40th Road	10.50
TI	Pump Station	Flushing Bridge	10.00
TI	Regulator	TI-37	14.00
TI	Regulator	TI-54	2.00
TI	Regulator	TI-57	8.50
TI	Sanitary Sewer	M4014965	18.21
TI	Sanitary Sewer	M4016927	46.60
TI	Sanitary Sewer	M4016932	20.33
TI	Sanitary Sewer	M4019831	27.93
TI	Sanitary Sewer	M4019832	18.60
TI	Sanitary Sewer	M4019833	17.01
WI	Branch Interceptor	MH WIB_W_16_1	2.04
WI	Channel 4	Manhattan Grit Chamber	45.16
WI	Grit Chamber	Bronx Grit Chamber	64.77
WI	Pump Station	233rd Street	7.00
WI	Pump Station	Jerome Avenue	95.00
WI	Regulator	NCM-18	3.17
WI	Regulator	WIB-56	1.00
WI	Regulator	WIB-57	14.50
WI	Regulator	WIB-59	3.00
WI	Regulator	WIB-67	31.67
WI	Regulator	WIM-20	8.50
WI	Regulator	WIM-32	4.00

Drainage Area	Asset Type	Asset	Removed (cu yds)
WI	Regulator	WIM-36	3.00
WI	Regulator	WIM-48	3.00
WI	Tide Gate Chamber	WIM-56	9.00
WI	WI Plant	Centrate Holding Tank	22.05
WI	WI Plant	Centrate Line North	0.00
WI	WI Plant	Centrate Tank and Jet Lines	16.53
WI	WI Plant	Centrate Well	10.46
WI	WI Plant	Contact Tank	33.00
WI	WI Plant	Effluent/Aeration Channel	30.62
WI	WI Plant	Primary Channel	16.86
WI	WI Plant	Primary Tank	15.05
WI	WI Plant	Sludge Spill	0.50
WI	WI Plant	Sludge Tank	47.51
WI	WI Plant	Sludge Well	8.12
WI	WI Plant	Transfer Station Pit/Primary Channel	6.71
WI	WI Plant	Trough Drains/4-Holding Tanks	10.55
WI	WI Plant	Yard Sewer Line	3.63
			1834.59

Appendix 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) 2013. 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 CY2013 at all drainage areas served wholly or partially by combined sewers. Section 3.4 describes the 2013 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.

Beginning in 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.

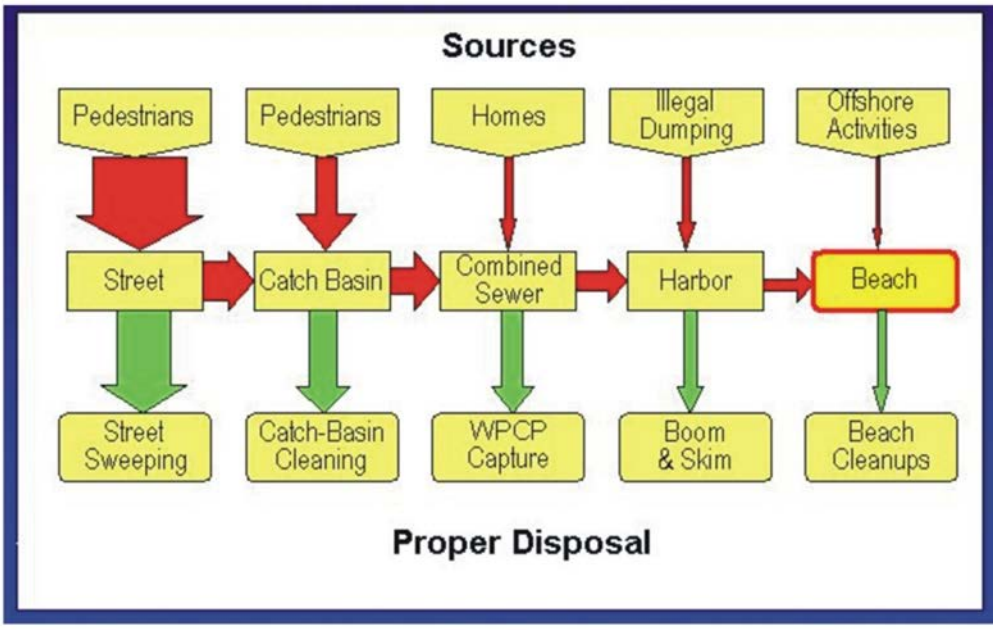


Figure 3-1. Sources and Fate of Floatables in New York City of New York DEP

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 (historically, 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. Finally, a third scenario has been developed to provide an indication of the best possible performance of the collection/treatment systems. In this scenario, the design maximum capacity of the WWTP was used (instead of the actual observed flow rates treated at the WWTP), again with the standard rainfall/tidal condition. Except for some WWTPs where DEP will be implementing upgrades to maximize the flow to twice the design dry weather flow levels (2XDDWF), 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 2013, 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 CY2013. 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 WWTPs. 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 WWTP 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; and
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.

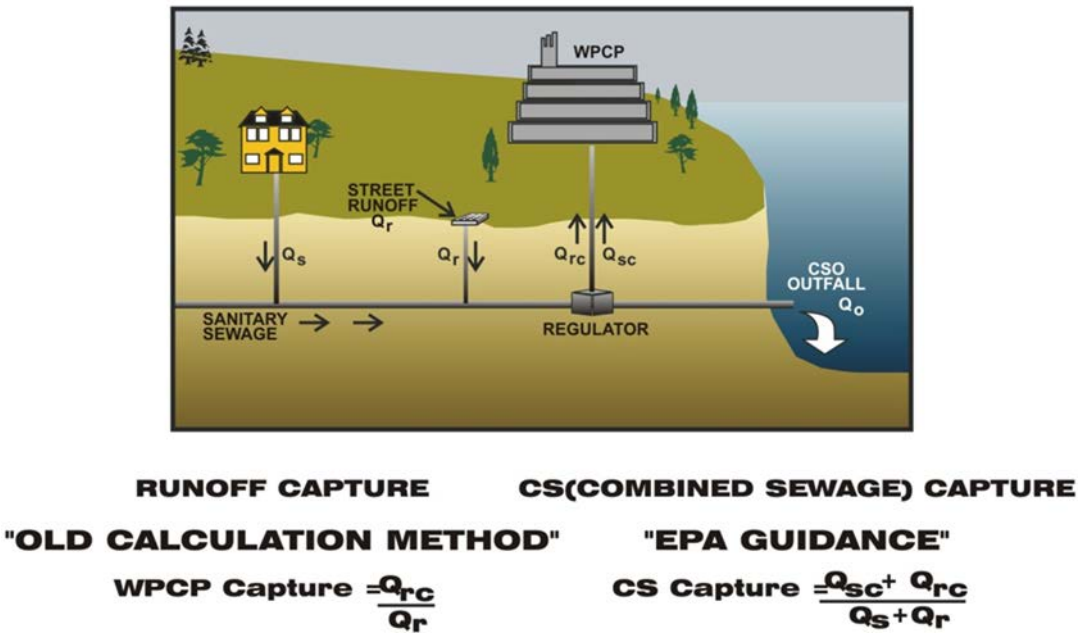


Figure 3-2. Wet Weather Flow Capture at WWTP

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 CSO outfalls citywide, 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, unless the network of gauges used to measure these is very dense requiring significantly high investment in financial and labor resources. 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 2013 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.

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.

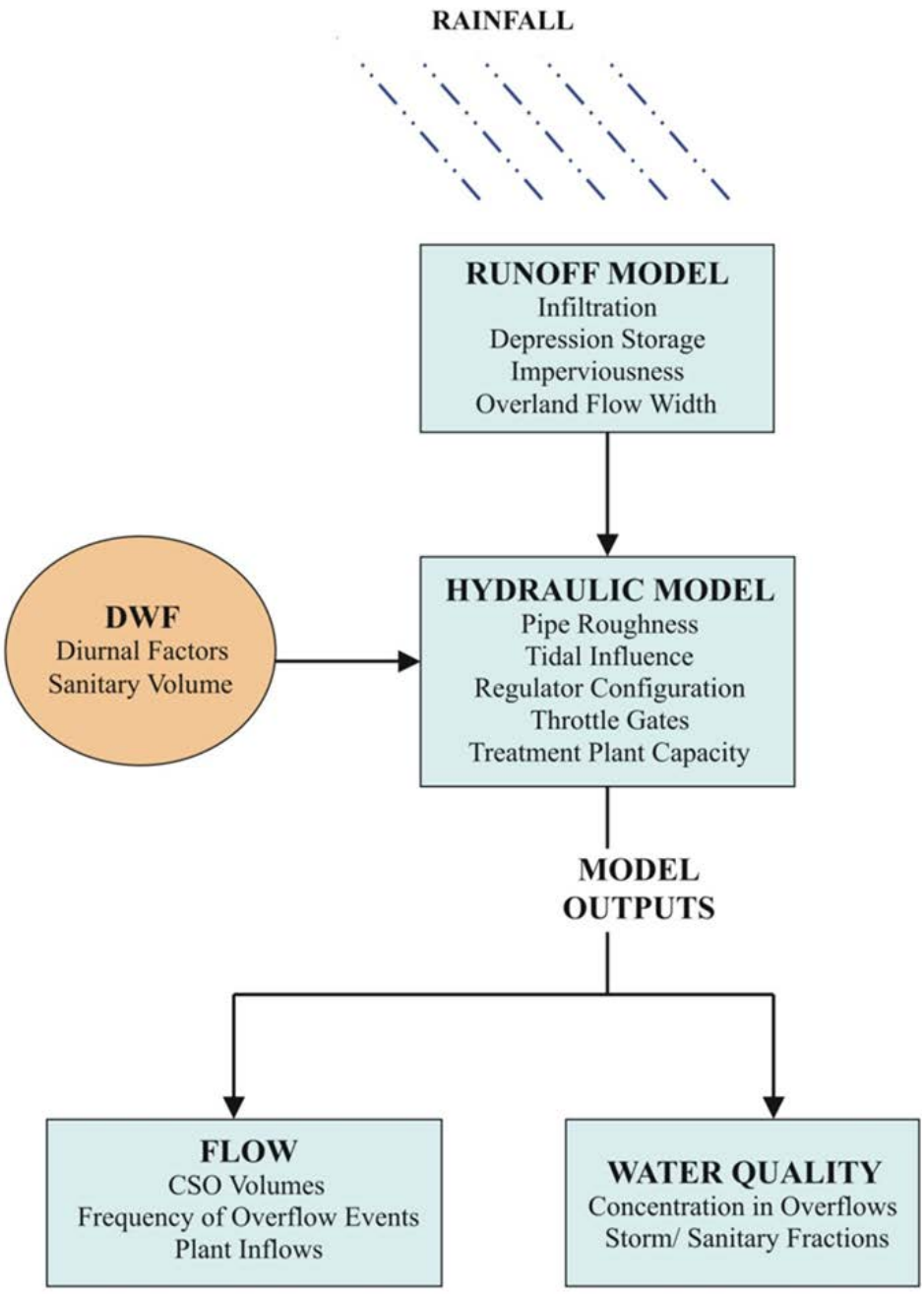


Figure 3-3. Schematic Representation of InfoWorks Model

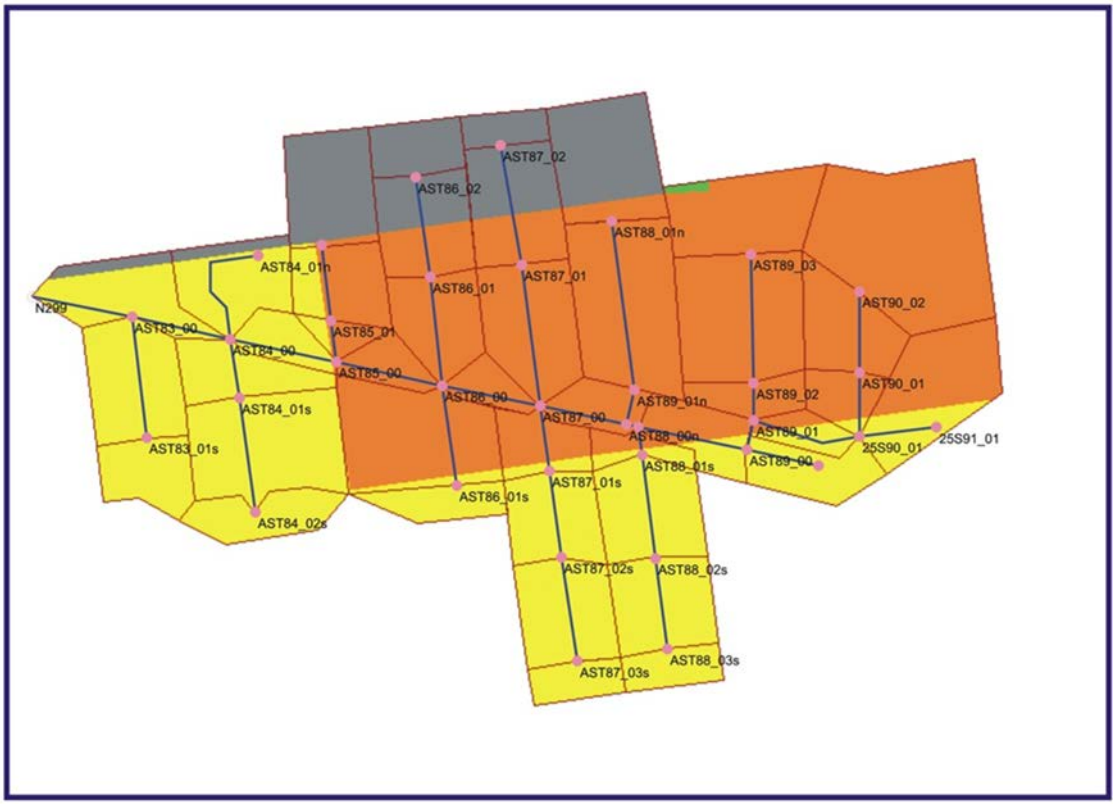


Figure 3-4. Geographical and Sewer System Data in InfoWorks Model

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 the

Newtown 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 raingauge 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 coefficient.

