

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA; STATE
OF NEW YORK; AND BASIL SEGGOS, AS
COMMISSIONER OF THE NEW YORK
STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION,

Plaintiffs,

v.

CITY OF MOUNT VERNON,

Defendant.

Case No. 18 Civ. 5845 (CS)

CONSENT DECREE

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I. RECITALS

WHEREAS, Plaintiffs, the United States of America (“United States”), on behalf of the United States Environmental Protection Agency (“EPA”), the State of New York (“State”), and Basil Seggos, as Commissioner of the New York State Department of Environmental Conservation (“DEC” and, collectively with the State, “New York”), filed a complaint (“Complaint”) against Defendant, the City of Mount Vernon (“Defendant”);

WHEREAS, the United States alleges, among other things, that Defendant has violated and continues to violate the applicable Clean Water Act (the “CWA”) permit governing Municipal Separate Storm Sewers (“MS4s”) and applicable EPA Administrative Orders, including by failing to implement and enforce an Illicit Discharge Detection and Elimination program (“IDDE Program”) consistent with applicable regulations and the applicable general permit (“MS4 General Permit”) and including with respect to sanitary sewage entering Mount Vernon’s MS4 (the “Mount Vernon MS4”);

WHEREAS, New York alleges, among other things, that Defendant has violated and continues to violate applicable provisions of New York Environmental Conservation Law, Article 17, and the MS4 General Permit;

WHEREAS, the United States and New York assert that they are entitled to injunctive relief against, and the payment of civil penalties by, Defendant with respect to the conduct alleged in the Complaint;

WHEREAS, on September 21, 2020, the Court granted Plaintiffs summary judgment on the issue of liability as to all of Plaintiffs’ claims, entered a permanent injunction, and deferred the determination of a civil penalty to permit Defendant to focus its efforts on compliance-related work ordered by the Court;

WHEREAS, the Court thereafter entered additional orders regarding compliance with the Court's September 21, 2020 order, including establishing a regime of remedial fines payable to the Court for violations of court orders [ECF Nos. 90, 97, 101, 109, 110, 124];

WHEREAS, Defendant has made progress on compliance obligations under the CWA, New York Environmental Conservation Law, the MS4 General Permit, and the Court's orders, but additional compliance work remains;

WHEREAS, Defendant represents that the repair work required by this Consent Decree to bring the Mt. Vernon MS4 into durable compliance with the CWA, New York Environmental Conservation Law, and the MS4 General Permit is likely to cost in excess of \$100 million;

WHEREAS, New York and certain of its agencies have provided or committed to provide financial assistance exceeding \$160 million to Defendant to fund work on the City's sewers, including work required to come into compliance with the Court's orders and Defendant's obligations under the Clean Water Act, New York Environmental Conservation Law, and the MS4 General Permit;

WHEREAS, pursuant to a Memorandum of Agreement among the State, Defendant, and the County of Westchester, dated April 15, 2022, the County of Westchester has agreed, "at no cost to the County," to "serve as administrator by aiding and obtaining, disbursing and/or managing for the benefit of the City" certain funding, to "provide assistance by contracting for engineering, construction, consulting assistance and oversight, and related services," "to provide engineering design, construction assistance, and financial management," and to provide other supportive services with respect to sewer repair work;

WHEREAS, Defendant represents that the extended compliance schedule contained herein is necessary because of, among other things, the significant capital costs associated with coming into compliance;

WHEREAS, the United States, New York, and the Defendant (collectively, the “Parties”) are aware of the environmental injustices confronting the citizens of the City of Mount Vernon, and the Parties desire to work collaboratively to improve water quality and eliminate unpermitted pollutants from entering the Mount Vernon MS4 and being discharged into the waters of the United States and the State;

WHEREAS, the United States, New York, and Defendant intend this Consent Decree to supersede prior injunctive relief issued by the Court and the remedial fines framework previously imposed by the Court, as provided in Section V below.

WHEREAS, the Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith, will avoid further litigation between the United States, New York, and Defendant, and is fair, reasonable, and in the public interest;

NOW, THEREFORE, with the consent of the Parties, it is hereby ORDERED, ADJUDGED, and DECREED as follows:

II. JURISDICTION AND VENUE

1. This Court has subject-matter jurisdiction over the United States’ claims pursuant to Section 309(b) of the CWA, 33 U.S.C. § 1319(b), and 28 U.S.C. §§ 1331, 1345, and 1355; subject-matter jurisdiction over New York’s claims pursuant to 28 U.S.C. § 1367; and personal jurisdiction over the United States, New York, and Defendant.

2. Venue in this District is proper pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1395(a) because Defendant is located in this District and the events giving rise to the claims in the Complaint arose in this District.

3. For purposes of this Consent Decree, or any action or proceeding to enforce this Consent Decree, Defendant consents to the Court's jurisdiction over Defendant, this Consent Decree, and any such action or proceeding to enforce this Consent Decree and also consents to venue in the Southern District of New York.

III. ADMISSIONS

4. Defendant admits, acknowledges, and accepts responsibility for the following:
- a. Defendant owns and operates a municipal separate storm sewer system (the "Mount Vernon MS4") that comprises approximately 3,200 catch basins in which stormwater is collected, approximately 525,000 feet of connecting pipe segments, and approximately 78 outfalls from which stormwater is discharged.
 - b. The Mount Vernon MS4 is subject to the Clean Water Act and New York Environmental Conservation Law, Article 17. Pursuant to those statutes and relevant regulations, Defendant was required to obtain coverage under the applicable permit.
 - c. Defendant originally obtained permit coverage for the Mount Vernon MS4 pursuant to the applicable Municipal Separate Storm Sewer Systems ("MS4") General Permit governing MS4s on March 10, 2003, and automatically became covered by subsequent permits in 2010, and again in 2015. Defendant was required to comply with this General Permit in operating the Mount Vernon MS4.
 - d. Pursuant to its permit, Defendant was required to develop, implement, and enforce a fully compliant Stormwater Management Program that includes an Illicit Discharge Detection and Elimination Program.
 - e. Since at least 2013, Defendant has not been in compliance with the General Permit because it has not fully implemented and enforced an Illicit Discharge Detection and Elimination Program. Among other things:
 - i. Defendant has not provided funding, equipment and staffing levels necessary to implement and enforce an Illicit Discharge Detection and Elimination Program.

- ii. Defendant did not complete an outfall reconnaissance inventory for all MS4 outfalls until 2022.
 - iii. Defendant submitted annual reports months later than the deadlines in June 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, and 2022.
 - iv. Defendant did not submit accurate information in its 2017 and 2018 Annual Reports regarding its completions of the Outfall Reconnaissance Inventory.
- f. Moreover, at least up to and including the time the Complaint was filed, Defendant also failed to meet the following permit requirements:
- i. Defendant did not maintain a map showing all outfall locations, all surface waters receiving outfall discharges, and all storm sewersheds.
 - ii. Defendant did not adopt measurable goals for the detection, elimination and reduction of illicit discharges.
 - iii. Defendant did not adequately inform the public about the hazards of illegal discharges.
 - iv. Defendant did not select and implement measures to reduce the amount of pollutants of concern in storm water discharges.
- g. The Mount Vernon MS4 has discharged and at times continues to discharge untreated sewage into the Bronx and Hutchinson Rivers.
- h. Defendant did not comply with two administrative orders issued by EPA to compel Defendant's compliance with the General Permit and the Clean Water Act.

IV. APPLICABILITY

5. The obligations of this Consent Decree apply to and are binding upon the United States and New York, and upon Defendant and any successors, assigns, or other entities or persons otherwise bound by law.

6. Defendant shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree, as well as to any contractor or expert retained to perform work required under this Consent

Decree. Defendant shall condition any such contract upon performance of the work in conformity with the terms of this Consent Decree.

7. In any action to enforce this Consent Decree, Defendant shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

V. EFFECT ON PRIOR INJUNCTIVE RELIEF AND REMEDIAL FINES

8. As of the Effective Date, this Consent Decree replaces, amends, and supersedes all remaining injunctive obligations imposed on Defendant under the Court's prior orders appearing as Docket Entry Nos. 74, 90, 97, and 109, including compliance deadlines for unmet tasks or projects, which shall have no further effect. For avoidance of doubt, the initial paragraph of the order appearing at Docket Entry No. 74, which makes certain findings regarding jurisdiction and venue; incorporates by reference the Court's ruling on the record dated September 21, 2020; and grants Plaintiffs' motion for summary judgment as to liability is unaffected.

9. As of the Effective Date, Defendants' obligations with respect to remedial fines are modified as follows:

- a. All remedial fines accrued and unpaid as of the Effective Date will be discharged.
- b. This Consent Decree (including the stipulated penalties provisions in Section X) replaces, amends, and supersedes all remaining obligations, other than as provided in (a), under the Court's prior orders establishing the framework of remedial fines and setting deadlines for payment of such fines.

10. The United States and New York agree that, from the Date of Lodging until the earlier of the Effective Date or the Court's denial of a motion to enter this Consent Decree, they will not seek entry of orders requiring payment of additional remedial fines under the Third

Remedial Order, ECF No. 97. The agreement provided in the prior sentence will terminate in the event that the Court denies entry of the Consent Decree, in which case the United States and New York will be free to pursue all available remedies, under the Third Remedial Order or otherwise.

VI. DEFINITIONS

11. Terms used in this Consent Decree that are defined in the Act or in regulations promulgated pursuant to the Act shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

- a. “CWA” means the Clean Water Act, 33 U.S.C. §§ 1311 to 1388;
- b. “CMOM” means the most recent of (i) the Capacity, Management, Operation and Maintenance program for Defendant’s sanitary sewer system that was approved by EPA and DEC and appears as Exhibit A to this Decree, and (ii) any amended, updated, or superseding CMOM approved by EPA and DEC after entry of this Decree.
- c. “Complaint” means the complaint filed by the United States and New York in this action;
- d. “Consent Decree” or “Decree” means this Decree;
- e. “Date of Lodging” means the date this Consent Decree is filed for lodging with the Clerk of the Court for the United States District Court for the Southern District of New York;
- f. “Day” means a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period runs until the close of business of the next business day;
- g. “DEC” means the New York State Department of Environmental Conservation;
- h. “Defendant” means the City of Mount Vernon, and any successors or assigns;

- i. “Documents” shall be defined in accordance with Local Civil Rule 26.3 of the Local Rules of the United States District Court for the Southern District of New York;
- j. “DOJ” means the United States Department of Justice, including the U.S. Attorney’s Office for the Southern District of New York, and any of its successor departments or agencies;
- k. “Effective Date” means the definition provided in Section XVII;
- l. “EPA” means the United States Environmental Protection Agency and any of its successor departments or agencies;
- m. “IDDE” or “Illicit Discharge Detection and Elimination Program” is a program that, pursuant to the MS4 General Permit and 40 C.F.R. § 122.26, the owner or operator of a small municipal separate storm sewer system must develop, implement, and enforce, to detect and eliminate illicit discharges into the MS4 and comply with related program and reporting requirements set forth in the MS4 General Permit;
- n. “Illicit discharge” means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities, as provided by 40 C.F.R. § 122.26(b)(2);
- o. “Illicit Discharge Action Plan” means the Illicit Discharge Action Plan that was approved by EPA and DEC and appears as Exhibit B to this Decree and all other Illicit Discharge Action Plans required by Paragraph 23;
- p. “Mount Vernon MS4” means the MS4 owned and operated by Defendant;
- q. “MS4” means a municipal separate storm sewer system;
- r. “MS4 General Permit” means the then-current DEC Municipal Separate Storm Sewer Systems General Permit applicable to the Mount Vernon MS4, which is currently Permit No. GP-0-15-003;
- s. “New York” means the State and DEC;
- t. “Paragraph” means a portion of this Decree identified by an Arabic numeral, including any subparts thereof;
- u. “Parties” means the United States, New York, and Defendant;

- v. “Section” means, except when citing to a provision of the CWA or other statute or regulation or provision of the MS4 General Permit, a portion of this Decree identified by a roman numeral;
- w. “Sewer System Corrective Action Plan” means a plan defined in paragraph 29;
- x. “Sewer System Evaluation Survey” means the inspection of sanitary sewers throughout the City pursuant to, and in compliance with, the Sewer System Evaluation Survey workplan approved by EPA and DEC and attached hereto as Exhibit C;
- y. “State” means the State of New York;
- z. “SWMP Plan” means the most recent of (i) Defendant’s Stormwater Management Program Plan that was approved by EPA and DEC and appears as Exhibit D to this Decree, and (ii) any amended, updated, or superseding Stormwater Management Program Plan approved by EPA and DEC after entry of this Decree;
- aa. “Trackdown” means identifying and locating illicit discharges into the MS4; and
- bb. “United States” means the United States of America, acting on behalf of EPA.

VII. CIVIL PENALTY

12. Within 30 Days after the Effective Date, Defendant shall pay the sum of \$200,000 as a civil penalty, of which \$100,000 shall be paid to the United States and \$100,000 shall be paid to the State.

13. Defendant shall pay the portion of the civil penalty due to the United States by FedWire Electronic Funds Transfer (“EFT”) to the DOJ account, in accordance with instructions provided to Defendant by the United States Attorney’s Office for the Southern District of New York after the Effective Date. The payment instructions will include a Consolidated Debt Collection System (“CDCS”) number, which Defendant shall use to identify all payments to the United States required to be made in accordance with this Consent Decree.

14. At the time of payment to the United States, Defendant shall send notice that payment has been made: (i) to EPA via email at cinwd_acctsreceivable@epa.gov or via regular mail at EPA Cincinnati Finance Office, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45268; (ii) to DOJ by email in accordance with Section XVI; and (iii) to EPA in accordance with Section XIV. Such notice shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in *United States of America, et al. v. City of Mount Vernon*, and shall refer to Civil Action No. 18 Civ. 5845 (S.D.N.Y.), the CDCS Number, and DJ# 90-5-1-1-11743.

15. The portion of the civil penalty due to New York (\$100,000) shall be suspended provided Defendant does not violate the terms and conditions of this Consent Decree. A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule component approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree. The suspended portion of the civil penalty due to New York shall become due and owing on the 45th Day after performance is due, unless Defendant has corrected such violation prior to the 45th Day. Defendant shall then pay the suspended portion of the civil penalty due to New York by tendering the appropriate sum by certified or bank check, made payable to “New York State Department of Environmental Conservation” and said certified or bank check shall be transmitted by overnight delivery service addressed to the Office of the New York State Attorney General, attention of Abigail Katowitz, Assistant Attorney General, Environmental Protection Bureau, 28 Liberty Street, 19th Floor, New York, NY 10005.

VIII. COMPLIANCE REQUIREMENTS

16. **MS4 Outfalls.** Defendant shall maintain an up-to-date comprehensive spreadsheet of all MS4 outfalls, including the following information: (i) unique outfall number;

(ii) outfall location; (iii) outfall geographic coordinates (latitude and longitude decimal degrees); (iv) outfall pipe or conduit size (inches), type, and material; and (v) receiving waterbody. As new outfalls are constructed or newly discovered, Defendant shall update the MS4 outfall spreadsheet and provide the updated spreadsheet to EPA and DEC.

17. Defendant shall maintain an up-to-date digital map utilizing Geographic Information System coordinates depicting names and locations of all outfalls, roads, surface waterbodies, and storm sewersheds. As new outfalls are constructed or newly discovered, Defendant shall update the MS4 map and provide it to EPA and DEC.

18. **Specific Construction and Repairs.** Defendant shall perform the following construction and repairs to address potential sources of illicit discharges to the MS4 by the dates indicated:

- a. By December 31, 2023, Defendant shall complete construction of a pump station for the 3rd Street Corridor to eliminate sanitary backups, surcharges, and discharges into the MS4, and specifically, discharges to the Outfall 34 storm drain network. Defendant shall continue to operate the temporary bypass pump to eliminate sanitary backups, surcharges, and discharges into the MS4 until the pump station is operational.
- b. By December 31, 2024, Defendant shall upgrade and reinforce the Edison Avenue pump station to increase resiliency, prevent flooding and entry of illicit discharges into the MS4.

19. **Outfall Reconnaissance Inventory.** Defendant completed an Outfall Reconnaissance Inventory required by the Court's orders on March 17, 2022. On March 17, 2027, and every five years thereafter, Defendant shall complete an additional MS4 Outfall Reconnaissance Inventory and associated Trackdown for all MS4 outfalls in accordance with the MS4 General Permit. An Outfall Reconnaissance Inventory and associated Trackdown shall include, but is not limited to, the following:

- a. A visual, on the ground, inspection of all MS4 outfalls during dry weather (after at least 48 hours of no precipitation). The visual inspection shall

include photographic documentation and a written description of observations including any flow observed coming from the outfall utilizing a standard inspection form.

- b. At the time of inspection, sample any observed dry weather flow at the outfall(s) and/or other structures and analyze for fecal coliform bacterial content.
- c. If the fecal coliform concentration sampled is 2,000 MPN/100ml or greater, and dry weather flow is observed at the time of inspection, Defendant shall conduct Trackdown in accordance with the MS4 General Permit to narrow down and identify the source of illicit discharges causing the flow. Defendant shall document all observations using appropriate forms in accordance with the MS4 General Permit. Trackdown shall be initiated no later than 45 days after the inspection. Defendant shall provide documentation of Trackdown activities to show progress and illicit discharges eliminated, which may include CCTV inspection logs, smoke testing results, and/or dye testing results.

20. **Additional Trackdown.** In the event that Defendant becomes aware of illicit discharges to the Mount Vernon MS4 by means other than an Outfall Reconnaissance Inventory, Defendant shall promptly conduct Trackdown in accordance with the MS4 General Permit to identify and locate the source of the illicit discharges. Trackdown shall be initiated no later than 45 days after Defendant becomes aware of such illicit discharges.

21. **Cessation of Identified Sanitary Sewage Overflows Potentially Impacting MS4.** Upon identifying a sanitary sewer overflow that could cause illicit discharges into the MS4, Defendant shall immediately initiate corrective action and, no later than 24 hours after discovery, shall take all practical steps to prevent further overflow at that location.

22. **Elimination of Sources of Illicit Discharges.** Upon identifying a source of illicit discharge to the MS4 by means of the Trackdown described in Paragraphs 19.c and 20, and except as provided in paragraph 25, Defendant shall, within 30 days, either (a) eliminate the source of illicit discharge or (b) submit to EPA and DEC an Illicit Discharge Action Plan pursuant to Paragraph 23.

23. **Illicit Discharge Action Plan.** An Illicit Discharge Action Plan shall include the following:

- a. A statement of each identified source of illicit discharge to the MS4 being addressed by the Illicit Discharge Action Plan.
- b. A statement of the means by which Defendant will eliminate each source of illicit discharge (including enforcement, construction, repairs, and preventive actions).
- c. A deadline by which Defendant will eliminate each source of the illicit discharge. Such deadlines will be set to ensure prompt elimination of the source and protection of public health and the environment. Deadlines shall presumptively be no later than 90 days absent good cause. For deadlines greater than 30 days, Defendant shall also propose interim deadlines for material steps towards elimination of the source.

24. Illicit Discharge Action Plans shall be subject to review and approval pursuant to the process described in Paragraph 53. Upon its approval by EPA and DEC, an Illicit Discharge Action Plan shall become an enforceable requirement of this Consent Decree.

25. Paragraphs 22 and 23 shall not apply to sources of illicit discharge that are also conditions that have been addressed in a Sewer System Corrective Action Plan pursuant to Paragraph 29. As to such sources, a Sewer System Corrective Action Plan shall govern the means of and deadline for elimination of the source.

26. **Confirmation of Elimination of Illicit Discharges.** For each source of illicit discharge addressed pursuant to Paragraph 22 or 23, within 28 days of the completion of elimination of that source, Defendant shall confirm that the illicit discharges into Mt. Vernon's MS4 were eliminated, which shall be done by photo documentation, a dye test, smoke test, or through dry weather outfall sampling. If this confirmation process indicates that additional sources of illicit discharge for a given outfall exist that were not resolved by elimination of a particular source, Defendant shall eliminate any additional sources causing the illicit discharges for that outfall and repeat the confirmation process.

27. **Illicit Discharge Completion Reports.** For each confirmation of the elimination of illicit discharges pursuant to paragraph 26, Defendant shall prepare an Illicit Discharge Completion Report documenting the confirmation of the elimination of illicit discharges as provided in paragraph 26. Each Illicit Discharge Completion Report shall be submitted to EPA and DEC as part of the next Quarterly Report required under Paragraph 56.

28. **Sewer System Evaluation Survey.** Defendant shall conduct a Sewer System Evaluation Survey consistent with the Sewer System Evaluation Survey workplan attached to this decree as Exhibit C, except that the deadline for completion of each of the three phases of investigation shall be as follows:: (i) Outfall 24, by May 31, 2025, (ii) Outfalls 15, 30, 31, 43, 48, 53, by November 30, 2025, and (iii) all remaining outfalls, by August 31, 2028. During the course of the evaluation, if Defendant identifies a potentially blocked sewer segment, Defendant must investigate, respond to, document, and alleviate the sanitary sewer blockage, as specified in Section 6 of Defendant's CMOM.

29. **Sewer System Corrective Action Plan.** No later than 120 days after completion of each phase of the Sewer System Evaluation Survey investigation referred to in Paragraph 28, Defendant shall submit to EPA and DEC, for approval, a Sewer System Corrective Action Plan that addresses structural, operational, and maintenance issues for each of the conditions identified in that phase of the Sewer System Evaluation Survey investigation. Each Sewer System Corrective Action Plan shall include:

- a. A statement of each condition identified in the Sewer System Evaluation Survey.
- b. A statement of the means by which Defendant will correct each condition identified in the Sewer System Evaluation Survey (including construction and repairs).
- c. A deadline by which Defendant will correct each condition. Such deadlines will be set to ensure prompt correction of the condition and

protection of the public health and environment. Deadlines shall presumptively be no later than 60 days absent good cause. For deadlines greater than 60 days, Defendant shall also propose interim deadlines for material steps towards elimination of the source.

30. A Sewer System Corrective Action Plan shall be subject to review and approval pursuant to the process described in Paragraph 53. Upon its approval by EPA and DEC, a Sewer System Corrective Action Plan shall become an enforceable requirement of this Consent Decree.

31. **Sewer System Corrective Action Plan Completion Reports.** No later than 60 days after the completion of correction of a condition identified in a Sewer System Corrective Action Plan, Defendant shall prepare a Sewer System Corrective Action Plan Completion Report that describes in detail: (i) all of the measures in the Sewer System Corrective Action Plan that Defendant implemented; (ii) all failures, if any, by Defendant to fully implement any measures in the Sewer System Corrective Action Plan and the reason(s) for such failures; and (iii) all failures, if any, by Defendant to prevent discharges of sewage to Defendant's MS4 from occurring, since the time Defendant commenced implementing the measures set forth in the Sewer System Corrective Action Plan, and the reasons for such failures. Each Sewer System Corrective Action Plan Completion Report shall be included in the next Quarterly Report, as required under Paragraph 56.

32. To the extent Defendant receives funding earmarked for or otherwise intends to replace lead service lines, Defendant shall use reasonable efforts to align the schedule for such work with its work under any Illicit Discharge Action Plan or a Sewer System Corrective Action Plan to avoid duplicative construction work in a given street or area.

33. **SWMP Plan.** Defendant shall implement the SWMP Plan citywide.

34. **CMOM.** Defendant shall implement the CMOM citywide, including but not limited to: (i) employee training; (ii) complaint management program; (iii) pipe and manhole

inspection and cleaning; and (iv) pump station maintenance. Defendant shall perform and document routine inspection and maintenance required by its CMOM Program for its Sanitary Sewer System, including daily pump station and hot spot inspections and maintenance, as specified in Sections 3.b and 3.c of Defendant's CMOM, and report on the status of this requirement in each semi-annual report. Defendant shall further update its CMOM every year on or before December 31.

35. **Sewage Spills Reporting.** Defendant shall document and report all sanitary sewage spills and overflows, whether or not they have reached the Mount Vernon MS4, to DEC within two hours of discovery (consistent with the NYS Sewage Pollution Right to Know Law requirements), with a copy to EPA, including the following information regarding the spill or overflow event: (i) date and time; (ii) location; (iii) duration; (iv) volume; (v) cause; (vi) corrective action; and (vii) specification of whether the sewage has entered or may enter an MS4 catch basin and/or a receiving waterbody.

36. **Sanitary Sewer Overflow Response Plan.** Defendant shall continue to implement its Sanitary Sewer Overflow Response Plan to mitigate or prevent sanitary sewer overflows, as required by Section 6 of the Defendant's CMOM.

37. **Public Education and Other Actions.** Defendant shall perform public education and outreach to businesses and the general public regarding causes and risks of sewer backups, illegal discharges and improper disposal of waste, and maintain records of notifications including the date, location and content of the outreach. In instances where residents have experienced multiple sewage backups, Defendant shall provide assistance to residents by identifying the cause of the backups.

38. **Equipment.** Defendant shall maintain, in service, equipment and vehicles necessary to properly operate and maintain its storm sewer and sanitary sewer collection systems.

39. **Engineering Expert.** Defendant shall retain, continuously until the date of termination of this Decree pursuant to Section XX, a qualified engineering firm (the “Engineering Expert”) to assist Defendant in meeting its MS4 obligations and compliance with this Consent Decree.

40. Arcadis, an environmental consulting firm, is currently engaged as the Engineering Expert. In the event that Defendant decides to retain a new Engineering Expert, no later than 10 Days prior to retaining the Engineering Expert, Defendant shall notify Plaintiffs of the identity (including name, address, title, company, and phone number) of the proposed Engineering Expert and providing a copy of the proposed retention agreement and scope of work. If the United States or New York object to the proposed Engineering Expert or the form of retention agreement and scope of work, the dispute resolution provision of Section XII will apply.

41. Defendant shall make its staff available to meet with the Engineering Expert upon request, with reasonable notice, as required by the Engineering Expert to perform its responsibilities.

42. Defendant shall pay invoices of the Engineering Expert within 15 days of receipt of each invoice.

43. Plaintiffs are authorized to communicate directly with the Engineering Expert. Defendant agrees that it will not claim attorney-client privilege or attorney work-product protection applies to the work of the Engineering Expert.

44. **Financial Expert.** Defendant shall retain continuously until the date of termination of this Decree pursuant to Section XX, Defendant shall retain a qualified firm (the “Financial Expert”) to provide technical advice, assistance, oversight, and organization to assist Defendant in procuring federal, state, and other funding. (the “Financial Expert”). This firm may be the same firm serving as Engineering Expert, if qualified. Defendant shall work with the Financial Expert to obtain sources of funding necessary for the performance of work under this Consent Decree, which may include seeking available grants, assistance, and financing, including from the New York Clean Water State Revolving Fund.

45. Arcadis is currently engaged as the Financial Expert. In the event that Defendant decides to retain a new Financial Expert, no later than 10 Days prior to retaining the Financial Expert, Defendant shall notify Plaintiffs of the identity (including name, address, title, company, and phone number) of the proposed Financial Expert and providing a copy of the proposed retention agreement and scope of work. If the United States or New York object to the proposed Financial Expert or the form of retention agreement and scope of work, the dispute resolution provision of Section XII will apply.

46. Defendant shall make its staff available to meet with the Financial Expert upon request, with reasonable notice, as required by the Financial Expert to perform its responsibilities.

47. Defendant shall pay invoices of the Financial Expert within 15 days of receipt of each invoice.

48. Although the City anticipates receiving funding assistance to the extent available, compliance with its obligations under the MS4 General Permit and applicable regulations and the terms of this Consent Decree is not contingent upon or conditioned on the receipt of any federal

or state funds, and failure to obtain such funding assistance does not affect Defendant's obligations under this Decree.

49. **Development of In-House Capacity.** If Plaintiffs jointly agree that Defendant has demonstrated an in-house capacity to fully and reliably perform the functions of the Engineering Expert and/or Financial Expert described herein, Defendant may use City employees rather than outside firms as the Engineering Expert and/or Financial Expert. Either Plaintiff may withdraw such agreement at any time, in which case Defendant may no longer use its employees in lieu of outside firms. In the event Defendant ceases using Defendant's employees and returns to using outside firms, Defendant shall either retain the previously used Expert(s) or select a new Engineering Expert or Financial Expert consistent with Paragraphs 40 and 45. Each Plaintiff's decision whether to permit these functions to remain in-house is in its sole discretion and not subject to Dispute Resolution or judicial review.

50. **Environmental Justice and Transparency.** Defendant shall evaluate any potential adverse impacts of construction, repairs, and other actions undertaken pursuant to this Consent Decree on overburdened and underserved populations. Defendant shall schedule public meetings every quarter, beginning no later than 30 Days after the Effective Date, which may coincide with meetings of the City Council, and continuing through the duration of this Decree, to inform the public of any such potential adverse impacts, and provide an opportunity to members of the public to provide verbal comments, as well as submit comments in writing identifying any such potential adverse impacts. Defendant shall ensure that the public meetings are accessible to the public, including the use of technology as appropriate.

51. Defendant shall mitigate any such potential adverse impacts of construction, repairs, and other actions taken pursuant to this Consent Decree to the maximum extent possible consistent with such work.

52. By 30 Days after the Effective Date, Defendant shall create a dedicated space on its Department of Public Works website that shall include, but not be limited to: (i) a copy of the Complaint and the Consent Decree; (ii) a copy of each report, inventory, and approved plan under this Decree; and (iii) contact information for a person to whom members of the public may direct any complaints related to the Mount Vernon MS4, including discharges of raw sewage or other illicit pollutants. Defendant shall post each new report, inventory, or plan within five days of its submission. This list of information to be provided on the website is not intended to be an exclusive one, and Defendant may, in its discretion, post other information on the website that would be useful for the public to be apprised of progress made under this Consent Decree.

53. **Approval of Deliverables.** After review of any plan, report, or other document that is required to be submitted pursuant to this Consent Decree, EPA, after consultation with DEC (or EPA and DEC together, where the approval of each is specified as required under the CD) shall in writing either: (a) approve the submission; (b) approve the submission upon specified conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission.

- a. If the submission is approved pursuant to Paragraph 53, Defendant shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part pursuant to Paragraph 53(b) or (c), Defendant shall, upon written direction from EPA, after consultation with DEC (or EPA and DEC together, where the approval of each is specified as required under the CD), take all actions required by the approved plan, report, or other document that EPA, after consultation with DEC (or EPA and DEC together, where the approval of each is specified as required

under the CD), determines are technically severable from any disapproved portions, subject to Defendant's right to dispute only the specified conditions or the disapproved portions, under Section XII (Dispute Resolution).

- b. If the submission is disapproved in whole or in part pursuant to Paragraph 53(c) or (d), Defendant shall, within 45 days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other document, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, Defendant shall proceed in accordance with the preceding Paragraph.
- c. If a resubmitted plan, report, or other document, or portion thereof, is disapproved in whole or in part, EPA, after consultation with DEC (or EPA and DEC together, where the approval of each is specified as required under the CD), may again require Defendant to correct any deficiencies, in accordance with the preceding Paragraphs, subject to Defendant's right to invoke Dispute Resolution and the right of EPA and DEC to seek stipulated penalties as provided in the preceding Paragraphs.
- d. Any stipulated penalties applicable to the original submission, as provided in Section X, shall accrue during the 45 day period or other specified period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of Defendant's obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

54. If Defendant elects to invoke Dispute Resolution as set forth in Paragraphs 53(a) or 53(c), Defendant shall do so by sending a Notice of Dispute in accordance with Paragraph 72 within 30 Days (or such other time as the Parties agree to in writing) after receipt of the applicable decision.

55. **Permits.** Where any compliance obligation under this Section requires Defendant to obtain a federal, state, or local permit or approval, Defendant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

Defendant may seek relief under the provisions of Section XI (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining,

any permit or approval required to fulfill such obligation, if Defendant has submitted timely and complete applications and has taken all other actions necessary to obtain all such permits or approvals.

IX. REPORTING REQUIREMENTS

56. **Quarterly Reports.** No later than thirty Days after the end of the quarter in which this Consent Decree is approved, and no later than thirty Days after the end of each subsequent quarter, Defendant shall submit to EPA and DEC a Quarterly Report that identifies all work completed or not completed during the preceding quarter that is required under this Consent Decree. These Quarterly Reports shall include a description of the status and progress of any work by Defendant or third parties in connection with this Consent Decree, as well any Illicit Discharge Completion Reports, Sewer System Corrective Action Plan Completion Reports, and documentation demonstrating CMOM and Sewer System Corrective Action Plan implementation, including a summary of sanitary sewer cleaning (including miles cleaned and locations), a summary of pipe and manhole inspections (including locations), and a summary of sanitary sewer overflows. Plaintiffs, in their sole discretion, may consent to the submission of such reports at less frequent intervals; any such consent shall be revokable in their sole discretion.

57. **MS4 Annual Reports.** By June 1 of each reporting year, the Defendant shall submit a complete and accurate MS4 Annual Report, required by the MS4 General Permit, to DEC, with a copy to EPA, as required by the MS4 General Permit.

58. **Violation Report.** If Defendant violates, or has reason to believe that it may violate, any requirement of this Consent Decree, Defendant shall notify DOJ and New York of such violation and its likely duration, in writing, within 10 Days of the Day Defendant first

becomes aware of the violation, with an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, Defendant shall so state in the report. Defendant shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within 30 Days of the Day Defendant becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves Defendant of its obligation to provide the notice required by Section XI (Force Majeure).

59. **Immediate Threat Report.** Whenever any violation of this Consent Decree or of any applicable permits or any other event affecting Defendant's performance under this Decree may pose an immediate threat to the public health or welfare or the environment, Defendant shall notify EPA and DEC orally or by telephone at 212-637-5000 (EPA) and (914) 803-8141 and (518) 402-9660 (DEC) or by email to Chief of the Water Compliance Branch at mckenna.douglas@epa.gov (EPA) and Regional Water Engineer, R3 (White Plains/Tarrytown) at meena.george@dec.ny.gov and a copy to Director, Bureau of Water Compliance at edward.hampston@dec.ny.gov (DEC) as soon as possible, but no later than 24 hours after Defendant first knew of the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph, elsewhere in the Decree, or under applicable law.

60. **Certification.** Each report submitted by Defendant under this Section shall be signed by an official of the submitting party and include the following certification:

I certify under penalty of perjury 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 have no personal knowledge that

the information submitted is other than 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.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

61. The reporting requirements of this Consent Decree do not relieve Defendant of any reporting obligations required by the Act or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

62. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

X. STIPULATED PENALTIES

63. Defendant shall be liable for stipulated penalties to the United States for violations of this Consent Decree as specified below, unless excused under Section XI (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any workplan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

64. **Late Payment of Civil Penalty.** If Defendant fails to pay the civil penalty required to be paid under Section VII (Civil Penalty) when due, Defendant shall pay a stipulated penalty of \$5,000 per Day for each Day that each payment is late.

65. **Compliance Deadlines.** The following stipulated penalties shall accrue per violation per Day for each violation of the requirements identified in Section VIII, except for the requirements identified in Paragraphs 16-17 (MS4 Outfalls), 27 (Illicit Discharge Completion

Reports), 31 (Sewer System Corrective Action Plan Completion Reports), 33 (SWMP Plan), 34 (CMOM), 35 (Sewage Spills Reporting), 36 (Sanitary Sewer Overflow Response Plan), and 37 (Public Education and Other Actions):

Penalty Per Violation Per Day	Period of Noncompliance
\$500.....	1st through 30th Day
\$1,000.....	30th through 45th Day
\$1,500.....	46th Day and beyond

66. The following stipulated penalties shall accrue per violation per Day for each violation of the requirements identified in Paragraphs 16-17 (MS4 Outfalls), 33 (SWMP Plan), 34 (CMOM), 36 (Sanitary Sewer Overflow Response Plan), and 37 (Public Education and Other Actions):

Penalty Per Violation Per Day	Period of Noncompliance
\$250.....	1st through 30th Day
\$500.....	30th through 45th Day
\$1,000.....	46th Day and beyond

67. **Reporting Requirements.** The following stipulated penalties shall accrue per violation per Day for each violation of the reporting requirements of Paragraphs 27 (Illicit Discharge Completion Reports), 31 (Sewer System Corrective Action Plan Completion Reports), 35 (Sewage Spills Reporting), and Section IX (Reporting Requirements):

Penalty Per Violation Per Day	Period of Noncompliance
\$250.....	1st through 30th Day
\$500.....	31st through 45th Day
\$1,000.....	46th Day and beyond

68. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

69. Defendant shall pay any stipulated penalty within 30 Days of receiving the United States' written demand.

70. The United States may in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree.

71. Stipulated penalties shall continue to accrue as provided in Paragraph 68 during any Dispute Resolution, but need not be paid until the following:

- a. If the dispute is resolved by agreement of the Parties or by a decision of EPA that is not appealed to the Court, Defendant shall pay accrued penalties determined to be owing, together with interest, to the United States within 30 Days of the effective date of the agreement or the receipt of EPA's decision or order.
- b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Defendant shall pay all accrued penalties determined by the Court to be owing, together with interest, within 60 Days of receiving the Court's decision or order, except as provided in subparagraph c, below.
- c. If any Party appeals the District Court's decision, Defendant shall pay all accrued penalties determined to be owing, together with interest, within 15 Days of receiving the final appellate court decision.

72. **Payment.** Defendant shall pay stipulated penalties owing to the United States in the manner set forth and with the confirmation notices required by Paragraph 13, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

73. If Defendant fails to pay stipulated penalties according to the terms of this Consent Decree, Defendant shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States from seeking any remedy otherwise provided by law for Defendant's failure to pay any stipulated penalties.

74. The payment of penalties and interest, if any, shall not alter in any way Defendant's obligation to complete the performance of the requirements of this Consent Decree.

75. **Non-Exclusivity of Remedy.** Stipulated penalties are not the United States' exclusive remedy for violations of this Consent Decree. Subject to the provisions of Section XIV (Effect of Settlement/Reservation of Rights), the United States expressly reserves the right to seek any other relief it deems appropriate for Defendant's violation of this Decree or applicable law, including but not limited to an action against Defendant for statutory penalties, additional injunctive relief, mitigation or offset measures, and/or contempt. However, the amount of any statutory penalty assessed for a violation of this Consent Decree shall be reduced by an amount equal to the amount of any stipulated penalty assessed and paid pursuant to this Consent Decree.

XI. FORCE MAJEURE

76. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of Defendant, of any entity controlled by Defendant, or of Defendant's contractors that delays or prevents the performance of any obligation under this Consent Decree despite Defendant's best efforts to fulfill the obligation. The requirement that Defendant exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure and best efforts to address the effects of any potential force majeure event (a) as it is occurring and (b) following the potential force majeure, such that the delay and any adverse effects of the delay are minimized. "Force majeure" does not include Defendant's financial inability to perform any obligation under this Consent Decree.

77. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, Defendant

shall provide notice orally or by telephone to 212-647-5000 (EPA) and (914)803-8141 and (518)402-9660 (DEC) or by email to Chief of the Water Compliance Branch at mckenna.douglas@epa.gov (EPA) and Regional Water Engineer, R3 (White Plains/Tarrytown) at meena.george@dec.ny.gov and a copy to Director, Bureau of Water Compliance at edward.hampston@dec.ny.gov (DEC), within 72 hours of when Defendant first knew that the event might cause a delay. Within seven days thereafter, Defendant shall provide in writing to EPA and DEC an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Defendant's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of Defendant, such event may cause or contribute to an endangerment to public health, welfare or the environment. Defendant shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Defendant from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Defendant shall be deemed to know of any circumstance of which Defendant, any entity controlled by Defendant, or Defendant's contractors knew or should have known.

78. If EPA, after consultation with DEC, agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for

performance of any other obligation. EPA will notify Defendant in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

79. If EPA, after consultation with DEC, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify Defendant in writing of its decision.

80. If Defendant elects to invoke the dispute resolution procedures set forth in Section XII (Dispute Resolution), it shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Defendant shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Defendant complied with the requirements of Paragraphs 76 and 77. If Defendant carries this burden, the delay at issue shall be deemed not to be a violation by Defendant of the affected obligation of this Consent Decree identified to EPA and the Court.

XII. DISPUTE RESOLUTION

81. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. Defendant's failure to seek resolution of a dispute under this Section shall preclude Defendant from raising any such issue as a defense to an action by the United States or New York to enforce any obligation of Defendant arising under this Decree.

82. **Informal Dispute Resolution.** Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be

considered to have arisen when Defendant sends the United States and New York a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 20 Days from the date the dispute arises, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States, after consultation with New York, shall be considered binding unless, within 14 Days after the conclusion of the informal negotiation period, Defendant invokes formal dispute resolution procedures as set forth below.

83. **Formal Dispute Resolution.** Defendant shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by sending the United States and New York a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Defendant's position and any supporting documentation relied upon by Defendant.

84. The United States, after consultation with New York, shall serve its Statement of Position within 45 Days of receipt of Defendant's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on Defendant, unless Defendant files a motion for judicial review of the dispute in accordance with the following Paragraph.

85. Defendant may seek judicial review of the dispute by filing with the Court and serving on the United States, in accordance with Section XVI (Notices), a motion requesting judicial resolution of the dispute. The motion (a) must be filed within 10 Days of receipt of the

United States' Statement of Position pursuant to the preceding Paragraph; (b) may not raise any issue not raised in informal dispute resolution pursuant to Paragraph 54, unless the Plaintiffs raise a new issue of law or fact in the Statement of Position; (c) shall contain a written statement of Defendant's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and (d) shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

86. The United States and New York shall respond to Defendant's motion within the time period allowed by the Local Rules of this Court. Defendant may file a reply memorandum, to the extent permitted by the Local Rules.

87. **Standard of Review.**

- a. Disputes Concerning Matters Accorded Record Review. Except as otherwise provided in this Consent Decree, in any dispute brought under Paragraph 83 pertaining to the adequacy or appropriateness of plans, procedures to implement plans, schedules or any other items requiring approval by EPA under this Consent Decree; the adequacy of the performance of work undertaken pursuant to this Consent Decree; and all other disputes that are accorded review on the administrative record under applicable principles of administrative law, Defendant shall have the burden of demonstrating, based on the administrative record, that the position of the United States is arbitrary and capricious or otherwise not in accordance with law.
- b. Other Disputes. Except as otherwise provided in this Consent Decree, in any other dispute brought under Paragraph 83, Defendant shall bear the burden of demonstrating that its position complies with this Consent Decree and better furthers the objectives of the Consent Decree.

88. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Defendant under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 71. If

Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section X (Stipulated Penalties).

XIII. INFORMATION COLLECTION AND RETENTION

89. The United States, New York, and their representatives, including attorneys, contractors, and consultants, shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials, to:

- a. monitor the progress of activities required under this Consent Decree;
- b. verify any data or information submitted to the United States or DEC in accordance with the terms of this Consent Decree;
- c. obtain samples and, upon request, splits of any samples taken by Defendant or its representatives, contractors, or consultants;
- d. obtain documentary evidence, including photographs and similar data; and
- e. assess Defendant's compliance with this Consent Decree.

90. Upon request, Defendant shall provide EPA and DEC or their authorized representatives splits of any samples taken by Defendant. Upon request, EPA and DEC shall provide Defendant splits of any samples taken by EPA or DEC.

91. Until five years after the termination of this Consent Decree, Defendant shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Defendant's performance of its obligations under this Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United

States or New York, Defendant shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

92. At the conclusion of the information-retention period provided in the preceding Paragraph, Defendant shall notify the United States and New York at least 90 Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States or New York, Defendant shall deliver any such documents, records, or other information to the United States or New York. Defendant may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal law. If Defendant asserts such a privilege, it shall provide the following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the name and title of each author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the subject of the document, record, or information; and (f) the privilege asserted by Defendant. However, no documents, records, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on grounds of privilege.

93. Defendant may also assert that information required to be provided under this Section is protected as Confidential Business Information (“CBI”) under 40 C.F.R. Part 2. As to any information that Defendant seeks to protect as CBI, Defendant shall follow the procedures set forth in 40 C.F.R. Part 2.

94. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or New York pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of

Defendant to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XIV. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

95. This Consent Decree resolves only the civil claims of the United States and New York for the violations alleged in the Complaint filed in this action through the date of lodging.

96. The United States and New York reserve all legal and equitable remedies available to enforce the provisions of this Consent Decree. This Consent Decree shall not be construed to limit the rights of the United States or New York to obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal or state laws, regulations, or permit conditions, except as expressly specified in Paragraph 86. The United States and New York further reserve all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, Defendant's conduct, whether related to the violations addressed in this Consent Decree or otherwise.

97. In any subsequent administrative or judicial proceeding initiated by the United States or New York for injunctive relief, civil penalties, other appropriate relief relating to Defendant's violations, Defendant shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States or New York in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 95.

98. This Consent Decree is not a permit, or a modification of any permit, under any federal, State, or local laws or regulations. Defendant is responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and Defendant's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such laws, regulations, or permits, except as set forth herein. The United States and New York do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that Defendant's compliance with any aspect of this Consent Decree will result in compliance with provisions of the CWA, or with any other provisions of federal, State, or local laws, regulations, or permits.

99. Nothing in this Consent Decree limits the rights or defenses available under Section 309(e) of the Clean Water Act, 33 U.S.C. § 1319(e), in the event that the laws of the State, as currently or hereafter enacted, may prevent Defendant from raising the revenues needed to comply with this Decree.

100. This Consent Decree does not limit or affect the rights of Defendant or of the United States or New York against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against Defendant, except as otherwise provided by law.

101. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XV. COSTS

102. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States and New York shall be entitled to collect the costs (including

attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties due but not paid by Defendant.

XVI. NOTICES

103. Unless otherwise specified in this Decree, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and sent by email to EPA and by mail or email to other parties, addressed as follows:

As to DOJ by email: robert.yalen@usdoj.gov

and

eescdcopy.enrd@usdoj.gov
Re: DJ# 90-5-1-1-11743

As to DOJ by mail:

Robert William Yalen, AUSA
U.S. Attorney's Office – SDNY
86 Chambers St., 3rd Floor
New York, NY 10007

and

EES Case Management Unit
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, DC 20044-7611
Re: DJ# 90-5-1-1-11743

As to EPA by email:

mckenna.douglas@epa.gov
feinmark.phyllis@epa.gov

As to the State:

Abigail Katowitz, Assistant Attorney General
Office of the New York State Attorney General
28 Liberty Street – 19th Floor
New York, NY 10005

As to DEC:

Dena Putnick, Esq.
Bureau Chief, Office of General Counsel
625 Broadway, 14th Floor
Albany, NY 12233-1500

Meena George, P.E.
Regional Water Engineer, Region 3
100 Hillside Ave
White Plains, NY 10603

As to Defendant:

Commissioner Damani L. Bush
Department of Public Works
1 Roosevelt Square North
Mount Vernon, New York 10550
dbush@ci.mount-vernion.ny.us
914.665.2492

Brian G. Johnson
Corporation Counsel
City of Mount Vernon
1 Roosevelt Square North
Mount Vernon, New York 10550
bjohnson@ci.mount-vernion.ny.us
914.665.2331

Curtis J. Woods
City Engineer
City of Mount Vernon
1 Roosevelt Square North
Mount Vernon, New York 10550
cwoods@ci.mount-vernion.ny.us
914.465-2991

Darren M. Morton
City Comptroller
City of Mount Vernon
1 Roosevelt Square North
Mount Vernon, New York 10550
DMorton@ci.mount-vernion.ny.us

104. Any Party may, by written notice to the other Parties, change its designated notice recipient, its notice address provided above, and whether notice shall be provided by email or US Mail to that party.

105. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XVII. EFFECTIVE DATE

106. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket; provided, however, that Defendant hereby agrees that it shall be bound to perform duties scheduled to occur prior to the Effective Date. In the event the United States withdraws or withholds consent to this Consent Decree before entry, or the Court declines to enter the Consent Decree, then the preceding requirement to perform duties scheduled to occur before the Effective Date shall terminate.

XVIII. RETENTION OF JURISDICTION

107. The Court shall retain jurisdiction over this case until termination of this Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections XII and XIX, or effectuating or enforcing compliance with the terms of this Decree.

XIX. MODIFICATION

108. The terms of this Consent Decree, including any attached appendices, may be modified only by a subsequent written agreement signed by all the Parties. Where the modification constitutes a material change to this Decree, it shall be effective only upon approval by the Court.

109. Any disputes concerning modification of this Decree shall be resolved pursuant to Section XII (Dispute Resolution), provided, however, that, instead of the burden of proof

provided by Paragraph 87, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XX. TERMINATION

110. After Defendant (a) has completed the requirements of Paragraphs 16 through 18 and 20 to 30 (including implementation of all approved Illicit Discharge Action Plans under Paragraphs 22 through 24 and including implementation of the Sewer System Corrective Action Plan under Paragraphs 29 and 30); (b) has thereafter maintained continuous satisfactory compliance with this Consent Decree (including the SWMP as provided in Paragraph and the CMOM as provided in Paragraph) and the General Permit for a period of 12 months, and (c) has paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree, Defendant may serve upon the United States and New York a Request for Termination, stating that Defendant has satisfied those requirements, together with all necessary supporting documentation.

111. Following receipt by the United States and New York of Defendant's Request for Termination, the United States and New York shall confer informally concerning the Request and any disagreement that the United States, New York, or Defendant may have as to whether Defendant has satisfactorily complied with the requirements for termination or partial termination of this Consent Decree. If the United States, after consultation with New York, agrees that the Decree may be terminated, in whole or part, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree or part thereof.

112. If the United States, after consultation with New York, does not agree that the Decree may be terminated as provided in the Request for Termination or Request for Partial

Termination, Defendant may invoke Dispute Resolution under Section XII. However, Defendant shall not seek Dispute Resolution of any dispute regarding termination until 90 after service of its Request for Termination.

XXI. PUBLIC PARTICIPATION

113. This Consent Decree shall be lodged with the Court for a period of not less than 30 Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Defendant consents to entry of this Consent Decree without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified Defendant in writing that it no longer supports entry of the Decree.

XXII. SIGNATORIES/SERVICE

114. Each undersigned representative of Defendant, DEC, and the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

115. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. Defendant agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court.

XXIII. INTEGRATION

116. This Consent Decree, including deliverables that are subsequently approved pursuant to this Decree, constitutes the entire agreement among the Parties regarding the subject matter of the Decree and supersedes all prior representations, agreements and understandings, whether oral or written, concerning the subject matter of the Decree herein.

XXIV. FINAL JUDGMENT

117. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States, New York, and Defendant. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

XXV. EXHIBITS

118. The following exhibits are attached to and part of this Consent Decree:

“Exhibit A” is the updated Capacity, Management, Operation and Maintenance program approved in April 2023.

“Exhibit B” is the Illicit Discharge Action Plan approved on March 14, 2023.

“Exhibit C” is Sewer System Evaluation Survey workplan approved on March 14, 2023.

“Exhibit D” is the Stormwater Management Program Plan approved on March 14, 2023.

Dated and entered this ___ day of _____, 2023

CATHY SEIBEL
UNITED STATES DISTRICT JUDGE

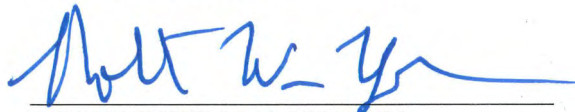
FOR THE UNITED STATES OF AMERICA:

9/18/23

Dated

DAMIAN WILLIAMS
United States Attorney for the
Southern District of New York

By:



ROBERT WILLIAM YALEN
Assistant United States Attorney
86 Chambers Street, 3rd Floor
New York, NY 10007
Tel.: (212) 637-2722
Fax: (212) 637-2702
Email: robert.yalen@usdoj.gov

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

September 5, 2023
Dated



PAUL SIMON
Regional Counsel
U.S. Environmental Protection Agency, Region 2

PHYLLIS FEINMARK
Chief, Water and General Law Branch

FOR THE STATE OF NEW YORK AND DEC:

9/7/2023
Dated

LETITIA JAMES
Attorney General of New York

By: *Abigail Katowitz*
ABIGAIL KATOWITZ
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FOR THE CITY OF MOUNT VERNON:

9/18/23
Dated



SHAWYN PATTERSON-HOWARD
MAYOR
City of Mount Vernon
1 Roosevelt Square North
Mount Vernon, New York 10550
MayorSPH@ci.mount-vernon.ny.us



City of Mount Vernon Sanitary Sewer System
Capacity, Management, Operations, and Maintenance Plan

(CMOM)

August 31, 2021

(UPDATED - APRIL 2023)

City of Mount Vernon
Department of Public Works
1 Roosevelt Square
Mount Vernon, NY 10550

1. COLLECTION SYSTEM MANAGEMENT PLAN OF ACTION

b. Organization

The City of Mount Vernon's Bureau of Sewers, under the Department of Public Works, is responsible for all aspects of our wastewater collection system except for treatment. The Bureau has a staff of ten (10) full time operation and maintenance positions. Contractors are used for some maintenance activities and for emergency support.

3. CLEANING INSPECTION and MAINTENANCE

Update to the “Trouble Areas “ ;

Removed – The City completed repairs and was able to remove the following locations from the routine cleaning list.

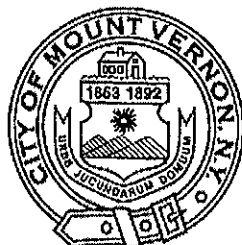
1. Beechwood Avenue	(Page #21)	CIPP
2. Brookside Avenue	(Page #37)	CIPP
3. Grandview Avenue	(Page #311)	CIPP
4. Hillside Avenue	(Page #343, #721)	CIPP
5. West Lincoln/Howard Avenue	(Page #378)	Repair
6. MacQuesten Parkway	(Page #405-408)	CIPP
7. Commonwealth Avenue	(Page #758)	Repair

Remain – These locations remain on the routine cleaning list, but repairs are planned.

1. Pennsylvania Avenue	(Page #40B)	Repair
2. Fletcher/Primrose Avenues	(Page #238)	Repair
3. Farrell Avenue	(Page #259)	Repair
4. North 9 th Avenue	(Page #444)	Repair
5. Pearl Street	(Page #475)	Repair
6. Sandford Boulevard	(Page #517-518)	CIPP
7. West 3 rd Street Corridor	(Page #635-637)	CIPP

Added – These locations have been added to the routine cleaning list. Repairs are planned.

1. North Bond Street/Mt Vernon Ave	(Page #28)	Repair
2. South Columbus Avenue	(Page #73)	Repair
3. Dell Avenue	(Page # 96)	Repair
4. Edison Avenue	(Page #111-112)	Repair
5. South Fifth Avenue	(Page #201-209)	Repair
6. East 4 th Street	(Page #252)	Repair
7. Haven Avenue	(Page #322A)	Repair
8. Millington Street	(Page #424)	Repair
9. Short Street	(Page #435)	Repair
10. East Sidney Avenue	(Page #557)	Repair



City of Mount Vernon Sanitary Sewer System
Capacity, Management, Operations, and Maintenance Plan

(CMOM)

August 31, 2021

(DRAFT FOR REVIEW)

City of Mount Vernon
Department of Public Works
1 Roosevelt Square
Mount Vernon, NY 10550

City of Mount Vernon Sanitary Sewer System Maintenance Plan

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1. COLLECTION SYSTEM MANAGEMENT PLAN OF ACTION

a. Goals

The City of Mount Vernon's Preventive Maintenance Plan (PMP) implements all requirements of the Clean Water Act and takes all corrective actions necessary to eliminate illicit connections. The asset managed in our wastewater collection system is one component of the overall Capacity, Management, Operations and Maintenance (CMOM) Plan, PMP and Plan of Action (POA). The PMP combines preventive, predictive and corrective maintenance strategies with the best management practices. The Plans have been prepared to allow the City of Mount Vernon effectively manage the wastewater collection system to specifically address the identification and elimination of illicit connections in order to minimize discharges and sources of pathogens and minimize sanitary sewer overflows (SSO), to achieve the following goals:

- Prevent public health hazards
- Protect the environment
- Comply with regulations
- Minimize the frequency of SSOs
- Mitigate the impact of SSOs
- Minimize disruptions in service
- Minimize complaints
- Provide expeditious response to any disruption in service that occurs
- Protect City of Mount Vernon's investment in the sanitary sewer collection system by maintaining maximum capacity and extending the useful life of associated assets
- Prevent damage to public/private property
- Efficiently use available funds for the maintenance of the sanitary sewer system and the operation of services
- Reduce expenditures for emergency maintenance
- Convey wastewater to the Yonkers Joint Waste Water Treatment Plant with a minimum of infiltration and inflow (I &I)
- Provide adequate capacity to convey peak flows to serve the community
- Provide immediate, responsive, and efficient service to all emergency calls
- Provide a safe work environment for employees
- Identify illegal sump pump connections
- Utilize evolving technology to increase our effectiveness and efficiency
- Review budget for repair and rehabilitation projects

b. Organization

The City of Mount Vernon's Bureau of Sewers, under the Department of Public Works, is responsible for all aspects of our wastewater collection system with the exception of treatment. The Bureau has a staff of six (6) full time operation and maintenance positions. Contractors are used for some maintenance activities and for emergency support. Figure 1 shows the organizational structure of the Department of Public Works, Bureau of Sewers:

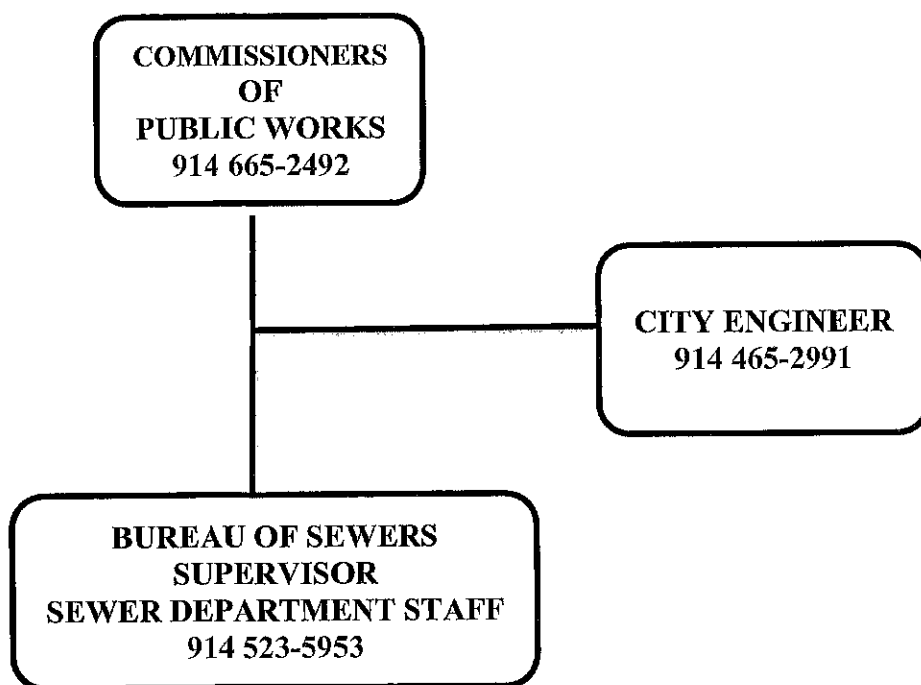


Figure 1 - City of Mount Vernon Bureau of Sewers

The City Engineer will assist in preparing wastewater collection system planning documents, manages capital improvement delivery system, documents new and rehabilitated assets, and coordinates development and implementation of the CMOM, PMP and POA Plans.

The Bureau of Sewers' Supervisor manages field operations and maintenance activities, provides relevant information to agency management, prepares and implements contingency plans, leads emergency response, investigates and reports SSOs, and trains field crews.

City Staff and Consultants ensures that new and rehabilitated assets meet the Mount Vernon Sewer Department Standards, works with field crews to handle emergencies when contractors are involved, and provides reports to Commissioner of Public Works.

Sewer Department Staff – conduct operations and preventive maintenance activities, mobilize and respond to notification of stoppages and SSOs (i.e., mobilize sewer cleaning equipment, by-pass pumping equipment, and portable generators).

Administrative Staff - support staff operations and preventive maintenance activities, assist with data entry and quality control, handle billing, dispatch, payroll, customer response, outreach, education, and other support functions as needed

c. Training/Safety

- Routine Line Maintenance
- Heavy Equipment Operation
- Maintenance Equipment Operation
- Line Testing and Inspection
- Infrastructure Installation
- Pump Station Operation and Maintenance
- Electrical and Instrumentation

- Emergency Response
- Public Relations
- Safety - Safety training is obtained from training agencies and from other City Departments (i.e. Fire)
- Hard Hat Policy
- Vehicle Operation Policy
- Seat Belt Policy
- Respiratory Protection Program
- Excavation Safety Policy and Program
- Chlorine Safety Policy
- Injury Reporting Policy
- Post-Accident Drug Testing Policy
- Safety Teams and Committee Policy
- Personal Protective Equipment (provided for the employee)
- First Aid, CPR and AED (First aid supplies are available in office areas and vehicles)
- Flaggers
- Hazard Communication Program
- Defensive Driving Program employees who are required to maintain a commercial driver's license must complete a four (4) hour defensive driving course)

Training is provided by the supervisors and Foremen. Training records are maintained for each employee in the DPW Office. Training is provided to all new hires and is performed on an as needed basis to the existing workforce. As needed training is used when a new piece of equipment is purchased or there are new regulations or requirements to be implemented. It maintains appropriate safety equipment including: protective clothing, safety glasses, hard hats, gloves, respirators, filters, harnesses, tripods, hoists, fire extinguishers and self-contained breathing apparatus. The Bureau of Sewers also maintains atmospheric testing equipment. Lights, barricades, signage and exhaust fans are also available

d. Customer Service

1. Complaint Management Program

Complaints and requests are received by various means (e.g., phone calls, e-mail, mail, Fire / Police departments, and occasionally in person). Regardless of the nature or means of receipt, all complaints and requests are entered via the dispatcher into a log book. Entries include the following detailed information about the complaint/request. All complaints are responded to within one (1) hour and detailed information to be collected within 24 hrs.

The City has established a 24-hour emergency contact phone line: (914) 665-2719 in a jobsite trailer permanently located on the DPW yard at 33 Canal Street. The landline is manned by Teamsters-456 Union full-time personnel assigned to the City's DPW fuel station. The fuel station is staffed 24/7 by attendants on 8-hour rotating shifts to include weekends and holidays. During scheduled breaks, the fuel attendant forwards the line to the Deputy Commissioner's cellular line to ensure 24-hour coverage to respond to sewer related calls. Upon receiving a complaint, the attendant logs the necessary information, listed below. That information is then forwarded to Ramone Bennett or Robert Hackett to arrange the necessary emergency personnel to respond within one hour. The personnel assess the situation and determine the next course of action which range from identification of private plumbing issues, deployment of additional CMV Sewer Staff, and/or notification of neighboring municipalities, or Westchester County personnel.

- Receiver of complaint / dispatcher
- Time and date of request
- Form number (Work Order)

- Complainant information (Name, address, call back phone number)
- Location of the problem
- Type of complaint (Codes, e.g. home back up, odor, manhole overflow, etc.)
- Specific request
- Personnel assigned to complaint
- Findings type, including cause of problem
- Complaint closeout information
- Date complaint closed

Once a complaint is assigned, field personnel perform an investigation. If the problem cannot be immediately resolved, a work order is processed to take appropriate action for permanent correction of the problem. If the City is not responsible for correcting the problem, the DPW will provide the complainant with the guidance to contact a plumber or service contractor. Once an investigation has been completed, the work order is placed in a DPW file.

2. Public Information and Education Program

The City of Mount Vernon uses a variety of outlets for providing information and education to customers. The outlet(s) used to disseminate information is often based on the type of information and the targeted audience. The outlets listed below provide citizens with up-to-date information:

- City of Mount Vernon Mayors Office Public Relations Coordinator
- Time Warner Cable TV Channel
- City of Mount Vernon Website
- Local Media
- Neighborhood /Town Hall Meetings
- City Council Agenda
- Public Hearings
- Personal Visits /Phone Calls
- Door Hangers
- Sign Postings
- Customer Mailings

City of Mount Vernon has a program for community relations regarding issues with the operation and maintenance of our collection system. Types of information and education provided are as follows:

Sewer System Evaluation Survey Work	Sanitary Sewer Use Ordinances
Major Repairs and Rehabilitation	Types of Waste Treated
New Construction	Industry Pretreatment Requirements
Road Closures	Wastewater Treatment Processes
Point Repairs for Street Paving	Customer Emergency Response
Sanitary Sewer Use Rates	Grinder Pump Operation and Maintenance
Grease Handling Information	Complaint Procedures
Grease Disposal Pamphlet	Service Connection Requirements
Private Hauler Instructions	Wastewater Collection and Treatment

e. Information Management and Geographic Information Systems

The Cities mapping has been significantly delayed with the loss of its GIS coordinator. With the assistance of Westchester County GIS Department the City has developed 40% of the preliminary mapping for the sanitary and storm sewer system. As part of our collaboration with the Westchester County GIS the City will continue to

research options to develop a management tool and GIS system to manage the following items. We anticipate that all sanitary sewers will be mapped with these features within 3 years:

- System features such as pipe size, type, age, location, condition assessment, etc.
- Inspection scheduling and tracking
- Flow monitoring
- Planned maintenance
- Parts inventory
- Customer service and complaints
- Overflow, safety and reportable
- Emergency response
- Employee training

Below is a template of the data the City desires to capture and store as per NYSDEC:

<p>Manholes Basic Map Information</p> <ul style="list-style-type: none"> - ID number or other unique identifier - Location: refer to streets and property lines - Date constructed - Depth - GPS coordinates - Diameter - 	<p>Manholes Additional Map Information</p> <ul style="list-style-type: none"> - Rim elevation - Invert elevation - Material Type - Worker safety information - Evidence of surcharge, if any - Condition Assessment - Maintenance - Inspection scheduling and tracking
<p>Pipes Basic Map Information</p> <ul style="list-style-type: none"> - ID number or other unique identifier - Location: refer to streets, surface waters, property lines and manholes - Size - Direction of flow - Length - Material type - Date constructed 	<p>Pipes Additional Map Information</p> <ul style="list-style-type: none"> - Slope - Pipe invert elevations - Plan or as-built ID number - Condition Assessment - Maintenance - Inspection scheduling and tracking - Service laterals
<p>Pump Station Basic Map Information</p> <ul style="list-style-type: none"> - ID number - Location - Capacity 	<p>Pump Stations Additional Map Information</p> <ul style="list-style-type: none"> - Additional information on drawings, and in the CMMS, i.e. pumps, stand-by power and type
<p>Force Main Basic Map Information</p> <ul style="list-style-type: none"> - ID number or other unique identifier - Location: refer to streets, surface waters, and property lines - Direction of flow and pump station associated - Length - Material type - Location of air release valves - Date built - Capacity 	<p>Force Main Additional Map Information</p> <ul style="list-style-type: none"> - Slope - Invert elevations - As-built Plan

General Information:

- Parts inventory
- Equipment and tools
- Purchase orders/expenses
- Revenue

Collection System Information:

- Continuous Sanitary Sewer System Assessment
- Collection system mapping
- Collection system inventory
- FOG compliance
- Flow monitoring
- SSO/Emergency response

Personnel Information:

- Department staff
- Accident information
- Training
- Job performance

Maintenance Program Information:

- Routine and Priority Planned maintenance (cleaning, etc.)
- Inspection scheduling and track
 - o Manhole
 - o Pipeline (Closed Circuit Television (CCTV), camera)
 - o Pump station
- Work Orders
- Monitoring/Sampling.
- Vehicle maintenance

Customer Service Program Information:

- Complaints
- Customer service response
- Billing information

Any activity performed by department personnel is generated and tracked through the Department of Public Works' written work orders for the performance of routine maintenance as well as repairs and corrective actions in response to inspection findings or customer complaints. Upon completion of the task(s), data related to the work order is entered into the Department's files.

f. Legal Authorities and Controls

1. The City of Mount Vernon has the following authority:

- Control the quantity and quality of wastewater from new development and satellite collection systems

- Identify and mitigate sources of infiltration and inflow
- Identify and mitigate sources of Fats, Oils and Grease (FOG)
- Require standardized design and construction of new and rehabilitated sewers, and connections as per Ten State Standards
- Require standard installation, testing and inspection of new and rehabilitated sewers
- Access to all components of the collection system
- Identify and eliminate illicit discharges into storm sewer system, storm drains and water bodies

2. Sanitary Sewer Use Ordinance

The City of Mount Vernon has established and implemented standards and regulations regarding the use of the wastewater collection system. The City has a comprehensive sewer use ordinance, adopted in 1935. As regulations and requirements have changed, the City has updated its ordinances to address those issues. Ordinances are available electronically on the City of Mount Vernon Website.

The items addressed in the Sewer Use Ordinance include: sewer use and standards, access to pipelines and structures, FOG management, pretreatment requirements, service connections, hauled waste/sewage, user rates, permitting of flows into the system, inflow/infiltration control, enforcement of proper design, installation, and testing standards, and inspection requirements for new and rehabilitated sewers.

3. Joint Sanitary Sewer System Agreement

As posted on the City of Mount Vernon’s website, the City of Mount Vernon has an agreement with Westchester County for treatment of the City's wastewater since 1935. The latest agreement is dated 2001. All municipalities are compelled to abide by Westchester County Ordinance “Chapter 824- County Environment Facilities Sewer Act” that adversely impacts the County Public Owned Treatment Works (POTW) treatment plants. The County of Westchester assesses an annual sanitary sewer charge which is billed directly to the individual homeowners. The sanitary sewer service charge includes costs for wastewater treatment and a sewer reserve fund.

2. GENERAL SANITARY SEWER SYSTEM INFORMATION

a. Wastewater Treatment and Collection System Description

The City's first formal wastewater collection system dates back to the 1880s and the first wastewater treatment facility was constructed in 1918. The collection system transports wastewater to the Yonkers Joint Wastewater Treatment Plant, in the City of Yonkers.

b. Collection System Details

Miles of gravity Sanitary Sewer	Miles of force main	Number of manholes	Number of pump stations		Number of siphons	Number of air relief valves
			Public	Private		
105.68	0.15	2,232	1		0	0

Number of Service Connections:

Residential: 8,620
 Commercial: 1,475
 Industrial: 346
 Total: 10,441

c. Age Distribution of Collection System

The City of Mount Vernon has purchased the SL-RAT (Sewer Line Rapid Assessment Tool) and the SPIDER (Spherical Imagery Digitally Enhanced Rendering) Manhole Scanner equipment to assess the structural condition (in order of age) and maintenance needs of the collection system as a part of the Cleaning, Inspection and assessment program.

The City of Mount Vernon has categorized the sanitary sewer system by age and size; and the components of the wastewater collection system are as follows:

Age	Gravity Sewer miles	Force Main miles	Number of pump stations
0 – 31 years	2.68		
32 – 56 years	25		
57 – 81 years	50	0.15	1
> 82 years	28		

Total = 105.68

d. Length of Pipe by Diameter

Pipe Diameter (inches)	Length (lineal feet)	Material	Replacement Cost per foot
6	10,600	VCP	200
8	300,500	VCP	250
10	150,000	VCP	250
12	25,000	VCP & CI	325
15	25,000	VCP & CI	375
18	16,000	VCP & CI	400
24	27,000	VCP	425
36	3,900	RCP	550
TOTAL	558,000		
Total miles of Sanitary Sewer Pipe = 105.68			

e. Sanitary Sewer Overflow History

Overflow dates, locations, quantities and causes are tracked via data base on work tickets in an excel spreadsheet. The City is using this database to manage and track trouble areas in the city.

In order to screen the sanitary sewer capacity before the actual evaluation of the system, the City of Mount Vernon has purchased the SL-RAT equipment to address capacity, inflow/infiltration, and condition of our collection system. With its use, the entire sanitary sewer collection system can be practically and economically screened in 12 to 18 months. Using the SL-RAT and the info being collected during the Cities ongoing investigation, this program has been fashioned to identify, track and develop a plan to mitigate and eliminate SSOs. As the program progresses the workers involved in the work will be instructed as to how the system operates.

f. System Map

The City uses its street As-Built sewer plans and the preliminary sanitary and storm sewers mapping developed by the Westchester County GIS Department. As part of our ongoing collaboration with the Westchester County GIS the City has been working to develop a GIS mapping management tool for the sewers. The GIS will be our framework for gathering, managing, and analyzing data.

3. CLEANING, INSPECTION AND MAINTENANCE

a. Cleaning

The City cleans quarterly, by jetting and rodding, various portions of the sanitary sewer system that are considered "trouble areas" in order to maintain flow and minimize blockages. Chemical root inhibitors are periodically used in areas where root intrusion is prevalent.

b. Pipe and Manhole Inspection

The City inspects quarterly, sewer pipe and manholes in areas that are considered trouble areas in order to affect cleaning, if necessary, to minimize blockages.

The City, as part of the 2014 EPA Order, continues to develop a protocol for a cleaning and inspection program for the entire system using the data collected and parameters set by the USEPA. The City will be using newer technology to assist in the assessment of the existing system.

Please see Section 6 - Sewer Overflow Response Plan. The City has created a list of "trouble areas" These will be integrated into the GIS system as to better track and respond to incidents. It is anticipated that the majority of the system will be inspected/cleaned as part of the USEPA mandated work. As the list of trouble areas evolves with digital and GIS mapping, schedules will be prepared.

Current identified "trouble areas":

- Grandview Avenue (Page #311)
- Beechwood Avenue (Page #21)
- Farrell Avenue (Page #259)
- Brookside Avenue (Page #37)
- Hillside Avenue (Page #343, #721) (Adjacent to Hutchinson River)
- Sandford Boulevard (Page #517, 518)
- Pease Street (Page #477)
- West 3rd Street Corridor (Page #637) (from 7th Avenue to 14th Avenue)
- Pearl Street (Page #475)
- MacQuesten Parkway (Page #404 – 408)
- North 9th Avenue (Page #444)
- West Lincoln /Howard Avenue (Page #378)
- Fletcher /Primrose Avenue (Page #238)
- Commonwealth Avenue (Page #758)
- Pennsylvania Avenue (Page #40B)

These are "trouble areas" that require periodic flushing or chemical treatment for grease and roots.

c. Mechanical and Electrical Maintenance

The City of Mount Vernon owns and operates one wastewater pump station. The pump station located on

Edison Avenue near Leona Lane, the station consists of 3 grinder pumps that service an industrial district along the Hutchinson River. The maintenance for the grinder pumps stations is the responsibility of the City of Mount Vernon Bureau of Sewers.

The performance of the pump station is monitored through daily inspections. During these Inspections, City staff review pump run hours, totalized flow, wet well levels and alarms. A contractor is utilized to service the pumps, the wet wells, remove grease build up, and calibrate the floats on an annual basis.

The City has installed an Omni Beacon Wireless Alarm Dialer. The Beacon has been mounted to the Control Panel and will provide alarms for the dialer Battery, and High level alarm for the Pump Station. The dialer is programmed to call, send text messages, and or emails to persons to be notified. The City will continue to explore options to upgrade the station and install a SCADA based system (or similar) to monitor and record the following:

- Number of pumps in operation
- Status of pumps (including operational alarms)
- Current pumping flow rate
- Historic flow rate (24 hour Flow Chart)
- Pump start / stop cycles
- Power status (including power failure alarms)
- Wet well conditions (depth, lead / lag elevations, etc.)
- Personnel status (entry / exit alarms)

Pump Station Equipment:

Equipment	Number	Specifications
Pumps	3	150 gpm pumps (Hydromatic)
Motors	3	4 horsepower motors
Control Panel		
Float Switches		
Valves		
Air Compressor		
Meters		
Alternate Power Sources		1 back-up generator-trailer mounted diesel

Manufacturer's Operation and Maintenance (O&M) manuals for equipment are located in the DPW Garage Office

Pump Station Maintenance:

The Maintenance program noted below will be tracked in the same manner as the current DPW work order system to create a permanent and formal record of the work performed. A log book will kept at the Pump Station to log date and time of the inspection and what work was performed and the conditions found. The pump station will be secured and locked, with "Restricted Area -- Authorized Personnel Only" signs to prevent unauthorized access.

Mechanical Maintenance/Inspections	Electrical Maintenance/Inspections
Weekly	
Visit pump station Review pump run hours	Ensure all breakers are on Ensure that all switches and controls are in the

<p>Review totalized flow Check wet well levels, check for debris, turbulence or unusual noise Check alarms Ensure that all switches, controls and valves are in the correct position Pick up litter, general housekeeping Record findings in log book Log pump hours Check hydraulic levels Operate each pump Check drive belt Check bearings and packing Check for pump vibrations, unusual noise, and excessive heat Check pump and pump base connections Check chart recorder for routine pump performance Check valve operations and signs of leakage Lube and grease equipment (as required by manufacture) Check, clean and maintain property</p>	<p>correct position Check Motor Control Centers (MCC) Check level controllers Check electrical service feed Check remote monitoring equipment Check indicator and alarm lamps Check general electrical items (lighting, etc.) Check and release intrusion alarm</p>
Monthly	
	<p>Check back up generator Exercise stand by power</p>
Bi-Annual	
<p>Replace hydraulic fluids and oils (as required by manufacturer) Inspect pumps (oil levels, seals, packing, bearings etc.) Replace packing Inspect pump impellers and clearances Inspect discharge piping Check outflow pressure Calibrate gauges (including pressure gauges used in monitoring) Check for corrosion problems Exercise check valves Check air release valves Check floats/bubbler system (clean and/or replace) Inspect building and grounds Check operation of building heat and fans Inspection HVAC equipment Check building security</p>	<p>Inspect internal Motor Control Center components Check insulation resistance Inspect & grease electrical contacts Inspect electrical pump cables Inspect electrical breakers Perform amperage readings on equipment Check MCC for proper operations Check Generator: oil level water level fuel level inspect hoses and belts check piping for leaks check battery condition</p>
Annual	
<p>Pump the wet wells Remove grease build up Service and calibrate all instrumentation: flow meters, level sensors, alarms, elapsed time meters and telemetry equipment</p>	<p>Alternate Power Sources checked and run as part of emergency drill</p>

Capacity and discharge head in the pump stations are reviewed annually, following confirmation that the pumps are in good working order. Changes in capacity and discharge head are evaluated to determine whether cleaning of the force main is warranted.

d. Force Main Maintenance

City of Mount Vernon currently has one force main in the collection system with a combined length of 800 feet. The force main has is not long enough to warrant air release valves.

e. Private Pump Stations

There are no private pump stations maintained by the City of Mt. Vernon.

f. Corrosion Control

Corrosion control measures are utilized when and where necessary, to maintain mechanical and electrical operations/functions of the pump station and grinder pumps.

4. CAPACITY MANAGEMENT

County sewer impacts, the proposed developments will increase sewage flows from their site into the existing infrastructure. The increased flow will add to the volume of sewage flow requiring treatment at the Yonkers Joint Water Resource Recovery Facility operated by Westchester County. Since 2010, it has been the policy of the County Department of Environmental Facilities (WCDEF) that municipal governments require the applicants to identify mitigation measures that will offset the projected increase in flow. The best means to do so is through the reduction of inflow and infiltration (I&I) at a ratio of three for one for market rate units and at a ratio of one for one for affordable units.

Westchester County undertook a program to remove a certain percentage of inflow and infiltration (I&I) from the sanitary sewers as per the NYSDEC Order-on-Consent. The 1993 Yonkers Joint Sewer Districts Sewer System Evaluation Survey (SSES), report provided the County with priority rankings that were used to determine which (I&I) sources they would address in the City of Mount Vernon. The City received a list of findings/recommendations remaining work for the City of Mount Vernon, which would not be addressed as part of the County's (I&I) Program. It was recommendation of the County that this work should be considered a priority in the City of Mount Vernon to schedule future sewer system rehabilitation work

a. Lateral Replacement Program

The City does not presently have a lateral replacement program. Laterals are the responsibility of the individual homeowner(s).

b. Sewer Capacity Certification/ Connection Policy

Separate from the connection fee, developers of newly-constructed homes and businesses are required to pay a sewer capacity charge for removal of infiltration/inflow (I&I) from the system. The fee is based on removing an amount of (I&I) equivalent to three (3) times the difference between the existing average design flow and the development's average design flow. This work is coordinated with the WCDEF and the WCDOH and the removal of (I&I) must be certified by a Professional Engineer, licensed in the state of New York. Development in the City funded by HUD which only requires a 1-to-1 removal of (I&I).

5. RESOURCES AND BUDGET

a. Budget Process

The Public Works Department's budget process complies with the City of Mt. Vernon's budget cycle, which requires that the annual budget be completed and approved by December 31 of each year. The Bureau of Sewers Operations and Maintenance budget process originates with the prior year's budget numbers and projected needs for the coming year.

The Department of Public Works coordinates with the City Budget Committee to present their budget to the City Council for review and approval.

b. Rate Setting, Budgetary Policies and Financial History

1. Sewer use rates are established by the Westchester County Department of Environmental Facilities in coordination with the Westchester County Finance Department and billed directly to the City's individual homeowners.
2. Budgetary policies are established /controlled by the City Council in coordination with the Department of Finance and the Law Department.
3. Financial history is maintained by the City Clerk's Office and the Finance Department.

c. Historical Rate Review

The WCDEF, the WC Finance Department and the WC Clerk's office maintain historical sewer rate reviews.

d. Operating and Maintenance Expense

The City Department of Finance along with the City Council control/regulate the amount of Operating and Maintenance expenses for the DPW Bureau of Sewers. If additional funds are required in excess of budget amounts, the Commissioner of DPW must make a formal request through the Finance Department and the City Council.

e. Capital Improvement Program Overview

The Commissioner of Public Works provides a Capital Improvement Program (CIP) Overview including a list of Capital Projects required to meet certain needs insofar as Bureau of Sewers requires to meet the various goals outlined in the CMOM, PMP and the POA Plans. The CIP is presented to the City Budget Committee for review and submittal to the City Council for approval.

f. Capital Improvement Plan

The Capital Improvement Plan, as approved by the City Council, is established in the Annual Budget and implementation therefore becomes the responsibility of the appropriate Department; in this case the DPW. The CIP projects are either performed by City forces and/or by public bidding and contractual agreements.

g. Federal and State Grants/Loans

The Department of Public Works coordinates with the Grant Office, situated in the Department of Planning and Community Development. The Grants Office is comprised of a Research and Grants Administrator and Grants and Partnership Compliance Officer who use a variety of management systems to search for and analyze a comprehensive listing of federal, state, and foundation grant opportunities.

6. SANITARY SEWER OVERFLOW RESPONSE PLAN

The City's Sanitary Sewer Overflow Response Plan is established as follows:

- Personnel responsibilities
- Recording a Communication of the SSO
- Confirmation of the SSO
- Report of the SSO

a. Personnel Responsibilities Chart:

Name and title	Responsibilities for SSO Response	Contact numbers
Dispatcher	Responsible for overall management and decision making for the sewer collection system. Takes the lead for managing the response to a SSO, providing information to regulatory agencies, the public and news media. Responsible for determining the need to contact Fire department (for response to toxic spills and containment booms, etc.), local conservation department(s), and/or town officials.	Phone: 914-665-2465
Mr. Ramone Bennett Sewer Foreman	In charge of operating the collection system, performing inspections, maintenance and relaying critical information, assessing facilities, and providing recommendations to the Commissioner of Public Works. Responsible for organizing crews for response.	Phone: 914-523-5953
Mr. Curtis Woods, P.E. City Engineer	Responsible for administrative functions in the office including receiving phone calls and keeping a log of events. Will provide a standard carefully pre-scripted message to those who call with general questions. Additional information will be released through the Commissioner's office.	Phone: 914-465-2991

b. Recording a Communication of a Sanitary Sewer Overflow (SSO)

Generally, telephone calls from the public reporting possible sewer overflows/ basement back up's, are received at the Department of Public Works, Bureau of Sewers. After hours 24-hour Emergency 914-665-2719 / Fire Department / Police Department.

Telephone calls reporting overflows and back-ups are recorded by the Dispatcher and include all relevant information available regarding the overflow including:

- Time and date of the call;

- Specific location of the overflow;
- Description of problem (e.g., what is overflowing, extent of spill, if the cause is obvious, etc.);
- Time possible overflow was noticed by the caller;
- Caller's name and phone number;
- Observations of the caller (e.g., odor, duration, back or front of property); and
- Other relevant information that will enable the Sewer Department to quickly locate, assess and stop the overflow.

c. Confirmation of SSO

The Sewer Bureau's response crew is dispatched by the Sewer Foreman and /or Dispatcher to confirm the overflow. A report follows the confirmation of the SSO.

d. Report of the SSO

The City will report discharges of untreated or partially treated sewage within two hours of discovery to DEC and DOH, and within four hours of discovery to the general public using the NY-ALERT system. Within 5 days a written report as defined by 6NYCRR Part 750-2.7, will be submitted to the NYSDEC. The City of Mount Vernon's POSS Number is NYS400026.

The goal of this Sanitary Sewer Overflow Response Plan (SSORP) is to document and implement the City's plans for mitigating or preventing potential emergency overflows whenever possible, to prepare the City of Mt Vernon's personnel and responding departments to implement actions to mitigate the effects of such events, and to protect health, environment, and property.

This SORP is designed to ensure that appropriate crews are immediately dispatched to all reported SSOs to stop the overflow as quickly as possible; to minimize the effects of the overflow on public health and the environment; to minimize the impact of the overflow on collection system operations; and to report the overflow to the appropriate regulatory agencies, and to the public when warranted. The objectives of this plan include controlling waste discharge and providing procedures for managing sanitary sewer overflows, preventing harm to public health and the environment, and satisfying regulatory and reporting requirements.

Additional objectives of the SSORP are to: provide appropriate customer service, protect collection system personnel and the wastewater treatment plant, and protect all parts of the collection system. This plan needs to be updated as necessary (at least annually) to reflect any changes in staffing, notification requirements (including contact numbers), operations or system status. It will be updated and revised as insight and experience dictate.

The City will inform the NYSDEC via phone to the hotline within 2 hours of an overflow and will provide a written response via email to the DEC within 5 days in compliance with the Sewage Pollution Right to Know Law requirements.

e. Examples of Sanitary Sewer Overflows and Requisite Responses:

1. PROBLEM: Sewer Blockage and/or Back- Up Emergency Procedures:

- Dispatcher refers to sewer maps for location and to determine critical facilities and sewer sub-area to provide to dispatch crew. If the area of the complaint is served by a pump station, check to confirm whether any alarms from the pump station have been received.
- Dispatch the crew immediately to the complainant address with details. Crew notifies

- complainant/property owner(s) when they are on site.
- If the flow is questionable (not reasonable for the given service area) go to the upstream manhole to visually compare flows.
- If the flow from both manholes is reasonable for the area, notify the property owners that the problem is in their service lateral and to contact a plumber or sewer service contractor to relieve the blockage.
- If the downstream manhole is full and there is a potential for overflow, immediately begin the set up for pumping around the blockage (see "Overflowing Sewer Manhole" procedure)
- Request additional manpower and equipment as needed (e.g. Fire Department, excavating crew, bypass pumping equipment, etc.)
- Set up pump out equipment and hoses from the upstream manhole to the nearest flowing manhole below the blockage.
- Continue checking manholes downstream until a dry manhole is found indicating a blockage upstream.
- See Sewer Collapse procedure for pumping around the blockage while the line is repaired
- Note: if no blockage is found and the problem is attributable to a pump station problem refer to Pump Station responses.
- If a vacuum-truck and/or a jet-truck are available, jet line and have vacuum clear. Remove the debris from the manhole and observe it to try to determine the cause of the blockage.
- Use the necessary equipment to relieve the blockage, either by jet flushing or power rodding (if jet flushing is not sufficient to clear the blockage, request staff to bring power rodding equipment).
- Notify supervisor and describe the blockage. The supervisor will notify the proper authorities and agencies (See responsibility chart).
- Cordon off the area if ponding occurs on the street or easement (public or private).
- Collect as much of the sewage as possible, disinfect according to policy.
- Notify Contractor to schedule a television inspection.
- If the blockage is in a public line, relieve the blockage, clean up the property owner's basement as per policy on disinfecting. If blockage is determined to be in property owner's lateral connection, direct property owner to clear the line. The city has no ownership or responsibility for individual sewer services. The property owner is responsible for their service from the property to its connection to the City sewer.
- Make out a report indicating the time of the call, a description of the problem, repair work done, personnel present and equipment used.

NOTES:

When available, use collected debris to try to determine the cause of the blockage. Confirm removal of all debris from the manhole.

Record the water damage to all items in the basement. Record all actions taken (from start to finish) in log/record book, including equipment and personnel utilized.

Sewer Blockage or Back up into Basement, Minimum Levels of Staffing (people): 2	
Minimum Emergency Equipment	Specialized Equipment
<ul style="list-style-type: none"> • Jet flushing unit if available (sand trap) • Rodding machine & associated cleaning/cutting attachments (sand trap) • Standard harness and lifeline if applicable • Air blower with hose • Power vacuum 	<ul style="list-style-type: none"> • Closed Circuit Television camera unit • Truck with hoist • Vacuum unit • Power saw (circular) • Pipe cutter (hydraulic) • Sand trap

- | | |
|--|--|
| <ul style="list-style-type: none"> • Portable pumps • Portable generators • Safety cones/barricades • Gas meter-for oxygen deficient, explosive or toxic gases • Confined space entry tripod and associated equipment | |
|--|--|

2. PROBLEM: Force-Main Break

Emergency Procedures:

- Dispatch a crew to the site to assess the situation, including determination of who and what might be affected and the immediate danger to the environment.
- Refer to sewer maps for location of sewers (private lands flow patterns, manholes, etc.) and determine the pump station associated and which critical facilities are in the area.
- Set up traffic cones and barricades as needed.
- Initiate measures to contain the sewer overflow, protect any streets, public areas, catch basin inlets, etc. that might be subject to flooding, and collect wastewater that has been discharged so as to minimize impact to public health and the environment.
- Determine if it will be possible to pump around the break, from the pump station wetwell to the force main discharge manhole or other accessible manhole, and if so, prepare to pump around the break as described below:
 - o Request additional manpower and equipment as needed (e.g. Fire Department, excavating crew, bypass pumping equipment, etc.)
 - o Set up pump out equipment and hoses from the wet well to the nearest sewer discharge point.
 - o Draw down the wet well as much as possible to maintain the low level.
 - o Lock-out and tag-out (LOTO) the pumps in the pumping station.
- If pumping around the break is not possible, utilize the vacuum truck or sewage truck to draw down the wet well as much as possible and maintain a low level.
- Call in additional crews as necessary to help contain the sewer overflow. Set up flotation booms across streams; sandbag storm drains, etc., as necessary.
 - o Check the tributary area to determine if the discharge will affect any receiving waters.
 - o If it is determined that the receiving water may be affected, the supervisor should notify the proper authorities or agency.
 - o If the wastewater is in streets/roads (public or private), contain the waste water to the extent possible with sandbags or other berms
 - o Sandbag nearby catch basin inlets or paved areas to prevent the wastewater from entering the drainage system and causing potential contamination to the receiving waters.
 - o Barricade the area if ponding occurs.
 - o Collect as much of the sewage as possible, clean and disinfect the area. If the wastewater jeopardizes a playground or park, cordon off the entire area. Close the park to the public until the issue has been remedied to the satisfaction of the local and state boards of health and the local park superintendent.
 - o Gather and remove sewage related debris and organic matter from the affected area.
- Drain the force-main:
 - o Close down the gate valve on the upstream side of the discharge check valve in the pumping station.
 - o Open the check valve by hand and secure it in place.
 - o Slowly bleed the force-main back into the wet-well by slowly opening the gate valve on the discharge side of the pump, but only to the point where the force-main stops leaking and there is enough room to make the repair. Constant communication must take place between the crew

- located at the break and the crew located at the pump station.
- o Close the gate valve and return the check valve to its normal operating position and then fully open the gate valve.
- Repair the force main break.
- After the repair is complete, remove LOTO and return the pumps to normal operating position.
- Run the pump in the hand manual position to fill the force-main (Care must be taken during filling of force main – use only one pump during filling). Once completed, observe several pumping cycles before completely back-filling the excavation.
- Upon confirmation of adequacy of the repair, backfill the excavation (if necessary) and restore surface conditions to match existing conditions.
- While the crew is restoring the excavation, the crew leader should conduct a preliminary assessment of damage to private and public property. The crew leader should thoroughly document the nature and extent of the impacts including the use of photographs and video footage where possible.
- Make out a report indicating the time of the call, a description of the problem, the repair work done, personnel present and equipment used.
- Ifsewage overflowed the collection system, inform the NYSDEC and WCDOH.

Sewage Force-Main Break, Minimum Levels of Staffing (people): 4-5	
Minimum Emergency Equipment	Specialized Equipment
<ul style="list-style-type: none"> • Portable bypass pumping units • Hoses • Standard disinfectants • Safety harness and lifeline if applicable • Air blower with hose • Power vacuum • Portable generators • Safety cones/barricades • Gas meter-for oxygen deficient, explosive or toxic gases • Confined space entry tripod and associated equipment 	<ul style="list-style-type: none"> • CCTV camera unit • Truck with hoist • Vactor unit or septage hauler • Power saw (circular) • Pipe cutter (hydraulic) • Caution tape • Sand trap • Floation booms if necessary • Self-Contained Breathing Apparatus (SCBA)

3. PROBLEM: Sewer Main Break / Manhole Surcharge

Emergency Procedures:

- Dispatch a crew to location immediately while referring to the sewer maps for location of sewers (private lands flow patterns, manholes, etc.) to determine which critical facilities are in the area.
- Crew sets up signs, barricades, and/or barrels for traffic control and public safety, rerouting traffic as necessary and deploying traffic control measures such as police or flag person as needed.
- If it is a main line break, the Superintendent shall notify the appropriate authorities and town officials immediately.
- Request additional manpower and equipment as needed based on initial damage assessment (e.g. Fire Department, excavating crew, equipment to pump around the break, etc.)
- By-pass pumping around the break from the upstream manhole to the downstream manhole may be required. If not necessary, prepare for repairs while the pipe is flowing.
- Call in additional crews to set up flotation booms across streams, install sandbags, etc., as necessary. Unless special conditions exist, by-pass pumping around the failed sewer main is a priority before containing the overflow.
- Gather and remove sewage related debris and organic matter from the affected area.
- If the wastewater is in the streets/roads (public or private), use sand bags or other berm to contain

- the wastewater to minimize any impact to public health or the environment.
- Sandbag nearby catch basin inlets or paved areas to prevent the waste water from entering the drainage system and causing potential contamination to the receiving waters.
 - Cordon off the area if ponding occurs.
 - Isolate and collect as much of the sewage as possible, disinfect according to policy, notify surrounding homes (superintendent notifies appropriate officials, as needed).
 - If the waste water jeopardizes a playground or park, cordon off the entire area. Close the park to the public until the issue has been remedied to the satisfaction of the local and state boards of health and the local park superintendent.
 - Determine the location of the break/collapse and make any necessary repairs. Use repair procedures consistent with policy. If the break is on the pipe length, then a repair can be made with a wrap-around sleeve. If the break is at the bell, then a bell-joint clamp may be used.
 - Upon confirmation of adequacy of the repair by the City Engineer, backfill the excavation and restore surface conditions to match existing conditions.
 - To restore the sewer line to full capacity, the crew should remove any debris that may have entered and accumulated in the sewer line downstream and upstream from the break/collapse. The crew should clean the sewer line as described below.
 - Using a high velocity jet-flushing vehicle, begin flushing from the downstream manhole against the flow to the upstream manhole.
 - Repeat this procedure for several upstream and downstream pipe reaches.
 - The crew leader should thoroughly document the nature and extent of the impacts including the use of photographs and video footage where possible.
 - Make out a report indicating the time of the call, a description of the problem, the repair work done, personnel present and equipment used.
 - If sewage overflowed the collection system, inform the NYDEC and the WCDOH

Sewer Main Break/Collapse, Minimum Levels of Staffing (people): 4	
Minimum Emergency Equipment	Specialized Equipment
<ul style="list-style-type: none"> • Portable bypass pumping units • Hoses • Jet flushing unit if available (sand trap) • Standard disinfectants • Safety harness and lifeline if applicable • Air blower with hose • Power vacuum • Portable pumps • Portable generators • Safety cones/barricades • Gas meter-for oxygen deficient, explosive or toxic gases • Confined space entry tripod and associated equipment 	<ul style="list-style-type: none"> • CCTV camera unit • Truck with hoist • Vacuum unit • Power saw (circular) • Pipe cutter (hydraulic) • Sand trap • Caution tape • Floatation booms and sand bags as necessary • Self-Contained Breathing Apparatus (SCBA)



Illicit Discharge Action Plan

City of Mount Vernon, New York

Initial Submission: June 2022

Revised Submission: January 2023

City of Mount Vernon
Illicit Discharge Action Plan

Illicit Discharge Action Plan

Mt. Vernon, New York

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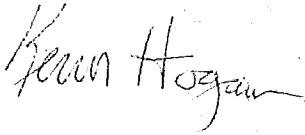
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City of Mount Vernon
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Acronyms and Abbreviations

ACO	Administrative Compliance Order
BOD	biochemical oxygen demand
CCTV	closed-circuit television
CIPPL	cured-in-place pipe lining
CIPSR	cured-in-place spot repairs
City	City of Mount Vernon
CRT	chemical root treatment
DNA	Deoxyribonucleic acid
EEO	Equal Employment Opportunity
ELAP	Environmental Laboratory Accreditation Program
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
GSC	grind service connection
IDAP	Illicit Discharge Action Plan
I/I	inflow and infiltration
LCL	lateral connection liners
MS4	Municipal Separate Storm Sewer System
MWBE	Minority and Women Owned Business Enterprises
NASSCO	National Association of Sewer Service Companies
NYSDOH	New York State Department of Health
PACP	Pipeline Assessment Certification Program
PCR	Polymerase Chain Reaction
RNA	Ribonucleic acid
SSES	Sanitary Sewer Evaluation Survey
SWMP Plan	Stormwater Management Program Plan
TSJ	test and grout seal sewer joints
TSS	test and grout seal service connections
USDOJ	United States Department of Justice
USEPA	United States Environmental Protection Agency
UV	ultraviolet

City of Mount Vernon
Illicit Discharge Action Plan

Executive Summary

The City of Mount Vernon was issued an Administrative Compliance Order (ACO) from the United States Environmental Protection Agency (USEPA) and several Remedial Orders due to suspected illicit discharges and exfiltration from the sanitary sewers into storm sewers. The Remedial Orders were the result of a case brought by the United States Department of Justice against the City of Mount Vernon.