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 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.

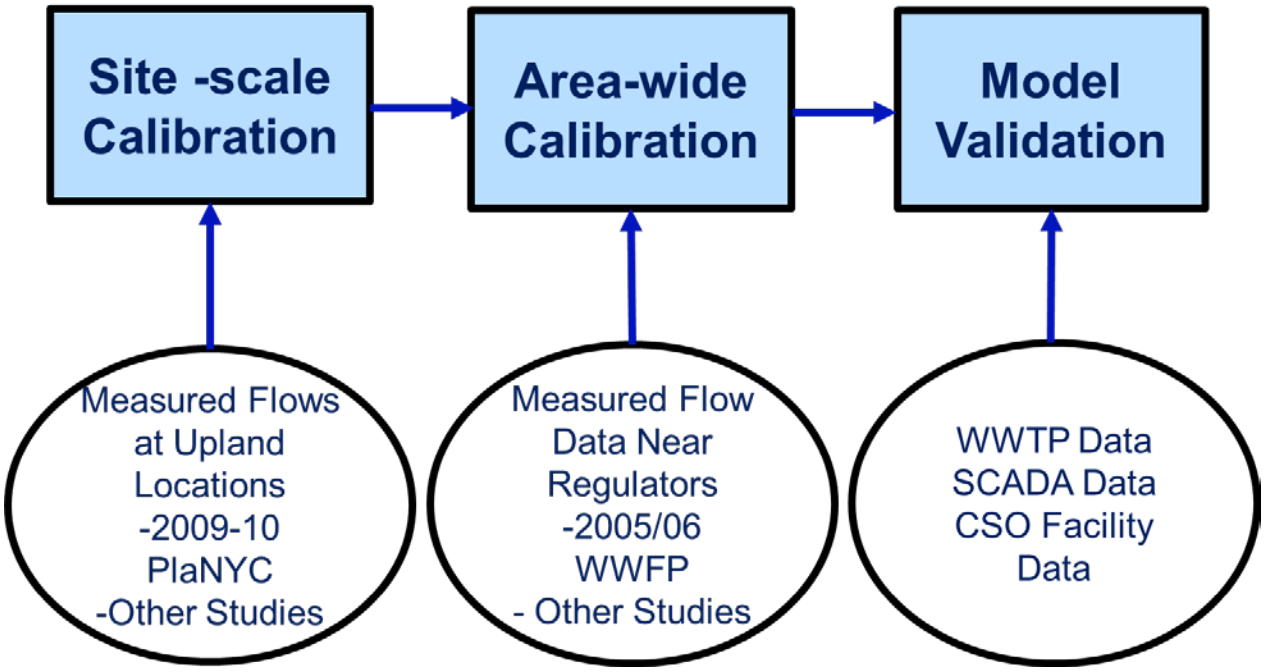


Figure 3-6. Comprehensive InfoWorks Model Calibration Approach

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 CY2013 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 Bowery Bay WWTP, for CY2013.

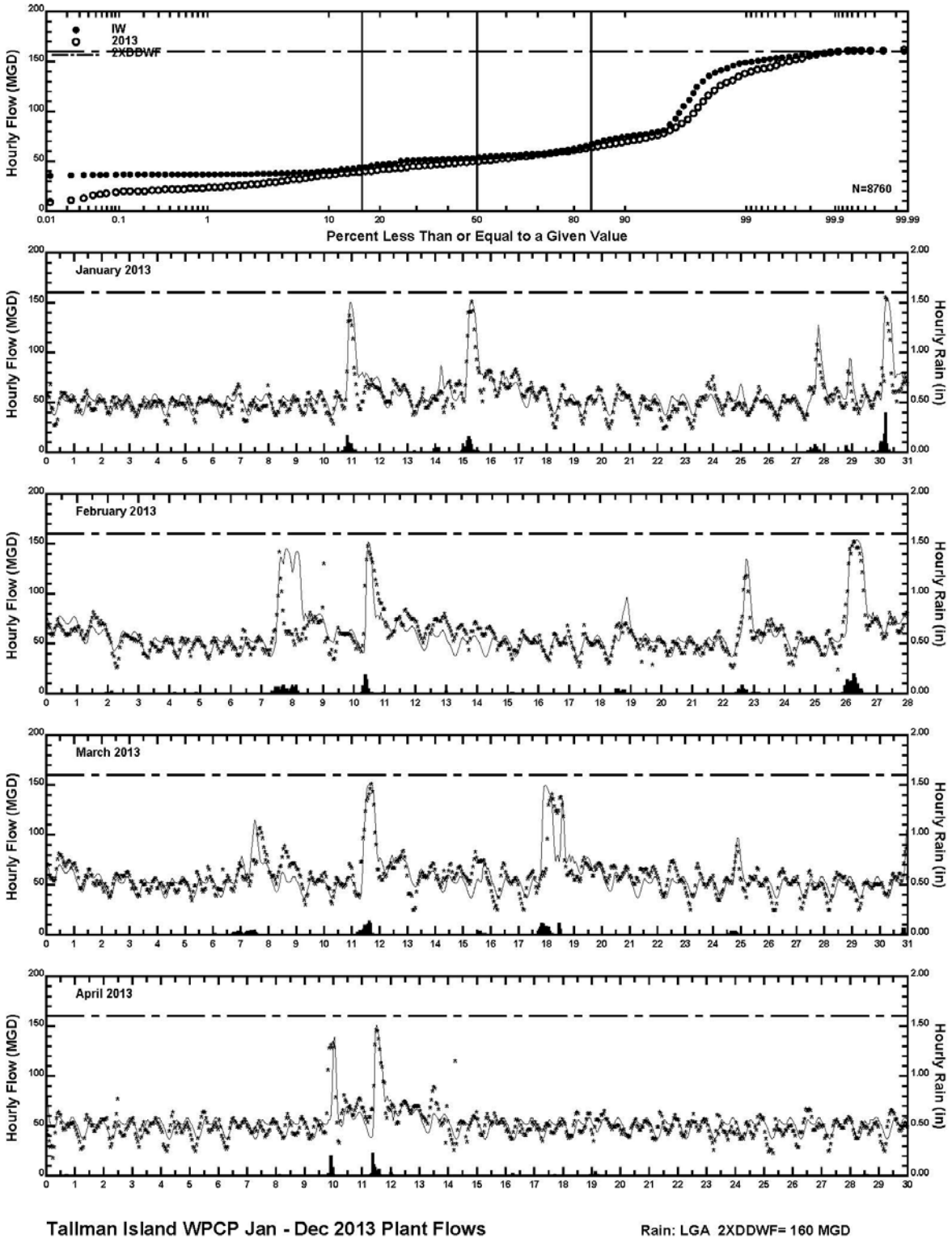


Figure 3-7. InfoWorks Sample Results 2013

3.4 COMBINED-SEWAGE CAPTURE RESULTS - 2013 FLOW VOLUME

Table 3-3 presents the results of the combined-sewage volume percent capture evaluation performed for CY2013. 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 2013 and "Standardized" refers to the actual conveyance/treatment system performance simulated with a "typical" rainfall condition.

As shown in Table 3-2, the “Actual” scenario capture of combined-sewage volume in 2013 averaged 81 percent citywide. Combined-sewage capture at individual, combined area WWTPs varied from a low at Jamaica (67 percent) to a high at North River (94 percent).

The “Standardized” scenario reveals that flow capture under the rainfall conditions of 2013 was higher than what would be expected under more typical rainfall conditions (i.e., JFK 2008 rainfall). Under typical rainfall conditions, system operations in 2013 would have produced citywide average combined-sewage volume captures of 79 percent. Results at individual combined-area WWTPs varied from a low at Jamaica of 64 percent to a high at North River of 94 percent.

Table 3-2. As-Modeled(5) WWTP Service Area Characteristics – CY 2013

WWTP	Total Drainage Area	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)
26	5,787	4,358	43	85	176	170
BB	14,232	12,446	96	150	334	300
CI	6,779	6,070	84	110	231	220
HP	22,543	11,546	116	200	421	400
JA	26,421	5,451	74	100	207	200
NC	15,103	13,562	194	310	765	700
NR	5,572	4,448	106	170	374	340
OH	10,078	9,448	86	120	287	240
PR	11,541	3,575	24	60	134	120
RH	3,738	2,991	28	60	130	120
TI	18,314	8,721	50	80	162	160
WI	15,799	12,822	192	275	530	500[5]
NYC CS Total	155,907	95,438	1,093	1,720	3,751	3,390
Separate Areas						
RO[4]	5710	NA	15	45	38	90
OB[4]	10779	NA	28	40	121	80
NYC overall	172,396	95,438	1,136	1,805	3,910	3,560

(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 Judgment dated November 3, 2006.

Table 3-3. Combined-Sewage Capture Results – CY 2013

Case Name:	"Actual"(1)	"Standardized"(2)
Rainfall Condition:(4)	**Actual (2013)**	**Standardized (2008 JFK)**
Wet Weather Flows:	**Actual (2013)**	**Actual (2013)**
26	94	92
BB	71	69
CI(6)	93	92
HP	77	75
JA	67	64
NC	84	82
NR	94	94
OH	76	74
PR	79	75
RH	80	79
TI	76	74
WI	79	79
NYC avg.	81	79

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 year. (4) Rainfall conditions: "Standardized" refers to 2008 rainfall at JFK Airport gage, 135 storms, total 46.3 inches, average intensity = 0.0621 inch/hour, COV = 1.67. "Actual (2013)" refers to 2013 rainfall at Central Park, LaGuardia Airport, Newark International Airport, and JFK Airport, as appropriate per drainage area.

3.5 REFERENCES

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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	Jun 2009 version Approved (Mar. 2010) - awaiting DEC approval of the Jan. 2011 version
North River	April 2004	July 2011	April 2004 version Approved (Jan. 2006); July 2011 submittal was an ammendment to WWOP due to fire.
Hunts Point	July 2003	Sept. 2004, April 2010, Aug. 2010	Aug. 2010 version Approved (Oct. 2010)
26th Ward	July 2003	Sept. 2004, May 2007, Oct. 2007, Feb. 2009, Aug. 2009, July 2010	Aug.2009 version Approved (Sept. 2009) - awaiting DEC approval of the July 2010 version
Coney Island	April 2005	Dec. 2007, May 2010, Oct. 2010	Dec. 2007 version Approved (Mar. 2008) - awaiting DEC approval of the Oct. 2010 version
Owls Head	April 2005	Dec. 2007, Sept. 2008, Dec. 2008	Dec. 2008 version Approved (Jan. 2009)
Newtown Creek	June 2003	April 2005, March 2009, April 2010, Oct. 2011, April 2013	April 2013 version Approved (Jun. 2013)
Red Hook	Feb. 2005	N/A	WWOP Approved (Jan. 2006)
Jamaica	April 2005	April 2007, June 2007	June 2007 version Approved (Sept. 2007)
Tallman Island	July 2003	Sept. 2004, May 2007, Oct. 2007, Aug. 2009, April 2010, July 2010, July 2011	July 2010 version Approved (Sept. 2010) - awaiting DEC approval of the July 2011 version
Bowery Bay	July 2003	Sept. 2004, March 2009	March 2009 version Conditionally Approved (May 2009)
Rockaway	April 2005	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
Oakwood Beach	April 2005	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
Port Richmond	April 2005	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
CSO FACILITIES			
Spring Creek	June 2003	May 2007, Oct. 2007, Feb. 2009, Aug. 2009, July 2010	appended to 26W WWOP
Flushing Bay	Dec. 2003	May 2007, Oct. 2007, Aug. 2009, April 2010, July 2010, July 2011	appended to TI WWOP
Alley Creek	Dec. 2003	May 2007, Oct. 2007, Aug. 2009, April 2010, July 2010, July 2011	appended to TI WWOP
Peardegat Basin	Dec. 2003	May 2010, Oct. 2010	appended to CI WWOP
Corona Avenue	Dec. 2003	March 2009	appended to BB WWOP

WET WEATHER OPERATING PLAN SUBMITTALS

	Submittal Dates		
Facilities	**Original Submittal**	**Revisions**	**Status**
Wards Island	July 2003	Sept. 2004, April 2007, Aug. 2007, June 2008 (submitted Sept. 2008), Dec. 2008, June 2009, Jan 2011	Jun 2009 version Approved (Mar. 2010) - awaiting DEC approval of the Jan. 2011 version
North River	April 2004		WWOP Approved (Jan. 2006)
Hunts Point	July 2003	Sept. 2004, April 2010, Aug. 2010	Aug. 2010 version Approved (Oct. 2010)
26th Ward	July 2003	Sept. 2004, May 2007, Oct. 2007, Feb. 2009, Aug. 2009, July 2010	Aug.2009 version Approved (Sept. 2009) - awaiting DEC approval of the July 2010 version
Coney Island	April 2005	Dec. 2007, May 2010, Oct. 2010	Dec. 2007 version Approved (Mar. 2008) - awaiting DEC approval of the Oct. 2010 version
Owls Head	April 2005	Dec. 2007, Sept. 2008, Dec. 2008	Dec. 2008 version Approved (Jan. 2009)
Newtown Creek	June 2003	April 2005, March 2009, April 2010	April 2010 version Approved (Jul. 2010)
Red Hook	Feb. 2005		WWOP Approved (Jan. 2006)
Jamaica	April 2005	April 2007, June 2007	June 2007 version Approved (Sept. 2007)
Tallman Island	July 2003	Sept. 2004, May 2007, Oct. 2007, Aug. 2009, April 2010, July 2010	July 2010 version Approved (Sept. 2010)
Bowery Bay	July 2003	Sept. 2004, March 2009	March 2009 version Conditionally Approved (May 2009)
Rockaway	April 2005	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
Oakwood Beach	April 2005	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
Port Richmond	April 2005	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
Spring Creek	June 2003	May 2007, Oct. 2007, Feb. 2009, Aug. 2009, July 2010	appended to 26W WWOP
Flushing Bay	Dec. 2003	May 2007, Oct. 2007, Aug. 2009, April 2010, July 2010	appended to TI WWOP
Alley Creek	Dec. 2003	May 2007, Oct. 2007, Aug. 2009, April 2010, July 2010	appended to TI WWOP
Peardegat Basin	Dec. 2003		
Corona Avenue	Dec. 2003		