In support of finding and eliminating these illicit discharges and in satisfying components of the Remedial Order, the City awarded a contract to Arcadis of New York, Inc. (Arcadis) to develop an Illicit Discharge Action Plan (IDAP) to find sources of illicit discharges entering the storm sewer system.

The IDAP will be completed in parallel with a Sanitary Sewer Evaluation Survey (SSES). The purpose of an SSES is to investigate the condition of the sanitary sewer, find defects that have the potential to cause illicit discharges, identify sources of inflow and infiltration, and assess structural integrity.

This report provides background on the project location, project history, and the role the IDAP plays alongside other documents being prepared to locate illicit discharges so they can be eliminated. The City has approximately 105 miles of sanitary sewer and 84 miles of storm sewer, so work will be prioritized to first focus on sewers within storm sewer drainage areas that show the greatest fecal coliform pollutant load through sampling.

The State of New York will direct a historic \$150 million to the City to replace aging water and sewer infrastructure, improve quality of life and protect public health. There will be a three-way partnership between the State, City and Westchester County, and the funds will be in the form of grants and long-term financing.

This document provides information on steps to take prior to starting the investigation and establishes priorities and methodologies for sewer system investigation and rehabilitation. The work will require Closed Circuit Television (CCTV) inspections, manhole inspections, sewer and building dye testing, smoke testing, and other techniques to identify the sources of the illicit discharges. Industry standard methods for sewer and manhole rehabilitation are described and guidance is provided on how the right one is selected.

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1 Background

The City of Mount Vernon (City) is approximately 4.4 square miles and has over 70,000 residents. There are approximately 105 miles of sanitary sewer, 84 miles of storm sewer, and approximately 7,000 collection system structures between them. A location map is provided as **Figure 1**.

The United States Environmental Protection Agency (USEPA) conducted a Municipal Separate Storm Sewer System (MS4) compliance inspection in 2012 that ultimately resulted in an Administrative Compliance Order (ACO) on March 8, 2015. The City commenced work on the requirements of the ACO but due to lack of funding was not able to meet the compliance schedule. This resulted in subsequent Remedial Orders from a United States District Judge, as a result of a case brought by the United States Department of Justice against the City of Mount Vernon. The ACO and subsequent Orders are a result of suspected illicit discharges and exfiltration from the sanitary sewers into storm sewers and to adjacent streams.

One requirement of the Third Remedial Order is that the City will develop and submit for EPA approval an Illicit Discharge Action Plan to find and remove illicit discharges for the Currently Identified Impaired Outfalls, which are defined as Outfalls 24, 33, 34.

The City awarded a contract to Arcadis of New York, Inc. (Arcadis) to develop the Illicit Discharge Action Plan (IDAP), as well as Sanitary Sewer Evaluation Survey (SSES) and the Stormwater Management Program Plan (SWMP Plan). There is inherent overlap between these documents, particularly with the IDAP and SSES. They both have very similar methodologies to find problems in the sewer system so they can be remedied.

The IDAP focuses on finding and eliminating illicit discharges from the sanitary sewer to the storm sewer. In the context of the storm sewer system, an illicit discharge is defined as a discharge that is not stormwater and is not an exempt discharge under the SPDES General Permit for Discharges from Municipal Separate Storm Sewers (MS4s). Finding illicit discharges includes investigations of the sanitary sewer and identification of defects or illicit connections. Both documents provide guidance on techniques for investigation including closed circuit television (CCTV) investigations, smoke testing, dye testing, and manhole inspections with the intent of locating problems so they can be eliminated. The IDAP also includes investigations in the storm sewer itself and includes investigation of potential illicit discharges from private residences.

The Remedial Orders require three specific storm sewer drainage areas (Outfalls 24, 33, 34) to be included in the IDAP. However, the results of 2022 outfall sampling indicate that some outfalls that had elevated fecal coliform concentrations in 2012, are no longer a problem. The results also indicate that different outfalls now have elevated concentrations of fecal coliform. Therefore, this IDAP will prioritize outfall drainage area for investigation based on pollutant load and provide standard procedures for annual sampling and outfall prioritization. IDAP provides procedures on tracking illicit discharges to discrete areas by collecting samples at manholes within the drainage areas and analyzing them for fecal coliform. Once isolated, a combination of CCTV investigations, dye testing, and manhole inspections will be used to identify the source(s) of the illicit discharge(s).

Related documents concurrently being developed include:

Sanitary Sewer Evaluation Survey (SSES) – This document provides a framework for sewer investigation and rehabilitation. To address the requirements and concerns of the ACO, the SSES will follow a tiered approach where the primary tier focus will be evaluating the sanitary sewer to find defects that have the potential to cause illicit discharges, and the secondary tier will shift to evaluating for infiltration and inflow (I/I) and structural integrity.

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So not to duplicate efforts, it is critical to track efforts and to review CCTV footage for all three components during the investigation.

Stormwater Management Program Plan (SWMP Plan) – Unlike the SSES and IDAP, which focus on specific locations within a defined duration of time, the SWMP plan will establish long-term programs, policies, and procedures to improve water quality. The investigation methodology in this IDAP includes analyzing samples only for fecal coliform bacteria, as that was the parameter used by the USEPA during the initial sampling event and was the basis for the Remedial Orders. Alternatively, the SWMP Plan will provide for analyzing a variety of parameters as part of the NYS MS4 General Permit, Minimum Control 3, Illicit Discharge Detection and Elimination.

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2 Outfall Sampling and Prioritization

This Section presents the results of the 2013 stormwater outfall sampling event performed by the USEPA and the 2022 outfall sampling event performed by Arcadis on behalf of the City. The sampling results provide a baseline to select drainage areas for investigation and evaluate the progress and success of the investigation and illicit discharge elimination actions.

2.1 Historic Sampling Results

The EPA sampled five Mount Vernon stormwater outfalls in 2013, and the results are presented in the table below.

Table 1. 2013 EPA Outfall Sampling Results

Outfall ID	2013 EPA Sampling Results		
	Fecal Coliform	Total Coliform	Unit
51	49,000	49,000	MPN/100 mL
24	130,000	330,000	MPN/100 mL
53	79,000	130,000	MPN/100 mL
30	17,000	79,000	MPN/100 mL
33	1,300	49,000	MPN/100 mL

The results of this sampling event showed elevated concentrations of fecal coliform bacteria and was the impetus for the Remedial Orders requiring the City of Mount Vernon to find and eliminate illicit discharges in the storm sewer system. CRR-NY Part 703.4 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations provides a limit for fecal coliform in surface water. The monthly geometric mean, from a minimum of five examinations, shall not exceed 200 MPN/100 ml. There is not a specific limit for discharges from the outfall of a storm sewer, but it can't cause or contribute to a water quality problem.

2.2 Outfall Sampling Results (2022)

The City of Mount Vernon completed storm sewer outfall inspections in compliance with their MS4 program and identified 19 outfalls with dry weather flow. The City's stormwater outfalls discharge to one of the following waterbodies: the Hutchinson River, the Bronx River, or Laurel Brook. Both the Hutchinson and Bronx Rivers are on the Section 303(d) list of impaired waters. Both streams are impaired for fecal coliform and dissolved oxygen. The Hutchinson is also impaired for oil and grease.

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In March of 2022, the 19 outfalls were re-visited during dry weather conditions, and the outfalls with flow were sampled. Dry weather is defined as a duration of 48 hours with less than 0.1 inches of precipitation or snow melt. There were two outfalls (OF No. 32 and OF No. 60) that were not flowing at the time of the sampling event. These two outfalls were each visited at least one additional time during subsequent sampling days and were still not found to be flowing during dry weather conditions.

Two grab samples were collected at each outfall. The duplicate samples ensure the results are representative of the normal discharge condition at that outfall. When an outfall was surcharged or not accessible, samples were collected from the first accessible upgradient manhole using a swing sampler or peristaltic pump.

Samples were analyzed by the Westchester County Department of Laboratories & Research, which is certified by the New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP). Samples were analyzed for fecal coliform using the Colilert-18 Test analysis method.

The discharge rate of each outfall was measured or calculated for each sample collected to determine the pollutant load at the outfall. A bucket test was used to estimate the discharge rate from the outfall by measuring the time required to fill a five-gallon bucket. If this method could not be used, the flow was calculated by measuring the depth, velocity, and outfall diameter. The velocity was obtained by using a portable velocity meter.

Results of the sampling event are presented in the table below.

Table 2. Outfall Sampling Results (2022)

2022 Stormwater Outfall Sampling Event	Fecal Coliform Pollutant Load ⁽¹⁾	Average Percentage of Total Fecal Coliform Pollutant Load	Average Flow (GPM)	Average Fecal Coliform (CFU/100ml)
24	1,058.8	95.41	427	45,450
48	19.8	1.78	3	>121,000
43	10.4	0.93	3	63,350
15	4.3	0.39	44	1,790
31	3.1	0.28	3	18,850
53	1.9	0.18	5	7,155
30	1.5	0.14	1	28,035
61	0.9	0.08	12	1,347.5
17A	0.7	0.07	47	287.5
21	0.2	0.02	5	617.5
12	0.1	0.01	26	100

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2022 Stormwater Outfall Sampling Event	Fecal Coliform Pollutant Load ⁽¹⁾	Average Percentage of Total Fecal Coliform Pollutant Load	Average Flow (GPM)	Average Fecal Coliform (CFU/100ml)
62	0.1	0.01	43	<50
51	0.05	0.00	1	1,002.5
33	0.04	0.00	3	262.5
50	0.02	0.00	1	375
34	0.01	0.00	5	<50
58	0.01	0.00	3	<50
Total Pollutant Load	1,102.05			

(1) Pollutant Load = Flow in gallons per minute × 60 minutes/hour × 24 hours/day × Fecal Coliform CFU/100mL × 3.785 liters/gallon × 10 (100mL)/Liter/1,000,000,000 = Billion CFU/day

In addition, samples were collected from two storm sewer manholes thought to have potential illicit discharges. The manholes do not currently have established unique numbers, so they were labeled 61-1 and 420. The 61-1 label represents that it is upgradient of storm sewer outfall 61. The other manhole that was sampled is located in front of 420 S Fulton Avenue.

Two samples were collected from the 61-1 manhole to analyze the flow coming from the Village of Bronxville (Village) (Sample ID - OF No. 61-1). The results showed elevated fecal coliform concentrations (2,825 CFU/100 mL) indicating that there is most likely an illicit discharge. The Village was notified of this result and the City manhole will be sampled in the future when the problem is corrected. It is not recommended that the City storm sewers that drain to Outfall 61 be investigated until this problem is corrected, since the fecal coliform concentration is so similar to that of the flow coming from Bronxville (Sample ID - OF No. 61-1).

Two samples were also collected from a manhole located in front of 420 S Fulton Avenue. This property was suspected to have a possible illicit discharge (Sample ID - OF No. 420) due to intermittent discharge of water in the storm sewer. The homeowner indicated that the intermittent flow was from a sump pump and the discharge was ground water. The sample analysis showed low fecal coliform concentrations (< 50 CFU/100 mL), which supports the owner's claims.

The laboratory reports and blank outfall sampling and analysis forms are provided in **Appendix A. Figure 2**, shows the outfall locations and the results. Outfalls with flow during dry weather conditions are colored red, and those that were dry are green.

Arcadis developed a Sampling and Analysis Plan prior to completing the sampling. This plan provides information on proper collection of the samples, flow calculation and sample analysis. This Plan is provided as **Appendix B**.

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Outfall Prioritization

An evaluation of pollutant loading will be the basis of prioritizing the investigation of the drainage areas, so that the drainage areas that discharge the greatest contribution of the total pollutants are addressed first.

The Consent Orders require this IDAP to focus on investigation in the drainage areas of outfalls previously sampled and identified as high priority. These outfall drainage areas are referred to in the Injunctive Relief Order as Outfalls 24, 33, and 34.

Based on the 2022 outfall sampling results, the storm sewer drainage area that discharges to Outfall 24 is still by far the greatest polluting drainage area, making up 95% of the pollutant load from the outfalls sampled. This drainage area will be considered the highest priority and first drainage area investigated. The 2022 results also show that the discharge from Outfalls 33 and 34 don't currently have elevated fecal coliform concentrations. It is recommended that they be removed from the list of areas to investigate at this time.

The other outfalls with elevated fecal coliform concentrations from the 2022 event that will be investigated include Outfalls 61, 43, 48, 53, 30, 31. Section 6.0, Investigation Methodology, describes the sampling protocol that will be used during the investigation to isolate problems within the drainage areas, show progress in reducing pollutant loads, and annually evaluate where to focus investigation efforts based on pollutant load. Annual outfall sampling will be conducted for the outfalls sampled in 2022 and found to have elevated fecal coliform concentrations. This will be done to confirm the drainage areas with the greatest pollutant load are the focus the investigation.

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3 Funding Considerations

The State of New York will direct a historic \$150 million to the City to replace aging water and sewer infrastructure, improve quality of life, and protect public health. There will be a three-way partnership between the State, City, and Westchester County, and the funds will be in the form of grants and long-term financing.

Prior to starting any work, or hiring any contractors, the City will review and understand the requirements and limitations of the grants and financing they plan to use. Some grants can only be used for investigation work, some only for construction, and all have specific requirements that should be understood prior to starting work. The City will put together a Funding Plan for each project that includes requirements specific to the funding to be used. It will include funding requirements, reporting requirements (e.g., quarterly, monthly, final), project management team, and schedule. This will help ensure the City obtains the funding they expect to receive, and in a timely manner.

Much of the funding will be from the Environmental Facilities Corporation (EFC). This link provides the mandatory terms and conditions associated with their grants and funding (<https://efc.ny.gov/terms-conditions>). It includes the following:

- Required Contract and Subcontract Language
- State Revolving Fund Mandatory Terms and Conditions
- State Financial Assistance (Grants) Terms and Conditions

Some example requirements to consider include participation requirements for Minority and Women Owned Business Enterprises (MWBE), participation requirements for New York State Certified Service-Disabled Veteran Owned Businesses, Davis-Bacon prevailing wage requirements, American Iron and Steel Requirement, and Equal Employment Opportunity (EEO).

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4 Mapping

The City has a complete set of sewer record drawings in PDF format, geographic information system (GIS) files of the sanitary sewer from the Westchester County countywide SSES completed in the 1990s, GIS files of areas of the storm sewer system completed by a consultant, and the Westchester County file titled "MS4 Non-Consortium Manholes and Catchbasins". However, there are considerable gaps in the storm sewer system mapping as shown on **Figure 3**. The sanitary sewer files are draft, developed by the City of Mount Vernon by performing heads-up digitizing of the Countywide SSES maps. Most of the files are missing critical attributes, such as manhole ID and manhole depth.

Table 3 shows the current attributes in the GIS files for storm and sanitary infrastructure. Cells in the table which are grayed out represent attributes with little to no data. The MS4 Non-Consortium Catchbasins and Manhole file contains data located throughout the City but has very little attributes and does not include any invert or rim elevations, and there is not associated storm sewer line file connecting these structures. The storm sewer and manhole files developed by the City have the most complete attributes, including some rim and invert elevations, but there are significant gaps in coverage across the City. The sanitary sewer and manhole files include coverage throughout the City but do not have complete attribute data. Many critical attributes have been created, but data has not been filled in. Invert elevations are available for some sanitary manholes.

Prior to starting an investigation in a particular sewershed/catchment area, it is imperative to have complete mapping of the sanitary and storm sewers with unique IDs for each structure. This is necessary to accurately keep track of the work completed and problems identified. The overall investigation and rehabilitation program being undertaken by the City will take several years to complete. Its critical to maintain detailed records of investigation and rehabilitation work completed on pipe segments, manholes, and building owner addresses. Mapping does not have to be complete for the entire City prior to starting investigation and repair work, but it should be complete prior to starting an investigation within a drainage area. A detailed summary of work completed is also required by the USEPA and NYSDEC Remedial Orders, and for the many grants and long-term financing being utilized for this work.

The City has a set of record drawings that include both the sanitary and storm sewer. These drawings should be digitized to fill in the infrastructure gaps in GIS. GPS survey and field investigations should be used in areas known to have been updated since the record drawings were developed.

In addition, there should be provisions in place for marking up paper maps, or GIS maps on a tablet, in the field when they don't match real world conditions, and then frequently updating the City GIS with this information. The CCTV contractors will be provided complete maps so they can accurately record the pipe segments being cleaned and inspected. They will also be given instructions on how to number newly identified manholes in the field so that the engineer reviewing the records is confident in the location of the inspected infrastructure. The field marks-ups will be a required deliverable of the CCTV contractors.

As the City has the opportunity to make additional updates to the GIS through these investigations, the following additional attributes should be considered for inclusion:

- Sanitary and Storm Sewers
 - Unique identifier
 - Illicit discharge status (e.g., confirmed illicit discharge, cleared, scheduled for repair)
 - Pipe diameter
 - Manhole rim and invert elevations

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- Pipe material
- Age
- Date last cleaned and inspected
- Rehabilitation completed (e.g., replaced, cured-in-place lining, grouted)
- Routine maintenance issues (e.g., grease, flat slope)
- Repairs needed
- Manholes and Catchbasins
 - Unique identifier
 - Manhole rim and invert elevations
 - Condition
 - Age
 - Amount of debris
 - Date last cleaned and inspected
 - Rehabilitation completed (e.g., replaced, cured-in-place lining, grouted)
 - Routine maintenance issues
 - Repairs needed
- Outfalls
 - Date last inspected
 - Dry weather flow (e.g., yes/no)
 - Sampling results
 - Status (No flow, minor pollutant load, moderate pollutant load, major pollutant load)
- Parcels
 - Date dye tested
 - Illicit connection status
 - Illicit connection repair date

The City has a desire to manage assets and work electronically in the near future. Collecting this GIS data during the investigation will help move the City forward towards that goal.

Storm sewer drainage area maps have been developed to use in planning the investigation work discussed in **Section 6** below. The maps show an enlarged view of the sanitary and storm sewer, the storm sewer drainage basin boundary, outfall locations, building footprints, and road names. Maps were only developed for the storm sewer drainage areas that have storm sewer infrastructure in GIS at this time. These maps are provided as figures in **Appendix C**.

A Land Use figure (**Figure 4**) was developed to show Residential, Non-Residential, Open Space and Recreation, Vacant and Undeveloped, and Mixed Use property types. This will aid in understanding the potential sources of various types of illicit discharges encountered during the investigation.

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5 Records Review

Prior to starting the investigation, it is important to document and map recent investigation and repair work, known illicit discharge locations, and known infrastructure in need of repair. This will help to avoid duplicating efforts and expedite the progress of the program. This includes documenting recent sewer cleaning, manhole and sewer investigation and rehabilitation, and illicit connection removal. Information provided by the City has been documented and is summarized below.

- The City completed approximately 24,000 linear feet of storm sewer investigation in 2018 and provided the CCTV footage to Arcadis for review, recommendations, and cost estimates for repairs. There were some factors that made the review of the videos difficult. The video did not represent one pipe segment, which is typical. Instead, multiple sections of sewer were inspected at once, the camera pausing only to show the camera was going through a manhole. The naming conventions of the video file did not always match up with the text shown at the start of the video and the GIS mapping did not always have names for all structures. There were also instances when the video quality was poor or did not have enough light, particularly in the large diameter sewers.

With a few exceptions, the pipes were in fair to good condition. There were a few pipes that will require replacement, or at a minimum a point excavation. The CCTV inspections did not include a reverse direction inspection in the cases when the camera could not get through, so this would need to be completed to evaluate the condition of the remaining section of pipe. There are pipes that should be repaired, but most that were reviewed are a lower priority.

Most of the storm sewers have infiltration or evidence of past infiltration, which is typically not a problem. However, if there is an adjacent sanitary sewer at the same depth or above the storm sewer that is broken, sewage leaking from the sanitary could find its way into the storm sewer through infiltration. Repairing the sanitary sewer will eliminate the source, but there may be instances when the source cannot be identified, and the storm sewer should be repaired. The storm sewers with infiltration as the only observed problem were grouped into a separate category for future consideration.

Both potential and confirmed illicit discharges were observed on these videos and have been marked in the table. Flow in a storm sewer during dry weather conditions is typically an indication of an illicit discharge unless its groundwater. Since it was ubiquitous, it was not used as a criterion for an illicit discharge for this evaluation unless there was another factor.

A table summarizing the condition, recommended repair, and estimated cost for repair is provided as **Table 4, 2018 Storm Sewer CCTV Review and Recommendations**. A map showing the locations is provided as **Figure 5, 2018 Storm Sewer CCTV Locations**. Two of the recommended repairs have already been completed by the City and are identified in Table 4. The potential illicit discharges will be revisited during the implementation of the IDAP. The confirmed illicit discharge on Washington Street between manholes MH3394 and MH826 will be retested to confirm it was eliminated.

- The City maintains a list of sewers known to require periodic cleaning due to grease and/or other debris. The streets associated with these sewers have been highlighted in **Figure 6, Sewers Requiring Routine Maintenance**.

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- The City has a list of 33 pipe segments that are in need of repair. A table summarizing the planned work is provided as **Table 5, Summary of Sewers Planned for Rehabilitation**.
- Save the Sound (STS) collected samples within the Outfall 24 drainage area in February 2021. They collected 20 samples, which were analyzed for enterococcus. The results of this sampling event are shown on **Figure 7, STS Manhole Sampling Results (Outfall 24)**. The results show elevated enterococcus in several areas of the Outfall 24 drainage area.
- Dolph Rotfeld Engineering, PC completed an investigation of some of the sewer system in 2015. Within the report they summarize repairs that were completed. In addition, the City rehabilitated sewers in 2018, 2019, 2020 and 2021. The summary is provided in **Appendix D – Recent Sewer System Repairs**. Unfortunately, the location provided is by street and does not include manhole numbers in the 2015 repairs so a figure was not created to show the locations. **Figure 8** shows the locations of the **2020/2021 Sewer Repairs**.
- The City has maintained a list of buildings that were dye tested and the results of the tests. This list is provided as **Appendix E**. There is one building (10 South 4th Avenue) that was confirmed to have a bathroom connected to the storm sewer system that has not yet corrected the issue. They were issued a Notice of Violation and Court Summons. They did not show for their scheduled court date and have been issued another Court Summons for September 2022. If they do not show for that court date the Building Department will issue a Violation Notice to the defendant and close the business until they're able to fix the illicit connection.
- The City has a list of locations of reoccurring sewer backups, both at City residents and pipe segments that require frequent cleaning. This is provided as **Table 6**.
- There are sanitary sewer manholes and sewer located in Laurel Brook, and possibly other waterbodies, that should be evaluated for integrity. The City should consider relocating sewers that are in streams, and if not possible, they should all be rehabilitated and made watertight.

The City has completed additional investigation and rehabilitation work that has not yet been documented. If any of the following additional information is available, it should be recorded and mapped prior to starting investigations to provide a holistic overview of the known problem areas and create an understanding of where repairs have been made.

- Additional investigation and repair information
- Existing illicit discharge problems
- Buildings that have historically had sanitary sewer back-ups and other locations of sanitary sewer overflows (SSOs)
- Areas that periodically flood
- Homes that were found to have illicit connections and the status
- Areas where recent capital improvements or development have changed the storm sewer system configuration or components

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6 Investigation Methodology

This Section details the methodology to implement during investigation of illicit discharges. Illicit discharges will be tracked and isolated to discrete areas by collecting samples at manholes within the drainage areas and analyzing them for fecal coliform. Once isolated, a combination of CCTV investigations, dye testing, and manhole inspections will be used to identify the source(s) of the illicit discharge(s). This investigation methodology will analyze samples only for fecal coliform bacteria, as that was the parameter used by the USEPA during the initial sampling event and was the basis for the Remedial Orders. The City's Stormwater Management Program Plan will cover identifying other sources of illicit discharges.

6.1 Prioritization of Investigation Efforts

The goal of this Illicit Discharge Action Plan is to reduce illicit discharges from the storm sewer system and thereby mitigate the impacts of the polluting outfalls to waterways. Investigations will first focus on the drainage areas discharging the greatest fecal coliform pollutant load from the City's storm sewers to the waterways.

6.2 Outfall Monitoring

All City storm sewer outfalls that had dry weather flow during the 2022 sampling event will be inspected annually in June. This event will be the annual baseline used to prioritize drainage areas for investigation.

The inspection team will follow recommendations developed in the guidance document titled, Illicit Discharge Detection and Elimination, developed by the Center for Watershed Protection in 2014. They will look for flow during dry weather conditions, and other evidence of potential illicit discharges. If flowing, the team will check and report the clarity and color of the flow. Unexpected odors, such as chlorine, sewage, sulfur, or petroleum will be recorded. They will also look for oil sheens, foam, sewer fungus, and sewer flies/moths. Dead or overgrown vegetation can also be indicators of illicit discharges and will be documented.

If dry weather flow is observed, it will be sampled and analyzed for a minimum of fecal coliform. If the inspection reveals other potential contaminants the analysis will include additional parameters. For each event, two samples will be collected at each outfall for each parameter being analyzed. The duplicate sample is collected to ensure the results are consistent and representative of a normal discharge condition at that outfall. Sampling will occur during dry weather, defined as a duration of 48 hours with less than 0.1 inches of precipitation. Precipitation will be monitored using an established rain gauge, such as at the Westchester County airport. Samples will be analyzed for fecal coliform by a laboratory certified by the New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP). Samples will be collected at the outfall when possible. If the outfall is surcharged, or otherwise not easily accessible, samples will be collected in the first upgradient manhole that is not surcharged and is accessible.

The discharge rate of each outfall shall be measured when a sample is collected so that the pollutant load can be calculated. An evaluation of pollutant loading will be the basis of prioritizing the investigation of the drainage areas, so that the drainage areas that discharge the greatest contribution of the total pollutants are addressed first. A bucket test may be used to measure the discharge rate by measuring the time required to fill a bucket. To calculate the discharge rate at each outfall, the geometry of the pipe and the depth and velocity of the flow must be determined. The velocity may be obtained by using a portable velocity meter. If the velocity is too slow, or if the

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depth is insufficient to use the velocity meter, a leaf test can be used. A leaf test measures how long it takes a leaf, or other small floating object, to travel a set distance when carried by the flow. **Appendix F – Investigation Forms** provides a sample City outfall inspection form.

6.3 Methodology and Techniques Used for Track Down and Elimination of Illicit Discharges

Typical sources of illicit discharges in the City may include building sewer drains inappropriately plumbed to the storm sewer, plumbing fixtures plumbed to building roof drains, and infiltration of sewage into storm sewers and storm laterals from adjacent leaking sanitary sewers. Because of the range of possible sources of illicit discharges, a variety of investigative techniques must be used to effectively locate these illicit discharges.

The investigative techniques include:

- Analytical Trackdown Sampling;
- Organic Pollutant Fluorimeter Analysis;
- DNA Testing (Distinguishing Human Sources of Bacteria from Animal Sources);
- Manhole Inspections;
- CCTV Inspections; and
- Dye Testing.

The methodology used for each of these investigative techniques is detailed below. All field work will be documented, including, but not limited to, field and sampling notes, photographs, mapping updates, analytical results, manhole inspections forms, CCTV reports, dye test forms, dye test notifications, violation notifications and corrective actions.

6.3.1 Analytical Trackdown Sampling

6.3.1.1 Technique Benefit/Uses:

- Establish baseline for pollutant load within subdrainage areas;
- Isolate problems to discrete areas; and
- Verify effectiveness of corrective actions.

Collecting samples from storm sewer manholes within high priority drainage areas is a useful method for tracking and isolating potential sources of illicit discharges to an area within a drainage area or even to a specific pipe segment. Collection during wet weather conditions will be avoided as the run-off could dilute the sample, or conversely, pick-up additional sources of fecal coliform pollution that would not normally exist during dry weather conditions. A windshield survey consisting of driving through the drainage area and searching for potential sources of flow that would be considered non-illicit, such as lawn watering, sump pumps discharging ground water, hydrant flushing.

Sewage samples will be analyzed for fecal coliform bacteria by a laboratory certified by the NYSDOH ELAP. The cost of analytical sampling is relatively low compared to the vital information it can provide to target problem areas and avoid extending the investigation into areas that are not a problem. Fecal coliform bacteria are a reliable indicator of illicit discharges. Other indicator parameters, such as surfactants, ammonia, potassium, and residual chlorine are routinely considered for the identification of illicit discharges, but Arcadis has found through past

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projects that bacterial are not more reliable predictors of illicit connections. At this time fecal coliform will be the parameter used to monitor outfalls and track sources of illicit discharges. Future outfall sampling may need to include additional parameters listed above as well as total coliform bacteria or dissolved oxygen to better assess overall water quality. Flow measurements will also be recorded when sampling manholes. If flow measurements can't be obtained from the sample manhole the nearest upgradient or downgradient manhole will be used.

Manhole inspections will be performed to find and isolate storm sewers with dry weather flow so they can be sampled. Each manhole does not need to be inspected for this task, just enough to understand where there is dry weather flow in the storm sewer system. Through this technique it could be discovered that only a small fraction of a drainage basin needs to be investigated for illicit discharges.

Samples shall first be collected at the most downgradient end of the storm sewer near the outfall and then upgradient in the system with the goal of finding and isolating areas with high fecal coliform concentrations. Where a drop in fecal coliform concentrations is observed, collect additional samples to further isolate the problem.

6.3.1.2 Interim Strategy for Fecal Coliform Limits

The City's IDAP program will require updating through the years as the type and severity of illicit discharges change. Currently, the City has drainage outfalls that are discharging flow with fecal coliform concentrations in the tens of thousands and even one location over one hundred thousand. At this stage of the illicit discharge detection and elimination program, the City will focus resources on identifying and eliminating the most significant illicit discharges to the waterways. Finite resources will not be expended to investigate, isolate and eliminate relatively small illicit discharges until the larger ones are first eliminated. An interim strategy for pollutant load reduction will be applied during the initial course of the investigation to facilitate the reduction of the more significant illicit discharges and is discussed below.

Analytical sampling was utilized to determine where the illicit discharge investigation is needed. As an interim strategy, if the fecal coliform concentration for a pipe segment within a subdrainage area is less than 2,000 CPU/100 milliliters (ml), it will be documented for future reference, and possible source identification, but the investigation will move onto other areas. This interim action level for the City was derived based on historic experience with the New York State Office of the Attorney General and investigation efforts in the City of Yonkers. From this investigation it was determined that the most common illicit discharge associated problems; including buildings improperly plumbed to the storm sewer, leaking sanitary sewer pipes and laterals, and cleanouts that are not capped; have resulted in fecal coliform concentrations in the storm sewer above 2,000 CPU/100 ml.

An interim action level will help to ensure the investigation resources are focused on finding and eliminating the more significant illicit discharges. As the more significant illicit discharges are eliminated and the pollutant load decreases, the interim investigation action level will be revised downward and/or eliminated. The City has aging and failing infrastructure and new problems may occur each year. Leaking sanitary sewer and/or sanitary sewer laterals will cause elevated fecal coliform concentrations and take significant effort to find and eliminate.

6.3.2 Organic Pollutant Fluorimeter

6.3.2.1 Technique Benefit/Uses:

- Detect fecal coliform pollution in real time;

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- Isolate problems to discrete areas;
- Save over traditional sample collection and laboratory analysis; and
- Monitor and log data remotely.

An organic pollutant fluorimeter uses fluorescence to detect fecal contamination in water through the quantification of the signal for the amino acid tryptophan and related compounds. Studies have shown that the fluorescence of tryptophan correlates with fecal indicators, such as biochemical oxygen demand (BOD) and fecal coliform. The results are instantaneous allowing for decisions to be made in the field, which is a more effective way to track down and isolate illicit discharges.

Fluorimeters have successfully been used by Arcadis during previous investigations. Traditional sampling and analysis was completed and compared to the fluorimeter results. The results showed that there was some variability between samples, but the correlation was strong enough to utilize this instrument to track sources of illicit discharges, especially once traditional sampling has established the pollutant concentration.

Currently, analytical sampling is the only accepted method for comparing pre and post repair data, and there are no water quality standards for fluorescence. These instruments do not eliminate the need for traditional laboratory analysis of samples for fecal coliform, but they do provide benefit for expediting the track down and isolation of intermittent illicit discharges and it can reduce the number of traditional laboratory samples which would otherwise be required.

Use of a fluorimeter could result in cost savings over complete reliance upon traditional laboratory analysis. The cost for laboratory analysis is \$50 per sample, but there are also inherent labor charges for preparing samples for the laboratory, coordinating with the laboratory, and dropping off samples. Fecal coliform samples have an eight-hour holding time, which restricts the duration of the sample collection phase when considering the travel time to the laboratory, transferring the samples to the laboratory, and sample set up time. Another benefit of this instrument is that it has remote monitoring and data logging capabilities, so it can be placed in a manhole overnight to determine if there are intermittent illicit discharges.

The best practice for successfully employing a fluorimeter is to first establish a pollutant load through traditional sample collection and laboratory analysis. This can be used to calibrate the fluorimeter response to the existing pollution load and then isolate the problem using the calibrated fluorimeter responses. If analytical results show that the fecal coliform concentration in storm sewer manhole is significantly elevated the fluorimeter can be used to test upgradient manholes in succession to determine in which pipe segment the illicit discharge originates.

6.3.3 Illicit Discharge Source Determination - DNA Analysis

6.3.3.1 Technique Benefit\Uses:

- Determine if the source of a fecal bacteria based illicit discharge is from human or non-human sources, including some specific animal groups, and
- Identify the general magnitude of human versus non-human fecal bacteria sources.

Deoxyribonucleic acid (DNA) testing is a sensitive and specific test that can be used to determine the presence of fecal or sewage contamination. Polymerase Chain Reaction (PCR) technology, used in DNA testing for total Bacteroides and human Bacteroides has proven to be highly specific and sensitive indicators for wastewater contamination. PCR is used to selectively target specific genes and amplify trace quantities from polluted waters.

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Bacteroides are bacteria that are present in very large concentrations in feces. They are anaerobic, so they cannot survive in an oxygen environment. An analysis for Total Bacteroides includes mammals, birds, and human sources. Human Bacteroides is largely specific for human sources, although there is some cross reactivity with dog and pig feces DNA.

There are numerous PCR based assays available to characterize human fecal pollution in ambient waters. An assay is an investigative procedure for qualitatively measuring the presence or amount of a target entity, in this case DNA. Each assay employs distinct DNA or Ribonucleic acid (RNA) molecules and many target different genes and microorganisms leading to potential variations in assay performance. Many of the reported human-associated PCR-based assays target 16S rRNA genes from the Bacteroides order.

DNA analysis is commonly used as a decision support tool to provide an enhanced understanding of prevailing sources of bacterial pollution necessary to optimize illicit discharge investigation decision making. DNA testing is often best used for determining presence and absence of human Bacteroides; however, the ratio of human Bacteroides to total Bacteroides can provide a degree of relative understanding as to whether the source of fecal pollution is mostly from human sources or animal sources. Laboratories that perform Bacteroides analysis caution that a direct quantitative comparison would not be appropriate, and that the comparison should be limited to significant differences, such as several orders of magnitude.

In addition to the total and human Bacteroides analysis, several DNA testing laboratories also offer animal specific Bacteroides analysis, including dog and Canadian goose. These analyses can be performed to further determine the specific source of fecal coliform pollution so resources can be properly allocated to address these problems.

Total and Human Bacteroides analysis will be used when elevated fecal coliform concentrations are suspected to be from animal sources, like near parks, or where raccoons or other animals are likely to inhabit the sewer. Additional animal specific Bacteroides could be utilized to confirm the source is a specific animal type.

Based on the results of previous Arcadis work, analyzing samples solely for human and total Bacteroides at outfalls that are suspected to still have significant human sources shows limited benefit. However, when dealing with problematic sewer segments in which all the illicit connections are believed to have been repaired, such DNA analysis (particularly if coupled with the analysis of other specific animal Bacteroides) will provide a significantly better understanding of bacteria pollution sources thus ensuring that resources are properly directed to address the actual source of the bacterial pollution in question.

6.3.4 Manhole Inspections

6.3.4.1 Technique Benefit/Uses:

- Provide a quick and inexpensive initial assessment of subdrainage areas based on visual observations, odors, and dry weather flow; and
- Determine if there is potential for sewage to enter the storm sewer from adjacent sanitary sewers by measuring manhole depths.

Storm sewer manhole inspections provide a quick and inexpensive initial assessment of system conditions and can be used to identify illicit discharges by observing unexpected dry weather flow from incoming pipes, including building laterals, by detecting odors, by observing other direct visual evidence of illicit discharges, or by observing indirect evidence of illicit discharges such as excessive debris that may indicate breaks in upgradient sections of

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pipe. Excessive deposits, standing water, and evidence of surcharging in a sewer manhole often indicate that a portion of the sewer has collapsed or that a blockage caused by roots and/or debris is present. Breaks in upgradient pipe sections not only pose a threat to the structural integrity of the pipe, but it also provides means for sewage to enter the storm drain.

When performing a manhole inspection, field teams will complete a manhole inspection form and record structural and operational condition, presence and magnitude of unexpected dry-weather flow, and signs of illicit discharge. If flowing, the team will check and report the clarity and color of the flow, and record unexpected odors, such as chlorine, sewage, sulfur, or petroleum. They will also look for oil sheens, grease, foam (soap suds), sewer fungus, and sewer flies/moths. Manhole inspections also help to identify disproportional dry-weather flow between upgradient and downgradient manholes. When performing manhole inspections, field staff will also look for visual evidence of pipes that daylight near the curb line and are illegally dumping sewage into catch basins.

The field team will also record design characteristics of the manhole, included but not limited to, structure type, material, and incoming and exiting pipe orientation, diameter, and depth. Adjacent sanitary sewer depths will also be recorded to determine if the storm sewer was installed below the sanitary sewer, which could lead to sewage entering the storm sewer.

During the initial investigation of drainage areas that have not been part of a systematic investigation, field crews will verify drainage area extents and terminal storm sewer manholes to confirm that mapping reflects all existing infrastructure. Manholes will also be inspected at critical locations within the drainage area, such as the intersections of subdrainage areas. Results of the manhole inspections and establishment of the drainage area extent for each outfall will direct field investigations to areas requiring further, more intensive examination. A blank and sample completed manhole inspection form is provided in **Appendix F – Investigation Forms**.

6.3.5 Closed-Circuit Television (CCTV) Inspection

6.3.5.1 Technique Benefit/Uses:

- Investigate for visual signs of illicit discharges, such as bacteria growth, biofilm, and sewage debris, especially at the base of building lateral connections;
- Use in conjunction with dye testing to determine the point of entry into the storm sewer; and
- Identify structural and hydraulic deficiencies in the sewer.

Pipes are cleaned prior to inspection using a pressurized jet nozzle to remove debris, grease, and any accumulated material. A camera is then inserted into the pipe, which is remotely operated and directed through the pipe, and stopped at each defect and service connection to pan/tilt to observe and document the sewer features. The inspection of gravity sewer segments will be conducted in accordance with the NASSCO PACP® procedure standards and performed from manhole-to-manhole. Typical defects observed and recorded in the inspections of sewer segments include root intrusions, cracks, fractures, broken pipe, active infiltration, impending infiltration, evidential infiltration, deposit and grease buildup, and pipe wall deterioration. Service connections are not interrupted, and sanitary flows continue under normal conditions during these inspections.

Heavy cleaning and number of passes required during sewer cleaning will be tracked and recorded. Pipe segments where grease was a problem will be identified and documented for future inspections, the sewer cleaning priority list, and the City's Fats, Oils and Grease Program.

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In accordance with NASSCO's PACP® format, each observed sanitary sewer pipe defect will be assigned a grade based on severity and occurrence of defects within each inspected pipe. NASSCO PACP® pipe defect grades are assigned in accordance with the following criteria:

- 1 *Excellent*: minor defects; failure unlikely in the foreseeable future.
- 2 *Good*: defects that have not begun to deteriorate; pipe unlikely to fail for at least 20 years.
- 3 *Fair*: moderate defects that will continue to deteriorate; pipe may fail in 10 to 20 years.
- 4 *Poor*: severe defects that will become Grade 5 defects in the foreseeable future; pipe will probably fail in 5 to 10 years.
- 5 *Immediate Attention*: defects requiring immediate attention; pipe has failed or will likely fail within the next 5 years.

The NASSCO's PACP® condition grades distinguish overall pipe grades for structural defects, and operation and maintenance defects separately. Defects that impact the structural integrity of a sanitary pipe include cracks, fractures, and holes. Maintenance defects pertain to the operational condition of the sewer, which includes, sags, grease deposits, root intrusions and infiltration.

The CCTV contractor will be required to notify the City and Engineer when ratings of 4 and 5 are observed, provide daily downloads of videos, and provide an updated map showing completed work and notes.

For the IDAP, CCTV inspections will be conducted in the sanitary sewer to identify cracks, breaks, or holes where sewage could, or has the potential to, leak from the sanitary sewer and enter the adjacent storm sewer. CCTV inspections will be conducted in the storm sewer system to identify structural deficiencies and evidence of illicit discharges, such as unexpected dry-weather flow, sewage debris, bacteria, animals inhabiting the sewer, and sewer moths.

When CCTV inspections is the only tool being used to identify illicit connections, these inspections will be conducted when the weather has been dry, as the evidence of sewage could be washed away during a rain event. Although CCTV inspections can identify illicit direct connections to the storm sewer, it is not effective at finding indirect illicit connections such as leaking building laterals, which can account for a substantial quantity of the illicit discharges. Sanitary sewer and building dye testing used in conjunction with CCTV inspection, is the most effective combination of techniques to identify the actual source of the illicit discharge.

6.3.6 Dye Testing

6.3.6.1 Technique Benefit/Uses:

- Locate where illicit discharges are entering the storm sewer by pouring dye in building drains and the sanitary sewers; and
- Determine the connectivity of a sewer system by pouring dye in an upgradient structure and observing downgradient structures for dye.

Dye testing is performed to identify the source of an illicit discharge. Dye is placed in building drains or the sanitary sewer to confirm whether or not there is a direct pipe connection to the storm drain, or an indirect transfer of sewage to the storm drain through leaks in the sanitary sewer.

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When performing building dye testing the field teams will use the following protocol. Building dye testing will be performed in coordination with CCTV inspections in order to document the results of the test and observe leaks that would not be seen if observed at the downgradient manhole. When testing a residence and up to two story commercial properties, all drains will be dye tested, including bathrooms, kitchens, and slop sinks. Washing machines will be run briefly and drained to confirm they are connected properly. Large multi-story apartment buildings and other large commercial properties can be dye tested at the building's main clean-out or sewer trap. Since there is a chance for only a portion of the building to be connected to the storm drain, a sample will be collected and analyzed for fecal coliform bacteria or analyzed with an organic pollutant fluorimeter.

Field crews will also dye test sanitary sewers on streets with elevated fecal coliform concentrations if the storm sewer was constructed either below or at a similar elevation as an adjacent sanitary sewer. A sanitary sewer dye test is performed by placing dye in an upgradient sanitary sewer manhole and observing dye with a CCTV inspection in the downgradient storm sewer.

There are presently a lot of gaps in the storm sewer mapping. Dye tests will be one of the tools used to determine the connectivity of sewers when mapping is not available.

A dye test report will be completed for each dye test and will include, but is not limited to, the drain(s) tested for building dye tests (or the upgradient manhole for sewer dye tests), the color of the dye, the stretch of pipe where the CCTV equipment was located, the dye test results for each test, and any drains that could not be dye tested that day. The field crew should also observe and record the name of the sanitary manhole where the dye was observed to ensure the building does not discharge to a septic tank. A sample of the dye test form is provided as **Appendix F – Investigation Forms**.

6.4 Types of Potential Illicit Connections

This Section provides a description of the types of illicit discharges the City may encounter and the recommended techniques for tracking them down.

6.4.1 Types of Illicit Discharges Anticipated and Typical Trackdown Techniques

6.4.1.1 Improper Building Plumbing

All building drains, with the exception of basement sumps or floor drains, should discharge to a sanitary sewer building lateral and then to the main sanitary sewer. Occasionally, entire buildings, washing machines, or portions of a building are connected to the building storm drain laterals. Improper building plumbing is not as common as leaks from the sanitary sewer laterals or sanitary sewer main, but the pollutant load is several orders of magnitude greater.

Recommended Investigation Strategy: Analytical sampling and/or the use of an organic pollutant fluorimeter to isolate a problem followed by dye testing in conjunction with CCTV inspection.

6.4.1.2 Breaks in the Sanitary Sewer

Cracked or broken sanitary sewer piping, separated joints, and sanitary sewer manholes in disrepair can all cause sewage to leak out of the sanitary sewer and into the soil and pipe bedding. If there is an adjacent storm sewer

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with breaks or open joints, and it is either adjacent to or below the sanitary sewer, sewage will enter the storm sewer.

Recommended Investigation Strategy:

Utilize existing mapping and manhole inspections to determine the depth of the sanitary and storm sewer. CCTV inspect the sanitary sewer and look for breaks that can cause sewage to leak from the sanitary sewer. Dye test the sanitary sewer while performing a CCTV inspection in the storm sewer. CCTV inspect the storm sewer and look for bacteria and/or sewer moths at cracks in the pipe.

6.4.1.3 Basement Sumps with Uncapped Laterals

Many City residents have reported sanitary sewer backups into their basements. This occurs when the sanitary sewer is clogged either by grease and debris, broken sewer, or problems with the original design. It is common in a City for building roof drains to discharge to the storm sewer. These pipes often drain to a common discharge line in the basement and are constructed with cleanouts. If residents are experiencing sewage backups into the basement, they may remove the storm drain cleanout caps and allow the sanitary sewer back-up to overflow into the storm sewer to drain the basement. When dye testing buildings as part of the investigation, the basement will be inspected for open cleanouts.

The sewer cleanout caps must remain in place and secured at all times. Sites found to have missing or removed caps be documented and revisited in the future if fecal coliform concentrations start to rise again.

Recommended Investigation Strategy: Analytical sampling and/or the use of an organic pollutant fluorimeter to isolate a problem followed by visual inspections of the sumps, dye testing, and sampling the water in the storm sewer trap.