WET WEATHER OPERATING PLAN SUBMITTALS

Facilities	Submittal Dates	Status
Wards Island	July 2003	received DEC comments & request to re-submit
	Sept. 2004	Sept. 2004 version Approved (Nov. 2005)
	Apr-07	submitted this update based on ongoing construction
	Aug. 2007	Aug. 2007 version Approved (Sept. 2007)
	June 2008 (submitted Sept. 2008)	received DEC comments & request to re-submit
	Dec. 2008	Dec. 2008 version Approved (Jan. 2009)
	Jun-09	received DEC comments in Sep. 2009, DEP responded in Nov. 2009 Jun. 2009 version Approved (Mar. 2010)
	Jan-11	**submitted this update as per the latest Nitrogen Consent Judgment** **awaiting DEC approval of the Jan. 2011 version**
North River	April 2004	WWOP Approved (Jan. 2006)
	July 2011	**Submitted an ammendment to WWOP due to fire**
Hunts Point	July 2003	received DEC comments & request to re-submit
	Sept. 2004	Sept. 2004 version Approved (Nov. 2005)
	Apr. 2010	submitted this update in response to DEC's request for an update due to construction received DEC comments & request to re-submit
	Aug. 2010	Aug. 2010 version Approved (Oct. 2010)
26th Ward	Jul-03	received DEC comments & request to re-submit
	Sept. 2004	Sept. 2004 version Approved (Nov. 2005)
	May-07	submitted this update to include Spring Creek WWOP
	Oct. 2007	received request for clarification from DEC in Mar. 2008
	Feb. 2009	received DEC comments & request to re-submit
	Aug. 2009	Aug.2009 version Approved (Sept. 2009)
	Jul. 2010	submitted this update in response to DEC's request due to BNR upgrade awaiting DEC approval of the Jul. 2010 version
Coney Island	April 2005	Apr. 2005 version disapproved, received DEC comments & request to resubmit in Oct. 2007
	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
	May 2010	submitted this update to include Paerdegat WWOP received DEC comments & request to re-submit
	Oct. 2010	submitted this update in response to DEC comments awaiting DEC approval of the Oct. 2010 version
Owls Head	April 2005	Apr. 2005 version disapproved, received DEC comments & request to resubmit in Oct. 2007
	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
	Sept. 2008	submitted this update to correct PST reported capacities received DEC comments & request to re-submit
	Dec. 2008	Dec. 2008 version Approved (Jan. 2009)
Newtown Creek	June 2003	
	Apr-05	Apr. 2005 version Approved (Jan. 2006)
	Mar-09	submitted this update based on interim construction DEC submitted comments & DEP responded in May 2009 March 2009 version Approved (Jun. 2009)
	Apr. 2010	Apr. 2010 version Approved (Jul. 2010)
	Oct. 2011	**submitted this update based on interim construction** **awaiting DEC approval of the Oct. 2011 version**
Red Hook	Feb. 2005	WWOP Approved (Jan. 2006)
Jamaica	April 2005	
	Apr-07	submitted this update to correct missing data received DEC comments & request to re-submit
	Jun-07	June 2007 version Approved (Sept. 2007)
Tallman Island	July 2003	received DEC comments & request to re-submit
	Sept. 2004	Sept. 2004 version Approved (Nov. 2005)
	May-07	submitted this update to include Flushign Bay & Alley Creek WWOPs received DEC comments & request to re-submit
	Oct. 2007	received request for clarification from DEC in Mar. 2008
	Aug. 2009	received DEC comments & request to re-submit
	Apr. 2010	received NOV & DEC comments & request to re-submit
	Jul. 2010	Jul. 2010 version Approved (Sept. 2010)
	Jul. 2011	**submitted update with updated Flushing Bay flow methodology and other updates** **awaiting DEC approval of the July 2011 version**
Bowery Bay	July 2003	received DEC comments & request to re-submit
	Sept. 2004	Sept. 2004 version Approved (Nov. 2005)
	Mar-09	submitted this update due to ongoing construction March 2009 version Conditionally Approved (May 2009)
Rockaway	April 2005	Apr. 2005 version disapproved, received DEC comments & request to resubmit in Oct. 2007
	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
Oakwood Beach	April 2005	Apr. 2005 version disapproved, received DEC comments & request to resubmit in Oct. 2007
	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)
Port Richmond	April 2005	Apr. 2005 version disapproved, received DEC comments & request to resubmit in Oct. 2007
	Dec. 2007	Dec. 2007 version Approved (Mar. 2008)

Spring Creek	June 2003	
	May-07	appended to 26W WWOP
	Oct. 2007	appended to 26W WWOP
	Feb. 2009	appended to 26W WWOP
	Aug. 2009	appended to 26W WWOP
	Jul. 2010	appended to 26W WWOP
Flushing Bay	Dec. 2003	
	May-07	appended to TI WWOP
	Oct. 2007	appended to TI WWOP
	Aug. 2009	appended to TI WWOP
	Apr. 2010	appended to TI WWOP
	Jul. 2010	appended to TI WWOP
	Jul. 2011	**appended to TI WWOP**
Alley Creek	Dec. 2003	
	May-07	appended to TI WWOP
	Oct. 2007	appended to TI WWOP
	Aug. 2009	appended to TI WWOP
	Apr. 2010	appended to TI WWOP
	Jul. 2010	appended to TI WWOP
	Jul. 2011	**appended to TI WWOP**
Peardegat Basin	Dec. 2003	
	May 2010	appended to CI WWOP
	Oct. 2010	appended to CI WWOP
Corona Avenue	Dec. 2003	

Appendix 5

Dry Weather Raw Sewage Bypass Graph (2008 – 2013)

Dry Weather Raw Sewage Bypasses Summary (2008 – 2013)

Bypassing Cause Codes

Pump Station Bypass Summary

Pump Station Bypass Cause Code Summary

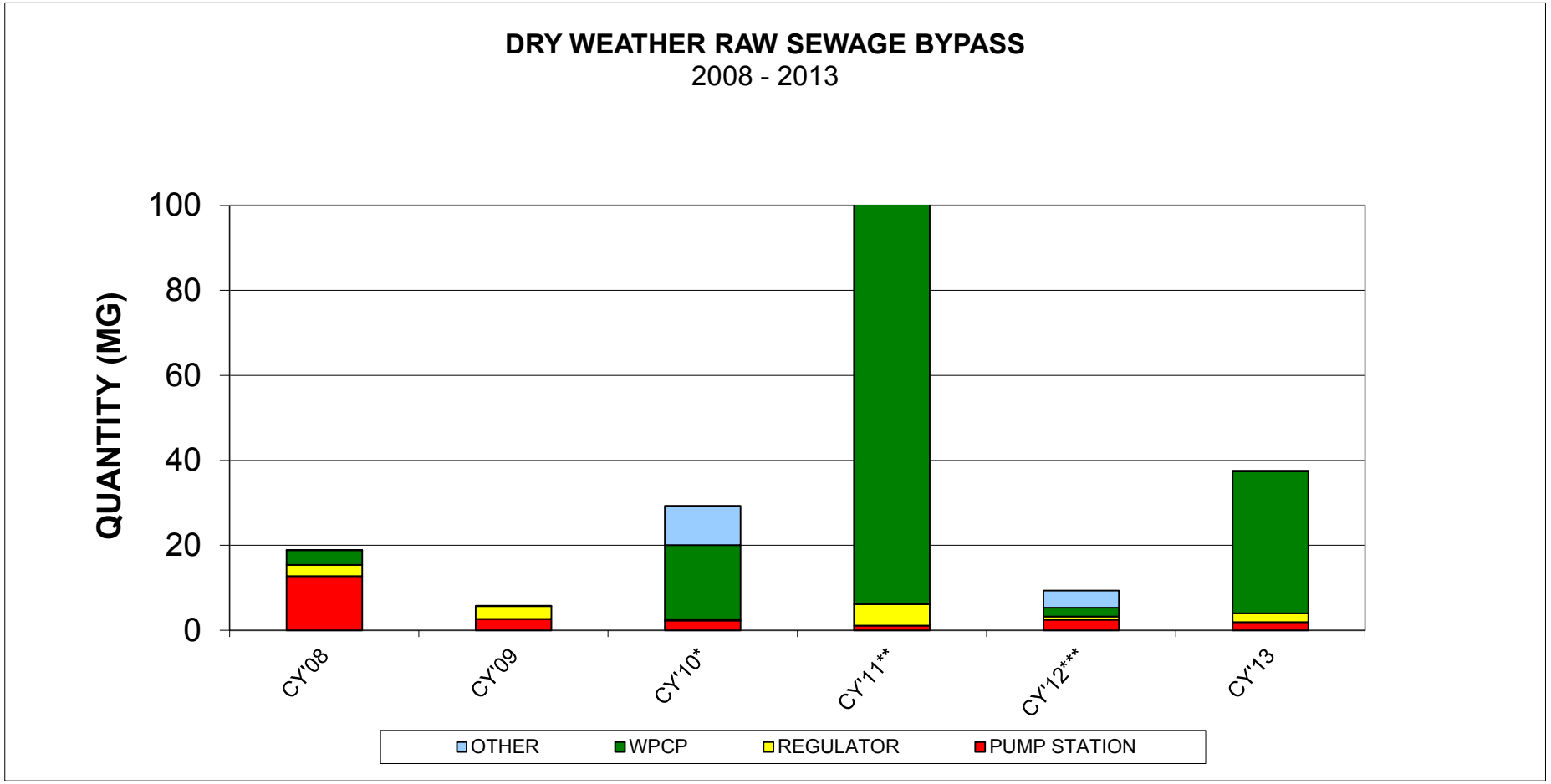
Pump Station Bypass Summary Itemized by Cause Code & PS's

Regulator Bypass Summary

Regulator Bypass Summary Itemized by Cause Code & Location

WWTPs Bypasses

Sandy Bypasses



Dry Weather Bypassing CY'07-CY'12

SOURCE	CY'08	CY'09	CY'10*	CY'11**	CY'12***	CY'13
PUMP STATION	12.75	2.69	2.32	1.12	2.50	1.95
REGULATOR	2.63	2.99	0.27	5.02	0.72	2.07
WPCP	3.50	0.06	17.50	275.41	2.10	33.45
OTHER	0.02	0.02	9.25	0.00	4.04	0.07
TOTAL	**18.90**	**5.76**	**29.34**	**281.55**	**9.36**	**37.54**

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

*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.
**In2011, there were two bypasses occurred due to the fire events at North River WPCP engine room on July 20-22 and 23, which contributed 270 MG and lasted 52.2 hours (DEP ITEM# 5140).
***In2012 October29and30 there were citywide raw sewage bypss related to Hurricane Sandy wich contributed approximately 561.9MG and 805.5 MG secondary Treatment Reduction (DEP ITEM#5219) and is included in the above totals.

Dry Weather Raw Sewage Bypasses

Pump Station Bypass Summary

Years	# Of Events	Total Bypass(MG)	Duration (Hrs)
CY2008	14	11.75	40.20
CY2009	15	3.37	33.27
CY2010	13	2.36	50.50
CY2011	10	9.03	36.54
CY2012	8	2.50	25.17
CY2013	6	1.95	16.60

Regulator Bypass Summary

Years	# Of Events	Total Bypass (MG)	Duration (Hrs)
CY2008	8	0.71	6.57
CY2009	8	2.30	17.42
CY2010	12	0.21	14.17
CY2011	5	0.42	18.08
CY2012	9	0.72	11.17
CY2013	7	2.07	23.68

WWTP Bypass Summary

Years	# Of Events	Total Bypass(MG)	Duration (Hrs)
CY2008	32	56.38	32.89
CY2009	32	87.17	29.25
CY2010	3	17.50	12.00
CY2011*	9	368.42	127.02
CY2012	2	2.10	2.90
CY2013	17	33.45	54.21

***This report contains two bypasses occurred due to the fire events at North River WPCP on July 20-22 and 23 which contributed 270 MG and lasted 44.4 hours (DEP Item# 5140).**

Other Location Bypass Summary*

Years	# Of Events	Total Bypass(MG)	Duration (Hrs)
CY2008	4	0.02	23.75
CY2009	1	0.02	5.17
CY2010	12	9.25	49.60
CY2011	0	0.00	0.00
CY2012	11	4.04	156.53
CY2013	30	0.07	1962.32