6.4.1.4 Faulty Lateral Connections to the Main Sewer

Sanitary sewer building laterals leaking at or near the connection to the main sewer can be a predominant illicit discharge. The building laterals in older homes are constructed of cast iron, ductile iron, or vitrified clay pipe. They may also transition from one material to another before connecting to the main sewer in the street. Leaks occur at the joints, pipe transitions, and from faulty or break-in connections to the main sewer. When a storm drain lateral is in the same trench as the sanitary sewer lateral, leaking sewage can follow pipe beading material and enter the through breaks or open joints in the storm drain lateral. This can be one of the most difficult illicit discharges to find as it can take time for the sewage to leak from the sanitary sewer lateral and enter the storm sewer lateral through the soil.

Recommended Investigation Strategy: Analytical sampling and/or the use of an organic pollutant fluorimeter to isolate a problem followed by dye testing in conjunction with CCTV inspection.

6.4.1.5 Bacteria Growth in Storm Sewers

CCTV investigations of storm sewers with direct connections to the sanitary sewer or where sewage is entering through breaks in the pipe, will reveal thick bacterial growth where the sewage is entering the storm sewer. Bacteria colonize and grow on surfaces by forming biofilm that secretes substances that allow them to adhere to and grow on a surface. Once established, biofilms develop into a complex matrix containing diverse communities of bacteria. Bacteria may be sloughed off into the water by increased flow velocity or by scouring when debris move through the drain. Sloughed pieces of biofilm and bacteria may then be transported downstream where the

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bacteria colonize a new surface and continue their cycle of growth or remain suspended in water discharged to the receiving waterbody.

Analytical testing of water samples with the biofilm has shown there is a significant amount of fecal coliform bacteria within it. Biofilm has not been found to significantly increase fecal coliform concentrations in samples when not disturbed; however, it could cause fluctuations in analytical results and prevent complete elimination of fecal coliform pollution. A jetter could be used to physically remove the biofilm from the sewer.

Recommended Investigation Strategy: CCTV inspection is used to observe bacteria growth in the storm sewer. It can be removed physically by cleaning the storm sewer once the illicit discharge has been corrected.

6.4.1.6 Traditional Sewer Design

Some traditional sewer design and construction had practices that were acceptable at the time, but that unfortunately greatly increases the potential for sewage to enter the storm sewer system. Sanitary sewers were often constructed in close proximity, and sometimes above, the storm sewer. In addition, there could be manholes that house both sanitary and storm sewers (dual purpose structures).

Illicit discharges can occur in dual purpose manholes due to deficiencies. It is recommended that manholes that house both sanitary and storm sewers, and especially where the sanitary sewer is at an elevation above the storm sewer, be replaced with two individual manholes. The rehabilitation and installation of cementitious liners are recommended for sanitary and storm sewer manholes if the storm sewer is in close proximity and either deeper or close to the same elevation as the sanitary sewer.

Recommended Investigation Strategy: Analytical sampling and/or the use of an organic pollutant fluorimeter to isolate a problem, followed by dye testing and CCTV inspection. Smoke testing may also be appropriate if the groundwater elevation is below the sewer pipe.

6.4.1.7 Animal Waste

A common challenge is the inevitable contribution of animal waste into the storm sewer system. Parks, duck ponds, and even curb inlets in areas where residents walk their dog can contribute to increased fecal coliform levels. The fecal coliform counts in dog feces are typically twice as high as in human feces, and the fecal coliform counts in duck feces are about three times as high as in human feces.

Although human contributions are the main source of fecal coliform in the City, animal waste will cause fluctuations in sampling results and may prevent complete elimination of fecal coliform pollution at the polluting outfalls. The possibility of animal waste causing the elevated fecal coliform concentrations should only be considered once the other investigation techniques have been completed and fecal coliform concentrations are relatively low (e.g., 5000 CFU/100 ml or less), unless there is a known source.

Recommended Investigation Strategy: When storm sewer CCTV investigations are completed, evidence of animal feces, footprints, and physical activity should be recorded to document animal waste is a potential problem in that sewer. Determining if the source of a fecal bacteria based illicit discharge is from human or non-human source can be accomplished through DNA testing. DNA testing can also be used to identify the source as a specific animal group. Animal waste issues are typically best addressed at a program level through City ordinances, public education, and curb inlet retrofitting to prevent animals from entering the sewer.

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7 Data Compilation and Review

Details regarding data compilation and review are provided below. Timelines are discussed in Section 10.

CCTV Data Review:

The CCTV contractor will be required to notify the City and Engineering Consultant daily of any pipes with defects that have a NASSCO condition rating of 4 or 5, provide daily CCTV video downloads, and provide a complete package of CCTV reports and videos monthly. The Engineering Consultant will review the information and provide the City with recommendations and a timeline for repairs. Defects requiring immediate attention will be scheduled for repair under the City's Emergency or Master Services Agreements. The Engineering Consultant will review the videos and inspection logs for the remaining pipes when provided by the CCTV contractor.

The Engineering Consultant will assign condition values for the pipe segments in accordance with the NASSCO PACP© condition grading system summarized below.

- 1 *Excellent*: minor defects; failure unlikely in the foreseeable future.
- 2 *Good*: defects that have not begun to deteriorate; pipe unlikely to fail for at least 20 years.
- 3 *Fair*: moderate defects that will continue to deteriorate; pipe may fail in 10 to 20 years.
- 4 *Poor*: severe defects that will become Grade 5 defects in the foreseeable future; pipe will probably fail in 5 to 10 years.
- 5 *Immediate Attention*: defects requiring immediate attention; pipe has failed or will likely fail within the next 5 years.

The types of pipe rehabilitation that could be recommended and the associated general methodology is provided below.

- Grind Service Connection (GSC)
 - Service connection is protruding into the mainline; typically, greater than 1-inch or whenever the protruding service connection would impact maintenance or rehabilitation
- Cured-in-Place Pipe Liner (CIPPL)
 - Numerous significant defects or isolated defects with remaining pipe showing early signs deterioration
 - Continuous roots, staining, and/or mineral deposits
 - Structural condition warrants CIPSRs, but more cost effective to line the entire segment (i.e. less expensive to CIPPL than installing multiple CIPSRs and possibly other rehab, such as TSJ).
 - Structural condition warrants other trenchless rehab methods besides CIPPL, but up/downstream segments are recommended for CIPPL or if adjacent segments were previously CIPPL
- Cured-in-Place Pipe Spot Repair (CIPSR)
 - Isolated defects (remaining pipe is in good structural condition with no signs of deterioration or other structural or continuous joint infiltration issues)
 - Consider CIPPL if non-CIPSR sections of pipe are showing signs of deterioration; if adjacent segments are similar age/material and in poor condition; if adjacent segments are being

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recommended for CIPPL or were previously lined; and/or if it is more cost effective to install CIPPL than multiple CIPSRs

- Test and Grout Seal Sewer Joints (TSJ)
 - Isolated roots in joints
 - Isolated evidence of infiltration or minor infiltration
 - Light cracks less than 6-inches from joints caused by “driving pipe home” during installation
 - TSJ is considered more of a short-term rehab method and CIPPL should be considered in instances of continuous roots, infiltration, or evidence of infiltration
- Test and Grout Seal Service Connections (TSS)
 - Break-in service connections
 - Active service connections reinstated post-lining
 - Reinstated service connections in previously lined pipe (if post-lining reinstated service connection grouting is not evident)
 - Infiltration or evidence of infiltration (e.g. staining or mineral deposits)
 - Minor structural issues (e.g. offset joints, cracks)
- Excavation Point Repair
 - Isolated defect unable to be repaired using trenchless methods
- Excavation Sewer Segment Replacement
 - Defects throughout sewer that cannot be lined or where preference is to replace old sewer with new sewer

Dye Testing:

The City and Engineering Consultant will review results of dye testing daily and make decisions on how to proceed with additional testing and rehabilitation.

Manhole Inspections:

The field team will notify the City and Engineering Consultant if they believe immediate attention is needed due to a structural issue or if they believe the manhole could be contributing to an illicit discharge. The Engineering Consultant will provide recommendations for rehabilitation or additional testing to confirm there is a problem. Defects requiring immediate attention will be scheduled for repair under the City's Emergency or Master Services Agreements. The Engineering Consultant will review the manhole inspection forms and provide recommendations for the remaining manholes within the storm sewer drainage area once the inspections are completed.

Map Updates and Documentation:

Once the investigation is completed in a storm sewer drainage basin, the City or Engineering Consultant will update the GIS. This will include changes to the location or extent of the sewer system, updates to pipe diameter and material, manhole invert elevation, location of direct connections identified and the status of elimination, locations where investigations were completed (i.e., smoke testing, dye testing, manhole inspections, sewer cleaning and CCTV), and locations that had heavy grease and/or debris for future consideration for routine

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maintenance. The GIS will also be updated to show the infrastructure planned for repair and the infrastructure that was repaired. This will include what was done and when it was completed.

An inventory of work completed, work planned, and scheduled repairs will be documented in a spreadsheet, or database.

All manhole inspections, smoke testing reports, dye testing reports and CCTV reports and videos will be saved to a one central repository.

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8 Rehabilitation

Sewer system rehabilitation, including manhole repair, building lateral rehabilitation, and sewer repair, is necessary for illicit discharge reductions and for sustaining these reductions. Illicit discharges associated with aging infrastructure, including leaks associated with deteriorating building laterals, sewers, and manholes, will be prevalent and a reoccurring problem in the City. Inherently, new illicit discharges associated with failing infrastructure will occur each year. This issue can make sewer investigation efforts less effective, as the same buildings and sewer must be re-tested each year to track down new problems. An investment in the infrastructure is necessary to end the cycle of an investigation that is continuously reacting to new problems.

This Section summarizes the common manhole and sewer rehabilitation techniques and when to use them.

8.1 Pipe Rehabilitation Techniques

8.1.1 Full Pipeline Repairs

Mainline rehabilitation takes into consideration the repair or replacement of a sanitary sewer mainline from manhole-to-manhole. The methods considered for recommendation include open-cut pipe replacement, cured-in-place pipe lining (CIPPL), and grout injection. Each of these technologies has advantages and disadvantages considered when identifying the most suitable method for rehabilitation of each mainline including disruption to traffic, businesses, and residents, permitting, and product lifespan.

8.1.1.1 Open-Cut Pipe Replacement

Open-cut pipe installation is a conventional method for installation of new sewer pipe and replacement of severely defective, collapsed, or undersized pipes. Replacing existing pipes involves digging a trench along the alignment of the existing, defective sewer, supporting the trench walls, removing the existing pipe, constructing the pipe bedding, placing, and connecting the new pipe, backfilling/compacting, and surface restoration. Open-cut pipe replacement is one of the most expensive and disruptive methods for revitalizing a sewer system, as it has several additional costs not directly included in the pipe installation cost, including traffic control, flow bypass, soils handling, rock removal, trench dewatering, paving if located in roadways, protection of trees/roots, and the added risk of damage to other adjacent utilities.

8.1.1.2 Cured-in-Place Pipe Lining

CIPPL is a trenchless rehabilitation technology which is widely used to rehabilitate sanitary sewers. CIPPL is an attractive rehabilitation technology since it does not require expensive and disruptive excavation methods. CIPPL can rehabilitate pipes ranging in size from 4 to 100 inches and continuous lengths of up to 1,000 LF at a time. CIPPL materials are designed for a 50-year service life, thereby extending the useful life of rehabilitated sanitary sewers.

CIPPL consists of a soft flexible tube that is impregnated with a thermosetting resin, installed as a liner in an existing sanitary sewer and cured through the application of heat (steam or hot water) or ultraviolet (UV) light. Prior to CIPPL installation, the host sanitary sewer must be cleaned and freed of protrusions and other impediments which would obstruct the CIPPL installation and curing. End seals are installed at the manhole inlets prior the liner inversion to prevent water from traveling in between the liner and the host sanitary sewer.

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CIPPL is most often installed by direct inversion, whereby the liner is turned inside out before installation and inverted into the host sanitary sewer with either water or air pressure, as seen in **Figure 9**. Once the liner is installed, it is cured-in-place by circulating heated water or steam throughout the inverted liner. The liner may also be cured-in-place through the application of UV light. The CIPPL subsequently forms a new pipe within the host sanitary sewer.



Figure 9. Installation of Cured-in-Place Pipe Lining

Upon the installation and curing completion, the ends of the CIPPL are trimmed to form a smooth, seamless pipe at the manholes. A robotic cutting device is used in conjunction with a CCTV camera to reopen service connections along the sanitary sewer. Typically, during lining curing, a small dimple is left in the CIPPL directly over each service connection, allowing them to be easily located for reinstatement. The fully installed CIPPL is finally inspected by means of a CCTV camera to ensure that the liner was installed satisfactorily and free of defects.

8.1.1.3 Grout Injection

Grout injection is one of the oldest and lowest cost methods of pipeline repair for leaking joints and circumferential cracks. It can also be used for repairing small holes and radial cracks and sealing joints. It is not used to repair longitudinal cracks or joints where one of the connecting pipes has a longitudinal crack near the joint. Grout injection is not a rehabilitation method for structural defects and should only be used for pipe sections that are primarily in good structural condition.

Grout injection is generally accomplished with a hollow metal sealing packer with inflatable rubber sleeves on each side of a center band, as shown in **Figure 10**. The grout is applied to joints, cracks, holes, and soil voids as the sleeves are inflated and forced into the surrounding soil. A CCTV camera is utilized for positioning and guidance of the sealing packer and for performing the pre- and post-grouting inspections.

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Air and water testing can also determine the grout effectiveness. Grouting is generally used for smaller diameter pipes, 24-inch diameter or less, but can be used on larger pipes with specialized equipment and/or personnel entry.

Sections of pipe with high infiltration at multiple joints and circumferential cracks are candidates for pre-CIPPL grout injection. The grout is used to stop groundwater leaks that may inhibit the CIPPL installation process. When applied alone, the expected lifespan of grout is approximately 10 years.

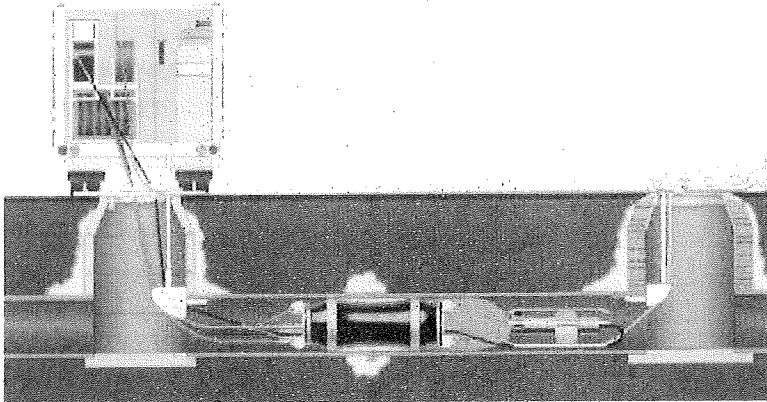


Figure 10. Grout Injection Diagram (Graphic by Logiball)

8.1.2 Point Repairs

Point repairs are an economical method for rehabilitating isolated structural defect, as opposed to rehabilitating or replacing the entire length of pipe. There are two widely used point repair methods, including cured-in-place spot repairs (CIPSR) and excavated point repairs. The selected method for point repair is on a case-by-case basis, depending on the severity of the structural defect, as well as constructability issues and construction costs.

8.1.2.1 Cured-in-Place Spot Repairs

CIPSR are an economical trenchless method of pipeline rehabilitation for isolated structural defects including holes, fractures, cracks, corrosion, and pipe distortions. CIPSR can rehabilitate pipe sizes ranging from 4-inches to 36-inches in diameter at lengths of 1 to 10 feet. The cured-in-place lining material is designed for a 50-year service life and consists of a soft flexible tubing or fiberglass material impregnated with an ambient curing resin.

Prior to installation of the CIPSR the sanitary sewer must be cleaned and cleared of all obstructions that would hinder the installation process. The location of the defect to be rehabilitated is identified and measured through CCTV inspection. After being "wet out" on-site, the CIPSR is pulled into place using a winch, as shown in **Figure 11**, and is allowed to cure in ambient conditions. A final CCTV inspection of the CIPSR is performed to ensure the liner was installed satisfactorily and is free of defects.

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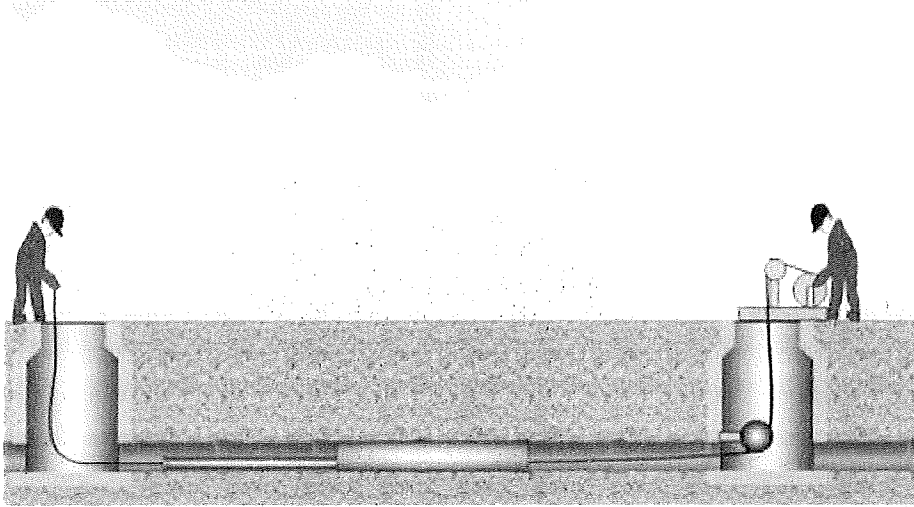


Figure 11. Cured-in-Place Spot Repair Diagram (Graphic by American Trenchless Technology)

8.1.2.2 Excavation Point Repairs

Excavated point repairs are a rehabilitation technology used to address isolated defects that cannot be repaired by CIPPL or CIPSR, such as large holes or collapsed sanitary sewer sections. Construction of a point repair requires excavating to the defective section of sanitary sewer. The existing sanitary sewer is saw-cut on both sides of the defect so a new pipe section can be installed. Couplings are installed at both ends of the new pipe section to join the new pipe section to the existing sanitary sewer. Point repairs are usually the most expensive rehabilitation method but are sometimes necessary to correct structural defects that cannot be addressed by other means.

8.1.3 Chemical Root Treatment

Chemical root treatment (CRT) is a technology used to remove existing roots and prevent root growth in sanitary sewers. An herbicide is applied as foam to the interior of the sanitary sewer using chemical injection pumps and hoses. The herbicidal foam fills the sanitary sewer volume and the roots uptake the chemical, thereby killing the roots after a period of several weeks. CRT does not eliminate infiltration, but it is commonly used as a pretreatment for CIPPL implementation.

In many cases, CRT may be used in a sanitary sewer segment without bypassing active sanitary flow. This condition typically holds true for sanitary sewers 42 inches in diameter and smaller and flowing less than half-full. Larger sanitary sewers or higher flows would require bypass pumping of active sanitary flow to complete CRT.

8.2 Lateral Connection Rehabilitation

Sanitary laterals and sewer connections are frequently cracked, broken, or improperly installed. CIPPL only rehabilitates mainline sanitary sewers, which leave avenues for infiltration at the sanitary lateral and sewer connections. Lateral connection liners (LCL), epoxy repair and service grout injection are three commonly used lateral repairs for removing infiltration. The selected method for lateral repairs is on a case-by-case basis,

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depending on the flow rate of infiltration, size of the pipe, condition of the service connection, soil and groundwater conditions, and construction costs.

8.2.1 Lateral Connection Liner

The LCL product consists of a resin-impregnated connection liner with either a full wrap or brim style mainline connection which is positioned on a pneumatic bladder inside the sanitary sewer at the location of the sanitary lateral, as shown in **Figure 12**. The bladder is inflated to install the LCL, which typically extends a minimum of 18 inches from the sanitary sewer into the lateral and can extend as much as 80 to 100 feet. The installed LCL is fully cured before the bladder is removed from the sanitary sewer. No access from the ground surface (such as a cleanout) is required at the upstream end of the LCL.

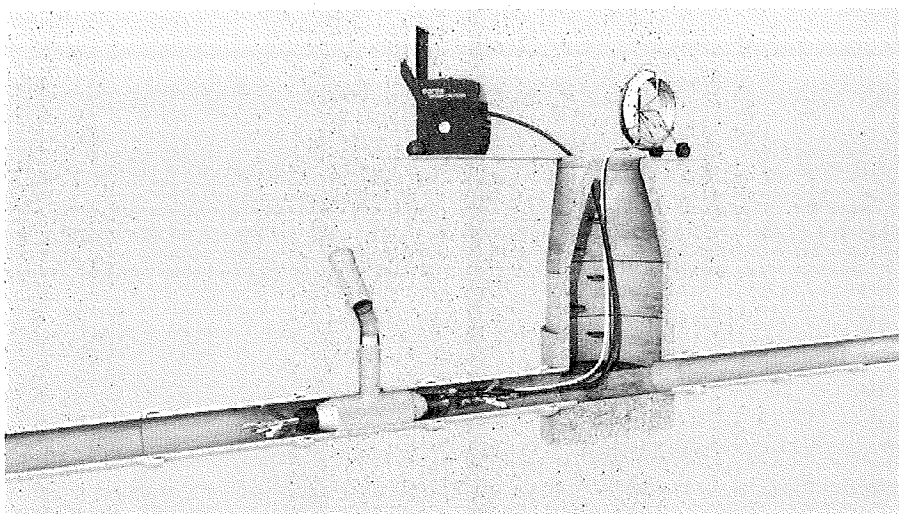


Figure 12. Installation of Lateral Connection Liner (Graphic by Trelleborg)

8.2.2 Lateral Epoxy Repair

Lateral epoxy repairs typically involve hand applied epoxy at the lateral and mainline, filling in any voids and extended approximately 12 inches into the lateral. Epoxy repairs generally requires man-entry, so are only considered viable options for larger diameter pipes.

8.2.3 Lateral Grout Injection

Lateral grout injection is a commonly used and highly effective method of stopping active infiltration at the lateral and mainline connection. The lateral grout material and injection method is very similar to the mainline joint grouting, however the sealing packer has an additional bladder that extends up the lateral. The grout is applied to the service and forced into the surrounding soil as the rubber sleeves of the packer and the lateral bladder are inflated. A CCTV camera is utilized for positioning and guidance of the sealing packer and for performing the pre- and post-grouting inspections.

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Installation of LCLs and epoxy repairs cannot be performed while there is active infiltration at the service connection. In cases where the lateral rehabilitation methods are required, pre-rehabilitation grout injection is utilized to stop the leak.

8.3 Manhole Rehabilitation

Generally, coating of sanitary manhole chimneys and walls or grout injection into manhole joints and cracks has been recommended to rehabilitate manhole structures. Cementitious manhole coating is accomplished by covering the structure with a cementitious or epoxy material to provide waterproofing, a barrier to root penetration and infiltration, and protection from corrosive H₂S gases. Additionally, at some defective manholes, the manhole frames, covers or chimneys may need to be either sealed, reset, raised, or replaced.

8.3.1 Cementitious Liner

For all defective manholes that are structurally sound, except those of precast concrete construction type, which are to be rehabilitated, a spray-on cementitious liner is typically recommended for infiltration. The spray-on cementitious product consists of a Portland cement enhanced with micro silica. Additives can be incorporated to resist biogenic corrosion. The product is typically applied to defective manholes with a spray mechanism. Rehabilitation of manholes with this product also serves to provide waterproofing, sealing and corrosion protection. **Figure 13** shows a before and after for a sanitary manhole rehabilitated with cementitious liner.

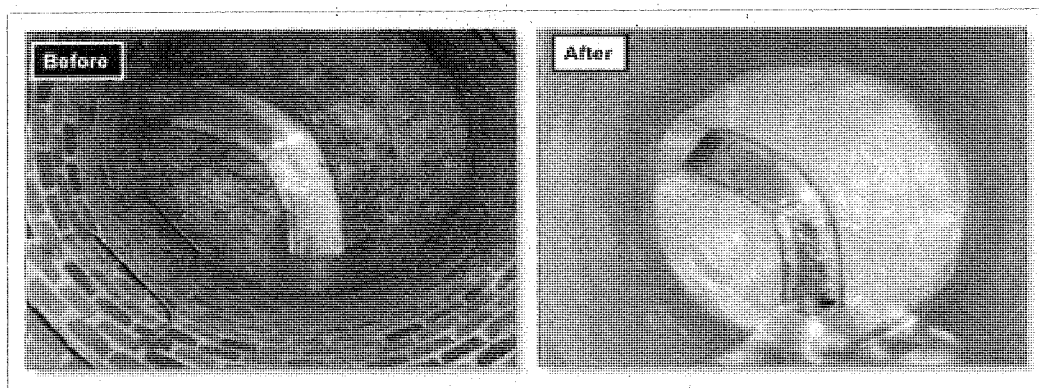


Figure 13. Cementitious Liner

8.3.2 Manhole Grout Injection

Manhole grout injection is typically recommended for structurally sound precast manholes which require rehabilitation for other reasons. The chemical grout is either acrylamide- or acrylic-based and can be supplemented with a latex additive for strength enhancement. Additionally, a root-deterrent chemical, such as dichlorobenil, may be added to the chemical grout mixture to prevent intrusive root growth. Precast manhole rehabilitation by grout injection serves to provide waterproofing and sealing of manhole wall joints, benches, and inverts.

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8.3.3 Flex-Coat Chimney Seal

A flex-coat chimney seal is used to prevent infiltration and exfiltration through the frame joint area and above the manhole corbel. The chimney seal material is a flexible product which allows for vertical and horizontal movement of the frame due to frost lift, ground movement, or vehicular traffic. Application of the chimney seal material is achieved by coating the interior of the chimney area with the product after the application of other manhole rehabilitation products.

8.3.4 Chemical Protective Coating

Where warranted, an additional layer of a chemical protective coating may also be recommended for defective manholes for corrosion protection. The chemical coating is usually a proprietary epoxy material which is resistant to biological corrosion, water, oils, and other chemicals typically found in sewage. Through application of the chemical protective coating, manholes are offered an additional corrosion barrier, effectively reducing the potential for future infiltration.

8.3.5 Manhole Cover and Frame Reset

Manhole frames and covers below grade are reset by adding bricks, concrete blocks, or an extension adapter ring. Manhole covers and frames above grade are reset by the removal of brick or concrete blocks.

8.3.6 Replace Manhole Cover and Frame

Depending on the observed condition of manhole frames and covers during an inspection, some manhole frames and covers may need to be replaced. Implementing this rehabilitation is rather straightforward in that the existing frame and cover would be removed and replaced with a new frame and cover. In some areas, such as within the Federal Emergency Management Agency (FEMA) 100-year floodplain and where manholes are in roadway gutters, new watertight manhole frames and covers may need to be installed to prevent inflow of extraneous stormwater or surface water flow through the manhole frame and cover during wet weather.

8.3.7 Inflow Protectors and Lid Hole Plugs

Manholes where frames and covers show minimal signs of wear while located such that the cover is subject to surface runoff or minor ponding during rain events and snow melt, a cost-effective measure to minimize inflow between the frame and cover can be achieved by the installation of an inflow protector between the cover and frame to prevent inflow from entering the manhole or by plugging any exposed manufactured vent or pick holes in the cover. These are typically used in roadway gutter lines or parking lots that are not subject to high volume surface runoff or standing water and are not considered for their longevity, as such watertight frame and covers are the preferred long-term solution for prevention of inflow.

8.3.8 Injection Grouting

Stops infiltration by forcing grout through joints and cracks and into the surrounding soil where it solidifies with the soil to form a waterproof mass which cannot be pushed back into the sewer system. Grout can permanently stop water infiltration and seepage into all types of manholes but is mostly used on pre-cast manholes. The chemical

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grout is injected from the inside of the manhole to the outside to form a gel curtain around the outside of the manhole. This will seal signs of infiltration in manhole walls.

8.3.9 Repair Bench/Channel

In cases where bench/channel were noted to be missing or impacting flow of sewer system, it has been recommended that the bench and channel be repaired to improve flow and accessibility. Where bench/channel repair are recommended for upstream terminal manholes with flush tank manhole configuration, this recommendation includes removing flush tank mechanism and building a channel for flow. The intention for this rehabilitation is to allow for accessibility of sewer line, as the flushing mechanism currently blocks access. In some cases, the piping just downstream of an upstream terminal flush manhole has been damaged or sealed with concrete. In these cases, an excavated point repair may also be required to convert the flush manhole to a typical upstream terminal manhole.

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9 Notification and Reporting

9.1 Illicit Discharge Notifications

The City will report discharge of untreated or partially treated sewage within two hours of discovery to the NYSDEC and WCDOH, and within four hours of discovery to the general public using the NY-ALERT system. Within 5 days, a written report as defined by 6NYCRR Part 750-2.7, will be submitted to the NYSDEC.

9.2 USEPA/NYSDEC Annual Report

An Annual Report summarizing the results of the investigation will be prepared and submitted to the USEPA/NYSDEC in January of each year. The report will include the following, broken out by drainage area:

- Purpose of document/intent;
- Narrative describing the selection of drainage areas for that years' investigation;
- Status of the investigations in each drainage area;
- A summary of the investigation and all repair work completed in each investigated drainage area;
- A summary of the analytical results from outfall sampling and a comparison to the results from prior years.
- Updated maps showing work completed and analytical results; and
- Summary of financials, including dollars spent for investigation and repairs.

9.3 Grant and Long-Term Financing Reporting

The grant and long-term finance will have monthly, quarterly, and/or annual reporting requirements. These requirements are specific to the grant and financing and should be part of the Funding Plan discussed in Section 3.

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10 Investigation Implementation and Rehabilitation Response

This section provides guidance on how to proceed with implementation of the IDAP and the rehabilitation response.

10.1 Investigation Implementation and Schedule

The investigation will begin in the area that drains to Outfall 24. Field reconnaissance will be completed to confirm the extents of the area and where dry weather flow exists in the storm sewer. GIS mapping will be updated to confirm its complete and that there are unique numbers for all structures. Samples will be collected of the dry weather flow from several storm manholes in the Outfall 24 drainage area and analyzed for fecal coliform. The sampling results will be used to prioritize sanitary and storm sewer investigations, including dye testing, smoke testing, and CCTV investigations.

The City plans on completing the initial investigation of the Outfall 24 storm sewer drainage area in 12 months, with a 3-month contingency. The cleaning and CCTV contract will be awarded early 2023, so the anticipated start date of the investigation is March 1, 2023. With the 3-month contingency, the anticipated end date is May 31, 2024. The City will endeavor to complete the investigation as expeditiously as possible, but it must be noted that completion of the work relies on independent factors outside of the direct control of the City, which includes, among others, the authorization and final approvals necessary for the release of State funding, and the performance of third parties, such as scheduling with regard to the policies and procedures of the necessary partners for the work.

As previously discussed, Outfall 24 represents approximately 95% of the fecal coliform pollutant load. Completion of the initial investigation will be measured as completion of storm and sanitary sewer mapping as-needed, CCTV investigation of all storm sewer with dry weather flow, investigation of sanitary sewer that are at the same depth or above the storm sewer, completion of dye testing private buildings and sanitary sewer where potential illicit connections are discovered, and response to illicit connections as described below. The SSES and IDAP will be worked on simultaneously, with the emphasis first on illicit discharge detection and elimination. Therefore, some sanitary and storm sewers in the Outfall 24 drainage area may not be investigated in the first 12 months if there are no signs of illicit discharges. Instead, the investigation will move to another area that is experiencing illicit discharges.

The investigation will be a fluid process and investigation techniques will change based on information gained from the investigation. There is 73,000 linear feet of storm sewer and 140,000 linear feet of sanitary sewer in the Outfall 24 drainage area. This is a general summary of how the work will progress.

- Month 1 and 2 – Update GIS mapping, confirm extents of drainage area, collect samples, award an agreement with a CCTV contractor, and schedule staff and work.
- Month 3 and 4 – Combination of CCTV inspections, sample collection, manhole inspections, smoke testing, dye testing, and GIS map updates.
- Month 5 through 11 - Continue sewer investigation, mapping updates, review of CCTV footage, and develop recommendations for sewer repairs.
- Month 12 – Finish sewer investigation and investigation report.

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Similarly, the City plans that the initial investigation of the storm sewer drainage areas that drain to the remaining polluting outfalls (i.e., 48, 43, 15, 31, 53, and 30) will be completed 9-months after the Outfall 24 investigation, including a 3-month contingency. Therefore, the anticipated end date is November 30, 2024.

Oversight of the CCTV inspection will be done to help determine in real time sewers that will need to be repaired soon under an emergency contract. Oversight will also allow for decisions to be made in real time to perform sanitary sewer dye tests or confirm location of an illicit connection and plan for building dye tests.

10.2 Rehabilitation Response and Schedule

This section summarizes how identified problems will be corrected once identified

Private Illicit Discharges

- Upon confirmation of an illicit discharge either through visible inspection, analytical sampling, or plumbing dye test, the City will obtain contact information from the building owner present at the time of the inspection and provide them with a Violation Notice. A paper copy will also be mailed within five business days along with a copy of the inspection report and photos.

The City Sewer Code 154-16 provides a mechanism for the City to issue violations, court summons, Enforcement, and fines. Per the City Sewer Code, the City-issued Violation Notice will order compliance and require actions such as elimination of illicit connections, termination of violating operations, restoration of affected property, monitoring, analysis, and reporting, payment of a fine, and implementation of source control or treatment Best Management Practices. The Violation Notice will set a deadline of 30 days within which corrective measures must be completed. Provided the owner fails to take corrective action within 30 days, the City will issue a Court Summons to enforce the requirements of the Notice of Violation. In addition, building owners that do not take corrective action within the established deadline are guilty of violations punishable by fine or imprisonment.

The Violation Notice will also advise that should the building owner fail to perform corrective action within the deadline, the work will be started by the City within 90 days of identification of the illicit connection and the expense will be charged to the building owner.

Examples of private illicit discharges include plumbing fixtures directly connected to the storm sewer, sewer laterals leaking and entering the storm sewer system, and missing cleanout caps.

The City will notify the office of the USEPA and NYSDEC a private illicit connection is discovered with pertinent information including address, owner contact information, date of test, violation notice, and date provided to owner repair completion. The City will confirm the repair by completing another dye test and document the completion of the test.

Sewer Repairs

- Emergency or Near-Term Sanitary Sewer Repairs/Replacement – During CCTV inspections, or other investigation methods, if there is evidence of a partially collapsed pipe or a sewage exfiltrating through breaks in the sewer, the pipe will be scheduled for repair through the City's emergency contracting powers as duly authorized by law. Otherwise, the videos and logs from sewer CCTV inspections will be reviewed and

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evaluated once received from the CCTV contractor. Sanitary sewers found to have a PACP rating of 5 or thought to potentially be causing an illicit discharge will be scheduled for repair through the City's emergency contracts. This includes sewers with breaks within the normal sewage flow line that are adjacent to storm sewers constructed at the same depth or below the sanitary sewer.

- Emergency or Near-Term Storm Sewer Repairs/Replacement – During CCTV inspections, or other investigation methods, if there is evidence of a partially collapsed pipe or illicit discharge, the pipe will be scheduled for repair through the City's emergency contracts as duly authorized by law. Otherwise, the videos and logs from sewer CCTV inspections will be reviewed and evaluated when received from the CCTV contractor. Storm sewers inspected and found to have a PACP rating of 5, pipes and pipe connections that show evidence of sewage entering cracks/breaks, and direct pipe connections with the sanitary sewer will be scheduled for repair through the City's emergency contract.
- Planned Annual Repairs – Sanitary sewers that do not fit in the emergency or near-term repair category will be evaluated, prioritized, and recommended for repairs once the videos and logs are received by the CCTV contractor. The City currently plans on soliciting bids for the lower priority repairs annually.

The City will utilize their emergency services contracts to expedite emergency repairs and will plan to complete the repairs within 30-days. Some repairs may be completed within a week, and some may need to extend past 30-days. For example, if the sewer is going to be lined with a cured-in-place pipe the liner needs to be ordered and custom made to fit the pipe. There will also be instances where the defective pipe first needs an excavation point repair and then will be lined. If the repair will take more than 30-days, the City will provide updates and show that progress is being made to complete the repair and a schedule for completion. If a sewer replacement requires survey and design, the City will plan to have the survey and design completed within 30-days, and the replacement completed within 60-days of identification. Similarly, if it takes longer the City will provide a plan and schedule for completion. There are many factors out of the City's control regarding these timelines that could impact this schedule, such as weather, contractor availability, materials, and release of grants and financing.

The City has a contract with M. Zonzini Pipeline Services, Inc. for sewer excavation repairs and replacement, as well as some sewer investigation services. The City also utilized an existing agreement between Green Mountain Pipeline Services and Westchester County for sewer and manhole cleaning, inspection, and rehabilitation lining work. This contract recently expired, but the City plans on entering a new agreement with the contractor. Additionally, the City anticipates issuing a request for bids to obtain agreements for sewer and manhole rehabilitation. Standard details and specifications will be developed for this work, and Contractors will be asked to provide a list of unit costs for various types of inspection and repairs.

Manholes Repairs

- Emergency or Near-Term Manhole Repairs/Replacement – Manholes found to be at risk for collapse, storm manholes that have direct illicit discharges, and storm manholes that show bacteria or other evidence of an illicit discharge will be scheduled for repair through the City's emergency services contract as duly authorized by law. Storm manholes that are adjacent to sanitary sewer manholes and show some indirect connectivity through a smoke test will also be scheduled for repair through the emergency services contract.

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- Planned Annual Repairs – Manholes that do not fit in the emergency or near-term repair category will be evaluated, prioritized and recommended for repairs. The City currently plans on soliciting bids for the lower priority repairs annually.

The City will follow the same schedule for manhole emergency and non-emergency repairs as described in the sewer repair section.

Tables



Table 3
Storm and Sanitary Sewer
GIS Attributes

Illicit Discharge Action Plan
City of Mount Vernon, New York

MS4 Non-Consortium Catch Basins and Manholes Attributes	Storm Manholes	Storm Pipes	Sewer Manholes	Sewer Mains
FID	OBJECTID	OBJECTID	OBJECTID_1	OBJECTID
OBJECTID_1	SYSTEM	SYSTEM	OBJECTID	OBJECTID_1
OBJECTID	ROUTE	ROUTE	MHNUMBER	SW_UID
DATE	SCAN_ID	SCAN_ID	MUNICIPAL	YEARBUILT
STRUCTURE	CUSTODIAN	CUSTODIAN	DISTRICT	DIAMETER
BASIN	DATA_SOURCE	MANHOLE	INVERTELEV	SOURCE
STRUC_ID	INVERT_ELEVATION	DATA_SOURCE	COMMENTS	TYPE
ST_NAME	RIM_ELEVATION	SECTION_LENGTH	SYSTEM	MATERIAL
MUNI	DEPTH	SLOPE	SCAN_ID	SCAN_ID
COMMENTS	NOTES	NOTES	CUSTODIAN	CUSTODIAN
SOURCE	LOCATION_DESCRIPTION	CITY	DATA_SOURCE	MANHOLE
SHAPE_1	CITY	STATE	ROUTE	DATA_SOURCE
	STATE	COUNTY	RIM_ELEVATION	ROUTE
	COUNTY	DATE_COMPILED	INVERT_ELEVATION	SECTION_LENGTH
	DATE_COMPILED	TYPE	DEPTH	SLOPE
	X_COORD	DELIVERY	NOTES	NOTES
	Y_COORD	DOWNSTREAM_MANHOLE_ID	LOCATION_DESCRIPTION	CITY
	STORM_MANHOLE_ID	UPSTREAM_MANHOLE_ID	CITY	STATE
	DELIVERY	SHAPE_Length	STATE	COUNTY
		Inspected	COUNTY	DATE_COMPILED
		Material	DATE_COMPILED	DELIVERY
		Diameter	X_COORD	DOWNSTREAM_MANHOLE_ID
		P_Name	Y_COORD	UPSTREAM_MANHOLE_ID
		Cleaning	SEWER_MANHOLE_ID	UID
		Rehab	DELIVERY	Shape_Length
		Replacement	UID	
		Comment		

Note: Attributes in gray represent little to no data available.

Table 4
2018 Storm Sewer CCTV
Review and Recommendations

Pipe	Location	Street 1	Street 2	Upstream Manhole	Downstream Manhole	Material	Diameter (in./ft)	Length (ft)	Observations	Potential Illicit Discharge	Recommendation	Cost of Sewer Repairs/Replace
#24 - Farrell Ave./ Beechwood Ave.	West 1st Street	South 9th Avenue	South 4th Avenue	MH 113		Clay	12	216	FL 6 o'clock 22', CL 12 o'clock 25', CL 6 o'clock 31', CC 12 o'clock 58', CL 9 o'clock 80', FL 3 o'clock 84', CM 9 o'clock 91', CL 10 o'clock 106', CL 10 o'clock 123', FL 4 o'clock 139', HSV 2 o'clock 149', BSV 3 o'clock 151', CL 12 o'clock 173', BSV 3 o'clock 199', MH @ 226', END 257'		CIPP	\$ 48,100.00
#24 - Farrell Ave./ Beechwood Ave.	West 1st Street	South 9th Avenue	South 4th Avenue	MH 113		Clay	12	31	FM 10 o'clock 231'		None	\$ -
#24 - Farrell Ave./ Beechwood Ave.	West 1st Street	South 9th Avenue	South 4th Avenue	MH 228	MH 113	Clay	36	254	CL 36ft 11 o'clock		None	\$ -
#24 - Farrell Ave./ Beechwood Ave.	West 1st Street	South 9th Avenue	South 4th Avenue	MH 228	MH 113	Clay	36	269	CL 270ft 12 o'clock FL 29ft 2 o'clock, CL 310ft 1 o'clock, CL 354ft 7 o'clock, CL 358ft 10 o'clock, CL 362-367ft 1 o'clock, CL 378ft 10 o'clock, CL 386ft 3 o'clock, CL 398ft 10 o'clock, CL 403ft 4 o'clock, CL 415ft 11 o'clock, CL 421ft 4 o'clock, CL 429ft 2 o'clock, CL 432ft 3 o'clock, CL 436ft 4 o'clock, CL 445ft 9 o'clock, CL 469ft 4 o'clock, CL 482ft 10 o'clock, CL 497ft 10 o'clock, CL 510ft Backlog,		CIPP	\$ 96,100.00
#24 - Farrell Ave./ Beechwood Ave.	West 1st Street	South 9th Avenue	South 4th Avenue	MH333	MH496A	Clay	60	250	CL 225 ft 10 o'clock,		None	\$ -
#24 - Farrell Ave./ Beechwood Ave.	West 1st Street	South 9th Avenue	South 4th Avenue	MH333	MH496A	Clay	60	292	Material Change 270 Brick,		None	\$ -
#24 - Farrell Ave./ Beechwood Ave.	West 1st Street	South 9th Avenue	South 4th Avenue	MH333	MH496A	Clay	60	275	staining 870 ft, Stains 927 ft 2 o'clock.		None	\$ -
#24 - Farrell Ave./ Beechwood Ave.	E. Sidney	E. Sidney	Got	MH 2160	MH 2155	Concrete	72	215	FL 20 ft Backlog, FC 58ft Backlog, FC 71ft Backlog, Staining 80-100 4-8 o'clock		None	\$ 32,600.00
#24 - Farrell Ave./ Beechwood Ave.	E. Sidney	E. Sidney	Got	MH 2160	MH 2155	Concrete	72	62			None	\$ -
#24 - Farrell Ave./ Beechwood Ave.	Prospect	Prospect	Cottage	MH 2174	MH 2154	Concrete	72	105			None	\$ -
#24 - Farrell Ave./ Beechwood Ave.	Overlook St - 18" CIPP - 451 LF - SB1.180	Overlook St	Overlook St	MH-2093	MH-2093	Clay	48	244	CM 21 ft 2-4 o'clock, JOM 116 ft 9 o'clock, roots 118ft 2 o'clock, JOM 130 ft 12 o'clock, CM 164 ft 9-11 o'clock, JOM and CM 170 ft 12 o'clock, JOL 176 ft 12 o'clock, Staining 188 ft 8 o'clock, JOM 197 ft 2 o'clock, CM 202 ft 12 o'clock.		CIPP	\$ -
#24 - Farrell Ave./ Beechwood Ave.	Overlook St - 18" CIPP - 451 LF - SB1.180	Overlook St	Overlook St	MH-2093	MH-2093	Clay	48	164	CM 285-310 ft 12 o'clock, Material Change 315 ft Plastic corrugated Pipe, Material Change 330 ft back to clay, infiltration, Weeper 335 ft 11 o'clock, CL 343 ft 12 o'clock, FL 354 ft 12 o'clock, FH3/FM 360-385 ft 9-3 o'clock, Deformed 377 ft 12 o'clock.		CIPP	\$ 183,300.00
#24 - Farrell Ave./ Beechwood Ave.	8th Ave	8th Ave	8th Ave	MH148	MH148	Clay	12	195	Broken 95-105 ft 12 o'clock, Broken 130 ft 12 o'clock, FL 175 ft 1 o'clock, FL 182 ft 12 o'clock, FL 190 ft 12 o'clock, DSF 150 ft 40%.		Replace pipe	\$ 183,300.00
#24 - Farrell Ave./ Beechwood Ave.	8th Ave	8th Ave	8th Ave	MH 148A	MH 148	Clay	18	200			None	\$ -
#24 - Farrell Ave./ Beechwood Ave.	7th Ave	7th Ave	7th Ave	MH173-A	MH171	Clay	24	58			None	\$ -
#24 - Farrell Ave./ Beechwood Ave.	7th Ave	7th Ave	7th Ave	MH173-A	MH171	Clay	24	291	Staining at the joints 120-325 ft		Excavation Point Repair and Complete CCTV	\$ 20,000.00
#24 - Farrell Ave./ Beechwood Ave.	7th Ave	7th Ave	7th Ave	MH173-A	MH171	Clay	24	12			None	\$ -



Table 4
2018 Storm Sewer CCTV
Review and Recommendations

Pipe	Location	Street 1	Street 2	Upstream Manhole	Downstream Manhole	Material	Diameter (in./ Dimensions)	Length (ft)	Observations	Potential Illicit Discharge	Recommendation	Cost of Sewer Repairs/Replace
#24 - Farrell Ave. / Beechwood Ave.		1st Street		MH 333	MH 3368	Clay (I think it is concrete)	60	285		Possible illicit Connection at 55 ft 11 o'clock		
#24 - Farrell Ave. / Beechwood Ave.		1st Street		MH 333	MH 3368	Clay (I think it is concrete)	60	297		285.5 flowing laterally on dry day. Clear flow, but potential sewer fungus observed	Follow-up CCTV and Testing	\$ -
#24 - Farrell Ave. / Beechwood Ave.		1st Street		MH 333	MH 3368	Clay (I think it is concrete)	60	391	FL 810ft 12 o'clock, FL 883ft 12 o'clock.		Spot Repair	\$ 11,800.00
#24 - Farrell Ave. / Beechwood Ave.		1st Street		MH 333	MH 3368	Clay (I think it is concrete)	60	237	FL 1030-1070 ft 12 o'clock		CIPP	\$ 38,900.00
#24 - Farrell Ave. / Beechwood Ave.		4th ave	2nd s	MH352	MH333	Brick	24	0	Not an Inspection Video (Brick Repair)		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		4th ave	2nd s	MH352	MH333	Clay	24	52	CL 13-20 ft 12 o'clock, FL 35ft 12 o'clock, FL 42-50 ft 3 o'clock, CH2 56-70 ft 3 o'clock, CL 95ft-110 ft 12 o'clock, FC 110 ft 9 o'clock, CL 148 ft 12 o'clock, FM 160 ft 1 o'clock, CL 170-220 ft 12 o'clock, CM 240 ft 12 o'clock, CL 310 ft 12 o'clock, CL 320 ft 3 o'clock, CL 327 ft 12 o'clock, ROOTS 330 ft possible infiltration 9 o'clock, CC355 ft 12 o'clock,		CIPP	\$ 14,800.00
#24 - Farrell Ave. / Beechwood Ave.		4th ave	2nd s	MH352	MH333	Clay	24	122	material change 406 ft Brick, M8 485 ft 6 o'clock		CIPP	\$ 34,700.00
#24 - Farrell Ave. / Beechwood Ave.		4th ave	2nd s	MH352	MH346	Clay	24	226	FL 26 ft 9 o'clock FL 32 ft 12 o'clock, CM 60-75 ft 10-2 o'clock, CM 85 ft 10-2 o'clock, FL 105ft 12 o'clock, CM 115ft 10-4 o'clock,		CIPP	\$ 84,200.00
#24 - Farrell Ave. / Beechwood Ave.		4th ave	2nd s	MH352	MH346	Clay	24	105	CH2 238ft 3-9 o'clock, CL 250ft 12 o'clock, CL 258ft 12 o'clock, CM 280ft 1 o'clock, CH 285ft 9-12 o'clock		CIPP	\$ 29,800.00
#24 - Farrell Ave. / Beechwood Ave.		4th ave	2nd s	MH352	MH346	Clay	24	85	CL 225 ft 12 o'clock, CL 240-270 ft 12 o'clock, CM 285 ft 11-1 o'clock, CL 300ft 12 o'clock,		CIPP	\$ 24,200.00
#24 - Farrell Ave. / Beechwood Ave.		4th ave		MH355	MH345	Clay	36	122	DSZ 10 percent 5-40 ft 5-7 o'clock, DSZ 5 percent 90-100 ft 6 o'clock, DSZ 12 ft 95 percent		Heavy Cleaning	\$ 6,500.00
#24 - Farrell Ave. / Beechwood Ave.		4th ave		MH355	MH345	Clay	36	438	DSZ 40 ft 15 percent, DSZ 60-100 ft 10 percent, CL 115-130 ft 12 o'clock, CL 250ft 12 o'clock, CH2 266 ft 3-9 o'clock, FM 315 ft 4-8 o'clock, CM 345 ft 3-9 o'clock, CM 360 ft 11-1 o'clock, CM 370 ft 4-8 o'clock, Staining at the joints 375-410 ft 4-8 o'clock,		CIPP	\$ 25,500.00
#24 - Farrell Ave. / Beechwood Ave.		4th ave		MH345	MH355	Brick	36	435	CL 284 ft 12 o'clock, CL 324-340 ft 12 o'clock		CIPP	\$ 8,600.00
#24 - Farrell Ave. / Beechwood Ave.		4th ave		MH345	MH355	Brick	36	60	Material Change 467 ft Concrete Material Change 487 ft back to Brick, M3 495 ft 5-7 o'clock,		Spot Repair	\$ 5,500.00
#24 - Farrell Ave. / Beechwood Ave.		Union Ave		MH539A	MH38A	Clay	18	50			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Union Ave		MH539A	MH38A	Clay	18	47	CM 88 ft 1-2 o'clock		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Sandford Blvd		MH1083	MH1082	Concrete	48	60			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Sandford Blvd		MH1083	MH1082	Concrete	48	259	FC 171 (along joint) ft 8-1 o'clock		None	\$ -



Table 4
2018 Storm Sewer CCTV
Review and Recommendations

Illicit Discharge Action Plan
City of Mount Vernon, New York

Pipe	Location	Street 1	Street 2	Upstream Manhole	Downstream Manhole	Material	Diameter (in./ Dimensions)	Length (ft)	Observations	Potential Illicit Discharge	Recommendation	Cost of Sewer Repairs/Replace
#24 - Farrell Ave. / Beechwood Ave.		Sandford Blvd		MH1083	MH1082	Concrete	48	231	Exposed rebar 490 ft 1 o'clock,		Spot Repair	\$ 5,500.00
#24 - Farrell Ave. / Beechwood Ave.		Sandford Blvd		MH1083	MH1082	Concrete	48	12			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Sandford Blvd		MH1083	MH1082	Concrete	48	242			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Sandford Blvd		MH1083	MH1082	Concrete	48	38			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH1108	MH1123	Clay	72	400			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH1108	MH1123	Clay	72	409	Small hole 602 ft 2 o'clock (possible infiltration) , Small hole 730 ft 2 o'clock, (possible infiltration)		Spot Repair	\$ 5,500.00
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH1108	MH1123	Clay	72	19			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH828	MH1109	Clay	72	555	Possible infiltration at joint 314 Ft 9 o'clock, Pipe across sewer, outfall 545 ft		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH1109	MH1122	Clay	72	392			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH1109	MH1122	Clay	72	406			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH1109	MH1122	Clay	72	25			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH825	MH1109	Clay	72	568	Staining at join 315 ft 1 o'clock, Junction box 568 ft		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH1122	HUTCH RIVER	Clay	72	112		Potential illicit discharge from incoming main at 136.7'	Follow-up CCTV and Testing	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH1122	HUTCH RIVER	Clay	72	304			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH1123	HUTCH RIVER	Clay	72	420	Staining at joints 83 -95 ft 11-2 o'clock, .OL 403 ft 7 o'clock		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH2150	MH2154	Concrete	UNK	132	Cl. 86-120 ft 12 o'clock, DSR 97 ft 6 o'clock, Staining 126 ft 3 o'clock		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Beechwood ave		MH2150	MH2154	Concrete	UNK	12	DSR 144 ft 6 o'clock		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Elm Ave		MH2169	MH3368	Concrete	72	286	Staining at joints 50-180 ft 5-7 o'clock,		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Elm Ave		MH2169	MH3368	Concrete	73	74			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.		Elm Ave		MH2169	MH3368	Concrete	74	318	Staining at joints 388-460 ft 5-7 o'clock,		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3382	MH825	Concrete	72	194	Staining on joints 50-120 ft 9-9 o'clock, Cl 65-80 ft 12 o'clock, Sag in pipe 146ft,		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3382	MH3394	Concrete	72	124	Pipe through sewer 10ft 2-10 o'clock, Debris, broken pipeline 114 ft 6 o'clock		Further Investigation recommended by the Jurisdiction	\$ -

Pipe	Location	Street 1	Street 2	Upstream Manhole	Downstream Manhole	Material	Diameter (in./ Dimensions)	Length (ft)	Observations	Potential Illicit Discharge	Recommendation	Cost of Sewer Repairs/Replace
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3393	MH3394	Concrete	68x94	197	exposed rebar 72 ft 11 o'clock, covered by steel sheeting on top 108-133 ft 12 o'clock	Confirmed Illicit Connection 310 ft 7 o'clock. Was it eliminated?	Spot Repair	\$ 10,100.00
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3394	MH826	Concrete	68x94	334	CM 213 ft 12 o'clock		Follow-up CCTV and Testing	7,800.00
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3394	MH826	Concrete	68x95	219	Missing concrete top, plated over 375 ft 1 o'clock		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3394	MH826	Concrete	68x96	314	missing some concrete top 610 ft 12 o'clock, OBZ 670 ft 5 o'clock		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3394	MH825	Concrete	68x94	25			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3394	MH826	Concrete	68x94	92	Pipe through sewer 984ft 2-10 o'clock		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3392	MH825	Concrete	72	98	Pipeline in sewer (broken) 73-393 ft 10-8 o'clock possible watermain,		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3392	MH825	Concrete	72	65	Pipeline in sewer (broken) 73-393 ft 10-8 o'clock possible watermain, Broken MH lid 109 ft 6 o'clock,		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3392	MH825	Concrete	72	274	Toilet paper 188 ft 2 o'clock possible illicit connection DSZ LARGE 494 ft-5 o'clock,	188 ft 2 o'clock possible illicit connection	Follow-up CCTV and Testing	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3392	MH825	Concrete	72	98	2 Pipes through Sewer 485 ft 2-10 o'clock,		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3392	MH825	Concrete	72	254	Steel wire coming out of lateral causing debris buildup 556 ft 4 o'clock,		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3392	MH825	Concrete	72	109			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH3392	MH825	Concrete	72	103	Pipe through sewer 993 ft 2-10 o'clock,		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	Washington Street	Lyons Place	South Columbus Avenue	MH817	MH3392	Clay	72	100	watermain pipe remains 100 ft 6 o'clock		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	South 5th Avenue	West 1st Street	West 2nd Street		MH279	Clay	24	281	CL 820 ft 12 o'clock, CM 34 ft 11-1 o'clock, CM 41-55 ft 11-1 o'clock, CM 62 ft 11-1 o'clock, CM 73 ft 11-1 o'clock, CH# 75 ft 9-9 o'clock, CM 79-87 ft 9-9 o'clock, CL 93 ft 12 o'clock, CM 95-126 ft 11-1 o'clock, CL 155 ft 12 o'clock, CL 185 ft 12 o'clock CC191 ft 12-2 o'clock, CM 194-200 ft 11-2 o'clock, DAGS (surface damage) at all joints 203-250 ft, CL 236 ft 11 o'clock, CM 240-250 ft 12 o'clock, JOL 250 ft 6 o'clock, CM 283-278 ft 12 o'clock,		CIPP	\$ 79,100.00
#24 - Farrell Ave. / Beechwood Ave.	South 5th Avenue	West 1st Street	West 2nd Street		MH279	Clay	24	3			None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	South 4th Avenue	East 1st Street	East 4th Street		MH 228	Brick	36	6	Nothing noteworthy, ends in 8ft		None	\$ -
#24 - Farrell Ave. / Beechwood Ave.	South 4th Avenue	East 1st Street	East 4th Street			Brick	36	342	CL 217 ft 12 o'clock, Material Change at 237ft, Concrete pipe, Material Change 271ft Brick, Material Change 281ft Clay, CM 281ft 12 o'clock, CM 290ft 12 o'clock, FM 313 ft 10 o'clock, ft. 316ft 11 o'clock, CH2 322-330ft 9-12 o'clock,		CIPP	\$ 19,600.00
#24 - Farrell Ave. / Beechwood Ave.	South 4th Avenue	East 1st Street	East 4th Street			Clay	24	154	FL 361-370 ft 12 o'clock, CH2 380ft 9-12 o'clock, CL 393ft 12 o'clock, CL 397ft 4 o'clock, CH2 415-424ft, 3-9 o'clock, CH2 430ft 9-12 o'clock, CL 442ft 12 o'clock, CM 476ft 9-11 o'clock,		CIPP	\$ 42,600.00
Fulton ave 20 20	Fulton Ave			MH 623	MH 625	Clay	18	50	Collapsed pipe 50 Ft. in video, but only 10 feet from 1st upgrade MH		Excavation Point Repair and Complete CCTV	\$ 20,000.00

Table 4
2018 Storm Sewer CCTV
Review and Recommendations

Pipe	Location	Street 1	Street 2	Upstream Manhole	Downstream Manhole	Material	Diameter (In.)/Dimensions	Length (ft)	Observations	Potential Ilicit Discharge	Recommendation	Cost of Sewer Repairs/Replace
FULTON ave/4th	South Fulton Avenue - MH627 to MH 646 - replacement 20" - 74" - \$518,352 Zoning (Year 2023)	Fulton Ave	E 54th St	MH-629	MH-633	Clay	20	150	PH-2-40-100 ft 12-6 o'clock, BROKEN-104-150 ft 6 o'clock.		CIPP	\$ 58,700.00
FULTON ave/4th	Fulton Ave	J(Jackson?)	MH-625	MH-629	MH-629	Clay	18	180	Joint Separated 250 ft 11 o'clock, CL 389 ft 12 o'clock Joint Separated 420ft 6 o'clock, Material Change 431 ft corrugated pipe, JOI 431 ft 9-3 o'clock, ORZ 37ft 6 clock.		Excavation Point Repair and Complete CCTV	\$ 20,000.00
NORTH FULTON	Fulton Ave			349 N. Fulton	Grand N. Fulton	clay	8	40	Hole 70 ft 8-4 o'clock, Ft near tap 110 ft 2 o'clock, DAGS 132-135 ft 10-2 o'clock,	Grease observed	None	
NORTH FULTON	Fulton Ave			349 N. Fulton	Grand N. Fulton	clay	8	155	DAGS 30 percent 150-170 ft 10-2 o'clock	Heavy grease observed	Follow-up CCTV and Testing	\$ 27,100.00
Outfall 24	Brookside ave	C		MH1108	Grand N. Fulton	Concrete	72	15	minor wet spots at joints		Follow-up CCTV and Testing	\$ -
Outfall 24	Beechwood West			MH1161	MH825	Concrete	72	545			None	\$ -
Outfall 24	Beechwood Ave	Co		MH1109	MH161	Concrete	72	807	Staining at a joint 314 ft 1 o'clock, dye test but not illicit? 157ft 2oclock,		None	\$ -
Outfall 24	Beechwood East			MH1103	MH150	Concrete	72	799			None	\$ -
OUTFALL 34	7th ave	3rd street		MH192	MH150	concrete	48	10	ORZ 523ft 6 o'clock, CL 327ft 12 o'clock,		None	\$ -
OUTFALL 34	S 12th ave			MH 30	MH 37	Concrete	30	67	Staining at joints 111-350ft 3-9 o'clock possible infiltration (they continue but less severe)		None	\$ -
OUTFALL 34	S 12th ave			MH 30	MH 37	Concrete	30	199			None	\$ -
OUTFALL 34	S 12th ave	2		MH 37	MH 45	Concrete	30	170	Staining at joints 705-800 ft 3-9oclock		None	\$ -
OUTFALL 34	3rd St.	7 ave		MH85	MH183	Concrete	36	398	Hole in pipe with clay lateral 230 ft possible infiltration, Hole 267 ft 9 o'clock, staining, at the joint 273 ft 3-9oclock, staining, at the joint 286-360 ft 3-9oclock, broken pipe 381ft, Locklock,		CIPP	\$ 142,200.00
OUTFALL 34	3rd St.	7 ave		MH85	MH183	Concrete	36	382	staining, at the joint 400-440 ft 3-9oclock, broken pipe 425ft 10-2oclock, staining at the joint 660-7ft ft 10-2 o'clock staining at joint 753-778ft 10-2 o'clock, ORZ 780ft 5 o'clock,		Excavation Point Repair and Complete CCTV	\$ 20,000.00
							Totals	18815				\$ 1,462,700.00

Note:
CIPP - cured-in-place pipe
Spot Repair - short repair using a cured-in-place pipe short liner, or centrifugally cast concrete lining

Table 4
2018 Storm Sewer CCTV
Review and Recommendations - Infiltration

Pipe	Location	Street 1	Street 2	Upstream Manhole	Down-stream Manhole	Material	Diameter (in./ Dimensions)	Length (ft)	Observations	Potential Illicit Discharge	Recommendation	Cost of Sewer Repairs/Replace
#24 - Farrell Ave. / Beechwood Ave.	West 1st Street	South 9th Avenue	South 4th Avenue	MH333	MH496A	Clay	60	303	RAGGINGS 542ft 12 o'clock, Staining and 2 drippers 737-830ft 10 o'clock		CIPP	\$ 50,200.00
#24 - Farrell Ave. / Beechwood Ave.	West 1st Street	South 9th Avenue	South 4th Avenue	MH333	MH496A	Clay	60	347	Staining 1,197ft 6-12 o'clock, Material Change, 1207 ft Clay, joints Staining 1213-1240 ft, Gusher 1251ft 5 o'clock, Staining 1260-1290 ft 3-8 o'clock at the joints, Gusher 1303ft 3 o'clock, Staining at the joints 1310- 1350 ft 3-9 o'clock, gusher 1360ft 3 o'clock, Staining t all joints 1360-1460ft 3-9 o'clock		CIPP	\$ 179,600.00
#24 - Farrell Ave. / Beechwood Ave.	Westchester	Westchester	Urb(an)?	MH2098	MH2089	Concrete	36	600	CL 35ft 3 o'clock, CL 75ft 3 o'clock, CL 81ft 4 o'clock, Staining at the joint 147 ft 6-9 o'clock, Staining 183 ft 2-6 o'clock, Staining 218ft 1-12 o'clock, Staining 307-315ft 4-8 o'clock, Staining 426ft 1-12 o'clock, staining at joints 450-400ft 5-9 o'clock, CM 517-530 12 o'clock, FM 540ft 1 o'clock, FM 570-590ft 9-11 o'clock,		CIPP	\$ 214,400.00
#24 - Farrell Ave. / Beechwood Ave.	Urban	Urban	Westchester	MH 2188	MH 2089	Concrete	24	570	Staining 23 ft 6-9 o'clock, dripper 503 ft 12 o'clock		Spot Repair	\$ 5,500.00
#24 - Farrell Ave. / Beechwood Ave.	Urban	Urban	Westchester	MH 2188	MH 2089	Concrete	24	281	CL 785 ft 12 o'clock,		Spot Repair	\$ 5,500.00
#24 - Farrell Ave. / Beechwood Ave.	Winfield	Winfield	Lin	MH 3867	MH3865	Concrete	18	400	Staining 16 ft 9 o'clock, Staining 21 ft 8 o'clock, Staining 30-35 ft 8 o'clock, Staining 65 ft 7 o'clock, Staining 99 ft 8 o'clock, Staining 106 ft 3-9 o'clock, Staining 111 ft 3-9 o'clock, staining at all joints 111 ft - 185 ft,		CIPP	\$ 93,900.00
OUTFALL 34	7th ave	3rd street		MH192		concrete	48	520	Staining around joint 227 ft, possible infiltration, Staining around joint 260 ft, possible infiltration, Staining around joint 267 ft, possible infiltration, dripper 277 ft 1 o'clock, Staining around joint 309 ft, possible infiltration (coded as infiltration), Staining around joint 347 ft, possible infiltration, Staining around joint 397 ft, possible infiltration, Staining around joint 410 ft, possible infiltration, Staining around joint 436 ft, possible infiltration, Staining around joint 449 ft, possible infiltration, WEEPER 458ft 3 o'clock, WEEPER 464ft 3 o'clock, WEEPER 467ft 9 o'clock, WEEPER 471ft 9 o'clock, WEEPER 475ft 9 o'clock, WEEPER 480ft 3 o'clock and 9 o'clock, WEEPER 485ft 1 o'clock, WEEPER 488ft 3 and 9 o'clock, WEEPER 491ft 3 and 9 o'clock, WEEPER 495ft 3 o'clock, GUSHER 495 ft 10 o'clock, WEEPER 500ft 9 o'clock, assume all joints have weepers to the end of video (520 ft)		CIPP	\$ 98,500.00
OUTFALL 34	S 12th ave			MH 30	MH 37	Concrete	30	208	Staining at joints 111-350ft 3-9 o'clock possible infiltration (they continue but less severe), Staining at joints 393-745 ft 3-9 o'clock possible infiltration, Weeper 493 ft 8 o'clock, Weeper 468 ft 8 o'clock,		CIPP	\$ 66,800.00
OUTFALL 34	5 12th ave			MH 30	MH 37	Concrete	30	154	Weeper 512 ft 8 o'clock		Spot Repair	\$ 5,500.00
OUTFALL 34	S 12th ave			MH 30	MH 37	Concrete	30	180	Weeper 778ft 8 and 5 o'clock, Weeper 790 ft 8 o'clock, Staining at joints 800-840 ft 3-9 o'clock possible infiltration		CIPP	\$ 57,800.00
OUTFALL 34	5 12th ave			MH 37	MH 45	Concrete	30	705	Staining at joints 0-42 ft 3-9 o'clock, Staining at joints 145-230 ft 3-9 o'clock, CL 198ft 12 o'clock, dripper 206ft 8 o'clock, Weeper 240ft 8 o'clock, Dripper 250ft 8 o'clock, Staining at joints 250-480 ft 3-9 o'clock, Runner 461 ft 12 o'clock, weeper 598 ft 8 o'clock, Staining at joints 630-705 ft 3-9 o'clock		CIPP	\$ 72,600.00
Totals											\$ 851,300.00	

Note:
CIPP - Cured-in-place pipe
Spot Repair - short repair using a cured-in-place pipe short liner, or centrifugally cast concrete lining

Table 5
Planned Storm and Sanitary Sewer
Repairs

Street	Location	Pages	Sewer	Size	Length (feet)	CIPP (\$)	Repair (\$)	Outfall #
1	Hutchinson Boulevard Sanitary Sewer adjacent to Hutchinson River - Repair of 175ft completed	350-351	Sanitary 1933	12" 12"	175 1365	\$170,625	\$91,875	River River
2	Adj. to the Hutchinson River Hillside Avenue/ E 3rd Street	720-721	Sanitary 1935	12" 20" 24"	150 250 360	\$18,750 \$45,000 \$84,600	\$148,350	River
3	Sanitary Sewer adjacent to Hutchinson River Beechwood Avenue	21	Sanitary 1932	8"	1020	\$63,750	\$63,750	#24
4	Maintenance to upstream sewers, of cleaned 24inch sewer adjacent to River Beekman Avenue	23	Sanitary 1932	8"	30	\$15,750	\$15,750	#24
5	Maintenance to the Sanitary sewer around the manhole, Point Repair Farrell / Warwick Avenue	37	Sanitary 1932	10" 20"	530 220	\$33,125 \$39,600	\$72,725	#25
6	Maintenance to upstream sewers, of cleaned 24inch sewer adjacent to River Commonwealth Avenue	552	Sanitary 1933	10"	200	\$12,500	\$12,500	
7	Maintenance of the Sanitary sewer the goes under the Cross County Parkway E. Prospect / Crest Avenue	96	Sanitary 1933	15" 15"	30 250	\$45,000	\$15,750	#24
8	Sink hole in street created by broken sewer, Steel Plate covering hole Dock Street	103A	Sanitary 1979	8"	600	\$37,500	\$37,500	#34
9	Maintenance to problem Sanitary sewer Edison Avenue		Sanitary 1979	8"	1400	\$87,500	\$87,500	#34
10	Maintenance to problem Sanitary sewer Farrell Avenue	111-112	Sanitary 1932	8"	250	\$15,625	\$15,625	#24
11	Maintenance to upstream sewers, of cleaned 24inch sewer adjacent to River Langdon Avenue	367-368	Sanitary 1932	12" 15" 22" x 30"	30 30 30	\$15,750 \$15,750 \$18,000	\$49,500	#24
12	Maintenance to sanitary sewer above storm sewer, Point Repairs Langdon Avenue	366-367	Sanitary 1932	15"	910	\$163,800	\$0	#24
13	Maintenance to problem Sanitary sewer Primrose Avenue	483	Sanitary 1933	8"	30	\$15,750	\$15,750	
	Maintenance to the Sanitary sewer around the manhole, Point Repair @ Flectcher Avenue							

Table 5
Planned Storm and Sanitary Sewer
Repairs

Street	Location	Pages	Sewer	Size	Length (feet)	CIPP (\$)	Repair (\$)	Outfall #
14 Haven Avenue	@ Columbus Avenue		Sanitary	8"	30		\$15,750	\$15,750
	Sink hole in street created by broken sewer, Steel Plate covering hole							
15 MacQuesten Parkway	Mt Vernon Avenue / Berg Street	404-408	Sanitary	8"	2050	\$128,125		\$262,500
			1934	10"	810	\$50,625		
	Maintenance to problem Sanitary sewer			12"	670	\$83,750		
16 MacQuesten Parkway	@ Williams Street	404-408	Sanitary	12"	30		\$15,750	\$15,750
	Sink hole in street created by broken sewer, Steel Plate covering hole		1934					
17 Mount Vernon Avenue	@ Bond Street	427-429	Sanitary	18"	30		\$15,750	\$15,750
	Maintenance to the Sanitary sewer around the manhole, Point Repair.		1933					
18 North 9th Avenue	E. Sidney Avenue / Valentine Ave	443	Sanitary	8"	30		\$15,750	\$15,750
	Maintenance to problem Sanitary sewer, Point Repair		1934					
19 Oakland Avenue	@ Pennsylvania Avenue	453	Sanitary	15"	200	\$36,000		\$36,000
	Sink hole in street created by broken sewer, Steel Plate covering hole		1933					
20 Pearl Street	Cortlandt/South Street	475	Sanitary	8"	340		\$204,000	\$204,000
	Point repair, removal of current bypass sewer line installed		1932					
21 Pease Street	East 3rd St/Beekman Ave	477	Sanitary	10"	470	\$29,375		\$29,375
	Maintenance to the sanitary sewer above storm sewer		1932					
22 Sandford Boulevard	Highland/Garden Avenue	517-518	Sanitary	24"	800	\$188,000		\$188,000
	Maintenance to downstream sewers, of recently cleaned 24inch sewer adjacent to River		1932					
23 South Columbus Avenue	Millington Avenue / East 4th St.	71	Sanitary	8"	30		\$15,750	\$15,750
	Maintenance to the Sanitary sewer around the manhole Point Repair		1932					
24 South Fulton Avenue	5th Avenue / Sanford Boulevard	274-275	Sanitary	21"	875	\$157,500		\$157,500
	Maintenance to problem Sanitary sewer		1932					#24
25 South 6th Avenue	West 2nd Street / West 3rd Street	567	Sanitary	8"	30		\$15,750	\$15,750
	Maintenance to problem Sanitary sewer		1932					
26 Summit Avenue	Park Pl/ Maple Pl	587	Sanitary	12"	360	\$45,000		\$45,000
	Maintenance to problem Sanitary sewer		1933					
27 West 3rd Street Corridor	7th / 14th Avenue	635-637	Sanitary	8"	820	\$51,250		\$502,450



Table 5
Planned Storm and Sanitary Sewer
Repairs

Illicit Discharge Action Plan
City of Mount Vernon, New York

Street	Location	Pages	Sewer	Size	Length (feet)	CIPP (\$)	Repair (\$)	Outfall #
	Maintenance to problem Sanitary sewer in vicinity of 3rd Street Bore Hole.		1934	24"	1920	\$451,200		
		TOTALS			17,355	\$ 2,038,200	\$ 487,125	
							\$ 2,525,325	



Table 5
Planned Storm and Sanitary Sewer
Repairs

Illicit Discharge Action Plan
City of Mount Vernon, New York

Street	Location	Pages	Sewer	Size	Length (feet)	Clean (\$)	CIPP (\$)	Repair (\$)	Total	Outfall #
1	South Fulton Avenue East 4th St/ Sandford Blvd Replace compromised storm sewer (Currently in process now)	274-276	Storm	18"	110			\$57,750	\$540,750	#33
2	Denman Place Field Club/ Wyndmere Rd	97	Storm	15"	160	\$1,600		\$483,000	\$1,600	
3	Investigation of prior creek, that residents complain about water issues East Grand Street Rich / Summit Avenue	307-308	Storm	24"	275			\$144,375	\$273,625	
	Maintenance to compromised storm sewer		1933		550		\$129,250			
4	East 4th Street Nuber / Tecumseh Ave	256	Storm	15"	150			\$78,750	\$132,750	#24
	Maintenance to problem Storm sewer		1936	15"	300		\$54,000			
5	Pease Street East 3rd St/Beekman Ave	477	Storm	30"	900		\$310,500		\$310,500	#24
	Maintenance to problem Storm sewer		1932							
6	South Columbus Avenue S 3rd Ave / Fulton Lane	65	Storm	72"	580		\$327,700		\$327,700	#34
	Maintenance to problem Storm sewer		1932							
Subtotals					2915	\$1,600	\$821,450	\$223,125	\$1,046,175	



Table 6
Sanitary Sewer
Backups

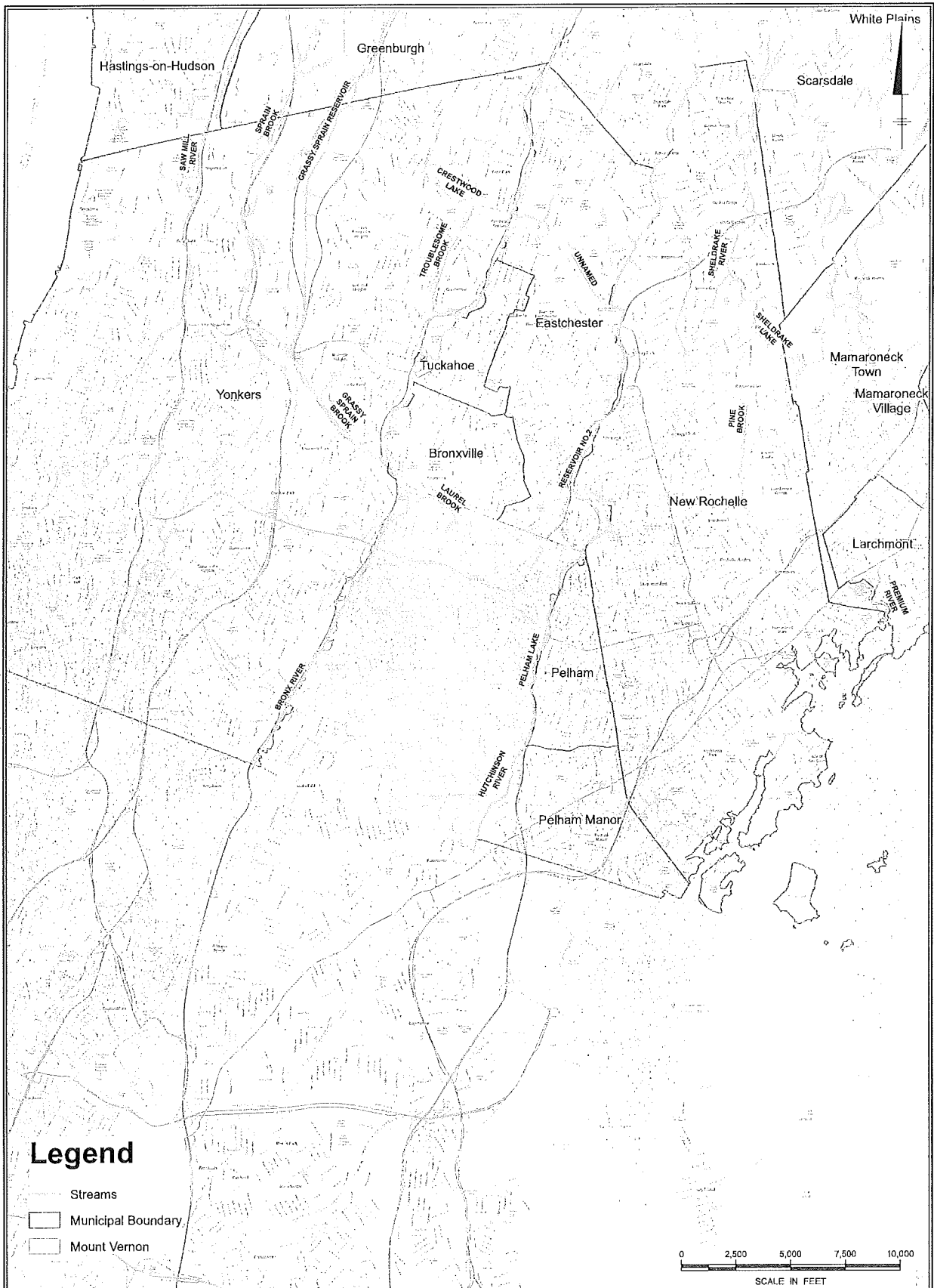
Sanitary Sewer Evaluation Survey
City of Mount Vernon, New York

Addresses of Reoccurring Sewage Backups
25 East Lincoln Avenue
37 West Grand Street
132/ 145 South 1 st Avenue
40 East 1 st Street
448 South 7 th Avenue
423 Nuber Avenue
311-315 North Fulton Avenue
156 South 12th Avenue
539 South 2nd Avenue
203 South 1st Avenue
457 South 5th Avenue

Locations of Sewer Requiring Frequent Cleaning
Pathmark Parking Lot
Mount Vernon Avenue (bet. Bond Street and North Terrace Avenue)
West Lincoln Avenue (bet. Howard and North 7 th Avenue)
Farrell Avenue (bet. Beechwood and Brookside Avenues)
Pease Street (bet. East 3 rd Street and Beekman Avenue)
Levister Towers (South 9 th Avenue side)
Elm Avenue & Claremont Avenue (upstream Nursing home)

Figures

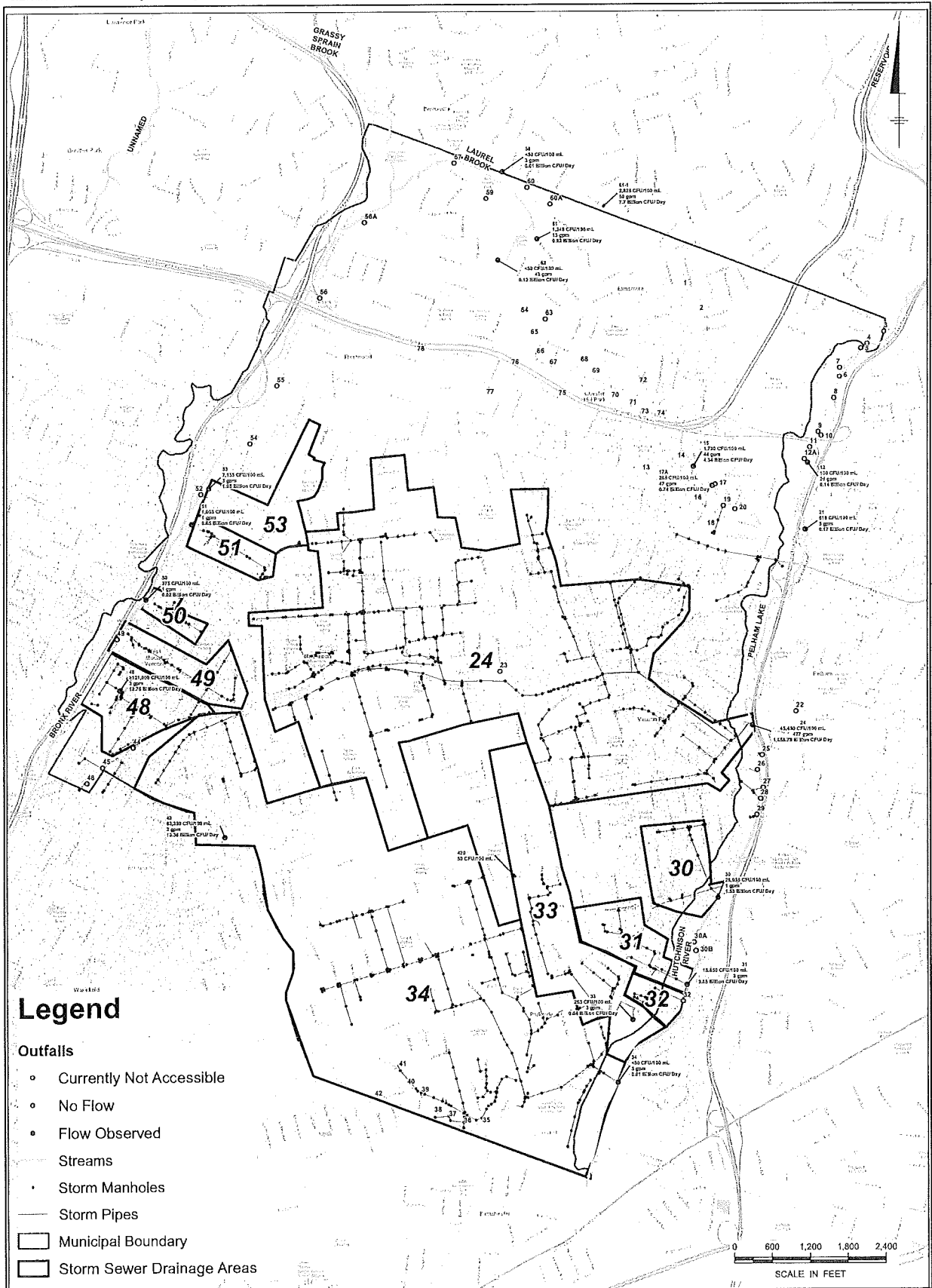
Document Path: G:\GIS\Mount Vernon\Final Figures and Maps\Figure 1.mxd



City of Mount Vernon
Mount Vernon, New York

Site Location Map

Document Path: 0:\GIS\Mount Vernon\Final Figures and MXD\Figure 2.mxd



Legend

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

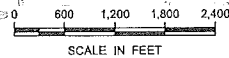
Streams

- Storm Manholes

Storm Pipes

▭ Municipal Boundary

▭ Storm Sewer Drainage Areas



Notes: Labels show the average of two samples. Concentrations of fecal coliform, measured flow, and pollutant load (concentration times flow).

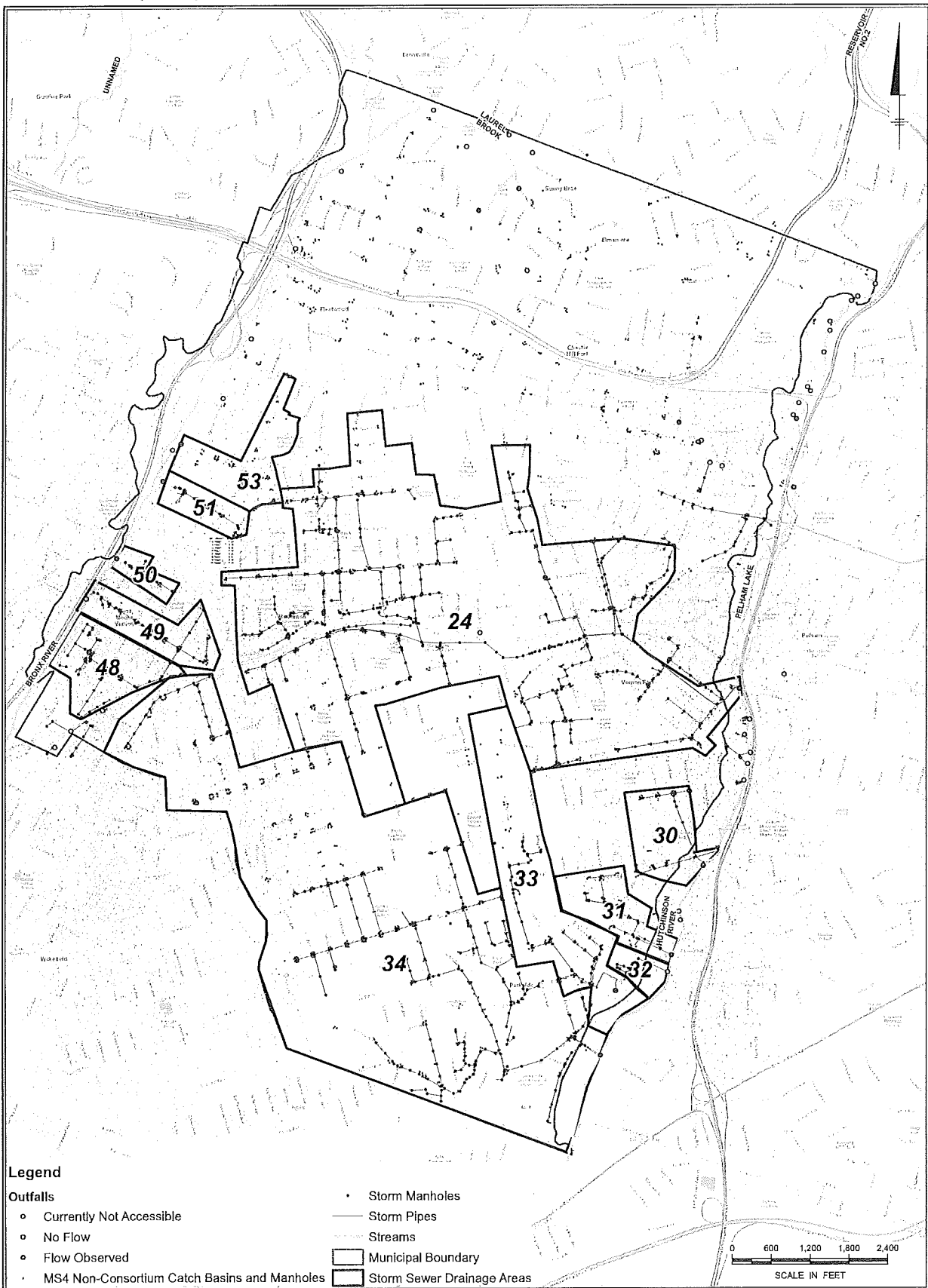
City of Mount Vernon
Mount Vernon, New York

Outfall Locations and 2022 Sampling Results

FIGURE



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Figure 3.mxd

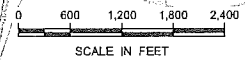


Legend

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed
- MS4 Non-Consortium Catch Basins and Manholes

- Storm Manholes
- Storm Pipes
- Streams
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas



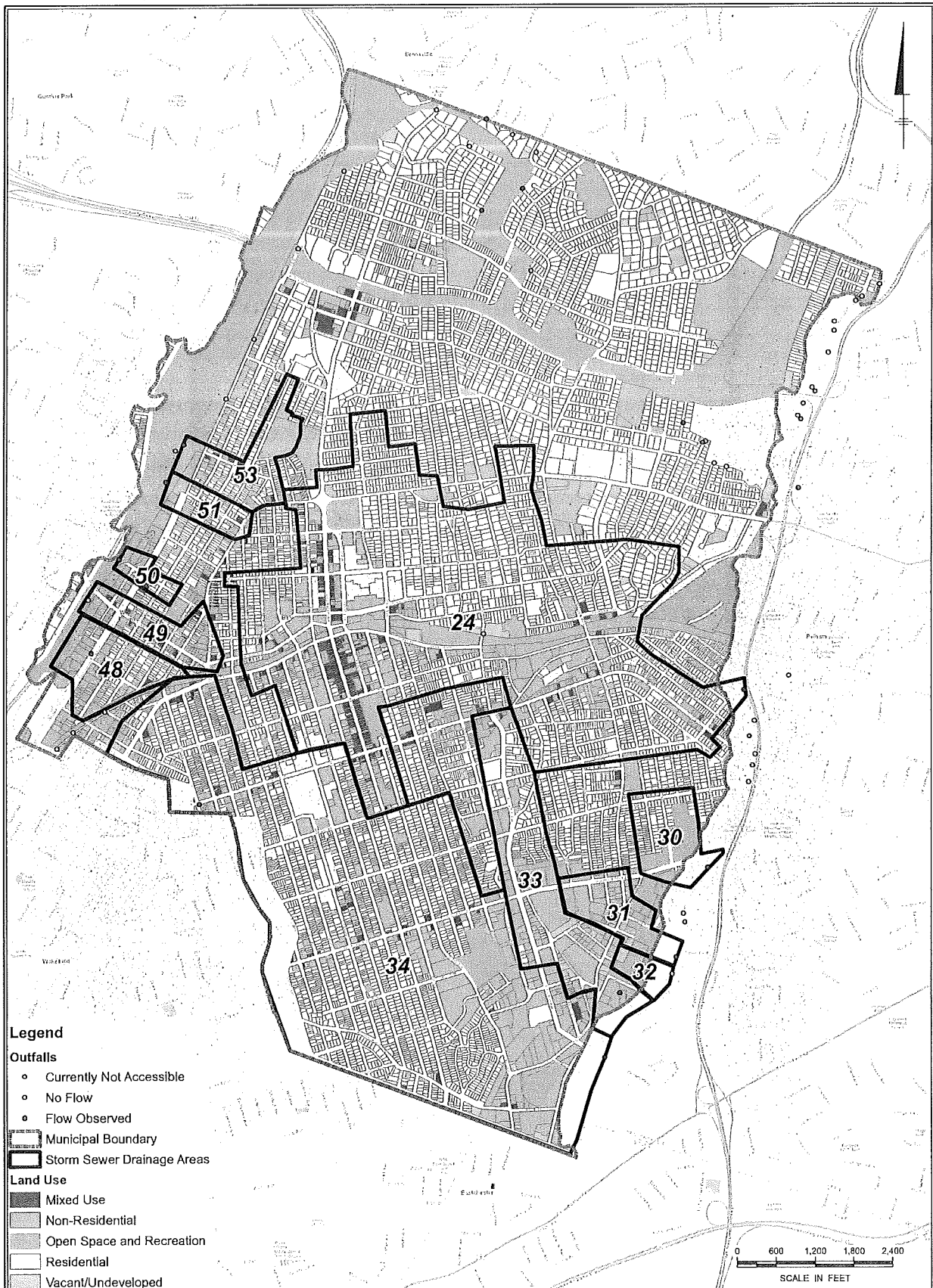
City of Mount Vernon
Mount Vernon, New York

Storm Sewer Mapping Gaps



FIGURE
3

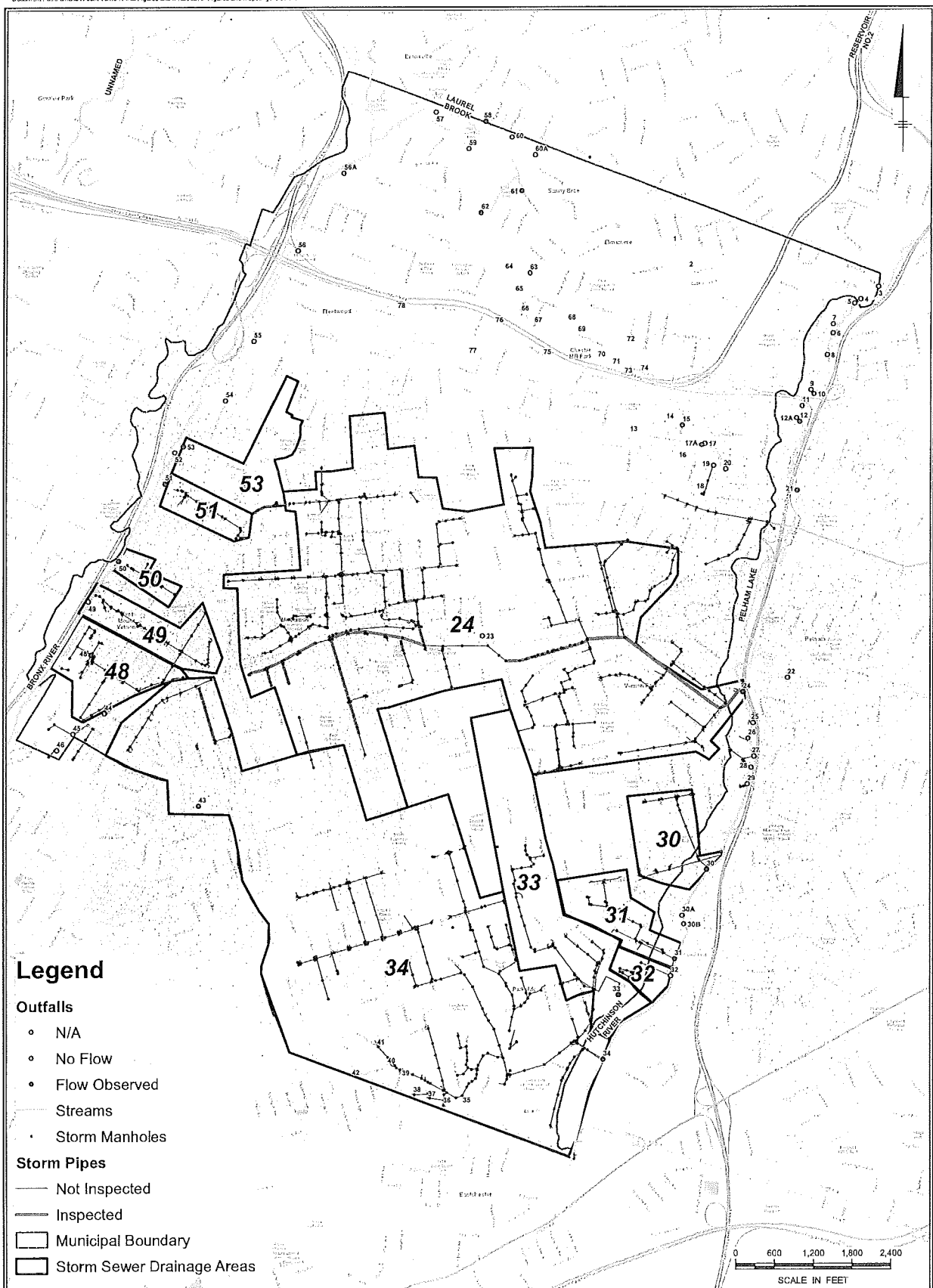
Document Path: G:\GIS\Mount Vernon\Final Figures and MMD\Appendix Maps\Figure 4.mxd



City of Mount Vernon
Mount Vernon, New York

Land Use

Document Path: G:\GIS\Mount Vernon\Final Figures and MVD\IDAP Figures and Maps\Figure 5.mxd



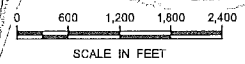
Legend

Outfalls

- N/A
- No Flow
- Flow Observed
- Streams
- Storm Manholes

Storm Pipes

- Not Inspected
- Inspected
- Municipal Boundary
- Storm Sewer Drainage Areas



Note: There were additional storm sewers inspected that are not shown on this Figure as that portion of the storm sewer has not yet been digitized.