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

BYPASSING CAUSE CODES

1. **APPROVED SHUTDOWN**
   - A. Corrective Maintenance
   - B. Modification
   - C. Reconstruction (Capital Projects)
   - D. Others
2. **ELECTRICAL UTILITY FAILURE**
   - A. Feeder
   - B. Network (i.e. area wide blackout)
3. **ELECTRICAL EQUIPMENT FAILURE**
   - A. Distribution on Equipment
   - B. Influent or Regulator Gate Control System
   - C. MSP Control System
   - D. MSP Motor
   - E. Other
4. **MECHANICAL EQUIPMENT FAILURE**
   - A. Influent or Regulator Gates
   - B. Screens
   - C. MSP
   - D. MSP Related Pipe/Valves
   - E. Major Treatment Units
   - F. Others
5. **UNCOLLECTED**
   - A. Undersized Facility
   - B. New Facility Required
   - C. Illegal Connection to Storm
   - D. Illegal Connection to Outfall
   - E. High Flows (i.e. flow reduction required)
6. **BLOCKAGES**
   - A. Regulator
   - B. Tide Gate Chamber (i.e. infiltration)
   - C. Branch Interceptor
   - D. Interceptor
   - E. Influent Gate
   - F. Screens
   - G. Pumps
7. **RUPTURE OR COLLAPSE**
   - A. Pumping Station Force Main
   - B. Interceptor or Other Main
8. **FLOODING**
   - A. Wet Well Interconnection
   - B. Pump or Pipe Failure
   - C. Other
9. **MISCELLANEOUS**
   - A. Vandalism
   - B. Contractor Error
   - C. Operation Error
   - D. Explosive or Toxic Material

PUMP STATION BYPASSING SUMMARY
CY 2013

Location	Date	Time of alarm	Nature of alarm	Cause of interruption	Bypassing analysis
PR-Cannon Avenue PS	01/16/13	9:00AM	Bypass due to a broken discharge hose	BYPASS	Reduced.Reported to DEC.Item#5231
OB-Richmond Hill Rd. PS	02/01/13	10:20AM	Bypass due to a power dip on both feeders	BYPASS	Reduced.Reported to DEC.Item#5233
RH-Gowanus PS	02/19/13	08:00AM	Bypass due to failure of Rudox generator	BYPASS	Reduced.Reported to DEC.Item#5235
HP-Conner Street PS	03/08/13	02:00PM	Bypass due to the supervisor mistake	BYPASS	Reduced.Reported to DEC.Item#5243
TI-Clearview PS	06/11/13	3:54AM	Bypass due to a loose lug in the panel	BYPASS	Reduced.Reported to DEC.Item#5265
OB-Mayflower Avenue PS	10/14/13	7:08 PM	Bypass due to pump contr. syst. mulfunction	BYPASS	Reduced.Reported to DEC.Item#5285

PUMP STATION BYPASSING SUMMARY
CY 2013

LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
PR-Cannon Avenue PS	1	16.67	0.001	0.05	0.33	0.81
OB-Richmond Hill Rd. PS	1	16.67	0.038	1.95	0.5	1.23
RH-Gowanus PS	1	16.67	1.000	51.33	3.00	7.35
HP-Conner Street PS	1	16.67	0.533	27.34	31.25	76.59
TI-Clearview PS	1	16.67	0.357	18.33	4.85	11.89
OB-Mayflower Avenue PS	1	16.67	0.020	1.03	0.87	2.13
TOTAL	6	100	1.95	100	40.80	100.00

PUMP STATION BYPASSING
CY 2013
CAUSECODE BYPASS SUMMARY

CAUSECODE	CODE DESCRIPTION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
2A	ELECTRICAL UTILITY FAILURE - FEEDER	1	16.67	0.038	1.95	0.50	1.23
3A	ELECTRICAL EQUIPMENT FAILURE -Distrib.Equipment	1	16.67	0.357	18.33	4.85	11.89
3E	ELECTRICAL EQUIPMENT FAILURE -Other	1	16.67	1.000	51.33	3.00	7.35
3C	ELECTRICAL EQUIPMENT FAILURE -MSP Control System	1	16.67	0.020	1.03	0.87	2.13
4D	MECHANICAL EQUIPMENT FAILURE-MSP Related Pipe/Valves	1	16.67	0.001	0.05	0.33	0.81
9C	MISCELLANEOUS	1	16.67	0.533	27.34	31.25	76.59
Total		6	100	1.95	100	40.80	100

PUMP STATION BYPASSING

CY 2013

SUMMARY BY CAUSE CODE & PUMPING STATIONS

CAUSECODE: 2A ELECTRICAL UTILITY FAILURE-FEEDER

ITEM #	LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
5233	OB-Richmond Hill Rd.	1	16.67	0.038	1.95	0.50	1.23
	TOTAL	1	16.67	0.038	1.95	0.50	1.23

CASECODE: 3A ELECTRICAL EQUIPMENT FAILURE -Distrib.Equipment

ITEM #	LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
5265	TI-Clearview PS	1	16.67	0.357	18.33	4.85	11.89
	TOTAL	1	16.67	0.357	18.33	4.85	11.89

CASECODE: 3E ELECTRICAL EQUIPMENT FAILURE -Other

ITEM #	LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
5235	RH-Gowanus PS	1	16.67	1.000	51.33	3.00	7.35
	TOTAL	1	16.67	1.000	51.33	3.00	7.35

CASECODE: 3C ELECTRICAL EQUIPMENT FAILURE -MSP Control System

ITEM #	LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
5285	OB-Mayflower AvePS	1	16.67	0.02	1.03	0.87	2.13
	TOTAL	1	16.67	0.02	1.03	0.87	2.13

CASECODE: 4D MECHANICAL EQUIPMENT FAILURE-MSP Related Pipe/Valves

ITEM #	LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
5231	PR-Cannon Avenue PS	1	16.67	0.001	0.05	0.33	0.81
	TOTAL	1	16.67	0.001	0.05	0.33	0.81

CASECODE: 9C MISCELLANEOUS

ITEM #	LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
5243	HP-Conner Street PS	1	16.67	0.533	27.34	31.25	76.59
	TOTAL	1	16.67	0.533	27.34	31.25	76.59

REGULATOR BYPASSING SUMMARY
CY 2013

CAUSECODE: 6A BLOCKAGES - REGULATOR

REGULATORS	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
NC-Reg.No.M-12	2	28.57	0.1478	7.15	4.00	16.89
TOTAL	2	28.57	0.1478	7.15	4.00	16.89

CAUSECODE: 8C FLOODING. Other

REGULATORS	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
BB-Reg. No. HL-09	2	28.57	1.173	56.72	10.28	43.41
BB-Reg. No. HL-02	1	14.29	0.127	6.14	2.70	11.40
BB-Reg. No. HL-03	1	14.29	0.0064	0.31	2.70	11.40
WI-Reg. No. 67	1	14.29	0.614	29.69	4.00	16.89
TOTAL	5	71.43	1.920	92.85	19.68	83.11

REGULATOR BYPASSING SUMMARY
CY 2013

LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS
BB-Reg. No. HL-09	2	28.57	1.173	56.72	10.28	43.41
BB-Reg. No. HL-02	1	14.29	0.127	6.14	2.70	11.40
BB-Reg. No. HL-03	1	14.29	0.0064	0.31	2.70	11.40
NC-Reg. No. M-12	2	28.57	0.1478	7.15	4	16.89
WI-Reg. No. 67	1	14.29	0.614	29.69	4.00	16.89
TOTAL	7	100	2.068	100	23.68	100

WWTP BYPASS
CY 2013

ITEM #	LOCATION	EVENTS	%EVENTS	MG	%MG	HOURS	%HOURS	TYPE
5228	RH-WWTP	1	5.88	0.21	0.64	0.25	0.46	Raw Sewage Bypass
5250	WI-Wards Island	1	5.88	0.42	1.26	2	3.69	Raw Sewage Bypass
5255	TI-Tallman Island	1	5.88	0.47	1.41	6.03	11.12	Raw Sewage Bypass
5256	WI-Wards Island	1	5.88	6.04	18.06	8.75	16.14	Raw Sewage Bypass
5257	WI-Wards Island	1	5.88	7.98	23.86	11.83	21.82	Raw Sewage Bypass
5258	TI-Tallman Island	1	5.88	2.10	6.28	16.92	31.21	Raw Sewage Bypass
5259	OH-Owls Head	1	5.88	0.00005	0.0001	0.19	0.35	Raw Sewage Bypass
5261	JA-Jamaica	1	5.88	0.0005	0.0015	0.25	0.46	Raw Sewage Bypass
5262	RH-Red Hook	1	5.88	0.000028	0.0001	0.58	1.07	Raw Sewage Bypass
5263	RH-Red Hook	1	5.88	0.000025	0.0001	0.25	0.46	Raw Sewage Bypass
5268	26th Wards WWTP	1	5.88	0.85	2.54	0.69	1.27	Raw Sewage Bypass
5269	HP- Hunts Point	1	5.88	4.7	14.05	0.5	0.92	Raw Sewage Bypass
5270	JA-Jamaica	1	5.88	4.96	14.83	4.58	8.45	Raw Sewage Bypass
5272	NR-WWTP	1	5.88	4	11.96	0.5	0.92	Raw Sewage Bypass
5281	RH-Red Hook	1	5.88	0.32	0.96	0.42	0.77	Raw Sewage Bypass
5291	26th Wards WWTP	1	5.88	1.4	4.19	0.25	0.46	Raw Sewage Bypass
5292	RH-Red Hook	1	5.88	0.00004	0.00	0.22	0.41	Raw Sewage Bypass
	TOTAL	17	100	33.45	100	54.21	100	

Appendix 6

Exhibit 1- Letter to Industrial Users amending

Exhibit 2- Trends in Metals Loadings to New York City WWTPs

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

Appendix 7 BWSO

Programmatic Citywide Catch Basins
Survey and Cleaning Schedule

TABLE 7.1-1: Post Inspection Schedule Updated 3/11/2013

Brooklyn North			
CB#	**# Basins**	**Start Date**	**Survey & Cleaning Completion Due Date**
3	1701	October 1, 2012	February 28, 2013
8	856	December 1, 2012	May 31, 2013
1	3157	March 1, 2013	October 31, 2013
9	772	November 1, 2013	January 31, 2014
4	856	February 1, 2014	April 30, 2014
6	1660	April 1, 2014	August 31, 2014
7	1476	July 1, 2014	December 31, 2014
10	1482	November 1, 2014	March 31, 2015
2	1721	March 1, 2015	July 31, 2015
17	1877	July 1, 2015	November 30, 2015

Brooklyn South			
CB#	**# Basins**	**Start Date**	**Survey & Cleaning Completion Due Date**
16	1090	October 1, 2012	January 31, 2013
13	1585	December 1, 2012	April 30, 2013
11	1857	March 1, 2013	July 31, 2013
14	1614	July 1, 2013	November 30, 2013
15	3526	June 1, 2013	March 31, 2014
5	3459	December 1, 2013	August 31, 2014
12	2104	August 1, 2014	January 31, 2015
18	4375	July 1, 2014	June 30, 2015

Staten Island			
CB#	**# Basins**	**Start Date**	**Survey & Cleaning Completion Due Date**
1	3768	July 1, 2012	May 31, 2013
2	4270	February 1, 2013	January 31, 2014
3	5741	May 1, 2014	June 30, 2015

Manhattan			
CB#	**# Basins**	**Start Date**	**Survey & Cleaning Completion Due Date**
8	1033	October 1, 2012	January 31, 2013
7	1242	December 1, 2012	April 30, 2013
5	1131	April 1, 2013	July 31, 2013
6	974	July 1, 2013	October 31, 2013
4	1193	October 1, 2013	January 31, 2014
1	1093	January 1, 2014	April 30, 2014
3	1139	March 1, 2014	July 31, 2014
11	917	July 1, 2014	October 31, 2014
2	1373	October 1, 2014	February 28, 2015
9	802	March 1, 2015	May 31, 2015
10	877	May 1, 2015	August 31, 2015
12	1275	September 1, 2015	December 31, 2015

Queens North			
CB#	# Basins	Start Date	Survey & Cleaning Completion Due Date
3	2445	November 1, 2012	February 28, 2013
4	2405	March 1, 2013	June 30, 2013
7	6185	February 1, 2013	September 30, 2013
11	5050	July 1, 2013	January 31, 2014
6	1858	April 1, 2014	June 30, 2014
5	4576	May 1, 2014	October 31, 2014
8	3944	October 1, 2014	February 28, 2015
1	2968	March 1, 2015	June 30, 2016
2	3089	June 1, 2015	October 31, 2015

Queens South			
CB#	# Basins	Start Date	Survey & Cleaning Completion Due Date
12	7987	June 1, 2012	April 30, 2013
9	3652	April 1, 2013	September 30, 2013
10	4790	July 1, 2013	January 31, 2014
14	3690	January 1, 2014	June 30, 2014
13	9847	October 1, 2014	October 31, 2015

Bronx			
CB#	# Basins	Start Date	Survey & Cleaning Completion Due Date
5	781	November 1, 2012	January 31, 2013
10	2073	November 1, 2012	April 30, 2013
8	1103	April 1, 2013	July 31, 2013
11	1882	July 1, 2013	November 30, 2013
12	2675	August 1, 2013	February 28, 2014
2	797	March 1, 2014	May 31, 2014
1	1106	May 1, 2014	August 31, 2014
4	1070	July 1, 2014	November 30, 2014
9	2058	September 1, 2014	February 28, 2015
6	920	March 1, 2015	May 31, 2015
7	910	June 1, 2015	August 31, 2015
3	736	September 1, 2015	November 30, 2015

Table 7.1-2: CY 2013 Catch Basin (CB) Survey & Cleaning

Borough	Total CB Surveyed	Scheduled CB Cleanings	Complaint Based CB Cleaned	Total CB Cleaned
BRONX	6,926	3,726	1,044	4,770
BROOKLYN	14,230	6,068	2,383	8,451
MANHATTAN	5,159	2,757	655	3,412
QUEENS	29,468	14,143	3,813	17,956
STATEN ISLAND	5,907	1,443	561	2,004
TOTAL:	**61,690**	**28,137**	**8,456**	**36,593**

Table 7.1-3: CY 2013 Catch Basin Hooding (Total number of hoods replaced by drainage area)

Catch Basin Hooding

Drainage Area	Quantity
26th Ward	3
Bowery Bay	24
Coney Island	26
Hunts Point	144
Jamaica	67
Newtown Creek	42
North River	27
Oakwood Beach	0
Owls Head	21
Port Richmond	2
Red Hook	1
Rockaway	21
Tallman Island	25
Wards Island	68
Total	**471**

Appendix 7 BWT

Table 7C-1. City-Wide Floatable Material Recovery 2004-2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
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
FCP Temporary[3]	2.00	2.00	1.00	2.00	2.00	2.00	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
Total	25.00	25.00	26.00	27.00	27.00	29.00	36.00	24.00	24.00	24.00
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
FCP Temporary	2.00	3.00	18.00	25.50	18.25	1.00	5.00	1.50	9.00	6.00
Other Sites	32.00	80.25	70.50	151.50	136.50	207.50	523.00	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**

[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, 2013

Month-Year	FRESH CREEK	BERGEN BASIN	THURSTON BASIN	FLUSHING BAY I	FLUSHING BAY II	FLUSHING CREEK I	FLUSHING CREEK II	BRONX RIVER	CRYDERS POINT	HENDRIX CREEK	ENGLISH KILLS	CONEY ISLAND	GOWANUS CANAL
Jan-13			6					26					
Feb-13	14		11.5					42		4		4	
Mar-13	5	4						54				12	
Apr-13	8	12	8			1		30			17.5	6	
May-13	4	6			2	3		86		6		2	
Jun-13								68				2	
Jul-13	7	8						69		1		6	2
Aug-13	3	6						57					1
Sep-13	10					2		66	2	5			
Oct-13	6					3		51	4	3		6	3
Nov-13	4					0		33.5	2	2		1.5	
Dec-13						1		63					
2013 Total	**61**	**36**	**25.5**	**0**	**2**	**10**	**0**	**645.5**	**8**	**21**	**17.5**	**39.5**	**6**

Month-Year	MASPETH CREEK	BOWERY BAY	BUSHWICK INLET	EAST BRANCH	HUNTS POINT	PAERDEGAT BASIN	OWLS HEAD	WALLABOUT I	WALLABOUT II	WESTCHESTER CREEK	CLASON POINT	OUTSIDE CONTAINMENT (1)	2013 Total
Jan-13													**32**
Feb-13		14											**89.5**
Mar-13		5											**80**
Apr-13	8		1										**91.5**
May-13												12	**121**
Jun-13													**70**
Jul-13													**93**
Aug-13													**67**
Sep-13	6												**91**
Oct-13	6							3					**85**
Nov-13													**43**
Dec-13													**64**
2013 Total	**20**	**19**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**12**	**927**

(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, 2013

Month-Year	BERGEN BASIN	THURSTON BASIN	FLUSHING BAY II	CRYDERS POINT	WHALE CREEK	GRAVESEND BAY	UPPER NY BAY	EAST RIVER	SHEEPSHEAD BAY	2013 Total
Jan-13										
Feb-13										
Mar-13										
Apr-13										
May-13							12			12
Jun-13										
Jul-13										
Aug-13										
Sep-13										
Oct-13										
Nov-13										
Dec-13										
2013 Total							12			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	6	0	26	32
February	29.5	4	56	89.5
March	9	12	59	80
April	28	32.5	31	91.5
May	16	2	103	121
June	0	2	68	70
July	16	8	69	93
August	9	1	57	67
September	15	6	70	91
October	9	18	58	85
November	6	1.5	35.5	43
December	0	0	64	64
2013 TOTAL YTD	**143.5**	**87**	**696.5**	**927**

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

* Open Water skimming (not a floatable containment site)

HydroQual 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	NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION DEP

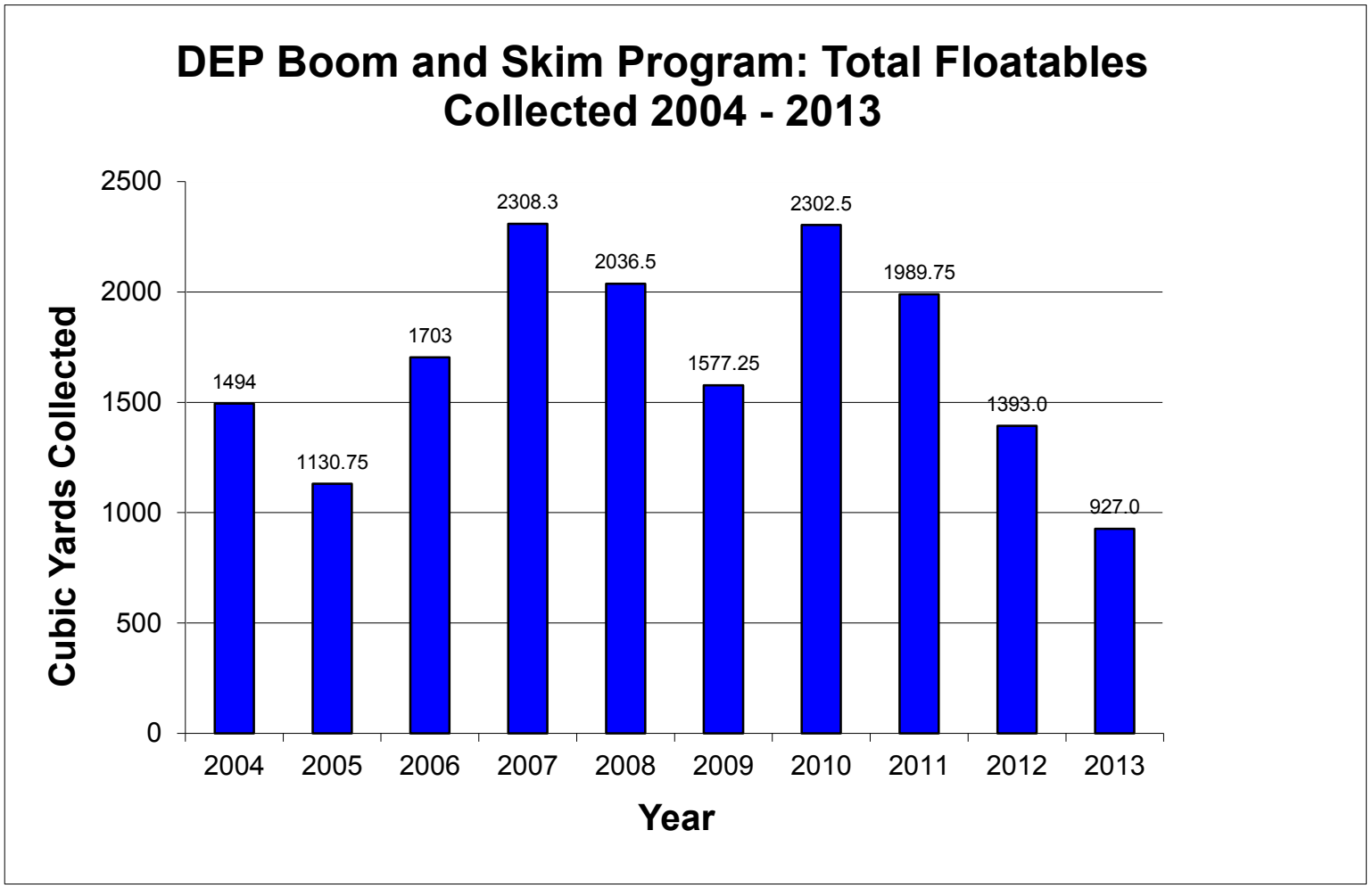
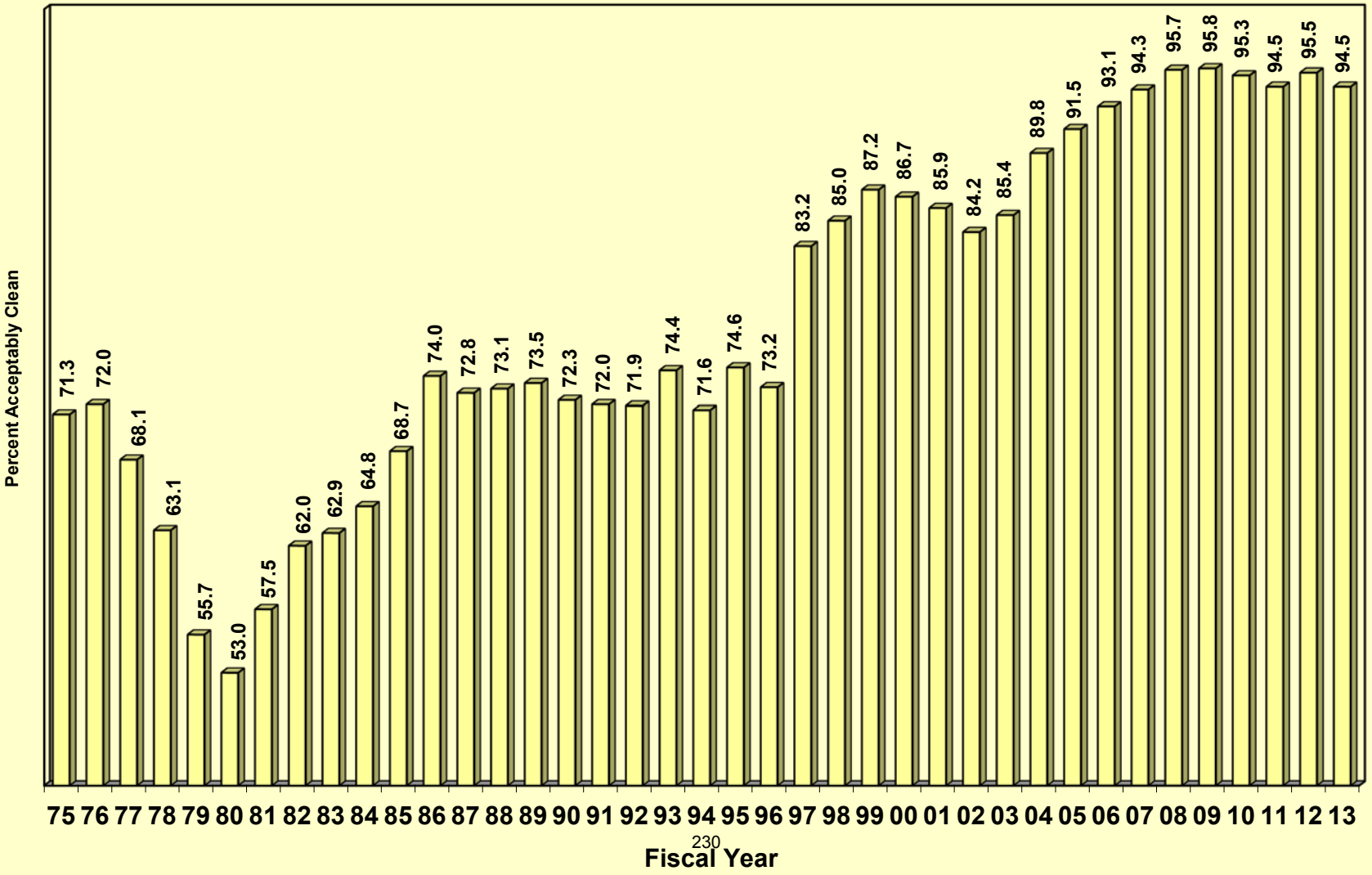


Figure 7-3. City Floatable Material Recovery 2004 - 2013

Department of Sanitation

Scorecard Street Cleanliness Ratings
Percent of Acceptably Clean Streets
Fiscal 1975 - 2013



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:

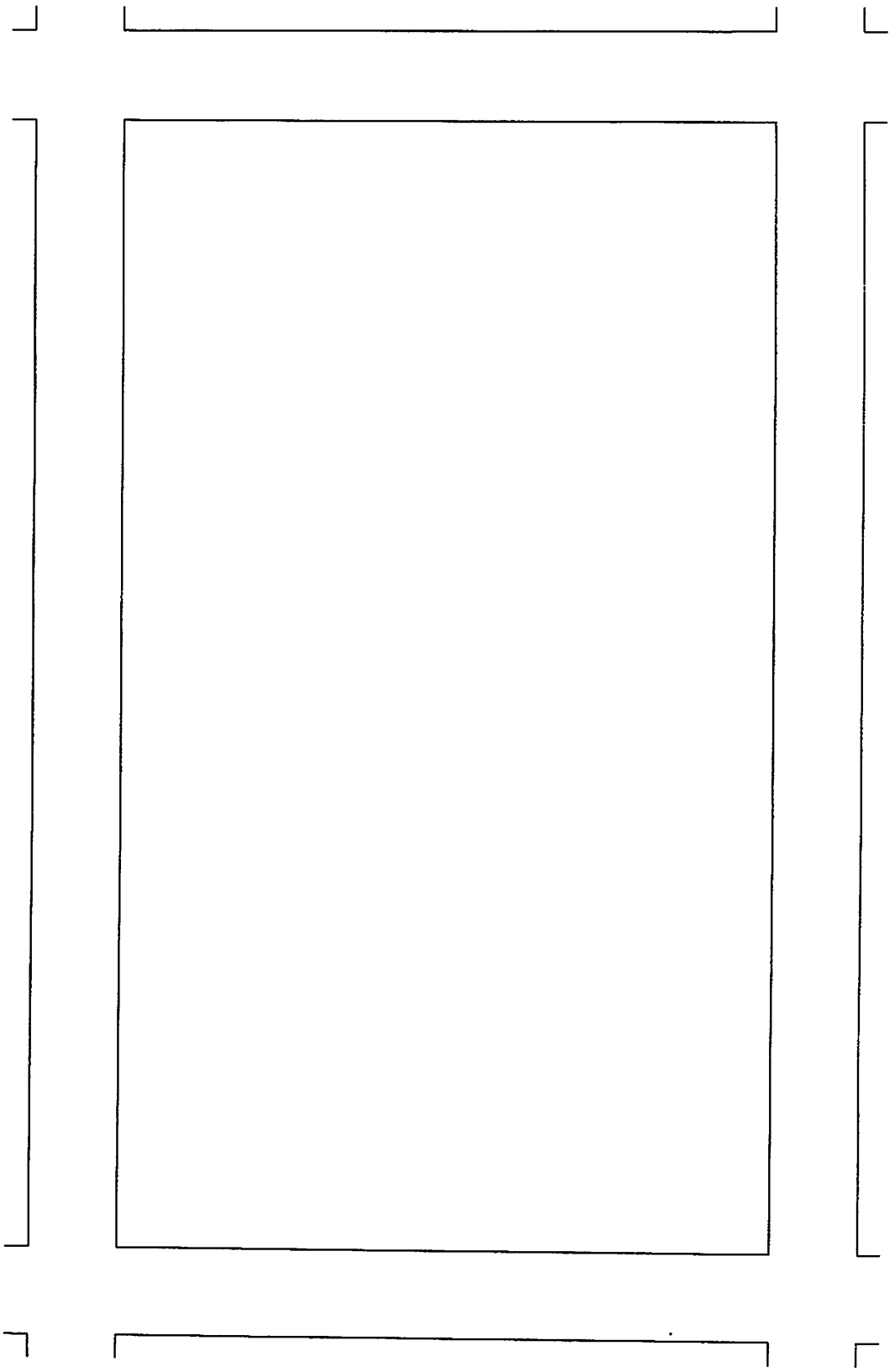
1. Topo Map No. _____ Watercourse shown: ☐YES ☐ NO
2. Comments:

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	OUTFALL ID	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
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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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
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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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
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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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
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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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	CSO-23	Installed
160	HP-034	WESTCHESTER CREEK & NEWBOLD AVENUE (CITY IS	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
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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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
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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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*
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 AVENUI	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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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
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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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
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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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
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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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 Comple	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
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	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

CSO Signs

No	OUTFALL ID	OUTFALL LOCATION	CONTRIBUTORS	STATUS/COMMENTS
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
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 2011 to 2013
Table B-1	Advisory & Closure Summary for Public Beaches
Table B-2	Advisory & Closure Summary for Private Beaches

PUBLIC NOTIFICATON

The intent of the eighth Minimum control is to ensure that the public receives adequate notification of actual CSO occurrences and impacts. Impacts may include the possible health and environmental effects of CSOs, and recreational or commercial activities (e.g. swimming and shellfish harvesting) curtailed as a result of CSOs.

A. Beach Sampling and Beach Closure Procedures

Department of Health and Mental Hygiene

The Office of Public Health Engineering (PHE) of the New York City Department of Health and Mental Hygiene (DOHMH) conducts a comprehensive beach water survey and sampling program at all of the City's permitted beaches during the beach season. The purpose of this annual seasonal program is to:

- Inspect the established beach areas for compliance with existing State Sanitary Code and City Health Code standards, and

- To collect water quality samples at permitted beach facilities throughout the City to obtain the data necessary to provide the public with information regarding the advisability of using the various public and private beachfronts.

There are 18 permitted beached by NYCDOHMH. Six permitted public bathing facilities are operated by the New York City Department of Parks and Recreation (NYCDPR), and twelve permitted beaches are private bathing facilities.

Monitoring Plan and Sampling Schedule

The City Beaches are ranked according to potential pollution sources and storm water discharges, historical water quality data, regional hydrodynamics, frequency of use, beach length, and geomorphology, as shown in Table 2. Beaches are monitored based on the following tier criteria: Tier 1 high priority, Tier 2 medium priority, and Tier 3 low priority based on their potential risk exposure factors. This three-tiered system is used to direct appropriate resources toward monitoring and notification programs. Therefore, significant resources will be devoted to Tier 1 beaches (waters of high risk), to more intensely monitor those areas.

PHE samples 23 points at the beaches as shown on Table 2. Routine water quality monitoring is performed at 17 designated Tier I and II sampling points on a weekly basis. In addition, 6 representative points of Tier III beaches in the Rockaways are sampled bi-weekly. Multiple sampling stations are included at Rockaway and Coney Island Beaches based on beach length/geomorphology.

Sample collection and Sanitary Surveys is performed between 6AM and 12 PM on Mondays (or 1st day of week), Tuesdays (or 2nd day of the week) and alternate Wednesdays (or 3rd day of the week). Before sample collections are completed, a Sanitary Survey shall be conducted with a visual inspection for the purpose of identifying any existing, and/or potential sources of pollution that are likely to affect the water quality, such as untreated sewage, petroleum oil, medical/infectious material, or other sources of contamination. Four samples are taken at each sampling point. Large beaches, such as Coney Island and the Rockaways are sampled at multiple locations to ensure

VIII. PUBLIC NOTIFICATON

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representative and reliable data. The collected samples are delivered to the NYCDOHMH Public Health Laboratory (PHL) for bacteriological analysis.

Additional Sampling Plan

Additional sampling shall be conducted when necessary. The number of samples and frequency will depend on several factors including: proximity to suspected pollution sources, extent of pollution, beach use, historical water quality data, and other health risk factors. The following is a list of scenarios that shall trigger additional sampling, including but not limited to, 1) routine sample exceedance, 2) reported sewage spills and pollution events, and 3) following a heavy rainfall event:

Routine Sample Exceedance

When the OPHE is informed of an exceedance by the laboratory from routine sampling results, resulting in conditions that may pose a threat to the health and safety of the public, a public notification and/or resample shall be initiated following proper Quality Assurance/Quality Control (QA/QC) procedures for sample results. Notification will remain in effect until:

1) A three-grab resample is taken at the sample site and at 50 feet distances
2) Resample indicates acceptable water quality
3) QA/QC requirements are met for sample accuracy

Re-samples shall be taken as soon as practical after notification.

Upon re-sampling, if the water quality standard is still in exceedance, or if the Sanitary Survey discloses any condition that may present an imminent public health hazard, the beach shall remain closed until satisfactory water quality results are met.

Reported Sewage Spills and Pollution Events

Samples may be collected following reported sewage spills or other pollution events where major pathogen contamination is plausible and City Beaches may be temporarily closed. After a closure, the beach shall not reopen until satisfactory water quality results are obtained. The Marine Science Division of NYCDEP shall be contacted to assist PHE with sample analysis.

After a Heavy Rainfall Event

Many City Beaches are under a Preemptive Wet Weather Advisory and are advised to remain closed in accordance to their classification. Beaches may reopen once the preemptive period has lapsed. Only under special circumstances shall additional sampling be conducted after heavy rainfalls to remove the Wet Weather Advisory sooner than the advised preemptive period.

Data Management

Following complete and satisfactory data result QA/QC review, results shall be analyzed to derive indicator organisms' densities for a particular sampling day. The results of each routine sampling and analysis shall be assessed on the basis of compliance or non-compliance with the State Bacteriological Bathing Beach Standards. If the results of the data assessment show that the water quality is in compliance with State Bacteriological Bathing Beach Standards, the beach shall classified as A, "Open for Bathing." Otherwise, the water shall be classified as C, "Closed" and proper beach closures and public notification must be followed as indicted below. The field and

laboratory reports are entered and maintained in the beach monitoring and surveillance data base management program. Hard copies of these records shall also be filed in the office.

Beach Classifications and Water Quality Standards

Class A: Open for Bathing.
All of the following conditions are considered in order for a beach to be classified as open and approved for bathing:

1.Bathing beach water quality are in accordance the following water quality standards for marine water beaches. Both Section 6-2.15 of the New York State Sanitary Code and Article 167.03 of the New York City Health Code utilize total and fecal coliform as indicator organisms for evaluating the microbiological quality of recreational water. The standards established are as follows:

Cumulative Sample Limits:
The logarithmic average of total coliform densities must be less than 2,400 colony forming units (CFU) per 100 milliliters (ml) for a series of five samples or more in any 30-day period or, no more than 20 percent of the total samples collected during a 30-day period may exceed a total coliform count of 5,000 CFU per 100 ml for any given location.

Single Sample Limits:
An average total coliform result must be less than 5,000 CFU per 100 ml for any daily collected set of beach samples.

2. Sanitary and safety surveys conducted are satisfactory to the Department; and

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 bathing beaches.

Class B: Under Advisory - Not Recommended for Bathing
NYCDOHMH issues an advisory to warn the public against water contact recreation when conditions may contribute to possible illness. For further information, call your local beach for specific advisory information.

1. If any of the following conditions are present a beach Pollution Advisory is issued, and the beach is classified as "Not Recommended for Bathing" when a sanitary and safety survey or investigation reveals the presence of minor amounts of floatable debris, medical/infectious waste, toxic contaminants, petroleum products and/or other contamination on the beach or evidence of sewage and wastewater discharge. **(Form PHE 304)**

2. A Preemptive Standard is a threshold level of precipitation that, when exceeded, can lead to elevated levels of pathogens due to Combined Sewer Overflows (CSO's) and stormwater runoff, and pose a public health threat. Consequently, in an effort to ensure the safety of the public, affected permitted City beaches are advised to close their beach operation during heavy rainfall exceeding prescribed standards, and the public is recommended not to swim in these affected waters. The NYCDOHMH advises against *bathing in any area identified by the Department as being directly impacted* by CSO and stormwater runoff.

The Preemptive Standards/Wet Weather Advisories are indicated as follows:

1) **South Beach and Midland Beach of Staten Island, and Manhattan Beach and Kingsborough Community College of Brooklyn (Form PHE 301):**
"For 12 hours following a heavy or prolonged rainfall (more than 1.5 inches in 6 hours) bathing is not recommended due to possible pollution."

2) **Bronx Beaches (all privately-operated beaches in the Bronx) and Douglaston,Qns (Form PHE 302):**
"For 48 hours following a heavy or prolonged rainfall (more than 0.2 inches in 2 hours, or 0.4 inches in 24 hours), bathing is not recommended due to possible pollution."

3) **Gerritsen/Kiddie Beach, Brooklyn (Form PHE 303):**
"For 72 hours following a heavy or prolonged rainfall (more than 0.2 inches in two hours, or 0.4 inches in 24 hours), bathing is not recommended due to possible pollution."

Class C: Closed - Temporarily Restricted for Bathing (PHE 305) City Beaches will be classified as "Temporarily Restricted for Bathing" when PHE has determined that a beach is no longer safe for bathing due to any one of the following conditions:

1.Bathing beach water quality exceeds the following water quality standard for marine water beaches.

Cumulative Sample Limits:
The logarithmic average of total coliform densities must be less than 2,400 colony forming units (CFU) per 100 milliliters (ml) for a series of five samples or more in any 30-day period or, no more than 20 percent of the total samples collected during a 30-day period may exceed a total coliform count of 5,000 CFU per 100 ml for any given location.

Single Sample Limits:
An average total coliform result must be less than 5,000 CFU per 100 ml for any daily collected set of beach samples. If this standard is exceeded, beach advisories or closings could be triggered.

2. Epidemiological data indicates a significant incidence of related illnesses or repeated complaints/reports of illness/injury received from beach patrons.

3.Sanitary and Safety Survey/Investigation: 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 contamination on the beach, or there is evidence of sewage and wastewater discharge in sufficient quantities that will adversely affect the quality of the beach water.

4. Any other environmental factors determined to be a public health or safety hazard by the NYCDOHMH.

Advisory and Closure Policies

1. PHE notifies the owner/manager/operator of the determination (WWA/sewage release information) and instruct posting of PHE 301/302/303/304 (Advisory) or PHE 305 (Closure).

2. PHE instructs operators that the sign must be posted and maintained until PHE completes further investigation or additional water quality sampling analysis.

3. PHE provides the determination in a press release or on the website. A written Public Health Advisory confirmation letter along with an "Order of the Commissioner" may be issued and delivered to the facility, if practical.

Re-Opening Policies

Once investigation has determined that the water meets applicable water quality standards, the PHE shall observe the following procedures to remove advisories and reopen City Beaches:

1. Notify the owner/manager/operator of the determination and instruct the removal of notification.

2. Provide the determination in a press release.

Table 1. New York City Beaches and Water Body Identification

Borough	Beach	Area	Waterbody
Bronx Private	Danish American	*From the southeastern border of Westchester County to just below the Throgs Neck Bridge at Throgs Point*	*Eastchester Bay, Western Long Island Sound*
	American Turner		
	White Cross		
	Locust Point		
	Schuyler Hill		
	Trinity Danish		
	Golden Beach		
	Morris Yacht Club		
	Manhem		
Bronx Public	*Orchard Beach*		
Upper Queens Private	*Douglaston Manor*	*From Fort Totten to the boundary for Queens Co. and Nassau Co.*	*Little Neck Bay*
Lower Queens Private	*Breezy Point 219th Street*	*The southern side of Rockaway Peninsula*	*Atlantic Ocean Coastline*
	Breezy Point Reid Ave.		
Lower Queens Public	*Rockaway Beach 9th - 13th*		
	Rockaway Beach 15th - 22nd		
	Rockaway Beach 23rd - 59th		
	Rockaway Beach 59th - 80th		
	Rockaway Beach 80th - 95th		
	Rockaway Beach 95th - 116th		
	Rockaway Beach 116th - 126th		
	Rockaway Beach 126th - 149th (Bell Harbor)		
Brooklyn Private	Gerritsen/Kiddie Beach	From Norton's Point to Sheepshead Bay	Jamaica Bay, Lower New York Bay
	Seagate 38th		
	Seagate 42nd		
	Kingsborough Community College		
Brooklyn Public	Manhattan		
	Coney Island Brighton 15th - 6th		
	Coney Island Brighton 6th to Ocean Parkway		
	Coney Island Ocean Parkway - West 8th		
	Coney Island West 8th - Pier		
	Coney Island West 16th - West 27th		
	Coney Island West 28th - West 37th		
Staten Island Public	Midland Beach	From Page Avenue, east of Tottenville to Fort Wadsworth Reservation	Lower New York Bay, Raritan Bay
	South Beach		
	Wolfe's Pond Park		

Table 2. DOHMH – PHE Permitted Beaches Sampling Schedule

Monday/First Working Day of Week - Queens/Bronx			
Seq	Name of Beach	Borough	Tier
#1	Douglaston Homeowners Association	Queens	I
#2	Schuyler Hill	Bronx	I
#3	Manhem	Bronx	I
#4	Danish American Beach Club	Bronx	I
#5	American Turner	Bronx	I
#6	White Cross Fishing	Bronx	I
#7	Trinity Danish	Bronx	I
#8	Orchard Beach	Bronx	I
#9	Morris	Bronx	I
Tuesday/Second Working Day of Week: Staten Island/Brooklyn			
#1	Wolf Pond Park	SI	I
#2	Midland	SI	II
#3	South Beach	SI	II
#4	The Sea Gate Assoc./42nd Street[3]	Brooklyn	II
#5	West 24th Street, Coney Island[1]	Brooklyn	II
#6	Ocean Parkway, Coney Island[1]	Brooklyn	II
#7	Manhattan Beach/Kingsborough	Brooklyn	I
#8	Gerritsen/Kiddie Beach	Brooklyn	I
Tuesday/Second Working Day of Week: Rockaways			
#1	Breezy Point 219th Street[2]	Queens	III
#2	Breezy Point Reid Avenue[2]	Queens	III
#3	Beach 116th Street, Rockaways[1]	Queens	III
#4	Cross Bay Parkway, Rockaways[1]	Queens	III
#5	Beach 56th Street, Rockaways[1]	Queens	III
#6	Beach 9th Street, Rockaways[1]	Queens	III

Department of Environmental Protection

While DOHMH is the lead agency for public notification of health violations, DEP lends support to the Department of Health and Mental Hygiene in a variety of ways. These actions are summarized as follows:

- **Rainfall data** - DEP provides communications access to selected weather stations enabling DOH to quantify rain impacts upon given beaches for potential beach emergencies.