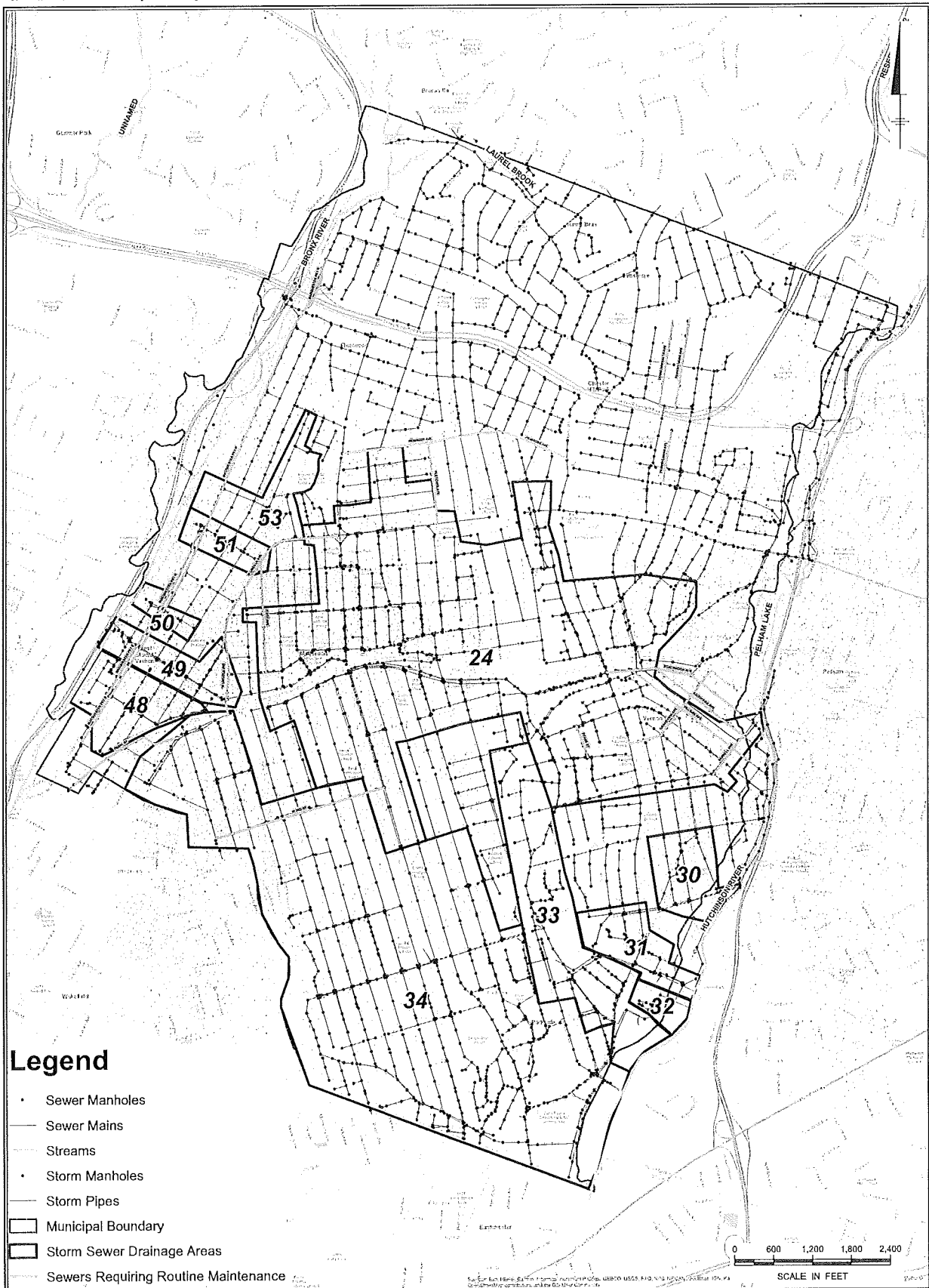
City of Mount Vernon
Mount Vernon, New York

2018 Storm Sewer CCTV Locations



FIGURE
5

Document Path: G:\GIS\Mount Vernon\Final Figures and Mxd\Figure 6.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Streams
- Storm Manholes
- Storm Pipes
- Municipal Boundary
- Storm Sewer Drainage Areas
- Sewers Requiring Routine Maintenance

Note: These are streets know to require periodic flushing or chemical treatment for grease and roots.

0 600 1,200 1,800 2,400
SCALE IN FEET

City of Mount Vernon
Mount Vernon, New York

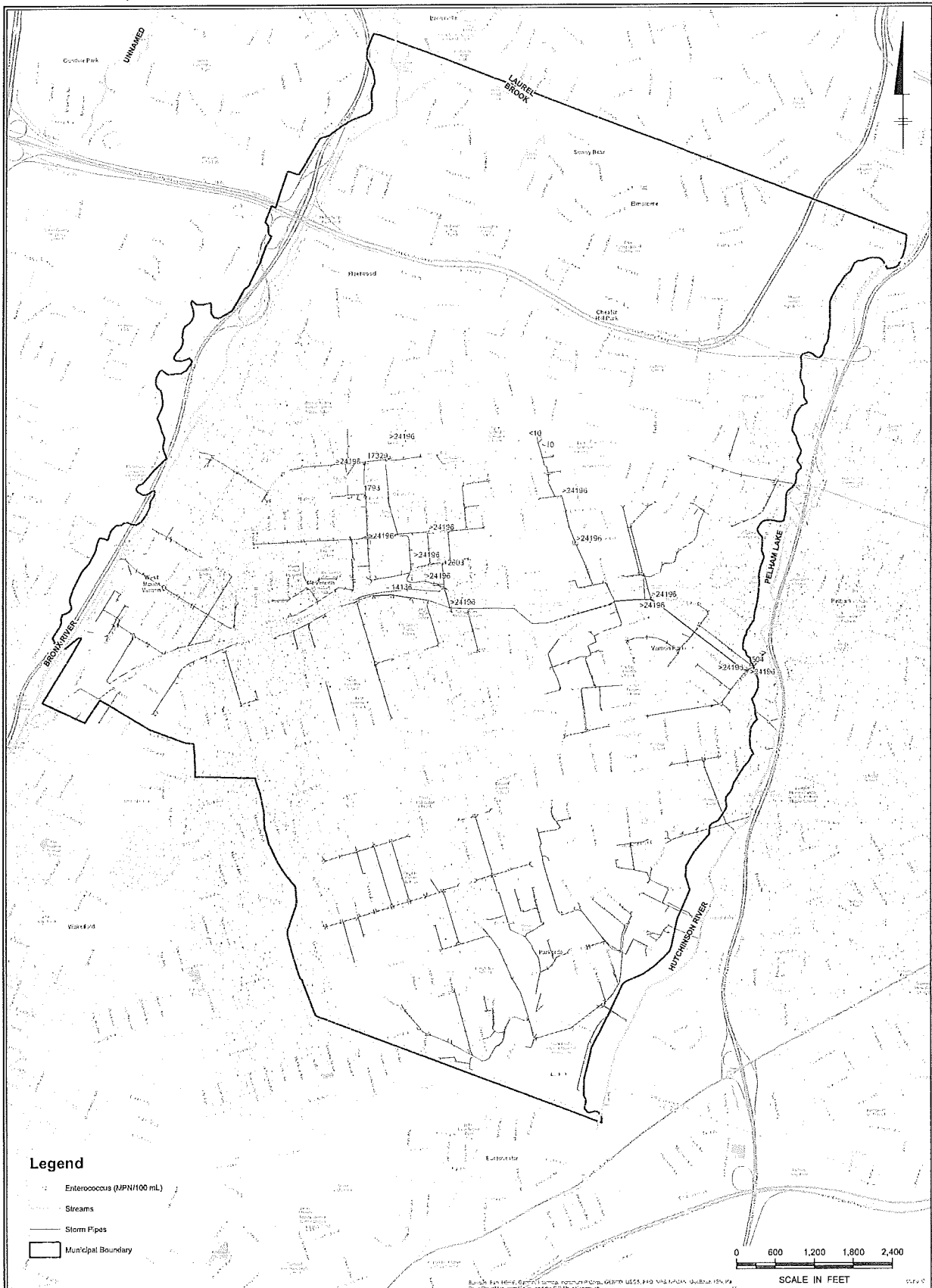
Sewers Requiring Routine Maintenance



FIGURE

6

Document Path: G:\GIS\Mount Vernon\Figures STS.mxd



Legend

- Enterococcus (MPN/100 mL)
- Streams
- Storm Pipes
- Municipal Boundary

0 600 1,200 1,800 2,400
SCALE IN FEET

City of Mount Vernon
Mount Vernon

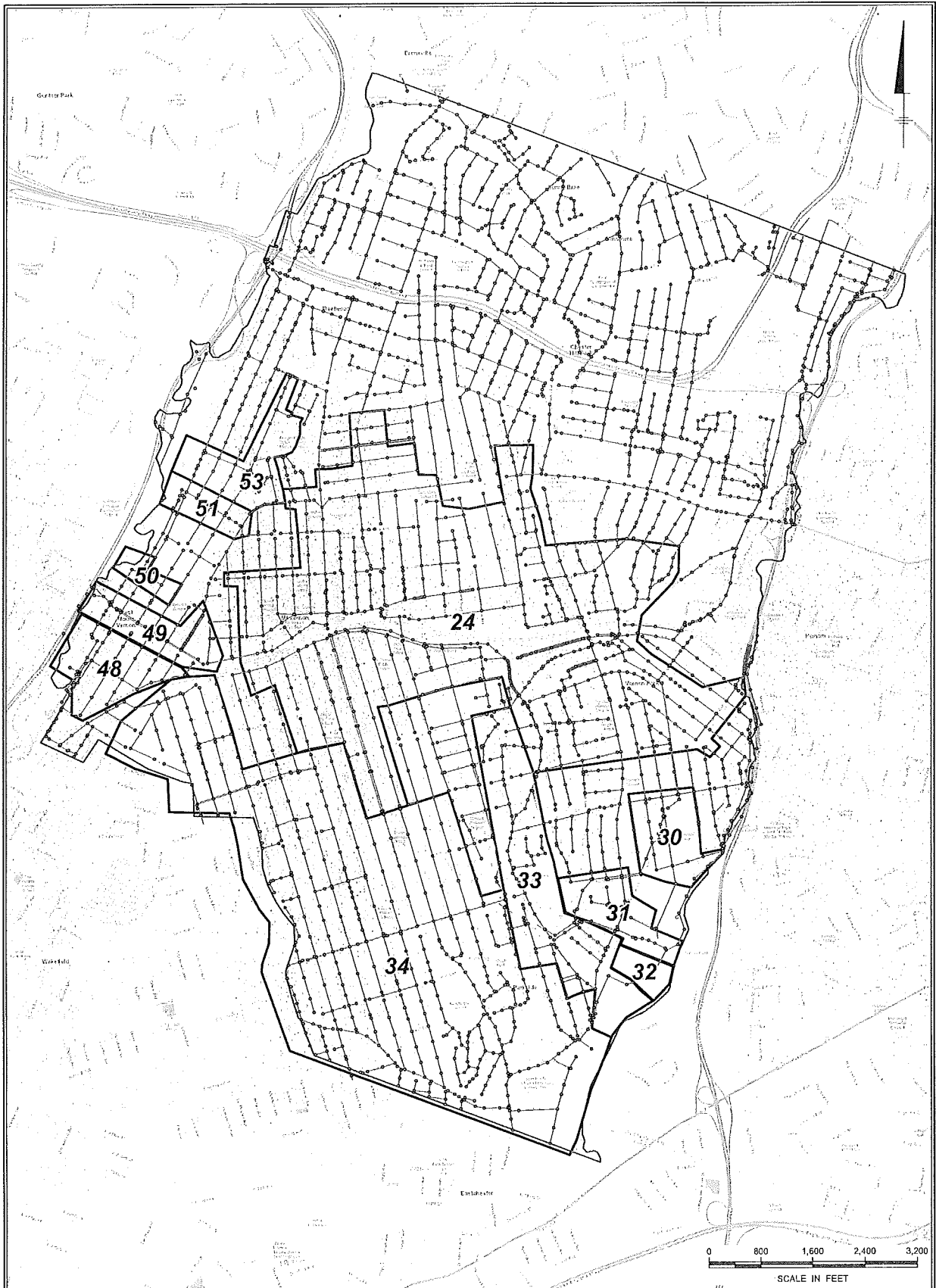
Save The Sound Sampling Results - 2/2021



FIGURE

7

Document Path: G:\GIS\Mount Vernon\Final Figures and MXD's\Appendix Maps\MXD.mxd



- Legend**
- Sewer Manholes
 - Sewer Mains**
 - Sewer Mains
 - Sewer Repair Location
 - Municipal Boundary
 - Approximate Location of Sewer Repair
 - Storm Sewer Drainage Areas

Note:
Repairs shown are cured-in-place pipe. Not all manhole numbers are currently available in GIS, so some locations of repair were approximated. Specifically, the Overlook Street repairs, one segment of the Washington Street repair and the Hutchinson River Parkway repairs.

City of Mount Vernon
Mount Vernon, New York

2020/2021 SEWER REPAIRS

 FIGURE 8

Appendix A

Outfall Sampling Laboratory Reports

Sample No. **AY03629**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
 LOCUST LN
 MOUNT VERNON, NY 10550

Received By : JM AG
 Bottle No : A2859

Collection Point : MOUNT VERNON OUTFALL

Collected By : LJ

ID of Source : STORM WATER OUTFALL

Collection Date : 03/01/2022 AT 10:36:00AM

Submitted On : 03/01/2022 AT 3:04:00PM

Agency : ARCADIS
 855 Route 146, Suite 210
 Clifton Park, NY, 12065
 Attn: Kevin Hogan

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

addt'l Report To :

Comment :61-1A

KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:35:00PM		
Fecal Coliforms	per 100mls	2600		Collert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
 NYS ELAP # 10108
 (914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03630**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
 LOCUST LN
 MOUNT VERNON, NY 10550

Received By : JMAG
 Bottle No : B-2868

Collection Point : MOUNT VERNON OUTFALL

Collected By : LJ

ID of Source : STORM WATER OUTFALL

Collection Date : 03/01/2022 AT 10:36:00AM

Submitted On : 03/01/2022 AT 3:04:00PM

Agency : ARCADIS
 855 Route 146, Suite 210
 Clifton Park, NY, 12065
 Attn: Kevin Hogan

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment :61-1

KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	2050		Collert-18

E = Estimated Count

Approved By **Robert Hilbrandt**

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
 NYS ELAP # 10108
 (914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03631**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location : HUTCHINSON BLVD
MOUNT VERNON, NY 10550

Received By : JM AG
Bottle No : C-2871

Collection Point : MOUNT VERNON OUTFALL
ID of Source : STORM WATER OUTFALL

Collected By : LJ
Collection Date : 03/01/2022 AT 1:24:00PM
Submitted On : 03/01/2022 AT 3:04:00PM

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

PWS No. :
Type Descriptor : Source ID :
pH :
Free Cl2 : Residual Cl2 :

add'l Report To :

Sample chilled on arrival ? : YES
Sample Type : NP_STORMWTR

Comment :12A
KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	100		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03632**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location : HUTCHINSON BLVD
MOUNT VERNON, NY 10550

Received By : JM AG
Bottle No : D-2867

Collection Point : MOUNT VERNON OUTFALL

Collected By : LJ
Collection Date : 03/01/2022 AT 1:24:00PM
Submitted On : 03/01/2022 AT 3:04:00PM

ID of Source : STORM WATER OUTFALL

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

PWS No. :
Type Descriptor : Source ID :
pH :
Free Cl2 : Residual Cl2 :

add'l Report To :

Sample chilled on arrival ? : YES
Sample Type : NP_STORMWTR

Comment :12
KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	100		Colilert-18

E = Estimated Count

Approved By Robert Hilbrandt

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03633**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
 LEGGETT RD
 MOUNT VERNON, NY 10550

Received By : JM AG
 Bottle No : E-2874

Collection Point : MOUNT VERNON OUTFALL

Collected By : LJ
 Collection Date : 03/01/2022 AT 9:48:00AM

ID of Source : STORM WATER OUTFALL

Submitted On : 03/01/2022 AT 3:04:00PM

Agency : ARCADIS
 855 Route 146, Suite 210
 Clifton Park, NY, 12065
 Attn: Kevin Hogan

PWS No. :
 Type Descriptor : Source ID :
 pH :
 Free Cl2 : Residual Cl2 :

add'l Report To :

Sample chilled on arrival ? : YES
 Sample Type : NP_STORMWTR

Comment :58
 KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	<50		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
 NYS ELAP # 10108
 (914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03634**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
 LEGGETT RD
 MOUNT VERNON, NY 10550

Received By : JM AG
 Bottle No : F-2875

Collection Point : MOUNT VERNON OUTFALL

Collected By : LJ

ID of Source : STORM WATER OUTFALL

Collection Date : 03/01/2022 AT 9:48:00AM

Submitted On : 03/01/2022 AT 3:05:00PM

Agency : ARCADIS
 855 Route 146, Suite 210
 Clifton Park, NY, 12065
 Attn: Kevin Hogan

PWS No. :
 Type Descriptor : Source ID :
 pH :
 Free Cl2 : Residual Cl2 :

add'l Report To :

Sample chilled on arrival ? : YES
 Sample Type : NP_STORMWTR
 Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	<50		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
 NYS ELAP # 10108
 (914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03635**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
MARION AVE
MOUNT VERNON, NY 10550

Received By : JM AG
Bottle No : G-2880

Collection Point : MOUNT VERNON OUTFALL

Collected By : MD

ID of Source : STORM WATER OUTFALL

Collection Date : 03/01/2022 AT 12:30:00PM

Submitted On : 03/01/2022 AT 3:05:00PM

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment :17AA

KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	260		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03636**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

MARION AVE
MOUNT VERNON, NY 10550

Received By : JM AG

Bottle No : H-2861

Collection Point :

MOUNT VERNON OUTFALL

Collected By : MD

Collection Date : 03/01/2022 AT 12:30:00PM

Submitted On : 03/01/2022 AT 3:05:00PM

ID of Source :

STORM WATER OUTFALL

PWS No. :

Type Descriptor :

Source ID :

Agency : ARCADIS

855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : 17A

KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	315		Collert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03637**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
 VERNON PKWY
 MOUNT VERNON, NY 10550

Received By : JM AG
 Bottle No : I-2878

Collection Point : MOUNT VERNON OUTFALL

Collected By : MD
 Collection Date : 03/01/2022 AT 11:06:00AM
 Submitted On : 03/01/2022 AT 3:05:00PM

ID of Source : STORM WATER OUTFALL

Agency : ARCADIS
 855 Route 146, Suite 210
 Clifton Park, NY, 12065
 Attn: Kevin Hogan

PWS No. :
 Type Descriptor : Source ID :
 pH :
 Free Cl2 : Residual Cl2 :

addtl Report To :

Sample chilled on arrival ? : YES
 Sample Type : NP_STORMWTR
 Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	1700		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
 NYS ELAP # 10108
 (914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03638**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
 VERNON PKWY
 MOUNT VERNON, NY 10550

Received By : JM AG
 Bottle No : J-2869

Collection Point : MOUNT VERNON OUTFALL
 ID of Source : STORM WATER OUTFALL

Collected By : MD
 Collection Date : 03/01/2022 AT 11:06:00AM
 Submitted On : 03/01/2022 AT 3:05:00PM

Agency : ARCADIS
 855 Route 146, Suite 210
 Clifton Park, NY, 12065
 Attn: Kevin Hogan

PWS No. :
 Type Descriptor : Source ID :
 pH :
 Free Cl2 : Residual Cl2 :

addtl Report To :

Sample chilled on arrival ? : YES
 Sample Type : NP_STORMWTR
 Comment :61
 KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	995		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
 NYS ELAP # 10108
 (914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03639**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

WILSON BLOCK
MOUNT VERNON, NY 10550

Received By : JM AG

Bottle No : K-2863

Collection Point : MOUNT VERNON OUTFALL

ID of Source : STORM WATER OUTFALL

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD

Collection Date : 03/01/2022 AT 11:26:00AM

Submitted On : 03/01/2022 AT 3:05:00PM

PWS No. :

Type Descriptor :

Source ID :

pH:

Free Cl2:

Residual Cl2:

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : 62A

KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	<50		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03640**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
WILSON BLOCK
MOUNT VERNON, NY 10550

Received By : JM AG
Bottle No : L-2862

Collection Point : MOUNT VERNON OUTFALL

Collected By : MD

ID of Source : STORM WATER OUTFALL

Collection Date : 03/01/2022 AT 11:26:00AM

Submitted On : 03/01/2022 AT 3:05:00PM

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

PWS No. :
Type Descriptor : Source ID :
pH :

Free Cl2 : Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment :62

KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/01/2022 AT 3:33:00PM		
Fecal Coliforms	per 100mls	<50		Collilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/02/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2449

EMAIL 3/2/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY03745**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

HOWARD ST
MOUNT VERNON, NY 10550

Received By : JM AG

Bottle No : A-3586

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS

855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : LJ

Collection Date : 03/02/2022 AT 12:20:00PM

Submitted On : 03/02/2022 AT 2:55:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/02/2022 AT 3:14:00PM		
Fecal Coliforms	per 100mls	1400		Colilert-18

E = Estimated Count

Approved By Robert Hilbrandt

QA Officer

Date Approved : 03/03/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2453

EMAIL 3/3/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03746**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location : HOWARD ST
MOUNT VERNON, NY 10550

Received By : JM AG
Bottle No : B-3590

Collection Point : MOUNT VERNON OUTFALLS

Collected By : LJ
Collection Date : 03/02/2022 AT 12:20:00PM
Submitted On : 03/02/2022 AT 2:55:00PM

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

PWS No. :
Type Descriptor : Source ID :
pH :
Free Cl2 : Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

Comment : KEVIN.HOGAN@ARCADIS.COM

add'l Report To :

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/02/2022 AT 3:14:00PM		
Fecal Coliforms	per 100mls	605		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/03/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2453

EMAIL 3/3/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03747**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location : HUTCHINSON RIVER PKWY
MOUNT VERNON, NY 10550

Received By : JM AG
Bottle No : C-2872

Collection Point : MOUNT VERNON OUTFALLS

Collected By : LJ
Collection Date : 03/02/2022 AT 9:48:00AM
Submitted On : 03/02/2022 AT 2:55:00PM

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

PWS No. :
Type Descriptor : Source ID :
pH :
Free Cl2 : Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/02/2022 AT 3:14:00PM		
Fecal Coliforms	per 100mls	30700		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/03/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2453

EMAIL 3/3/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03748**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location : HUTCHINSON RIVER PKWY
MOUNT VERNON, NY 10550

Received By : JM AG
Bottle No : D-3589

Collection Point : MOUNT VERNON OUTFALLS

Collected By : LJ

ID of Source : STORMWATER OUTFALLS

Collection Date : 03/02/2022 AT 9:48:00AM

Submitted On : 03/02/2022 AT 2:55:00PM

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

PWS No. :
Type Descriptor : Source ID :
pH :

Free Cl2 : Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/02/2022 AT 3:14:00PM		
Fecal Coliforms	per 100mls	60200		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/03/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2453

EMAIL 3/3/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03749**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location : 14TH AVE/W. 3RD ST
MOUNT VERNON, NY 10550

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Received By : JM AG
Bottle No : E-2864

Collected By : LJ
Collection Date : 03/02/2022 AT 1:45:00PM
Submitted On : 03/02/2022 AT 2:55:00PM
PWS No. :
Type Descriptor : Source ID :
pH :
Free Cl2 : Residual Cl2 :
Sample chilled on arrival ? : YES
Sample Type : NP_STORMWTR
Comment : KEVIN.HOGAN@ARCADIS.COM

add'l Report To :

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/02/2022 AT 3:14:00PM		
Fecal Coliforms	per 100mls	49000		Collert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/03/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2453

EMAIL 3/3/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03750**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
14TH AVE/W. 3RD ST
MOUNT VERNON, NY 10550

Received By : JM AG

Bottle No : F-2866

Collection Point : MOUNT VERNON OUTFALLS

Collected By : LJ

Collection Date : 03/02/2022 AT 1:40:00PM

ID of Source : STORMWATER OUTFALLS

Submitted On : 03/02/2022 AT 2:55:00PM

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/02/2022 AT 3:14:00PM		
Fecal Coliforms	per 100mls	77700		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/03/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2453

EMAIL 3/3/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03751**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

GROVE ST
MOUNT VERNON, NY 10550

Received By : JM AG

Bottle No : G-2870

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : LJ

Collection Date : 03/02/2022 AT 2:16:00PM

Submitted On : 03/02/2022 AT 2:55:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/02/2022 AT 3:14:00PM		
Fecal Coliforms	per 100mls	>121000		Colilert-18

E = Estimated Count

Approved By Robert Hilbrandt

QA Officer

Date Approved : 03/03/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2453

EMAIL 3/3/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03752**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

GROVE ST
MOUNT VERNON, NY 10550

Received By : JM AG

Bottle No : H-2879

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : LJ

Collection Date : 03/02/2022 AT 2:16:00PM

Submitted On : 03/02/2022 AT 2:55:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/02/2022 AT 3:14:00PM		
Fecal Coliforms	per 100mls	>121000		Colilert-18

E = Estimated Count

Approved By **Robert Hilbrandt**

QA Officer

Date Approved : 03/03/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2453

EMAIL 3/3/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03822**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

RIVER AVE
MOUNT VERNON, NY 10550

Received By : AG JLM

Bottle No : A - 2876

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD

Collection Date : 03/03/2022 AT 10:05:00AM

Submitted On : 03/03/2022 AT 1:45:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

add'l Report To :

Comment : 22

KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/03/2022 AT 2:13:00PM		
Fecal Coliforms	per 100mls	370		Colilert-18

E = Estimated Count

Approved By **Robert Hilbrandt**

QA Officer

Date Approved : 03/04/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2456

EMAIL 3/4/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03823**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

MOUNT VERNON, NY 10550

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

add'l Report To :

Received By : AG JLM

Bottle No : B - 3679

Collected By : LJ

Collection Date : 03/03/2022 AT 9:30:00AM

Submitted On : 03/03/2022 AT 1:45:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

Comment :15A

KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/03/2022 AT 2:13:00PM		
Fecal Coliforms	per 100mls	1660		Collert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/04/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2456

EMAIL 3/4/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03824**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location : OAKLAND AVE
MOUNT VERNON, NY 10550

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Received By : AG JLM
Bottle No : C - 3680

Collected By : LJ
Collection Date : 03/03/2022 AT 9:30:00AM
Submitted On : 03/03/2022 AT 1:45:00PM
PWS No. :
Type Descriptor : Source ID :
pH :
Free Cl2 : Residual Cl2 :
Sample chilled on arrival ? : YES
Sample Type : NP_STRM

add'l Report To :

Comment :15
KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/03/2022 AT 2:13:00PM		
Fecal Coliforms	per 100mls	1920		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/04/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2456

EMAIL 3/4/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03825**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

PUTNAM ST
MOUNT VERNON, NY 10550

Received By : AG JLM

Bottle No : D - 3673

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : LJ

Collection Date : 03/03/2022 AT 11:50:00AM

Submitted On : 03/03/2022 AT 1:45:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

addt'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/03/2022 AT 2:13:00PM		
Fecal Coliforms	per 100mls	8320		Colilert-18

E = Estimated Count

Approved By Robert Hilbrandt

QA Officer

Date Approved : 03/04/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2456

EMAIL 3/4/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03826**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

PUTNAM ST
MOUNT VERNON, NY 10550

Received By : AG JLM

Bottle No : E - 3585

Collection Point :

MOUNT VERNON OUTFALLS

Collected By : LJ

Collection Date : 03/03/2022 AT 11:50:00AM

Submitted On : 03/03/2022 AT 1:45:00PM

ID of Source :

STORMWATER OUTFALLS

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/03/2022 AT 2:13:00PM		
Fecal Coliforms	per 100mls	5990		Collert-18

E = Estimated Count

Approved By Robert Hilbrandt

QA Officer

Date Approved : 03/04/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2456

EMAIL 3/4/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03827**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

RIVER ST
MOUNT VERNON, NY 10550

Received By : AG JLM
Bottle No : F - 3677

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD
Collection Date : 03/03/2022 AT 10:05:00AM
Submitted On : 03/03/2022 AT 1:45:00PM

PWS No. :
Type Descriptor : **Source ID :**
pH :

Free Cl2 : **Residual Cl2 :**

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

add'l Report To :

Comment : 21A
KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/03/2022 AT 2:13:00PM		
Fecal Coliforms	per 100mls	865		Colliert-18

E = Estimated Count

Approved By **Robert Hilbrandt**

QA Officer

Date Approved : 03/04/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2456

EMAIL 3/4/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03991**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

SANFORD BLVD
MOUNT VERNON, NY 10550

Received By : AG JLM

Bottle No : A - 3583

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR

Collection Date : 03/07/2022 AT 8:30:00AM

Submitted On : 03/07/2022 AT 2:24:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/07/2022 AT 2:40:00PM		
Fecal Coliforms	per 100mls	49000		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/08/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2471

EMAIL 3/8/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03992**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
 SANFORD BLVD
 MOUNT VERNON, NY 10550

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
 855 Route 146, Suite 210
 Clifton Park, NY, 12065
 Attn: Kevin Hogan

Received By : AG JLM
Bottle No : B - 4575

Collected By : MD/JR
Collection Date : 03/07/2022 AT 8:30:00AM
Submitted On : 03/07/2022 AT 2:24:00PM

PWS No. :

Type Descriptor : **Source ID :**
 pH:
 Free Cl2: **Residual Cl2 :**

Sample chilled on arrival ? : YES
Sample Type : NP_STRM

Comment : KEVIN.HOGAN@ARCADIS.COM

add'l Report To :

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/07/2022 AT 2:40:00PM		
Fecal Coliforms	per 100mls	7070		Colilert-18

E = Estimated Count

Approved By *Robert Hillbrandt*

QA Officer

Date Approved : 03/08/2022

Environmental Laboratories
 NYS ELAP # 10108
 (914) 231-1620

Report Number: 2471

EMAIL 3/8/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03993**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

CANAL ST
MOUNT VERNON, NY 10550

Received By : AG JLM

Bottle No : C - 3582

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR

Collection Date : 03/07/2022 AT 10:15:00AM

Submitted On : 03/07/2022 AT 2:24:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

addt'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/07/2022 AT 2:40:00PM		
Fecal Coliforms	per 100mls	155		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/08/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2471

EMAIL 3/8/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03994**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

CANAL ST
MOUNT VERNON, NY 10550

Received By : AG JLM
Bottle No : D - 0498

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR
Collection Date : 03/07/2022 AT 10:15:00AM
Submitted On : 03/07/2022 AT 2:24:00PM

PWS No. :
Type Descriptor : **Source ID :**
pH :
Free Cl2 : **Residual Cl2 :**

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

Comment : KEVIN.HOGAN@ARCADIS.COM

add'l Report To :

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/07/2022 AT 2:40:00PM		
Fecal Coliforms	per 100mls	370		Collert-18

E = Estimated Count

Approved By **Robert Hilbrandt**

QA Officer

Date Approved : 03/08/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2471

EMAIL 3/8/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03995**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

S. FULTON AVE
MOUNT VERNON, NY 10550

Received By : AG JLM

Bottle No : E - 4571

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR

Collection Date : 03/07/2022 AT 9:30:00AM

Submitted On : 03/07/2022 AT 2:24:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/07/2022 AT 2:40:00PM		
Fecal Coliforms	per 100mls	50		Collert-18

E = Estimated Count

Approved By Robert Hilbrandt

QA Officer

Date Approved : 03/08/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2471

EMAIL 3/8/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY03996**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

S. FULTON AVE
MOUNT VERNON, NY 10550

Received By : AG JLM

Bottle No : F - 3674

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR

Collection Date : 03/07/2022 AT 9:30:00AM

Submitted On : 03/07/2022 AT 2:24:00PM

PWS No. :

Type Descriptor :

Source ID :

pH:

Free Cl2:

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STRM

addtl Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/07/2022 AT 2:40:00PM		
Fecal Coliforms	per 100mls	50		Collert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/08/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2471

EMAIL 3/8/2022

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These analytical results relate only to the sample identified in this report.

Sample No. **AY04660**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

KIMBALL PL/SUNSET PL
MOUNT VERNON, NY 10550

Received By : KB AG

Bottle No : 89-3622

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR
Collection Date : 03/17/2022 AT 8:54:00AM
Submitted On : 03/17/2022 AT 12:07:00PM

PWS No. :
Type Descriptor : **Source ID :**
pH :
Free Cl2 : **Residual Cl2 :**
Sample chilled on arrival ? : YES
Sample Type : NP_STORMWTR
Comment : KEVIN.HOGAN@ARCADIS.COM

add'l Report To :

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/17/2022 AT 1:34:00PM		
Fecal Coliforms	per 100mls	18300		Colilert-18

E = Estimated Count

Approved By **Robert Hilbrandt**

QA Officer

Date Approved : 03/18/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2514

EMAIL 3/18/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY04661**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :
KIMBALL PL/SUNSET PL
MOUNT VERNON, NY 10550

Received By : KB AG
Bottle No : 90-3623

Collection Point : MOUNT VERNON OUTFALLS
ID of Source : STORMWATER OUTFALLS

Collected By : MD/JR
Collection Date : 03/17/2022 AT 8:54:00AM
Submitted On : 03/17/2022 AT 12:07:00PM

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

PWS No. :
Type Descriptor : **Source ID :**
pH:
Free Cl2 : **Residual Cl2 :**
Sample chilled on arrival ? : YES
Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/17/2022 AT 1:34:00PM		
Fecal Coliforms	per 100mls	19400		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/18/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2514

EMAIL 3/18/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY04662**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

OAK ST
MOUNT VERNON, NY 10550

Received By : KB AG
Bottle No : 91-3587

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR
Collection Date : 03/17/2022 AT 9:50:00AM
Submitted On : 03/17/2022 AT 12:07:00PM
PWS No. :

Type Descriptor : **Source ID :**
pH :
Free Cl2 : **Residual Cl2 :**

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/17/2022 AT 1:34:00PM		
Fecal Coliforms	per 100mls	490		Colilert-18

E = Estimated Count

Approved By Robert Hilbrandt

QA Officer

Date Approved : 03/18/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2514

EMAIL 3/18/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY04663**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

OAK ST
MOUNT VERNON, NY 10550

Received By : KB AG
Bottle No : 92-3592

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR
Collection Date : 03/17/2022 AT 9:50:00AM
Submitted On : 03/17/2022 AT 12:07:00PM

PWS No. :
Type Descriptor : **Source ID :**
pH :
Free Cl2 : **Residual Cl2 :**

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

Comment : KEVIN.HOGAN@ARCADIS.COM

add'l Report To :

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/17/2022 AT 1:34:00PM		
Fecal Coliforms	per 100mls	260		Colilert-18

E = Estimated Count

Approved By **Robert Hilbrandt**

QA Officer

Date Approved : 03/18/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2514

EMAIL 3/18/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY04664**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

420 SOUTH FULTON AVE
MOUNT VERNON, NY 10550

Received By : KB AG

Bottle No : 93-3675

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS
855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR

Collection Date : 03/17/2022 AT 10:26:00AM

Submitted On : 03/17/2022 AT 12:07:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/17/2022 AT 1:34:00PM		
Fecal Coliforms	per 100mls	<50		Colilert-18

E = Estimated Count

Approved By **Robert Hilbrandt**

QA Officer

Date Approved : 03/18/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2514

EMAIL 3/18/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Sample No. **AY04665**

REPORT OF ANALYSIS

Westchester County Department of Labs and Research

10 Dana Road Valhalla, New York 10595

Sample Location :

420 SOUTH FULTON AVE
MOUNT VERNON, NY 10550

Received By : KB AG

Bottle No : 94-3624

Collection Point : MOUNT VERNON OUTFALLS

ID of Source : STORMWATER OUTFALLS

Agency : ARCADIS

855 Route 146, Suite 210
Clifton Park, NY, 12065
Attn: Kevin Hogan

Collected By : MD/JR

Collection Date : 03/17/2022 AT 10:26:00AM

Submitted On : 03/17/2022 AT 12:07:00PM

PWS No. :

Type Descriptor :

Source ID :

pH :

Free Cl2 :

Residual Cl2 :

Sample chilled on arrival ? : YES

Sample Type : NP_STORMWTR

add'l Report To :

Comment : KEVIN.HOGAN@ARCADIS.COM

Test Description	Units	Results	Qualifier	Method
Date/Time Set		03/17/2022 AT 1:34:00PM		
Fecal Coliforms	per 100mls	<50		Colilert-18

E = Estimated Count

Approved By *Robert Hilbrandt*

QA Officer

Date Approved : 03/18/2022

Environmental Laboratories
NYS ELAP # 10108
(914) 231-1620

Report Number: 2514

EMAIL 3/18/2022

Page 1 of 1

These analytical results relate only to the sample identified in this report.

Appendix B

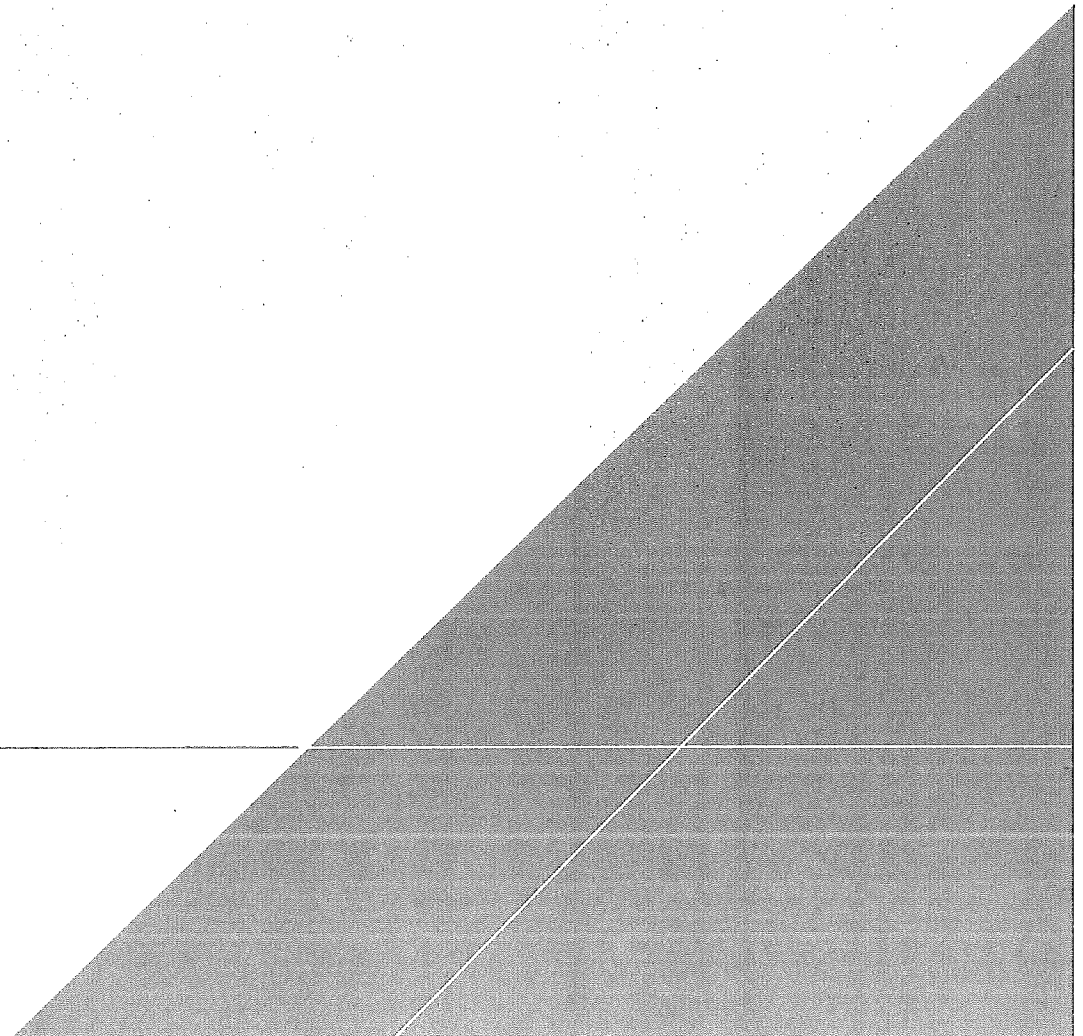
Sampling and Analysis Plan



SAMPLING AND ANALYSIS PLAN (SAP)

**Developed for the Mount Vernon Illicit Discharge
Action Plan**

June 2022



CITY OF MOUNT VERNON, NEW YORK
SAMPLING AND ANALYSIS PLAN (SAP)

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CITY OF MOUNT VERNON, NEW YORK
SAMPLING AND ANALYSIS PLAN (SAP)

ACRONYMS AND ABBREVIATIONS

Arcadis	Arcadis of New York, Inc.
COC	Chain of Custody
DEP	New York State Department of Environmental Protection
DQO	Data Quality Objective
EPA	United States Environmental Protection Agency
FAP	Field Activities Plan
HASP	Health and Safety Plan
IDW	Investigation Derived Waste
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NBS	National Bureau of Standards
NYSDEC	New York State Department of Environmental Conservation
PM	Project Manager
PPE	Personal Protective Equipment
QA	Quality Assurance
QAO	Quality Assurance Officer
QC	Quality Control
QAPP	Quality Assurance Project Plan
SOW	Statement of Work
USEPA	United States Environmental Protection Agency

1 BACKGROUND AND PURPOSE

1.1 Background

This Sampling and Analysis Plan (SAP) has been prepared by Arcadis of New York Inc. (Arcadis) for the City of Mount Vernon for their Illicit Discharge Action Plan.

The SAP presents the field procedures and quality assurance (QA) and quality control (QC) procedures designed to achieve the data quality goals for determining fecal coliform concentrations in the waterbodies located in the project area.

A laboratory certified by the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) will be utilized to analyze all samples collected during the implementation of the sampling plan. Laboratory analyses and QC procedures will be in accordance with the analytical methods identified in Table 1-1. Fecal Coliform is presently the only parameter that will be sampled. If other contaminants are expected, this plan can be updated as appropriate.

Table 1-1 Sampling Parameters and Requirements

Parameter	Analysis Method	Holding Times	Size	Minimum Volume	Preservation
Fecal Coliform	Colilert-18	6 Hours	250 mL	125 mL	None, Cool 4°C

1.2 Purpose

The purpose of this document is to provide field methods, procedures, and protocols for the collection of samples and field data during implementation of the Illicit Discharge Action Plan. This SAP addresses components that influence these processes and provides a detailed plan to ensure that decisions being made based on the field data are valid, accurate, and defensible in support of subsequent recommendations. Any need for deviations from, or additions to, the procedures and protocols provided in this SAP should be presented to the Technical Leader (TL).

Robust procedures help ensure that field data generated, and samples collected during work assignment investigations are of suitable quality and quantity to meet the investigation data quality objectives (DQOs). To meet these objectives, the following topics are presented and discussed in this SAP:

- Field investigation procedure descriptions and objectives
- Equipment decontamination procedures

2 FIELD INVESTIGATION PROCEDURES

A summary of objectives, equipment, and procedures for the following field activities is provided in this section:

- Equipment Lists
- Wastewater sampling procedures
 - Sampling procedures
 - Sample equipment decontamination
 - Field documentation
 - Sample handling
 - Storage and disposal of investigation derived waste
- Field quality control samples
 - Field blanks
 - Matrix spike/matrix spike duplicates
 - Blind duplicates
- Sample transport

2.1 Equipment List

Coolers, chains of custody, and laboratory bottle ware – will be provided by the testing laboratory

Duct Tape

Field logbook and pen – a bound notebook for recording important information such as field notes and field measurements.

Maps showing outfall locations

First aid kit – for immediate care to treat cuts, scrapes and minor injuries

Ice, wet – cubed or chipped ice produced from potable water (commercially available bagged ice is appropriate).

Nitrile gloves (disposable) – To use while collecting and handling samples

Packing tape – To cover the bottle labels and wrap the cooler before transport

PPE – Personal protective equipment. Refer to HASP for specific details on donning and doffing PPE as well as PPE decontamination procedures.

Paper towels, disposable shop wipes – To clean the outside of any sample bottles and cooler.

Permanent marker – Labeling bottles

Re-sealable bags (one gallon) – Samples will be bagged in resealable plastic bags prior to placing inside the cooler.

Large contractor garbage bags – Plastic bags used to dispose of waste and keep papers dry



Swing sampler and zip ties – a sampler with a hinged sample holder on a long arm that enables sampling in deep sewers.

Traffic Cones – will be used to section off the sample collection location in the study area

Stream waders – some outfalls have to be accessed from the stream. We will try to access the upgradient manhole

Manhole hook, screwdriver, flashlight – we will collect samples from manholes when the outfall is submerged.

5-Gallon buckets - to carry supplies and for flow measurement. Mark the bucket with gallon marks.

Stopwatch to time flow rate

Velocity meter – measure flow velocity. This is for outfalls that are too large or have too much flow for the bucket measurement, and for samples collected in manholes with substantial flow.

Tape Measure – measure depth of flow manholes or large outfalls

Paper Towels

Peristaltic pump and tubing

Hand sanitizer and disinfectant spray

2.2 Sampling

2.2.1 Sampling Objectives

Grab sampling is a technique whereby a single sample is collected from a source, often at a predetermined moment in time, to capture information about the source at that specific moment in time.

2.2.2 Sampling Procedures

1. Don nitrile gloves and other appropriate PPE.
2. Grab samples shall be collected directly from the outfall by placing an **unused bottle** directly under the outfall flow. If collected from a manhole, a swing sampler or peristaltic pump can be used to collect the sample. New tubing shall be used at each location.
3. Two samples will be collected at each location.
4. Ensure that the sample bottle is filled to the base of the neck, and tightly cap the sample bottle. Do not touch the underside of the cap and protect it from contamination when removed from the bottle.
5. If the sampling location is a stormwater outfall, and it is not submerged, the disposable one-liter swing sample bottle shall be held beneath the flow stream to fill the bottle. This bottle will then be used to fill the laboratory sample bottles. Each laboratory bottle shall be filled completely. If they cannot be filled completely, the bottles shall be filled to the required analysis volume outlined in Table 1-1. For submerged or inaccessible outfalls, upgradient manholes were selected as sampling locations. When sampling from a manhole, the telescoping swing sampler will be used. The sampling personnel shall make every effort not to disturb sediment as this will affect the results of the analysis. If disturbing

sediment or sampling in a surcharged manhole cannot be avoided, record that sediment was disturbed in the sampling log.

6. New disposable nitrile surgical gloves will be worn by the sampling personnel and changed between sampling locations. Samples will be immediately placed in a cooler upon collection. Samples must be delivered to the lab within 6 hours, due to the short holding time for the bacteriological samples.
7. Clean any liquids off the outside of the sample bottle with a clean paper towel or disposable wipe.
8. Dry the surface of the sample bottle (if needed) and label sample bottle with sample ID, date, time of collection, and collector's initials using a permanent marker. Place clear plastic tape over the writing.
9. Place the sample bottle in resealable plastic bag and then place the bagged sample bottle in the cooler.
10. Ensure all sample bottles are standing cap-up and surround the samples in ice to maintain them at 4°C between grab events.
11. Doff and dispose of disposable PPE. Reusable PPE worn by the sampling personnel will be removed and stored between sampling points.
12. Record the location, date, and sample collection time in a field logbook.

2.2.3 Flow Measurement and Observations

1. **Estimate of flow volume** — Flow volume will be estimated for each sample location. When possible, for free flowing outfalls, use a bucket marked with gallon designations and a stop watch to estimate flow rate. Measure flow depth for flow calculations in manholes and for outfalls that are too wide or flowing too fast for the bucket test. Record the diameter, shape and the velocity. The structure geometry and velocity will be used with the depth measurement to estimate flow.
2. **Evidence of illicit discharges** — color, odors, floatables, oils, sewage debris.
3. **Type of access into facility** (locked gates, etc.).
4. **Anything that is unexpected during sampling** (e.g., sediment in manholes, unable to open manholes, precipitation, surcharged manholes).
5. **Notes on how to get to the sampling location, if not clear**
6. **Photos** - Take photo of the outfall and any evidence of illicit discharge. Record information in the field book.

2.3 Field Quality Control Samples

Due to the limited sampling planned for this project, field quality control samples are not anticipated. However, a description of the types that could be used if have been provided below.

Quality control procedures are employed to ensure that sampling, transportation, and laboratory activities do not bias sample analytical quality. Field blank, blind duplicate, matrix spike, and matrix spikes duplicate samples provide a quantitative basis for validating the analytical data.

2.3.1 Field Blanks

A field blank is used to identify contamination or interfering materials in sample bottles or contamination introduced during the sampling process by outside influences. At the field location, deionized, analyte-

free water is passed through decontaminated sampling equipment (i.e. a decontaminated swing sampler) and placed in a virgin sample bottle for analysis of the same parameters as the samples collected with the sampling equipment. Field personnel specify when field blanks are submitted for analysis.

2.3.2 Blind Duplicates

The duplicate sample is collected by splitting one larger sample into two sub-samples, the original sample, and the blind duplicate sample. The identity of the blind duplicate is not revealed to the laboratory. The analytical results of the original sample will be compared to the blind duplicate sample, to evaluate field sampling and laboratory precision.

2.3.3 Matrix Spike/Matrix Spike Duplicates

MS/MSD samples are analyzed by the laboratory to provide a quantitative measure of the laboratory and method's precision and accuracy. The laboratory must be supplied with double or triple sample volume to perform MS or MS/MSD analyses, respectively. The MS/MSD samples are collected as two or three grab samples, the primary sample, the MS sample, and the MSD sample (if needed). Field blanks do not require separate MS/MSD analyses.

2.4 Transport

- Once all specified samples have been collected and packaged in the cooler, clean and then disinfect the outside of the cooler.
- Tape the cooler shut by wrapping one strip of packing tape around the narrow side of the cooler two times in unbroken loops.
- Prior to transporting the sample(s), prepare the Chain of Custody. A blank chain of custody, and a sample completed chain of custody, is provided as an attachment to this document.

2.5 Field Documentation

Documentation of field activities often provides the basis for technical site evaluations and other such related written reports. Records and notes generated in the field will be considered controlled evidentiary documents. Field documentation must provide sufficient information and data to enable reconstruction of field activities. Numerically serialized field logbooks provide the basic means for documenting field activities. The following information must be provided on the inside front cover of each field logbook:

- Project Name (Site Name).
- Site Location.
- Site Manager.
- Date of Issue.

Control and maintenance of field logbooks is the responsibility of the Field Team Leader.

2.5.1 Sample Designation

A sample numbering system will be used to identify each sample. This system will provide a tracking procedure to allow retrieval of information about a particular sample and will assure that each sample is uniquely numbered. The sample identification will consist of at least two components as described below.

- Outfall Identification Number
- Quality Assurance/Quality Control Samples: The samples will be labeled with the following suffixes, when applicable:
 - FB - Field Blank
 - DUP - Blind Duplicate
 - MS - Matrix Spike
 - MSD - Matrix Spike Duplicate

Duplicate samples will be labeled uniquely with an "A".

Examples of identification numbers are given below:

- 34: Outfall 34.
- 34A: Outfall 34 duplicate
- 34-MSD: Outfall 34, matrix spike duplicate.
- FB-A: Field blank A.

2.5.2 Documentation and Field Activities

Field logbook entries must be legibly written and provide an unbiased, concise, detailed picture of all field activities. Use of preformatted data reporting forms must be identifiable and referenced to field notebook entries.

Step-by-step instructions and procedures for documenting field activities are provided below and in following sub-sections. Instruction and procedures relating to the format and technique in which field logbook entries are made are as follows:

- Leave the first two pages blank. They will provide space for a table of contents to be added when the field logbook is complete.
- The first written page for each day identifies the date, time, site name, location, other non-personnel and observed weather conditions. Additionally, during the course of site activities, deviations from the work plan must also be documented.
- Photos taken must be traceable to field logbook entries. It is recommended to reference photo locations on the site sketch or map.
- Entries must be made in ink. Waterproof ink is recommended.
- Entries must be accompanied by the appropriate military time (such as 15:30 instead of 3:30).
- Errors must be lined through and initialed. No erroneous notes are to be made illegible.
- The person documenting must sign and date each page as it is completed.



- Isolated logbook entries made by a team member other than the team member designated responsible for field documentation, must be signed and dated by the person making the entry.
- Additions, clarifications, or corrections made after completion of field activities must be dated and signed.

2.5.3 General Sample Site Information

General sample site characteristics must be recorded. Information may include:

- Type of access into sample site (locked gates, manhole cover, etc.).
- Anything that is unexpected
- A sample site map or sketch may be provided. It can be sketched into the logbook or attached to the book.

2.5.4 Sample Activities

A chronological record of each sampling activity must be kept that includes:

- Explanation of sampling at the location identified in the sampling plan.
- Exact sample location, using permanent recognizable landmarks and reproducible measurements.
- Sample descriptions, i.e., color, texture and any other important distinguishing features.
- Decontamination procedures, if used.

As part of chain of custody procedures, recorded on-site sampling information must include sample number, date, time, sampling personnel, designation of sample as a grab or composite, and any preservative used. Sample locations should be referenced by sample number on the site sketch or map. The offer and/or act of providing sample splits to a third party (e.g., the responsible party representative; state, county, or municipal, environmental and/or health agency, etc.) must be documented.

2.5.5 Sample Dispatch Information

When sampling is complete, sample documentation such as chain of custody forms shall be scanned and added to the project directory. A notation of numbers of coolers shipped, carrier and time delivered to pick-up point should be made in a field notebook.

2.6 Sample Handling

The analytical laboratory will provide the sample bottles necessary for samples. Sample bottles, will be screw-on type and made of inert materials. Trip may be used to check for false positives due to sampling procedures or cross contamination during sample shipment.

Samples collected will be identified with a sample label or information written in permanent ink on the sample bottle. If a label is used, it will be attached to each sample bottle. Each sample will be identified with a unique sample number.

Immediately following sample collection, each sample bottle will be marked with the following information:

- Sample Number.

- Project Number.
- Date/Time.
- Sampler's Initials.

After sample identification information has been recorded, each sample label will be covered with waterproof clear plastic tape to preserve its integrity. Samples will be recorded and tracked under strict chain of custody protocols. In the field, each sample will be checked for proper labeling. The samples will then be packed into coolers with ice and shipped to the laboratory. A chain of custody form will be completed for each cooler. The form will be signed and dated by the person who collected the samples, the person the samples were relinquished to for transport to the laboratory, and the laboratory sample controller/custodian who receives the samples.

2.6.1 Chain of Custody Record

A chain of custody (COC) record is a printed form that accompanies a sample or group of samples as custody is transferred from person to person. A sample chain of custody form is included in Appendix A. It documents custody transfer from person to person and sample information recorded on sample bottle labels. A chain of custody record is a controlled document.

As soon as practicable after sample collection, preferably after decontamination, the following information must be entered on the chain of custody form. Information is to be recorded in black ink:

- Arcadis project number. Enter the eight-digit alphanumeric designation assigned by Arcadis that uniquely identifies the project site.
- Project name. Enter site name.
- Samplers. Sign the name(s) of the sampler(s).
- Sample number. Enter the sample number for each sample in the shipment. This number appears on the Arcadis sample identification label.
- Date. Enter a six-digit number, indicating the year, month, and day of sample collection (YYMMDD); for example, 200225.
- Time. Enter a four-digit number indicating the military time of collection; for example, 1354.
- Composite or grab. Indicate the type of sample.
- Testing parameter (e.g., Fecal Coliform)
- Station location. Describe the location where the sample was collected.
- Number of containers. For each sample number, enter the number of sample bottles that are contained in the shipment.
- Remarks. Enter any appropriate remarks.

Arcadis of New York, Inc.

855 Route 146

Suite 210

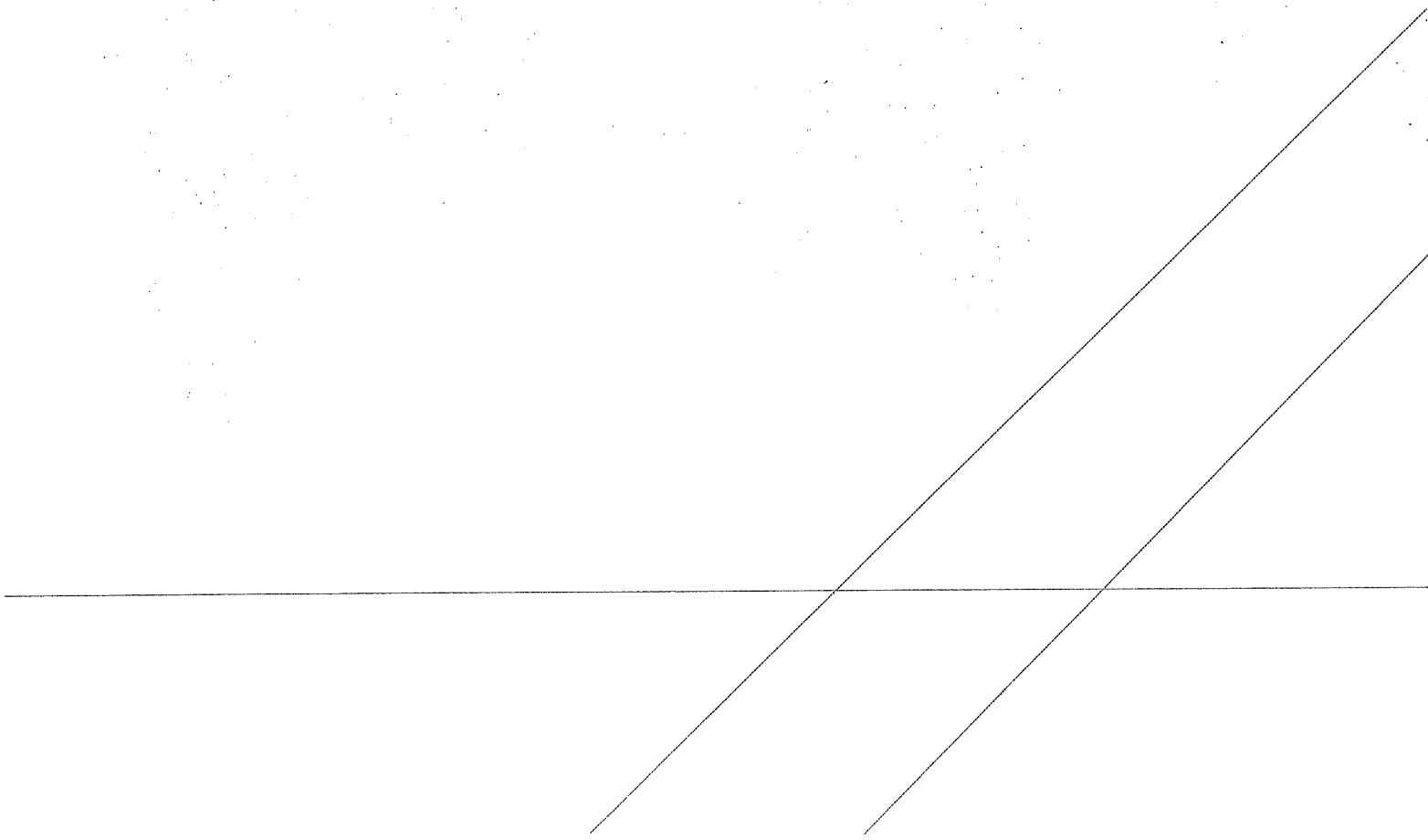
Clifton Park, New York 12065



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Appendix C

Storm Sewer Drainage Area Maps

Document Path: G:\02\Mount Vernon\Final Figures and MDD\Drainage Area Maps\24 Index.mxd



Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

**OUTFALL INDEX 24
STORM SEWER DRAINAGE AREA INVESTIGATION**

FIGURE



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\24.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

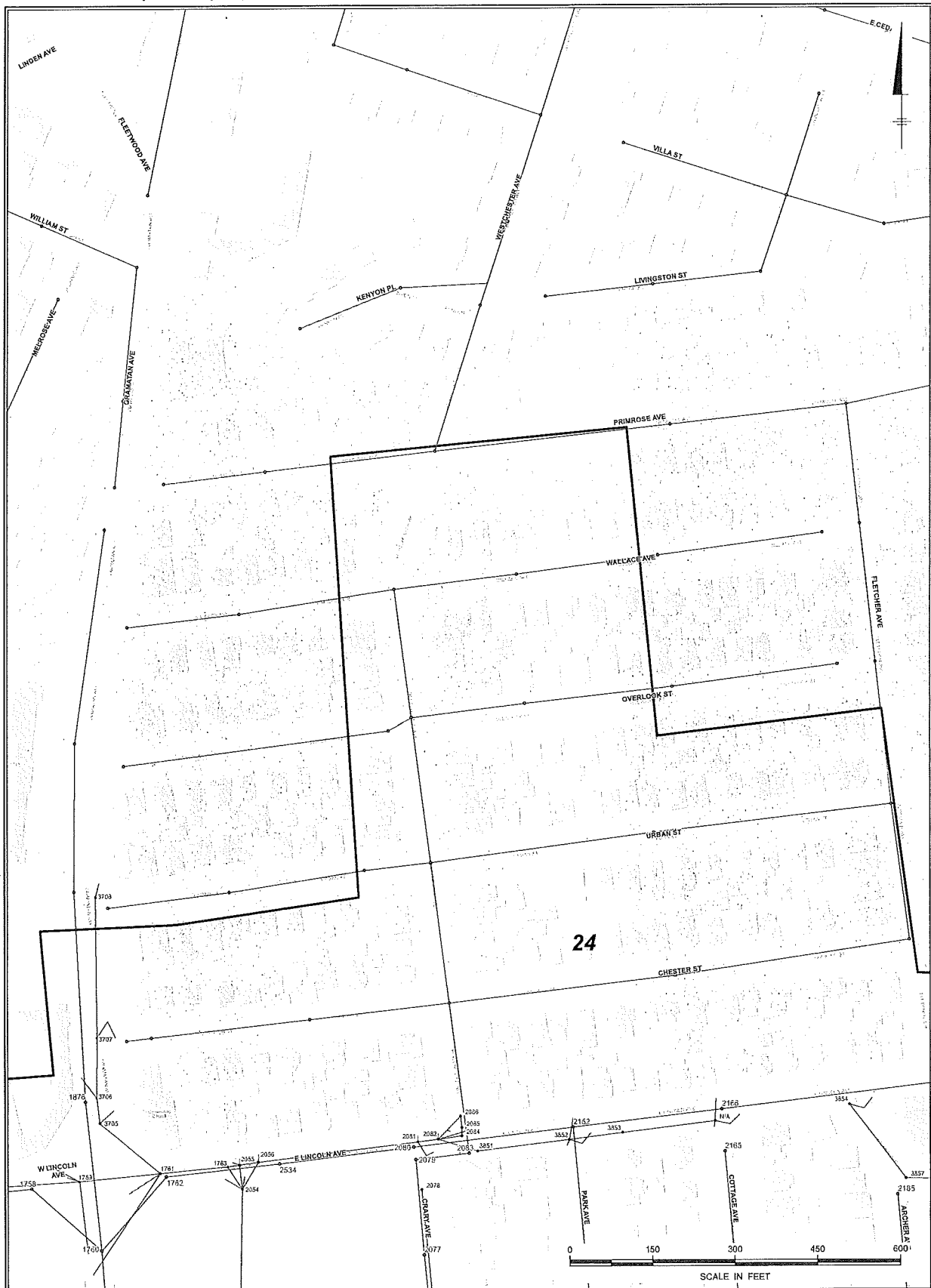
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

**OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION**

FIGURE
ARCADIS A1

Document Path: G:\GIS\Mount Vernon\Final Figures and MDS\Drainage Area Maps\24.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

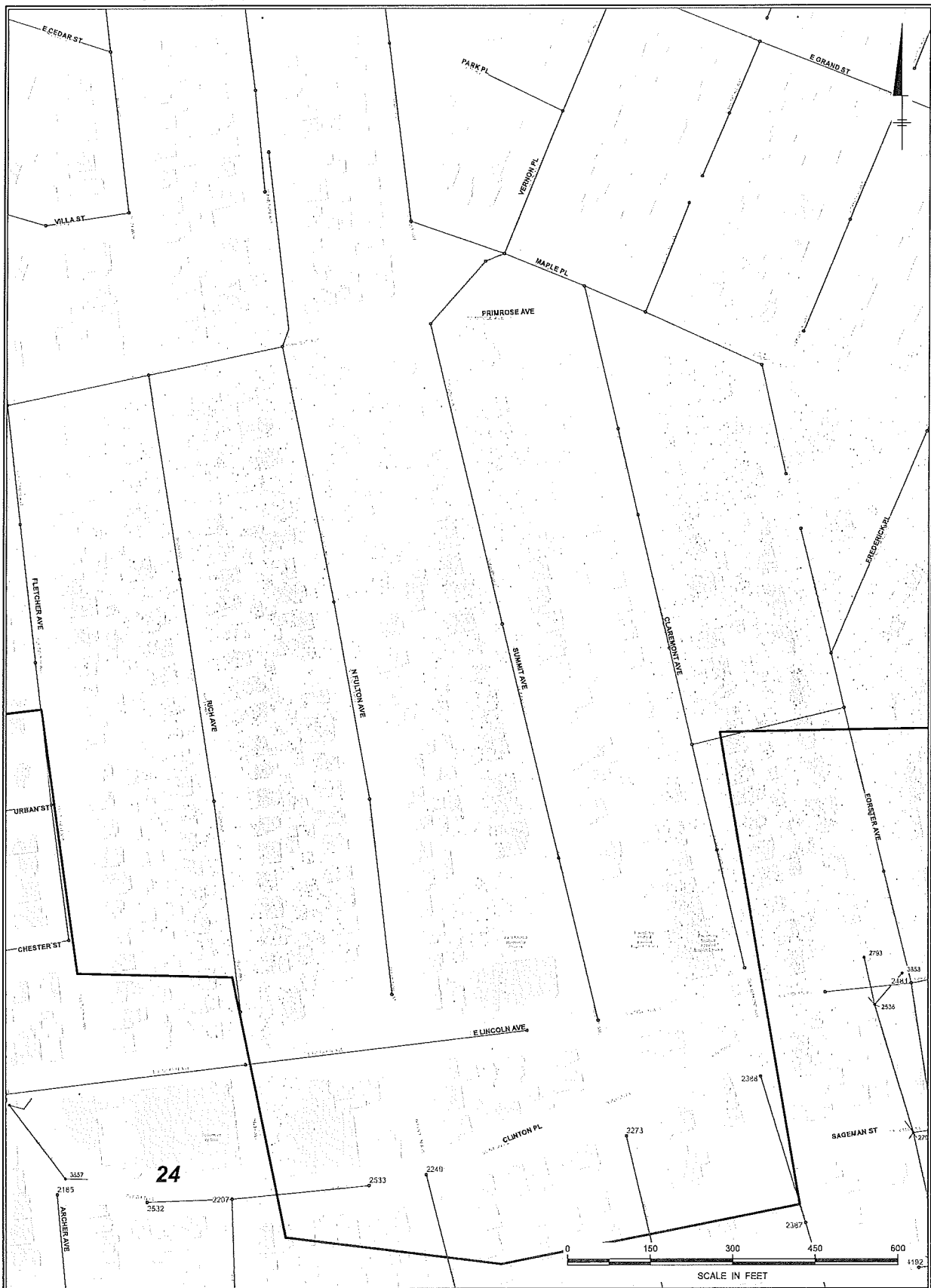
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
ARCADIS A2

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\24.mxd




Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | • Currently Not Accessible |
| • Storm Manholes | • No Flow |
| — Storm Pipes | • Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

**OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION**

FIGURE
A3



Document Path: O:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\24.mxd

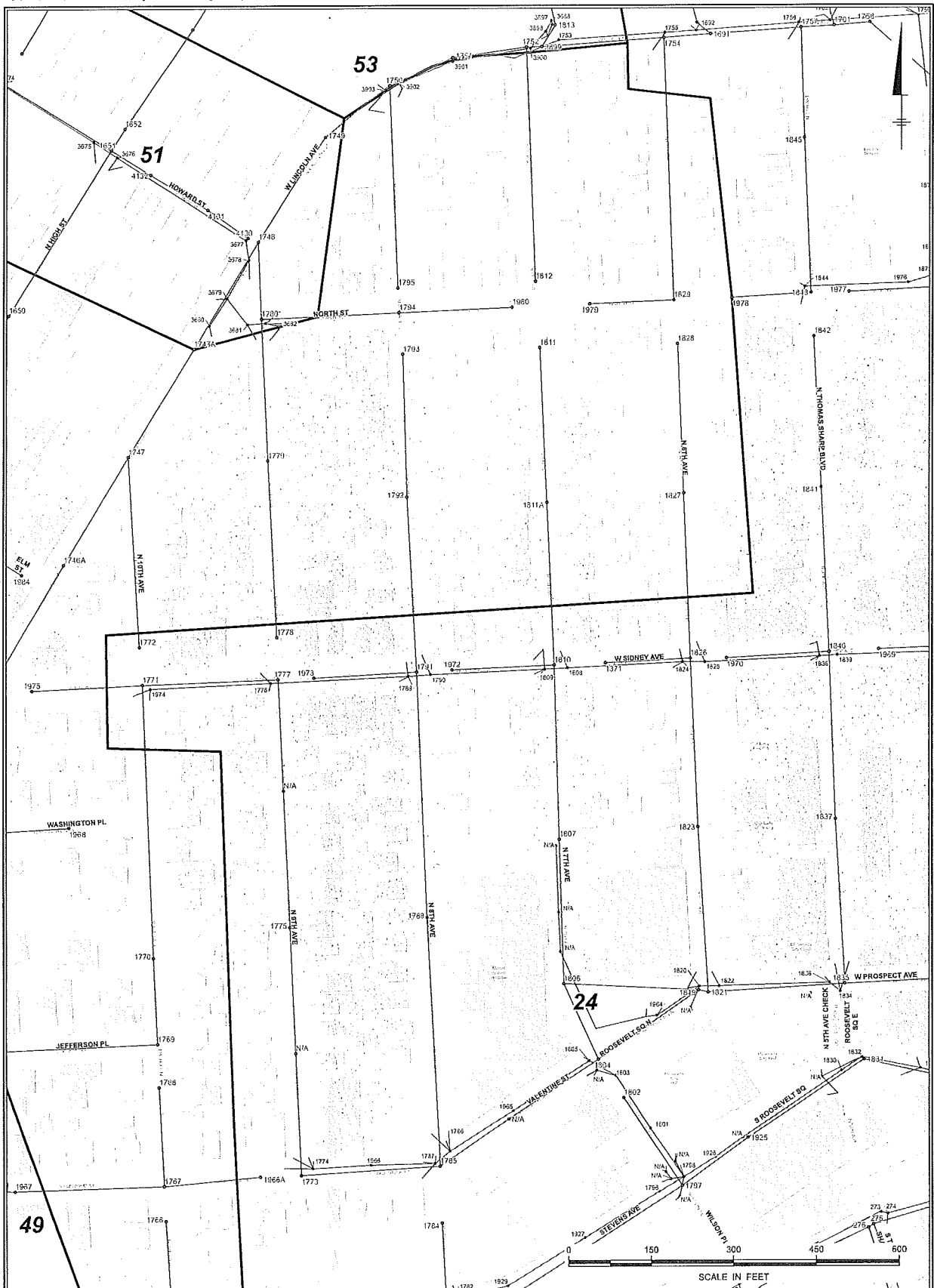


Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> • Sewer Manholes — Sewer Mains • Storm Manholes — Storm Pipes ▭ Municipal Boundary ▭ Storm Sewer Drainage Areas | <p>Outfalls</p> <ul style="list-style-type: none"> ○ Currently Not Accessible ○ No Flow ○ Flow Observed |
|--|---|

City of Mount Vernon Mount Vernon, New York	
OUTFALL 24 STORM SEWER DRAINAGE AREA INVESTIGATION	
A4	FIGURE A4

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\24.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

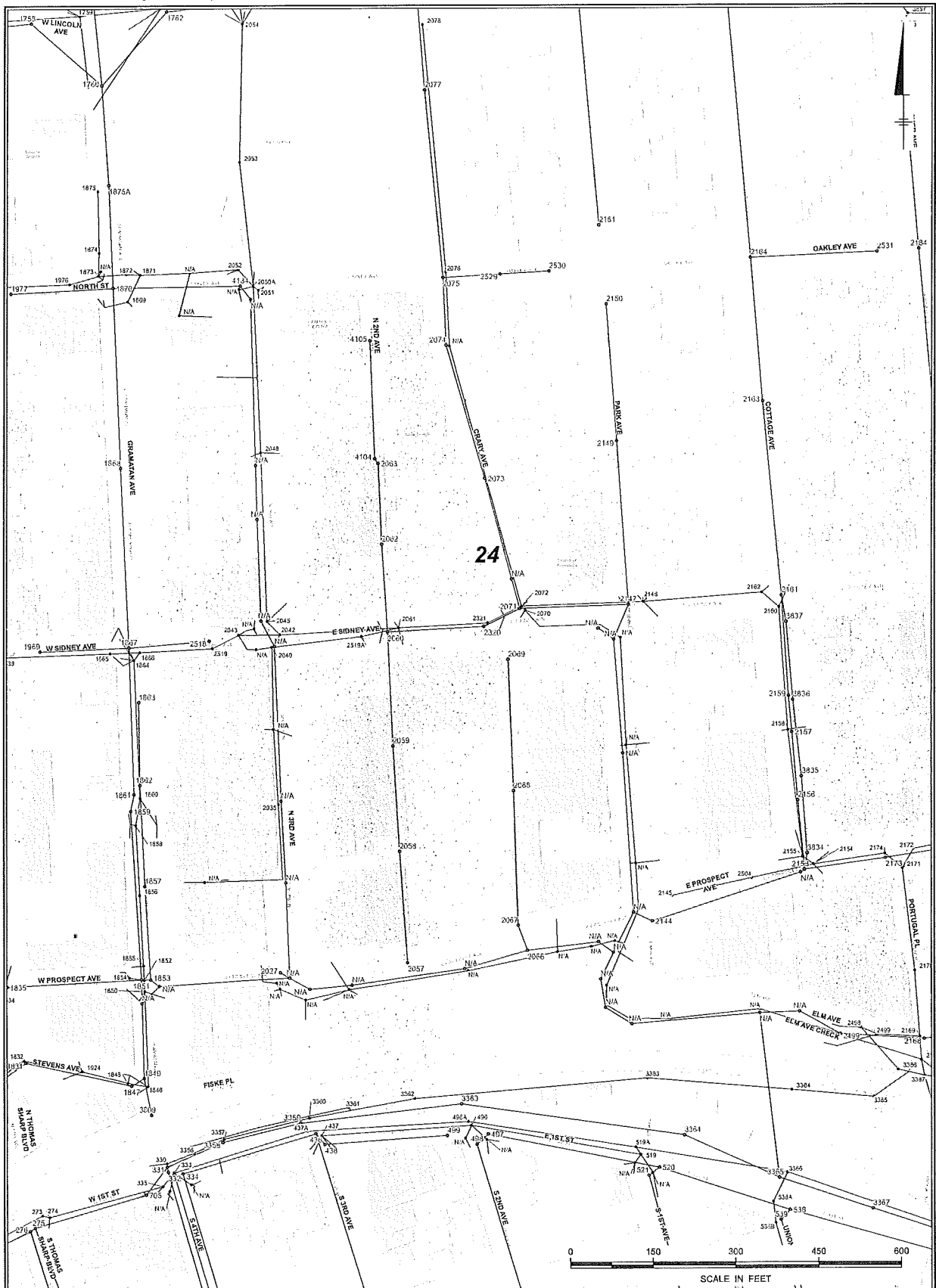
City of Mount Vernon
Mount Vernon, New York

OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE

ARCADIS B1

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- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

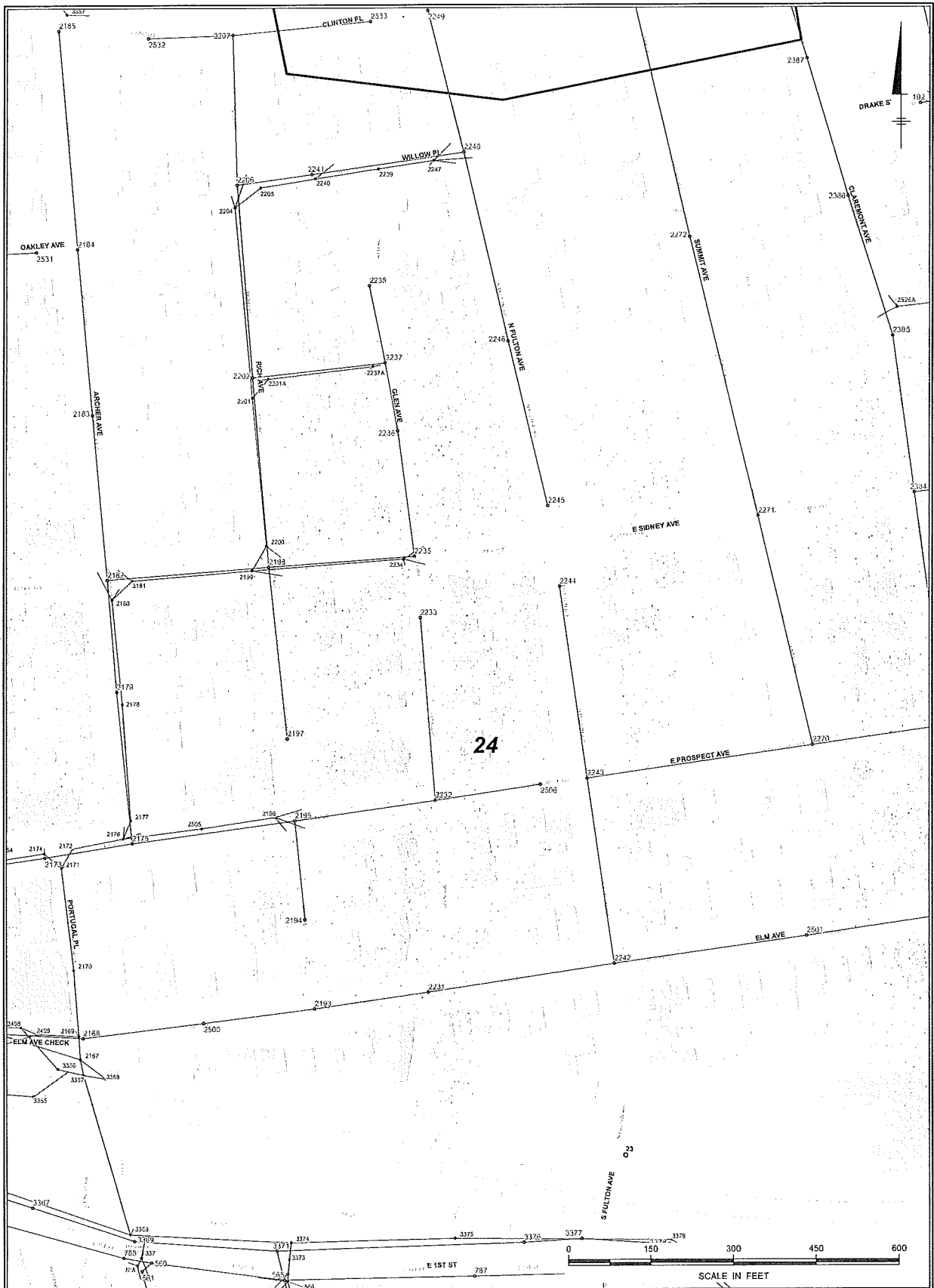
City of Mount Vernon
Mount Vernon, New York

OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE


ARCADIS B2

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\24.mxd



Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ☐ Municipal Boundary
 - ☐ Storm Sewer Drainage Areas
-
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon Mount Vernon, New York	
OUTFALL 24 STORM SEWER DRAINAGE AREA INVESTIGATION	
FIGURE	B3
	

Document Path: G:\GIS\Mount Vernon\Final Figures and MXD\Drainage Area Maps\24.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

**OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION**

FIGURE



B4

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Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION


FIGURE
B5

Document Path: G:\GIS\Mount Vernon\Fecal Figures and MDD\Drainage Area Maps\24.mxd



Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ◦ Sewer Manholes — Sewer Mains • Storm Manholes — Storm Pipes ▭ Municipal Boundary ▭ Storm Sewer Drainage Areas | <p>Outfalls</p> <ul style="list-style-type: none"> ◦ Currently Not Accessible ◦ No Flow ◦ Flow Observed |
|--|---|

City of Mount Vernon Mount Vernon, New York	
OUTFALL 24 STORM SEWER DRAINAGE AREA INVESTIGATION	
	FIGURE C1

Document Path: G:\GIS\Mount Vernon\Final Figures and MWD\Drainage Area Map\04.mxd



Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
ARCADIS C2

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Map\04.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

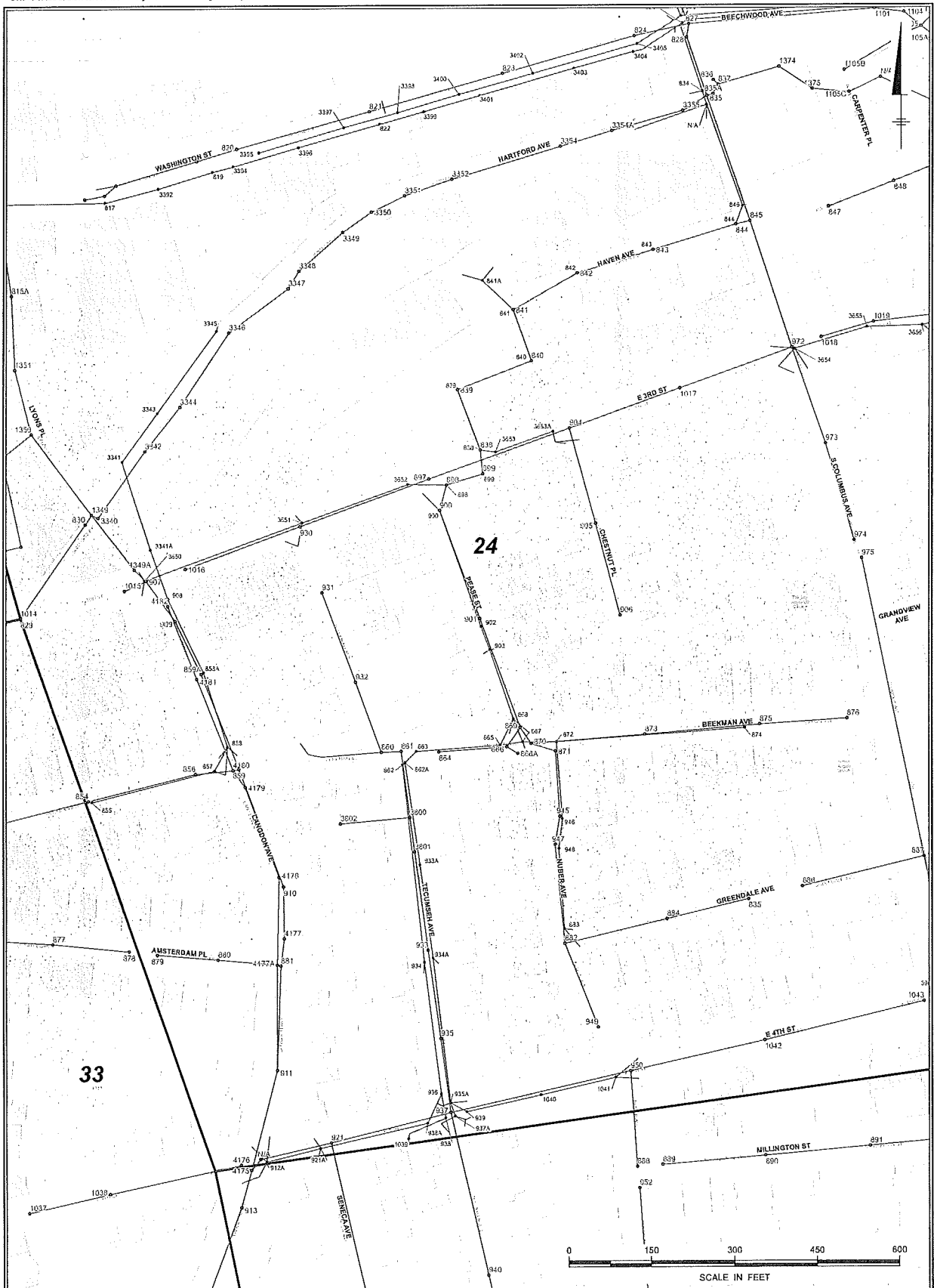
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

**OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION**

FIGURE
ARCADIS C3

Document Path: G:\GIS\Mount Vernon\Final Figures and MYD\Drainage Area Maps\24.mxd



- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

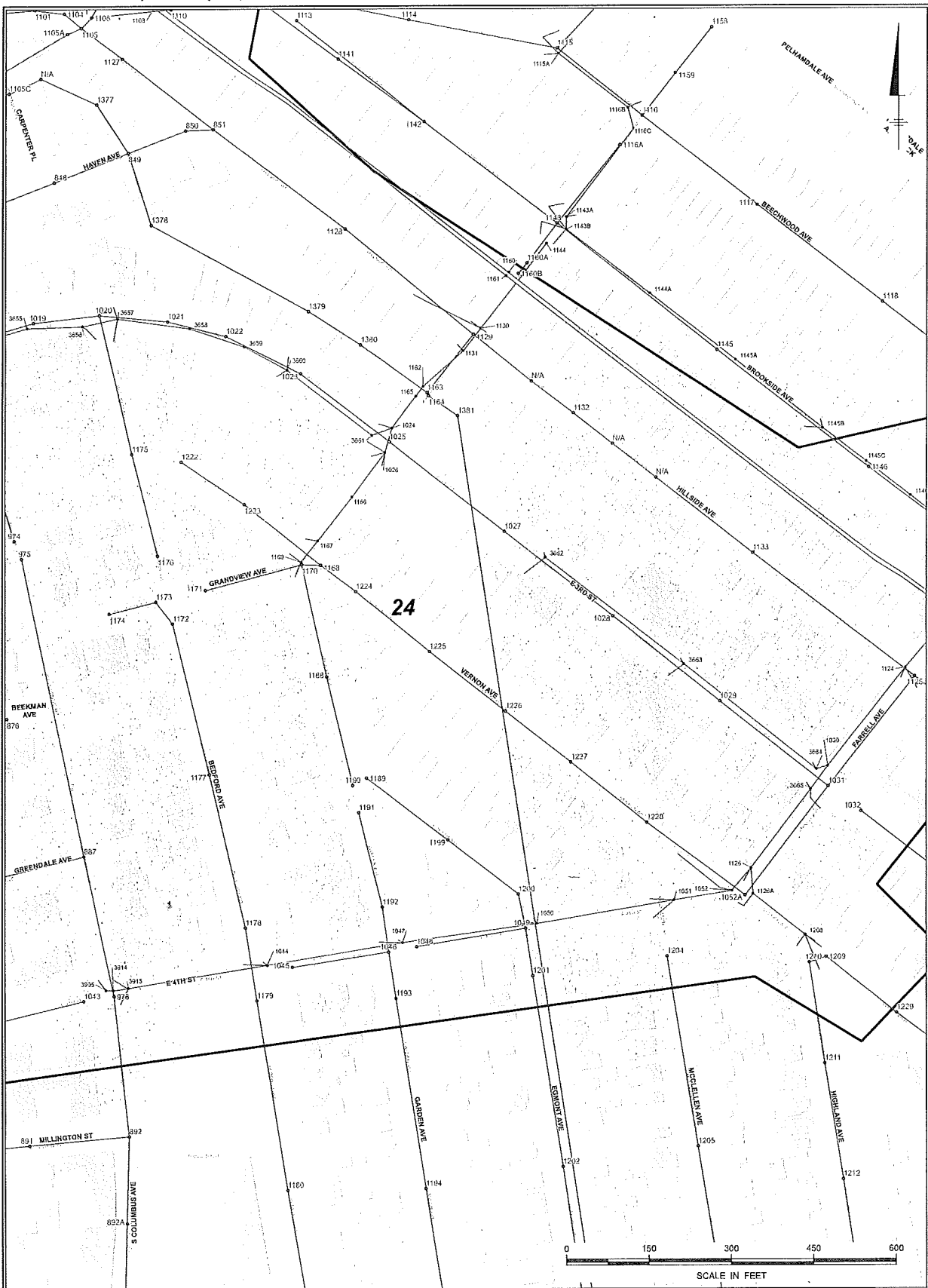
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
C4

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\24.mxd



- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - Municipal Boundary
 - Storm Sewer Drainage Areas

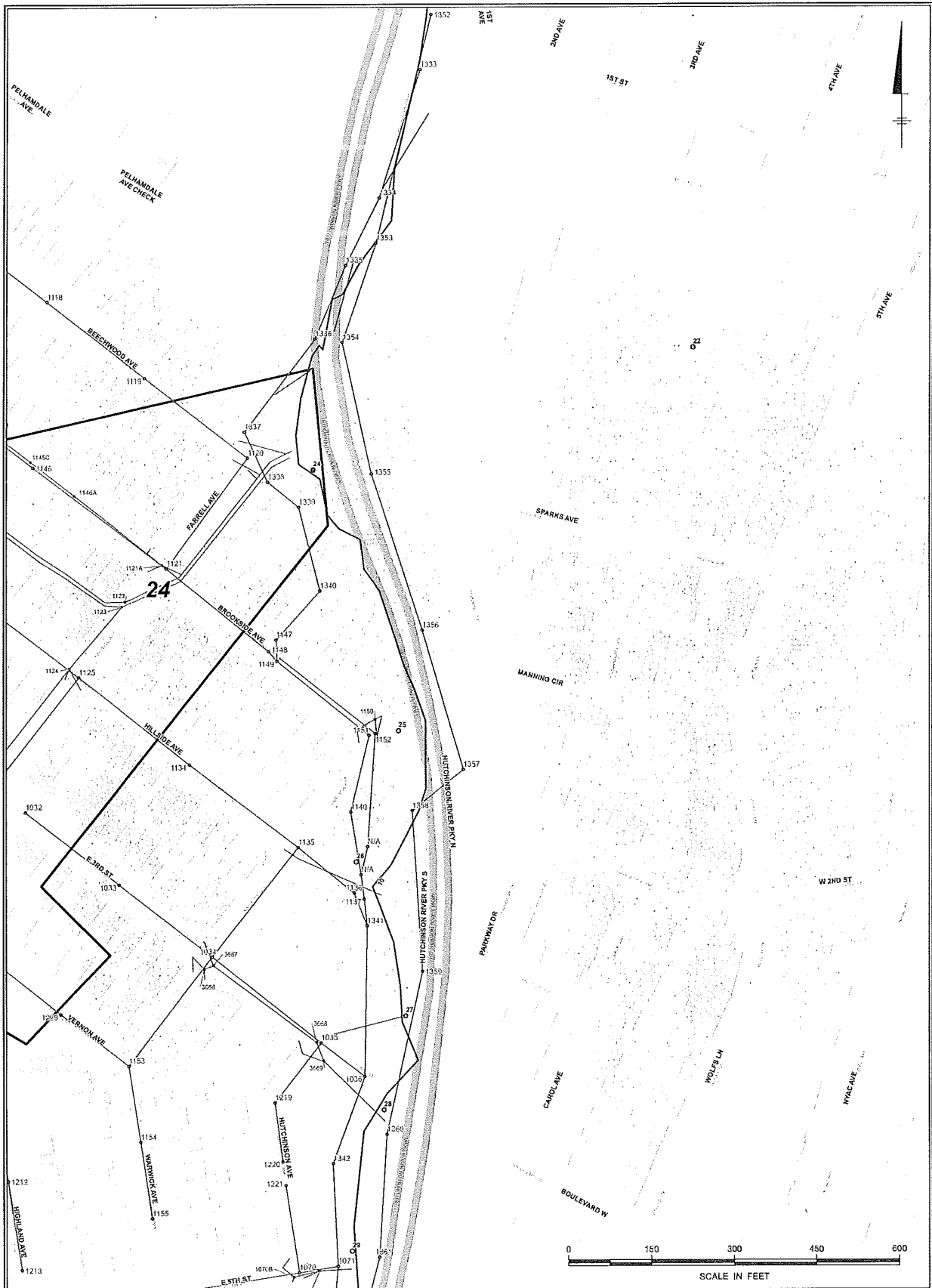
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
ARCADIS C5

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Map134.mxd



Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| □ Municipal Boundary | |
| □ Storm Sewer Drainage Areas | |

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OUTFALL 24
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
ARCADIS C6

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\30.mxd



Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

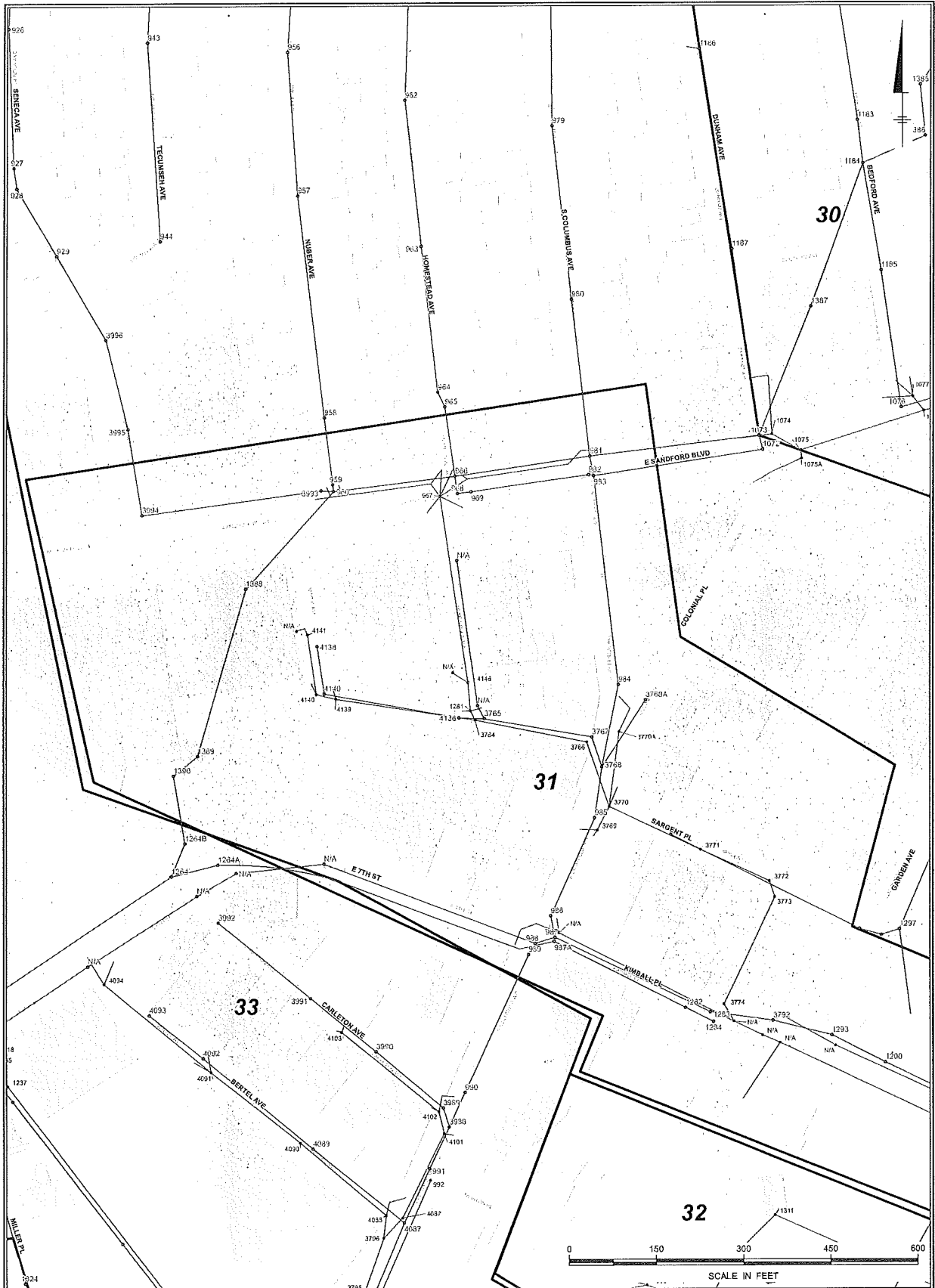
City of Mount Vernon
Mount Vernon, New York