- **Harbor Survey Coliform Data** - DEP provides hard copies of coliform data for each year. (See Section IX).

- **Harbor Survey Sampling** - as request, DEP provides backup sampling under emergency and/or wet weather conditions.

- **"Real Time" Data** - (a) Notification of presumptive total coliform readings of greater than 5000 MPN/100 ml anywhere in the harbor. These data would be from both the Harbor Survey Program and the Sentinel Monitoring Program. These readings would be verified upon test conclusion. DOH would use this information to watch for impacts on beaches. Depending on the location of the high count, DOH would check its own sampling numbers or possibly resample at near beach locations.

- (b) Notification of discharges at plants. Either an extended discharge of 5 MGD or a one time discharge of 10 MG at any plant. DOH would use this information to keep aware of current developments and any potential beach problems.

In addition, DOH reciprocates by transmitting presumptive total coliform readings of greater than 5000 MPN/100 ml to DEP, for comparison with the most recent Harbor Survey readings for near sampling sites. DOH also transmits raw data to DEP on a monthly basis.

Table 1: **NEW YORK CITY PERMITTED BEACHES AND WATER BODY IDENTIFICATION**

Borough	Sector	Beaches	Area	Water body
Brooklyn	Public	Coney Island Manhattan	From Norton's Point to Sheepshead Bay	Lower New York Bay
	Private	Seagate , Kiddie Gerritsen Kingsborough		
Bronx	Public	Orchard	From the southeastern border of Westchester County to just below the Throgs Neck Bridge at Throgs Point	Eastchester Bay, Western Long Island Sound
	Private	American Turner Danish American Manheim White Cross Morris Yacht Schuyler Hill Trinity Danish Locust Point Yacht Club West Fordham Street		
Queens	Public	Rockaway	The southern side of Rockaway Peninsula; From Norton's Point to Sheepshead Bay; Little Neck Bay	Western Long Island Sound; Atlantic Ocean Coastline
	Private	Breezy Point Douglaston Manor Whitestone Booster Civic Association		
Staten Island	Public	Midland, South Wolfe's Pond Park Cedar Grove	From Page Avenue, east of Tottenville to Fort Wadsworth Reservation	Lower New York Bay, Raritan Bay

Figure 1: LOCATION OF NEW YORK CITY PERMITTED BEACHES

TABLE A **Beach Advisory and Closure Comparison 2011 - 2013**

Office of Public Health Engineering, NYCDOMH

Beach	Wet Weather Advisory (days)			Pollution Advisory (days)			Closure (days)		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
American Turner, Bx	11	5	19	10	30	6	6	9	0
Danish American, Bx	11	2	20	0	62	0	5	13	0
Manhem, Bx	11	6	20	7	13	0	5	14	0
White Cross, Bx	11	6	19	8	28	6	5	19	0
Morris Yacht, Bx	11	11	21	0	14	0	5	0	6
Schuyler Hill, Bx	12	8	19	0	13	0	7	0	0
Trinity Danish, Bx	9	5	19	12	19	0	7	20	0
West Fordham St Assoc, Bx	12	10	14	0	2	20	5	12	13
Locust Point, Bx	10	8	20	6	27	0	5	0	0
Whitestone Booster, Qns	13	17	24	6	0	5	5	0	0
Orchard Beach, Bx	1	0	1	0	2	0	4	0	0
Douglaston Manor, Qns	0	14	3	25	15	44	81	39	64
Breezy Point Reid, Qns	0	0	0	0	0	0	4	0	0
Breezy Point 219th St, Qns	0	0	0	2	14	0	8	0	0
Rockaway, Qns	0	0	0	0	0	0	4	0	0
Coney Island, Bk	1	0	1	0	0	0	4	0	0
Manhattan, Bk	1	2	1	2	0	0	4	0	0
Seagate 42ND St,	0	0	0	5	0	0	7	0	0
Seagate Beach Club	0	0	0	5	0	0	7	0	0
Gerritsen/Kiddy, Bk	13	16	14	15	0	13	7	5	7
Kingsborough, BK	1	2	2	2	0	2	5	0	2
Midland, SI	1	2	1	6	0	0	9	0	0
South Beach, SI	1	2	1	6	0	2	13	0	0
Cedar Grove Beach, SI	1	2	0	6	0	10	9	0	2
Wolfe's Pond Park, SI	0	0	0	2	0	2	6	0	0
Totals:	**131**	**118**	**219**	**125**	**239**	**110**	**227**	**131**	**94**

Table B-1 Advisory and Closure Summary for Public Beaches

Name	Status	Start Date	End Date	Reason
CEDAR GROVE	Pollution Advisory	8/14/2013	8/15/2013	Enterococci Exceedance
	Pollution Advisory	8/21/2013	8/27/2013	Enterococci Exceedance
	Closure	8/28/2013	8/29/2013	Confirmed Enterococci Exceedance
	Pollution Advisory	8/30/2013	8/30/2013	Enterococci Exceedance
CONEY ISLAND BEACH	Wet Weather Advisory	6/8/2013	6/8/2013	Preemptive Advisory*
MANHATTAN BEACH	Wet Weather Advisory	6/8/2013	6/8/2013	Preemptive Advisory*
MIDLAND BEACH	Wet Weather Advisory	6/8/2013	6/8/2013	Preemptive Advisory*
SOUTH BEACH	Wet Weather Advisory	6/8/2013	6/8/2013	Preemptive Advisory*
	Pollution Advisory	8/14/2013	8/15/2013	Enterococci Exceedance
ORCHARD BEACH	Wet Weather Advisory	6/8/2013	6/8/2013	Preemptive Advisory*

* ***Water quality expected to exceed standards due to weather related CSO's and storm-water run -off***

Table B-2 Advisory and Closure Summary for Private Beaches

Name	Status	Start Date	End Date	Reason
American Turner	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/9/2013	Preemptive Advisory*
	Wet Weather Advisory	6/11/2013	6/12/2013	Preemptive Advisory*
	Wet Weather Advisory	6/14/2013	6/15/2013	Preemptive Advisory*
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Pollution Advisory	7/4/2013	7/9/2013	Enterococci Exceedance
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/9/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*
	Wet Weather Advisory	9/3/2013	9/3/2013	Preemptive Advisory*
Danish American Beach Club	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/9/2013	Preemptive Advisory*
	Wet Weather Advisory	6/11/2013	6/12/2013	Preemptive Advisory*
	Wet Weather Advisory	6/14/2013	6/15/2013	Preemptive Advisory*
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Wet Weather Advisory	7/4/2013	7/4/2013	Preemptive Advisory*
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/9/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*
	Wet Weather Advisory	9/3/2013	9/3/2013	Preemptive Advisory*

Table B-2 Advisory and Closure Summary for Private Beaches (continued)

Name	Status	Start Date	End Date	Reason
Douglaston Manor	Wet Weather Advisory	5/29/2013	5/29/2013	Preemptive Advisory*
	Pollution Advisory	5/31/2013	6/6/2013	Enterococci Exceedance
	Wet Weather Advisory	6/7/2013	6/8/2013	Preemptive Advisory*
	Closure	6/14/2013	7/25/2013	Confirmed Enterococci Exceedance
	Pollution Advisory	7/26/2013	7/31/2013	Enterococci Exceedance
	Closure	8/1/2013	8/1/2013	Confirmed Enterococci Exceedance
	Pollution Advisory	8/2/2013	8/14/2013	Enterococci Exceedance
	Closure	8/22/2013	8/30/2013	Confirmed Enterococci Exceedance
	Pollution Advisory	8/31/2013	9/5/2013	Enterococci Exceedance
	Closure	9/6/2013	9/10/2013	Confirmed Enterococci Exceedance
	Pollution Advisory	9/11/2013	9/17/2013	Enterococci Exceedance
	Closure	9/18/2013	9/24/2013	Confirmed Enterococci Exceedance
	Pollution Advisory	9/25/2013	9/29/2013	Enterococci Exceedance
Gerritsen/ Kiddie	Wet Weather Advisory	5/29/2013	5/29/2013	Preemptive Advisory*
	Closure	5/31/2013	6/6/2013	Confirmed Enterococci Exceedance
	Pollution Advisory	6/7/2013	6/19/2013	Enterococci Exceedance
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Wet Weather Advisory	7/4/2013	7/4/2013	Preemptive Advisory*
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/10/2013	Preemptive Advisory*
	Wet Weather Advisory	8/12/2013	8/12/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*
	Wet Weather Advisory	8/22/2013	8/22/2013	Preemptive Advisory*

Table B-2 Advisory and Closure Summary for Private Beaches (continued)

Name	Status	Start Date	End Date	Reason
Kingsborough Community College	Wet Weather Advisory	6/8/2013	6/9/2013	Preemptive Advisory
	Pollution Advisory	8/14/2013	8/15/2013	Enterococci Exceedance
	Closure	8/28/2013	8/29/2013	Confirmed Enterococci Exceedance
Locust Point Yacht Club	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/9/2013	Preemptive Advisory*
	Wet Weather Advisory	6/11/2013	6/12/2013	Preemptive Advisory*
	Wet Weather Advisory	6/14/2013	6/15/2013	Preemptive Advisory*
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Wet Weather Advisory	7/4/2013	7/4/2013	Preemptive Advisory*
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/9/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*
	Wet Weather Advisory	9/3/2013	9/3/2013	Preemptive Advisory*
Manhem Club	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/9/2013	Preemptive Advisory*
	Wet Weather Advisory	6/11/2013	6/12/2013	Preemptive Advisory*
	Wet Weather Advisory	6/14/2013	6/15/2013	Preemptive Advisory*
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Wet Weather Advisory	7/4/2013	7/4/2013	Preemptive Advisory*
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/9/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*
	Wet Weather Advisory	9/3/2013	9/3/2013	Preemptive Advisory*

Table B-2 Advisory and Closure Summary for Private Beaches (continued)

Name	Status	Start Date	End Date	Reason
Morris Yacht and Beach Club	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/9/2013	Preemptive Advisory*
	Wet Weather Advisory	6/11/2013	6/12/2013	Preemptive Advisory*
	Wet Weather Advisory	6/14/2013	6/15/2013	Preemptive Advisory*
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Wet Weather Advisory	7/4/2013	7/4/2013	Preemptive Advisory*
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Closure	7/26/2013	7/31/2013	Confirmed Enterococci Exceedance
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/9/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*
	Wet Weather Advisory	9/3/2013	9/3/2013	Preemptive Advisory*
	Wet Weather Advisory	9/13/2013	9/13/2013	Preemptive Advisory*
Schuyler Hill Civic Association	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/9/2013	Preemptive Advisory*
	Wet Weather Advisory	6/11/2013	6/12/2013	Preemptive Advisory*
	Wet Weather Advisory	6/14/2013	6/15/2013	Preemptive Advisory*
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Wet Weather Advisory	7/4/2013	7/4/2013	Preemptive Advisory*
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/9/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*

Table B-2 Advisory and Closure Summary for Private Beaches (continued)

Name	Status	Start Date	End Date	Reason
Trinity Danish	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/9/2013	Preemptive Advisory*
	Wet Weather Advisory	6/11/2013	6/12/2013	Preemptive Advisory*
	Wet Weather Advisory	6/14/2013	6/15/2013	Preemptive Advisory*
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Wet Weather Advisory	7/4/2013	7/4/2013	Preemptive Advisory*
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/9/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*
West Fordham Street Association	Closure	5/25/2013	5/30/2013	Confirmed Enterococci Exceedance
	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/9/2013	Preemptive Advisory*
	Wet Weather Advisory	6/11/2013	6/12/2013	Preemptive Advisory*
	Pollution Advisory	6/14/2013	6/25/2013	Enterococci Exceedance
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Wet Weather Advisory	7/4/2013	7/4/2013	Preemptive Advisory*
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Pollution Advisory	8/8/2013	8/14/2013	Enterococci Exceedance
	Closure	8/22/2013	8/28/2013	Confirmed Enterococci Exceedance
	Wet Weather Advisory	9/3/2013	9/3/2013	Preemptive Advisory*

Table B-2 Advisory and Closure Summary for Private Beaches (continued)

Name	Status	Start Date	End Date	Reason
White Cross Fishing Club	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/8/2013	Preemptive Advisory*
	Wet Weather Advisory	6/10/2013	6/12/2013	Preemptive Advisory*
	Wet Weather Advisory	6/14/2013	6/15/2013	Preemptive Advisory*
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Pollution Advisory	7/4/2013	7/9/2013	Enterococci Exceedance
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/9/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*
	Wet Weather Advisory	9/3/2013	9/3/2013	Preemptive Advisory*
Whitestone Booster Civic Association	Wet Weather Advisory	5/29/2013	5/29/2013	Preemptive Advisory*
	Wet Weather Advisory	6/3/2013	6/4/2013	Preemptive Advisory*
	Wet Weather Advisory	6/7/2013	6/9/2013	Preemptive Advisory*
	Wet Weather Advisory	6/11/2013	6/13/2013	Preemptive Advisory*
	Wet Weather Advisory	6/14/2013	6/15/2013	Preemptive Advisory*
	Wet Weather Advisory	7/1/2013	7/2/2013	Preemptive Advisory*
	Pollution Advisory	7/5/2013	7/9/2013	Enterococci Exceedance
	Wet Weather Advisory	7/24/2013	7/24/2013	Preemptive Advisory*
	Wet Weather Advisory	8/2/2013	8/3/2013	Preemptive Advisory*
	Wet Weather Advisory	8/8/2013	8/9/2013	Preemptive Advisory*
	Wet Weather Advisory	8/12/2013	8/12/2013	Preemptive Advisory*
	Wet Weather Advisory	8/13/2013	8/14/2013	Preemptive Advisory*

* ***Water quality expected to exceed standards due to weather related CSO's and storm-water run -off***

Appendix 11

Combined Sewer Overflow Annual Report Checklist*

Attachment 1 – Outfall Identification – Updated CSO/MS4 Outfall list

* DEC has substantially revised the CSO BMP Checklist from prior years. DEP notes that such revisions did not undergo public comment. Please note that a number of the questions do not align with DEP's CSO BMP conditions or terminology. DEP has used its best efforts to complete the attached checklist given these factors.

Print

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER

COMBINED SEWER OVERFLOWS ANNUAL REPORT

SECTION A. 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 combined 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).* Send your questions about this form to dowinfo@gw.dec.state.ny.us or call 518-402-8111.

This reporting format replaces the previous CSO Annual Report Checklist

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Let

SECTION B: CSO LTCP GENERAL INFORMATION

CSO Facility:	See Below	**SPDES Number:**	NY-
Has implementation of the LTCP Phase II begun?	◉ Yes	○ No	
If No:	○ Not Approved	○ Not Submitted	○ Not Required
LTCP Approach:	○ Presumptive	◉ Demonstrative	○ Both

Briefly Describe LTCP Implementation Approach (Attach a Separate Sheet for Detailed Descriptions):

DEP has four CSO retention facilities: Alley Creek (SPDES Number NY0026239), Flushing Bay (NY0026239), Paerdegat (NY0026182), and Spring Creek (NY0026212). DEP has completed two LTCPs: Paerdegat Basin (approved by DEC in 2007) and for Alley Creek (not approved), pursuant to the CSO Order on Consent (DEC Case No. CO2-20110512-25). DEP is required under the CSO Order to develop seven more LTCPs by 2017. In 2014, DEP is required to submit LTCPs for Coney Island Creek (June), Hutchinson River (September), and Flushing Creek (December). DEP has requested a modification to defer the Coney LTCP until 2016 and in its place DEP would submit an LTCP for Westchester Creek.

DEP's LTCP planning approach includes several phases including waterbody and watershed characterization, public participation, alternatives evaluation, phased and adaptive implementation strategies and post-construction monitoring. The LTCPs will identify the appropriate level of CSO control and evaluate alternatives.

Update any changes or corrections to the outfalls currently listed in SPDES permit. Indicate if any outfalls have been closed. Attach extra sheets, if necessary. Also, include a map showing the locations of each outfall.

Outfall #	Latitude	Longitude	Receiving Water	Notes
				See Attachment 1

PPERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

Provide an estimate or actual data on overflow events. If not applicable, describe how CSO abatement is achieved. Use a separate spreadsheet, if necessary, to report all CSO outfalls.

CSO Outfall #	No. of overflow events in the previous year		Total Annual CSO Volume Discharged (MG)		Total Annual Volume Capture or Diverted to POTW (MG)		How is the flow estimated or measured?
	Last Period	This Period	Last Period	This Period	Last Period	This Period	
							DEP to provide
							additional data
							under separate cover
TOTAL							

Collection System Ownership

✓	Collection system is owned and maintained by permittee
	Portions of collection system is owned and maintained by others

Describe ownership and maintenance responsibilities:

Describe in detail the major progress or milestones achieved in past year (attach extra sheets as necessary):
See text of the 2013 CSO BMP Annual Report for a detailed update of related projects.

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Provide detailed explanations why planned milestones for this year were not achieved (attach extra sheets as necessary):

DEP timely submitted the LTCP for Alley Creek on July 2, 2013, and submitted a revised LTCP in November 2013 in response to DEC's comments. In December DEC disapproved the LTCP. In February 2014, in accordance with the dispute resolution terms of the CSO Order, DEP filed an Article 78 challenging the disapproval.

Summarize major projects or milestones planned for upcoming year (attach extra sheets as necessary):

As set forth in the Alley Creek LTCP, DEP will continue track-down of illicit connections that could be sources of impairment in Alley Creek.

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 and Official Title (type or print):	Vincent Sapienza, DCPWT			Phone: 718	595 4906
Signature:		Date Signed	3/21/14	Fax:	

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

SECTION C: 15 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)* N/A *(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	☑	☐	
All regulators	☑	☐	
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	☐	☐	☑
Sediment removal	☐	☐	☑
FOG removal	☐	☐	☑
Root removal	☐	☐	☑
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?	☐	☐	☑

BMP 1 CSO Maintenance & Inspections

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1. CSO Maintenance/Inspection (continued)	YES	NO	N/A
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?	☐	☐	☑
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)?	○ Reactive	◉ Proactive	
If the program is mostly reactive, describe below any plans to shift the emphasis to prevention.			

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2. Maximum Use of Collection System for Storage *6 NYCRR 750-2.7(f), 750-2.8(a)(2), 750-2.8(a)(5)* ☐ N/A *(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.	☑	☐	☐

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- See Cover Letter

3. Industrial Pretreatment *6 NYCRR 750-2.7(f) and 2.9(a)(4* ☐ N/A *(EPA NMC: Review and Modify Pretreatment Requirements)*	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.	☐	☐	☐

BMP 3 Industrial Pretreatment

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

4. Maximize Flow to POTW *6 NYCRR 750-2.7(f), 2.8(a)(2), and 2.8(a)(5)* ☐ N/A *(EPA NMC: Maximum Flow to POTW for Treatment)*	YES	NO	N/A
In the past year, was 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:	☐	☐	☐

For a description of the planned inflow and infiltration study, see 2010 CSO BMP Order DEC File No. R2-20080312-14; Compliance Schedule Item #6.

BMP 4 Maximize Flow to POTW

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

5. Wet Weather Operating Plan (WWOP) *6 NYCRR 750-2.8(a)* ☐ N/A *(EPA NMC: None)*	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 the status or attach a copy of any updated plan:

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

6. Prohibition of Dry Weather Overflows *6 NYCRR 750-2.7 and 2.8(b)(2)* ☐ N/A *(EPA NMC: Eliminate Dry Weather Overflows)*	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	☐	☑	☐
Capacity, 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.	☐	☑	☐

BMP 6 Prohibition of Dry Weather Overflows

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

7. Control of Floatables and Settleable Solids *6 NYCRR 750-2.8(a)(4)* ☐ N/A *(EPA NMC: Control of Solid and Floatable Materials in CSOs)*	YES	NO	N/A
In the past year, 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	Existing		
Booming and skimming of open waters	Existing		
Source controls (street cleaning, public education, household hazardous waste collection, solid waste collection, recycling, and/or composting of lawn/leaf/roadkill deer)	Existing		
In-line netting	Existing		
Screens	Existing		
Catch basin hoods	Existing		
Other (Explain Below):	Existing		
Are any changes needed or planned for the upcoming year? Describe additional information below.	☐	☑	☐

BMP 7 Control of Floatable and Settleable Solids

PERMITTEE NAME: _____ SPDES PERMIT NO.: NY-See Cover Letter

8. Combined Sewer System Replacement *6 NYCRR 750-2.10(i)* ☐ N/A *(EPA NMC: None)*	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 feet of combined sewer were separated? _____ ft			
In the upcoming year, how many feet of combined sewer are scheduled to be separated? _____ ft			
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.	☐	☑	☐

BMP 8 Combined Sewer System Replacement

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

9. Combined Sewer Extension *6 NYCRR 750-2.10(i)* ☐ N/A *(EPA NMC: None)*	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 additional information here:

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

10. Connection Prohibitions *6 NYCRR750-2.9(a)(5)* ☐ N/A *(EPA NMC: None)*	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 houses 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.	☐	☐	☐

BMP 10 Connection Prohibitions

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

11. Septage and Hauled Waste *6 NYCRR750-2.7(f) and 2.8(a)(1)* ☐ N/A *(EPA NMC: None)*	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? (Gallons)			
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?	☐	☑	☐

If yes, describe additional information below:

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

12. Control of Run-off *6 NYCRR750- 2.1(e)* ☐ N/A *(EPA NMC: None)*	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 enforce 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.	☐	☑	☐

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

13. Public Notification *6 NYCRR 750-1.12* ☐ N/A *(EPA NMC: Public Notification)*	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?	☑	☐	☐

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY-See Cover Letter

14. Characterization and Monitoring *6 NYCRR 750-1.11(a), 2.5(a) and 2.7(g)* ☐ N/A *(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: MG/year	☐	☐	☑
Frequency: Times/year	☐	☐	☑
Duration: Hours/year	☐	☐	☑
If all outfalls are not monitored, explain below 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 in details the status of Post Construction Monitoring Plan

PERMITTEE NAME: NYC Dept. of Environmental Protection SPDES PERMIT NO.: NY- See Cover Lett

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 below any improvements needed that have not been described elsewhere.			

BMP 15 Annual Report

SECTION D: GLOSSARY/ACRONYMS

For the purposes of this annual report, the following terms and acronyms are described below:

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 standar ds, 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): 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.

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): A unit of flow commonly used for wastewater discharges. One MGD is equivalent to 1.547 cubic feet per second.

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): 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): 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): Regulations that establish the uses for which surface waters of the state are protected and include numeric and narrative criteria to protect those uses.

Environmental Protection

Emily Lloyd
Commissioner

Vincent Sapienza, P.E.
Deputy Commissioner

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March 31, 2014

Mr. Robert Elburn, P.E.
Regional Water Engineer
New York State Department of Environmental Conservation
Division of Water - Region 2
47-40 21st Street, 1st Fl.
Long Island City, NY 11101-5407

RE: Outfall Identification – Updated CSO/MS4 Outfall List

Dear Mr. Elburn:

As required by SPDES permit Section XIV (d) Outfall Identification; DEP is hereby submitting the updated CSO/MS4 Outfall List based on the most current available information. This list will continue to change with the addition and/or removal of outfalls and as more updated data is obtained from the cyclical surveys of the shoreline. As required, it will be updated annually.

Enclosed is a compact disk (CD) containing the required information for each CSO and MS4 outfall in an Excel spreadsheet format: **location, outfall dimensions, latitude and longitude, receiving waterbody** and all other required information sorted by drainage area.

Following are changes since last year's annual submittal:

NO	NEW OUTFALL NO	OLD OUTFALL NO	ACTION	COMMENTS
1	N/A	BB-046	CSO has been removed from the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall has been removed from the DEP database
2	N/A	BB-047	CSO has been removed from the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall has been

				removed from the DEP database
3	N/A	BB-049	CSO has been removed from the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall has been removed from the DEP database
4	N/A	JAM-647	MS4 has been removed from the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall has been removed from the DEP database
5	N/A	JAM-658	MS4 has been removed from the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall has been removed from the DEP database
6	N/A	CI-658	MS4 has been removed from the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall has been removed from the DEP database
7	N/A	CI-675	MS4 has been removed from the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall has been removed from the DEP database
8	BB-054	BB-297	CSO has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was reclassified as a storm sewer outfall
9	BB-055	BB-298	CSO has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was

				reclassified as a storm sewer outfall
10	BB-056	BB-299	CSO has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was reclassified as a storm sewer outfall
11	RH-602	RH-382	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was reclassified as a storm sewer outfall
12	JAM-659	JAM-301	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was reclassified as a storm sewer outfall
13	JAM-660	JAM-302	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was reclassified as a storm sewer outfall
14	TI-676	TI-307	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was reclassified as a storm sewer outfall
15	BB-608	BB-126	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was reclassified as a storm sewer outfall
16	BB-609	BB-198	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was

				reclassified as a storm sewer outfall
17	BB-610	BB-197	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was reclassified as a storm sewer outfall
18	HP-658	N/A	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was identified as a storm sewer outfall from what??
19	HP-659	N/A	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was identified as a storm sewer outfall
20	26W-603	N/A	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was identified as a storm sewer outfall
21	OB-727	N/A	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was identified as a storm sewer outfall
22	OB-726	N/A	MS4 has been added to the DEP database	As a result of the latest field and desk top investigations by DEP, this outfall was identified as a storm sewer outfall

If you have any questions, please contact Anthony Maracic of my staff at 718-595-5045.

Very truly yours,

Vincent Sapienza, P.E.
Deputy Commissioner

xc: BWT: Mueller; Maracic; Hammerman; Volgende; Lipton; Kulcsar; Shulim; Villacis (BWT); Vavilis; Plenzo: Miarmi (BWSO)