OUTFALL 30
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE

ARCADIS A1

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\11.mxd



- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

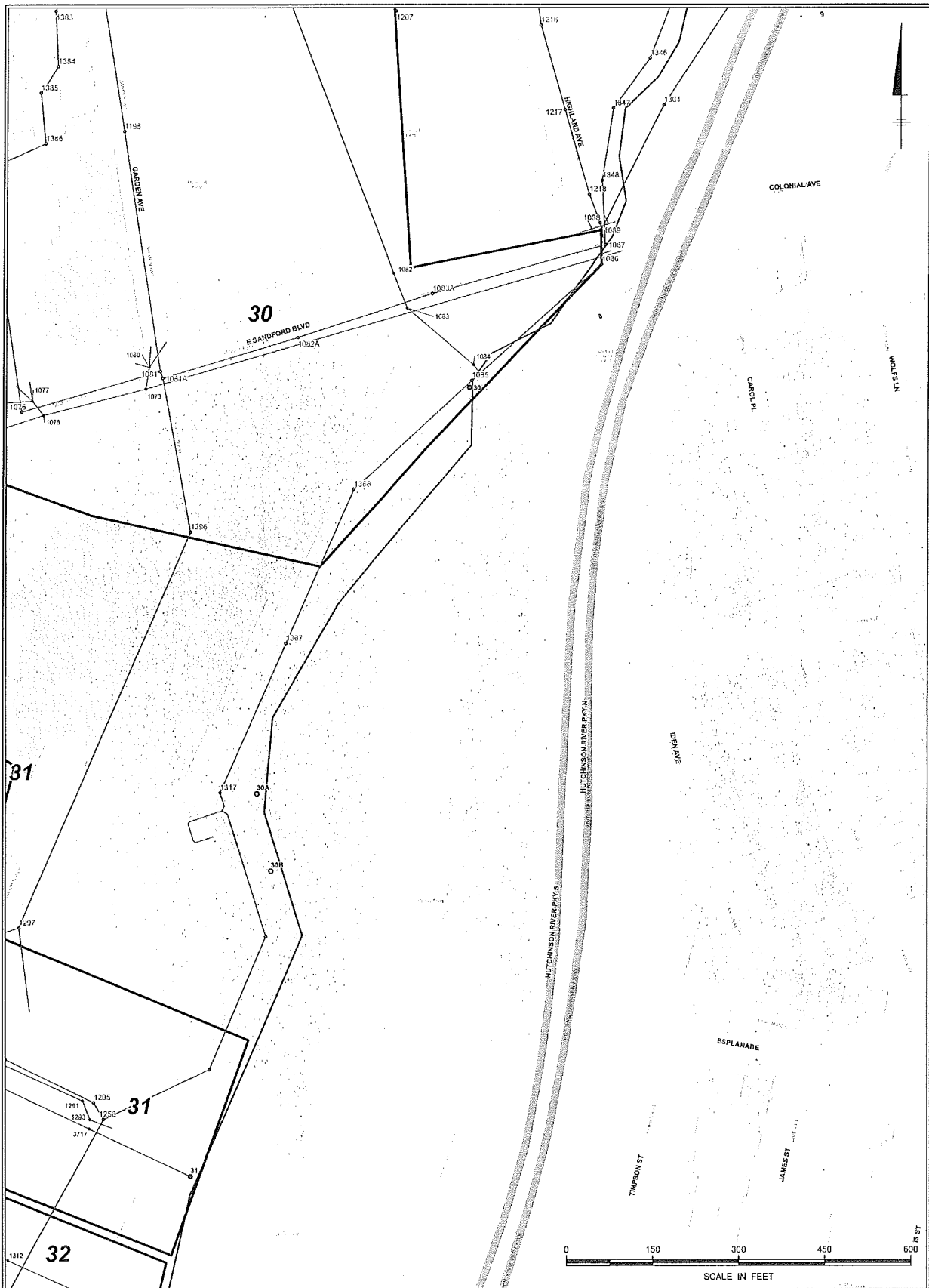
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 31
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
A1

Document Path: G:\GIS\Mount Vernon\Final Figures and MIDs\Drainage Area Maps\31.mxd



Legend

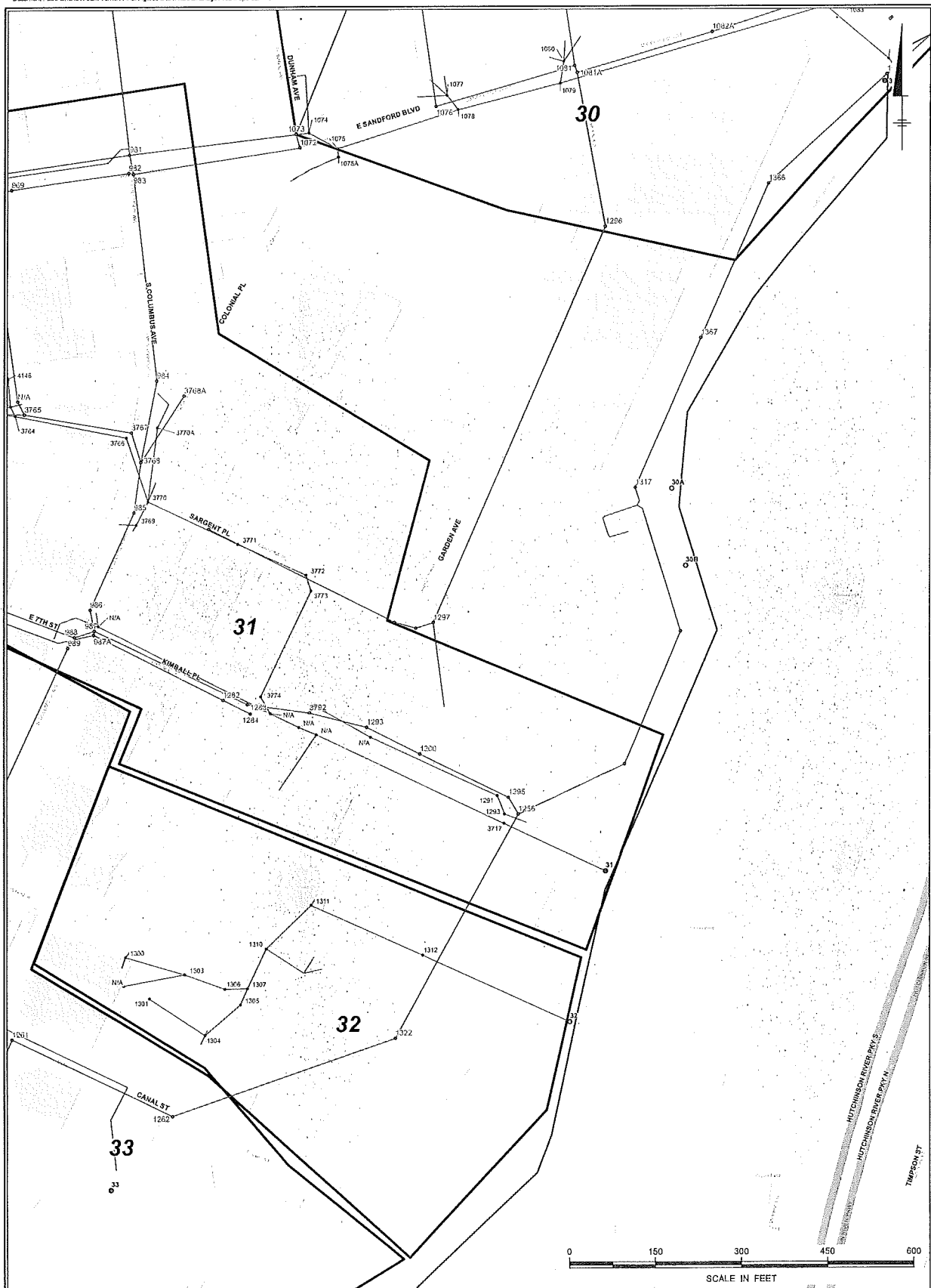
- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| □ Municipal Boundary | |
| □ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

**OUTFALL 31
STORM SEWER DRAINAGE AREA INVESTIGATION**

FIGURE
ARCADIS A2

Document Path: G:\GIS\Mount Vernon\Final Figures and MDS\Drainage Area Maps\32.mxd



- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - - - Storm Pipes
 - Municipal Boundary
 - Storm Sewer Drainage Areas

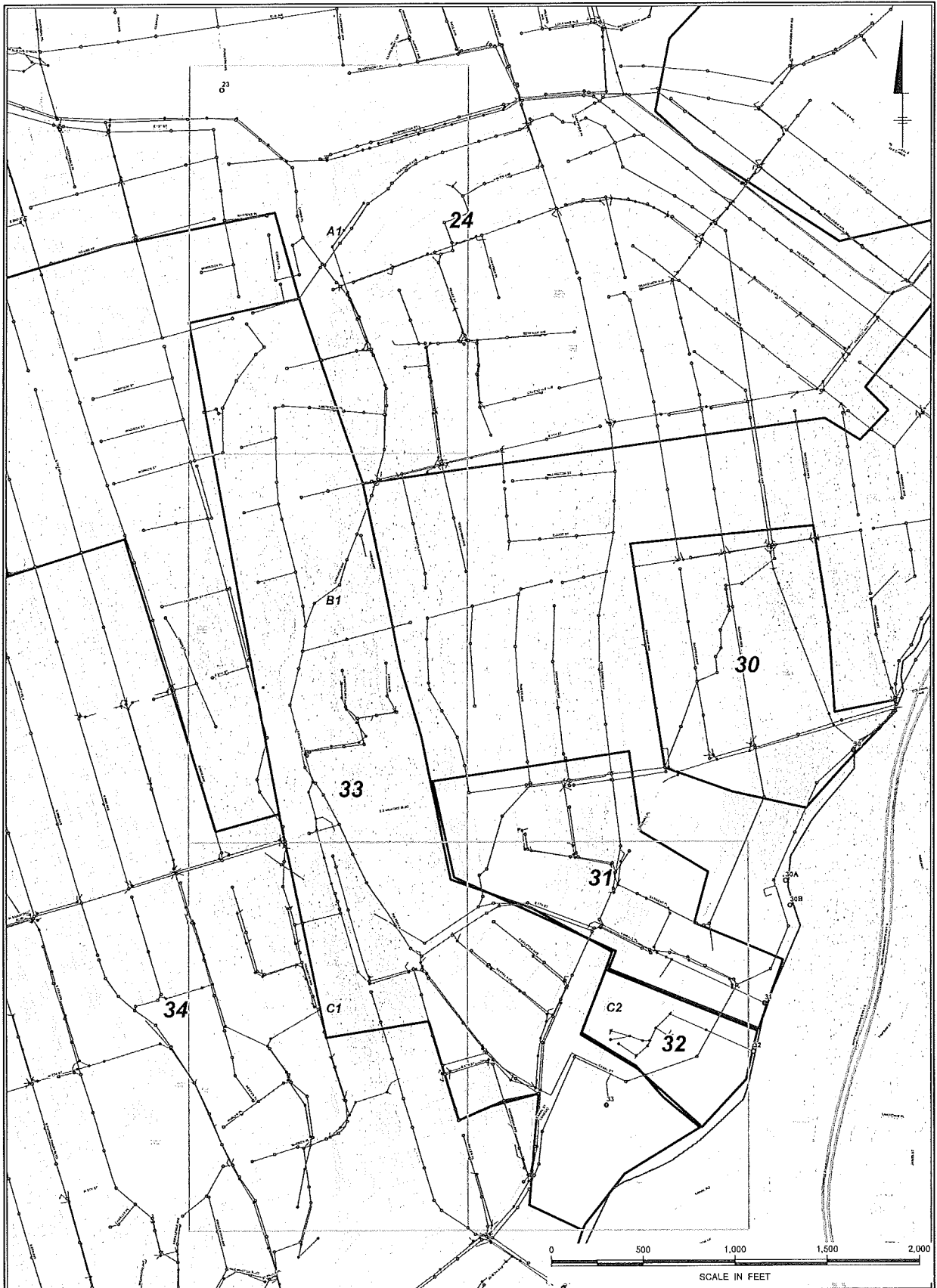
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
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OUTFALL 32
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
A1

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\33 Index.mxd




Legend

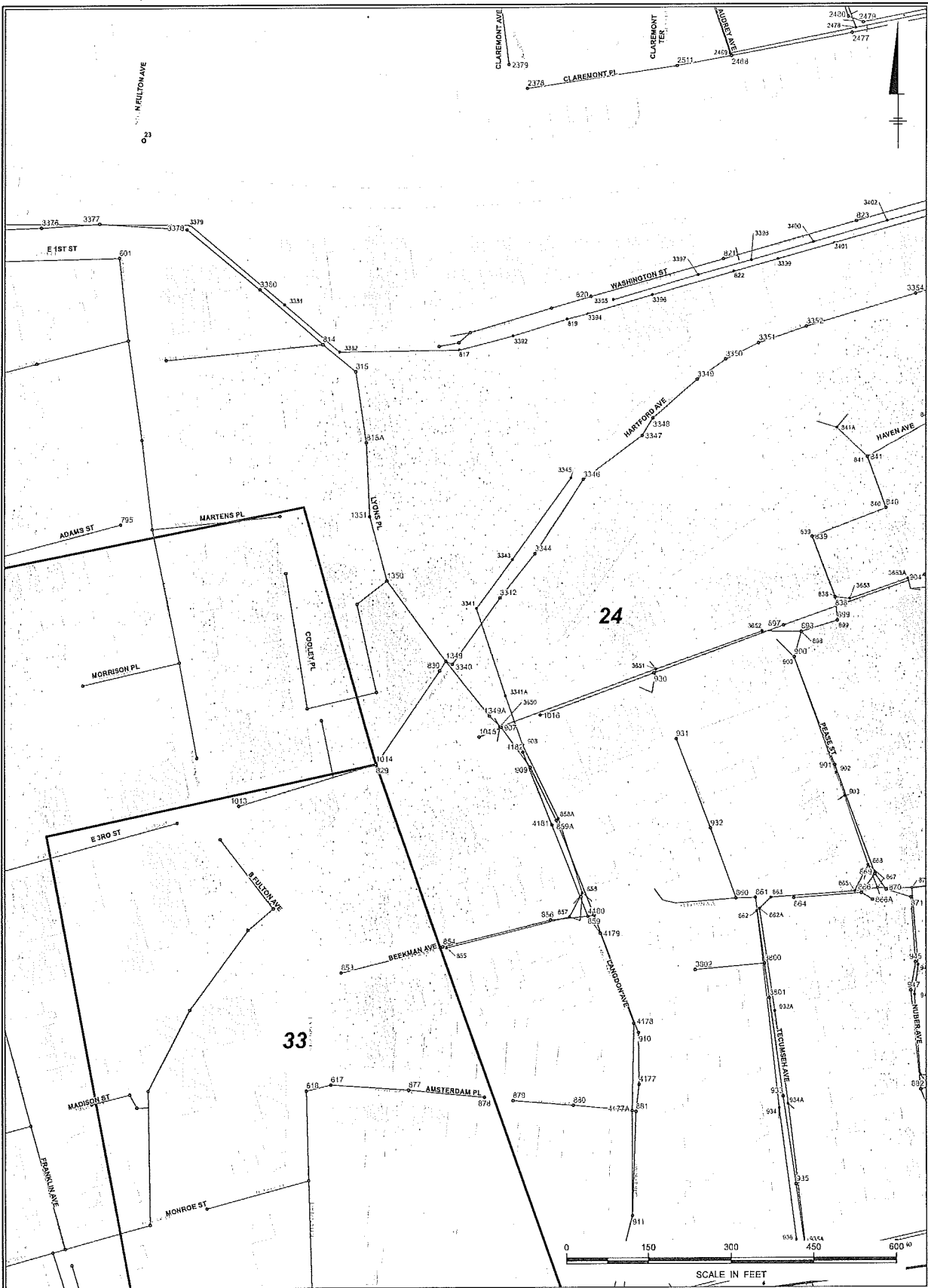
- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

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OUTFALL INDEX 33
STORM SEWER DRAINAGE AREA INVESTIGATION




Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\33.mxd



- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon Mount Vernon, New York	
OUTFALL 33 STORM SEWER DRAINAGE AREA INVESTIGATION	
	FIGURE A1

Document Path: G:\GIS\Mount Vernon\Final Figures and MXD of Drainage Area Maps\33.mxd



Legend


- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 33
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
B1



Document Path: G:\GIS\Mount Vernon\Final Figures and Mxd\Drainage Area Maps\33.mxd



Legend

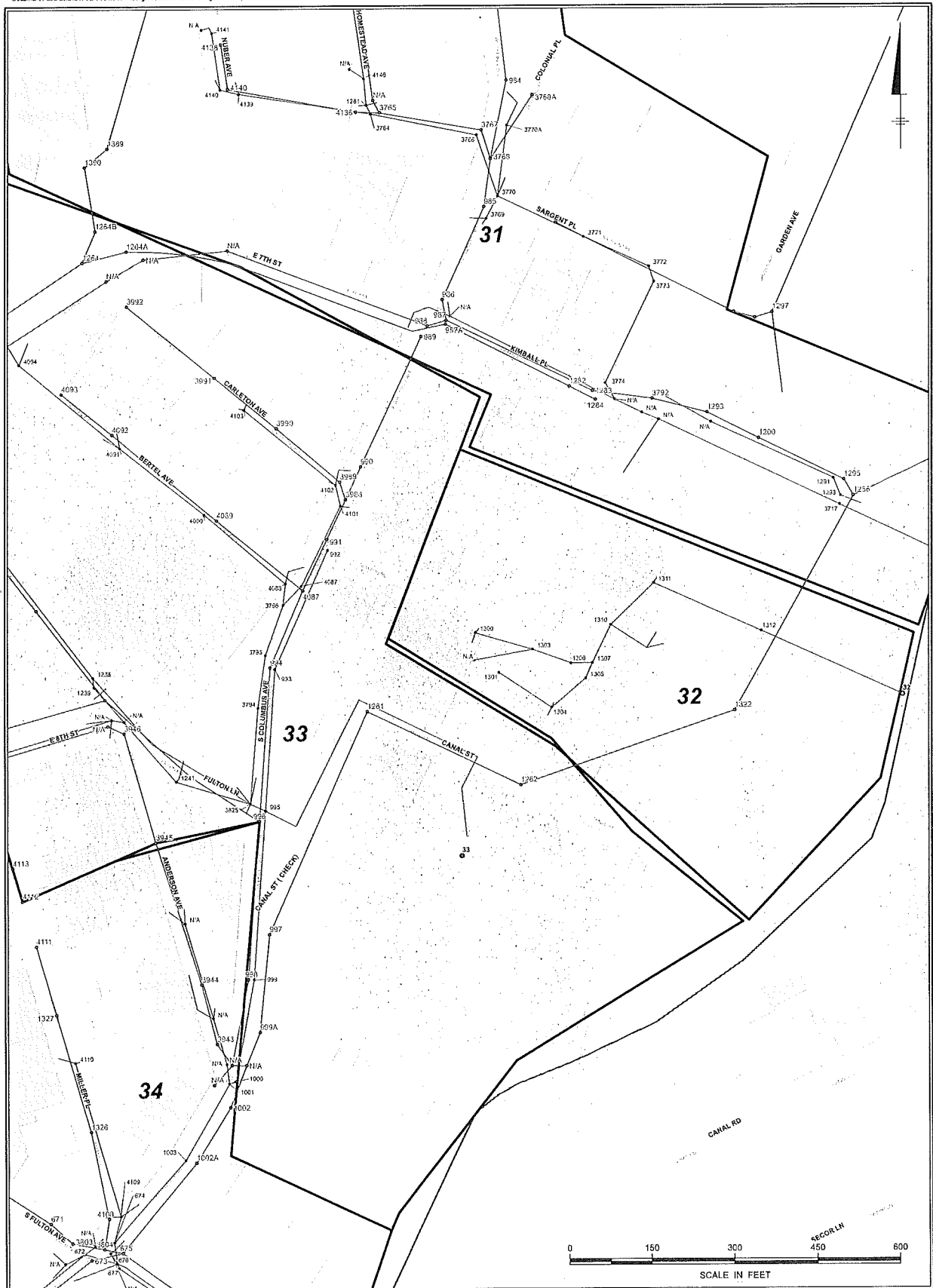
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
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OUTFALL 33
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
C1

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\33.mxd



Legend

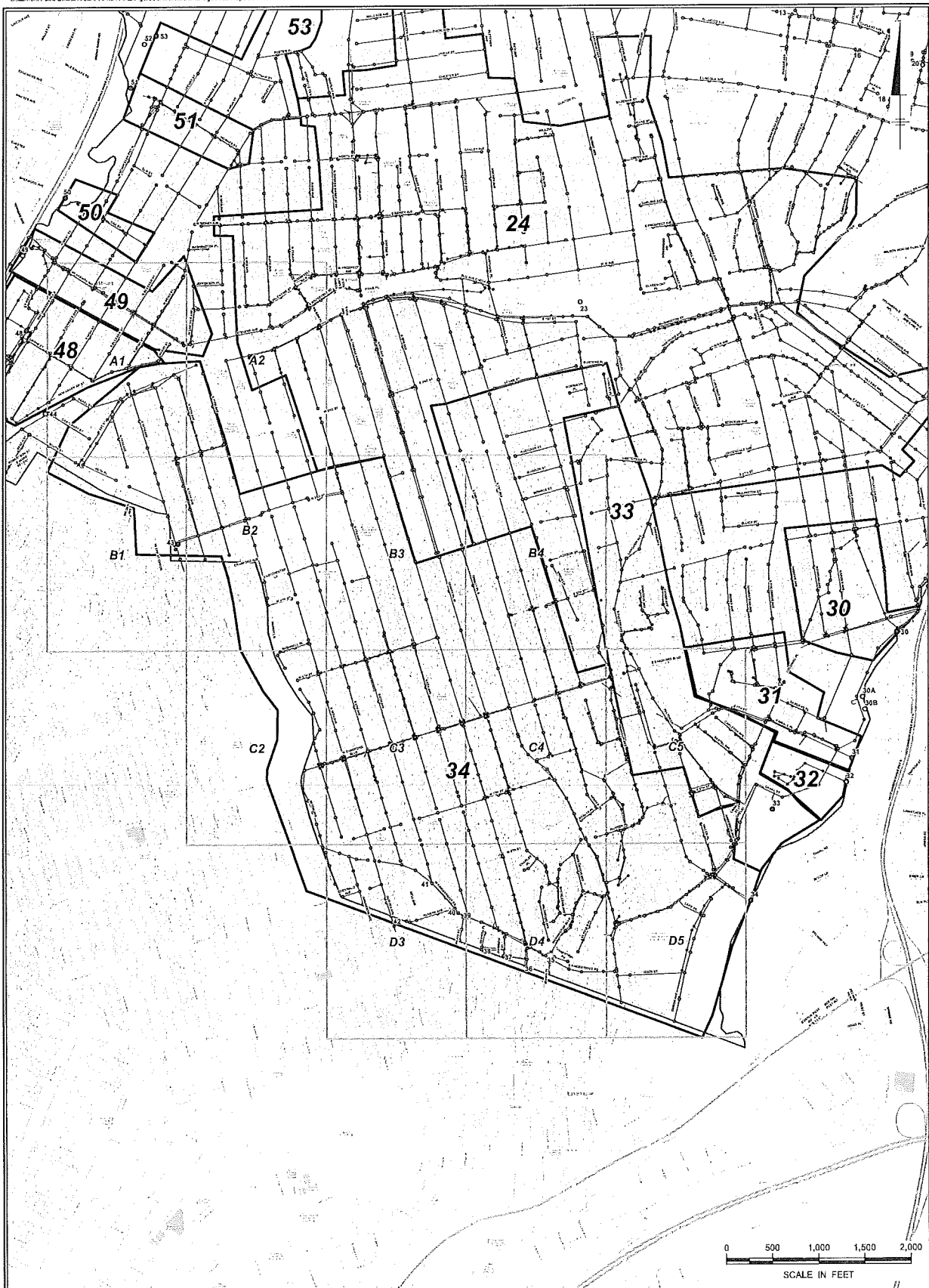
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
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OUTFALL 33
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
ARCADIS C2

Document Path: G:\GIS\Mount Vernon\Final Figures and MND\Storm Drainage Area Maps\34 Informal

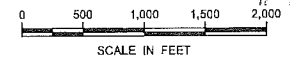


Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

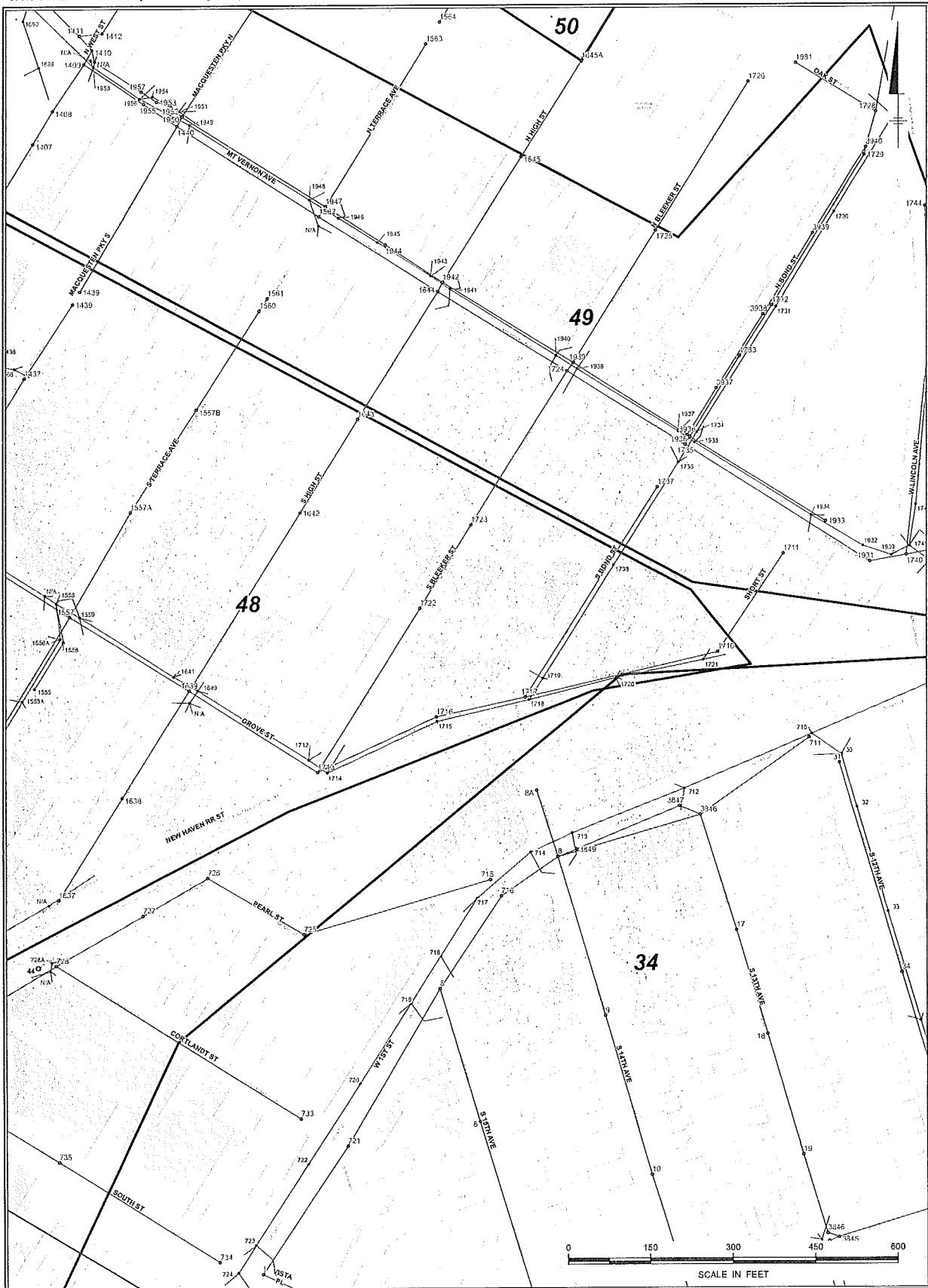


City of Mount Vernon
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OUTFALL INDEX 34
STORM SEWER DRAINAGE AREA INVESTIGATION



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- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

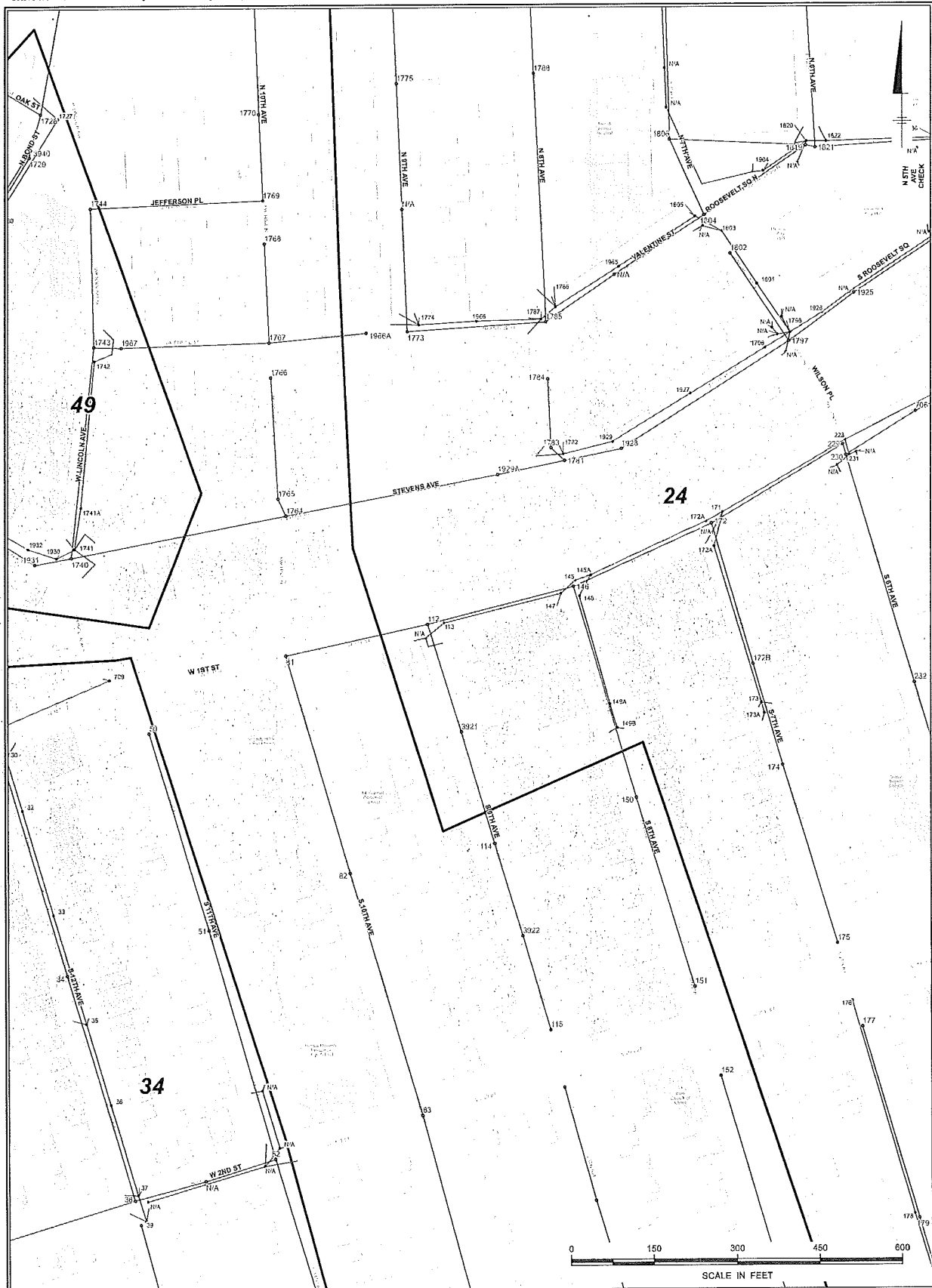
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
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OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
A1

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\34.mxd



- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

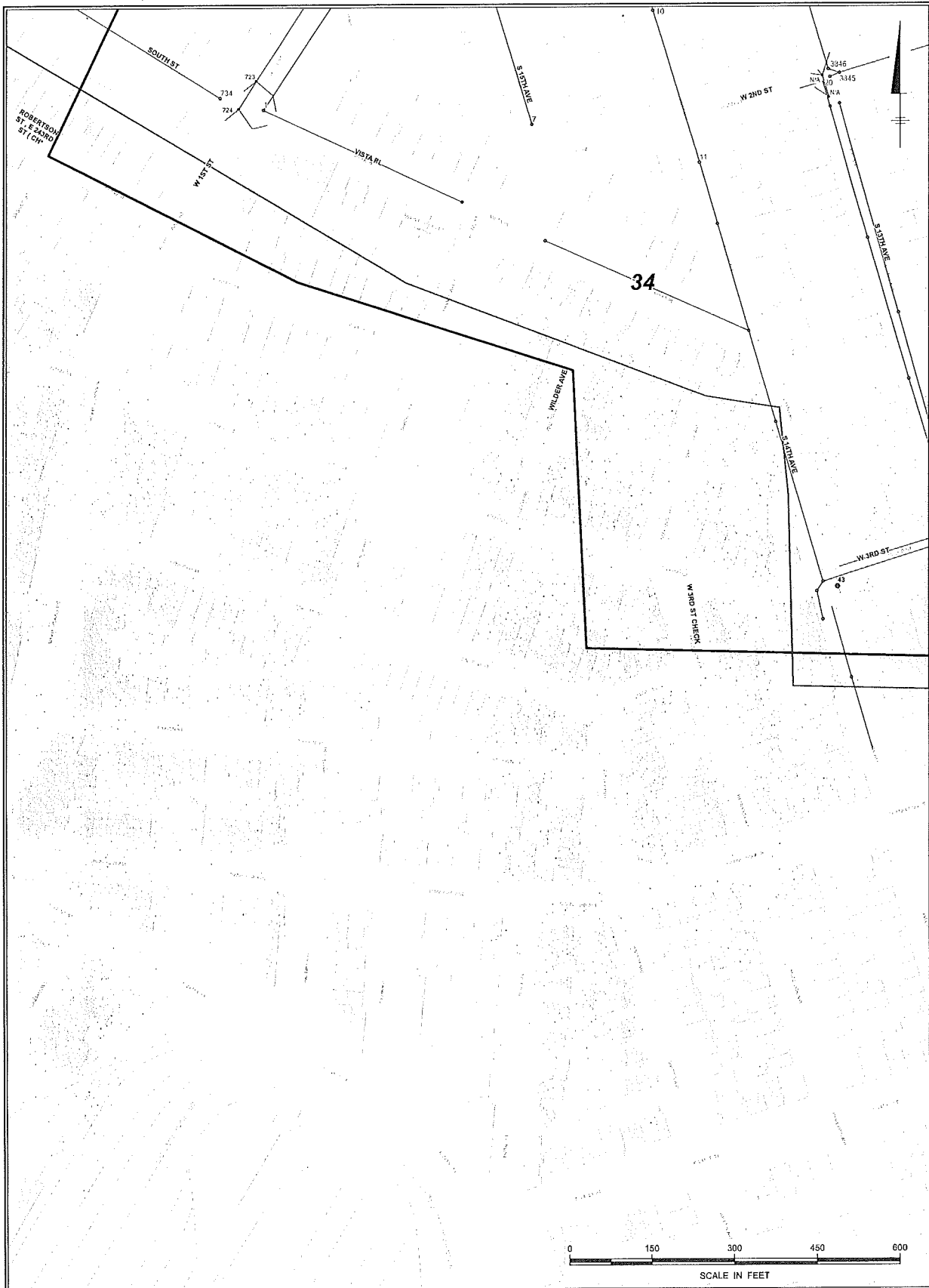
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
ARCADIS A2

Document Path: G:\GIS\Mount Vernon\Final Figures and MXD's\Drainage Area Maps\34.mxd




Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon Mount Vernon, New York	
OUTFALL 34 STORM SEWER DRAINAGE AREA INVESTIGATION	
	FIGURE B1

Document Path: G:\GIS\Mount Vernon\Final Figures and WDS\Drainage Area Maps\34.mxd




Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ◦ Currently Not Accessible |
| • Storm Manholes | ◦ No Flow |
| — Storm Pipes | ◦ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

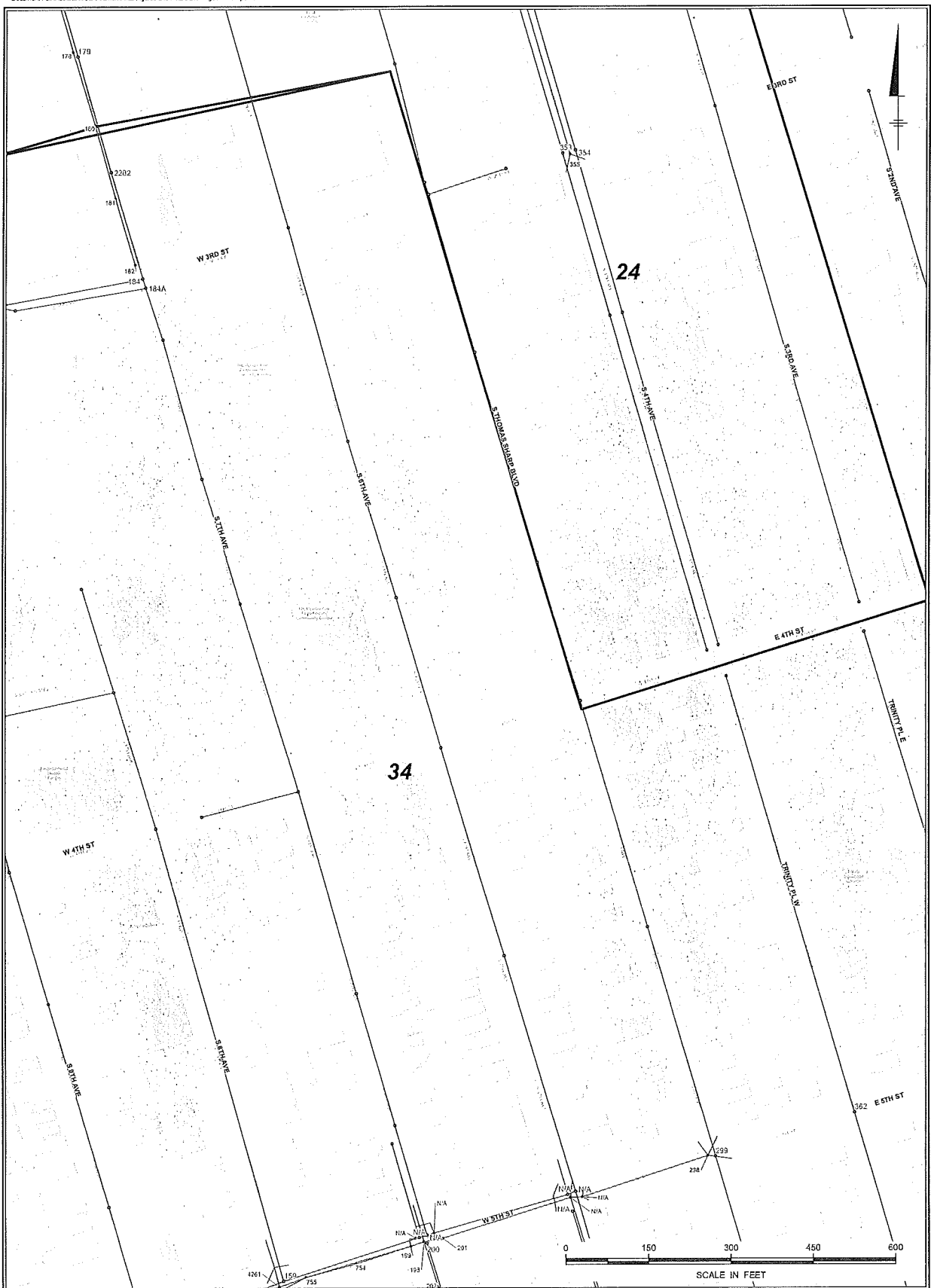
City of Mount Vernon
Mount Vernon, New York

OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
B2



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\14.mxd




Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | • Currently Not Accessible |
| • Storm Manholes | • No Flow |
| — Storm Pipes | • Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

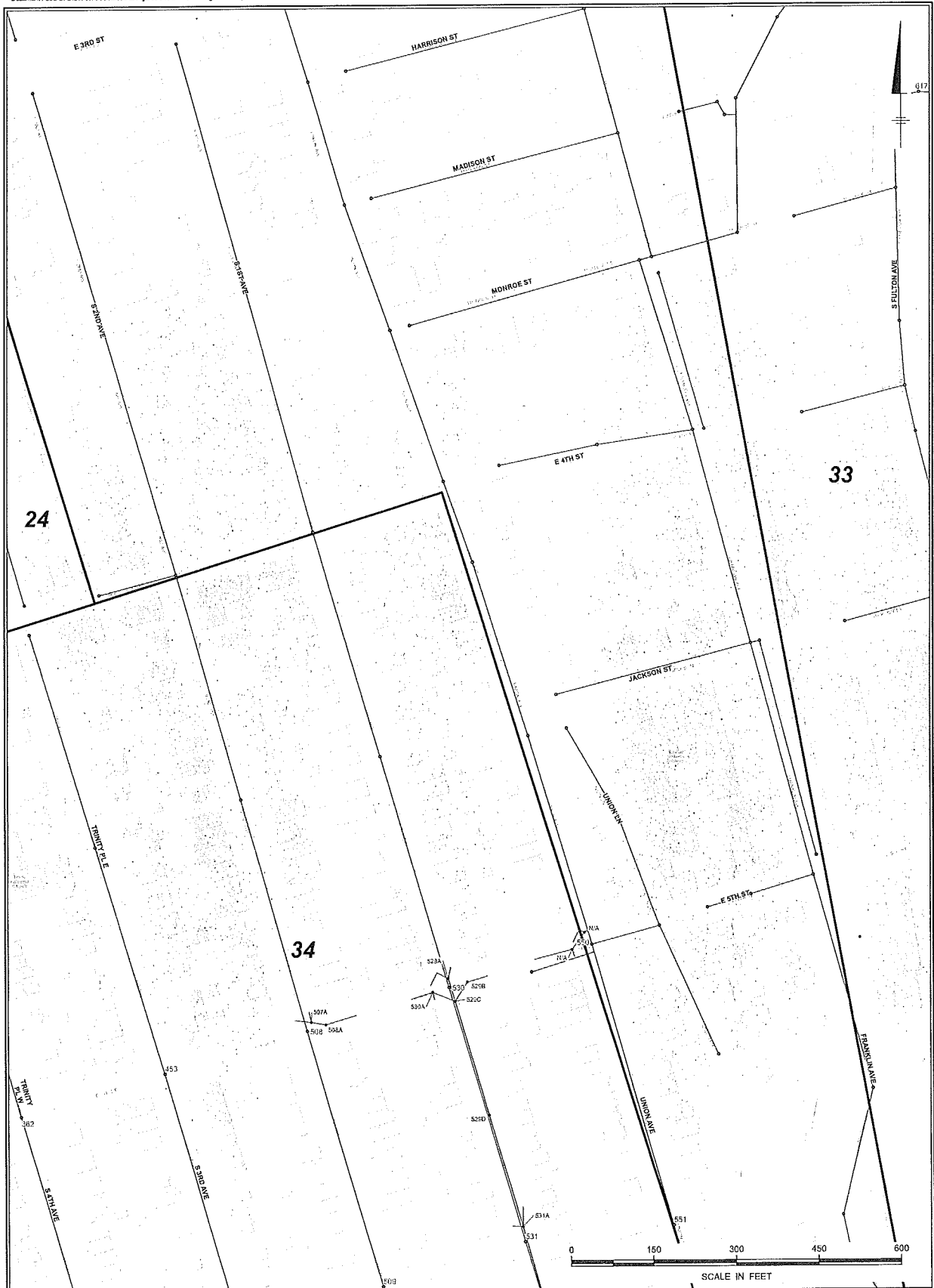
City of Mount Vernon
Mount Vernon, New York

**OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION**

FIGURE
B3



Document Path: G:\GIS\Mount Vernon\Final Figures and MXD's\Drainage Area Maps\LM.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- Municipal Boundary
- Storm Sewer Drainage Areas

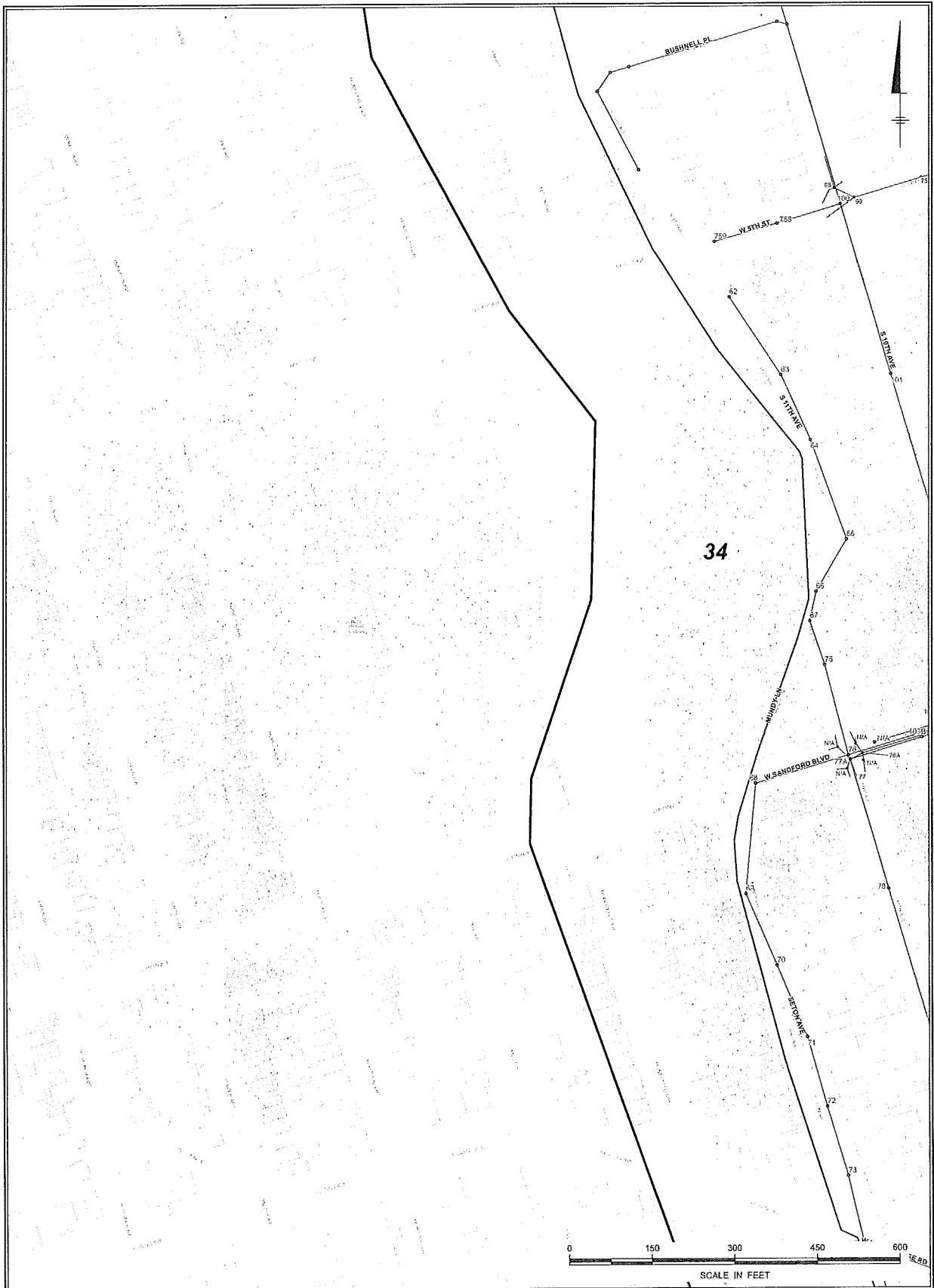
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
B4

Document Path: G:\GIS\Mount Vernon\Final Figures and MXD\Drainage Area Maps\M.mxd



Legend

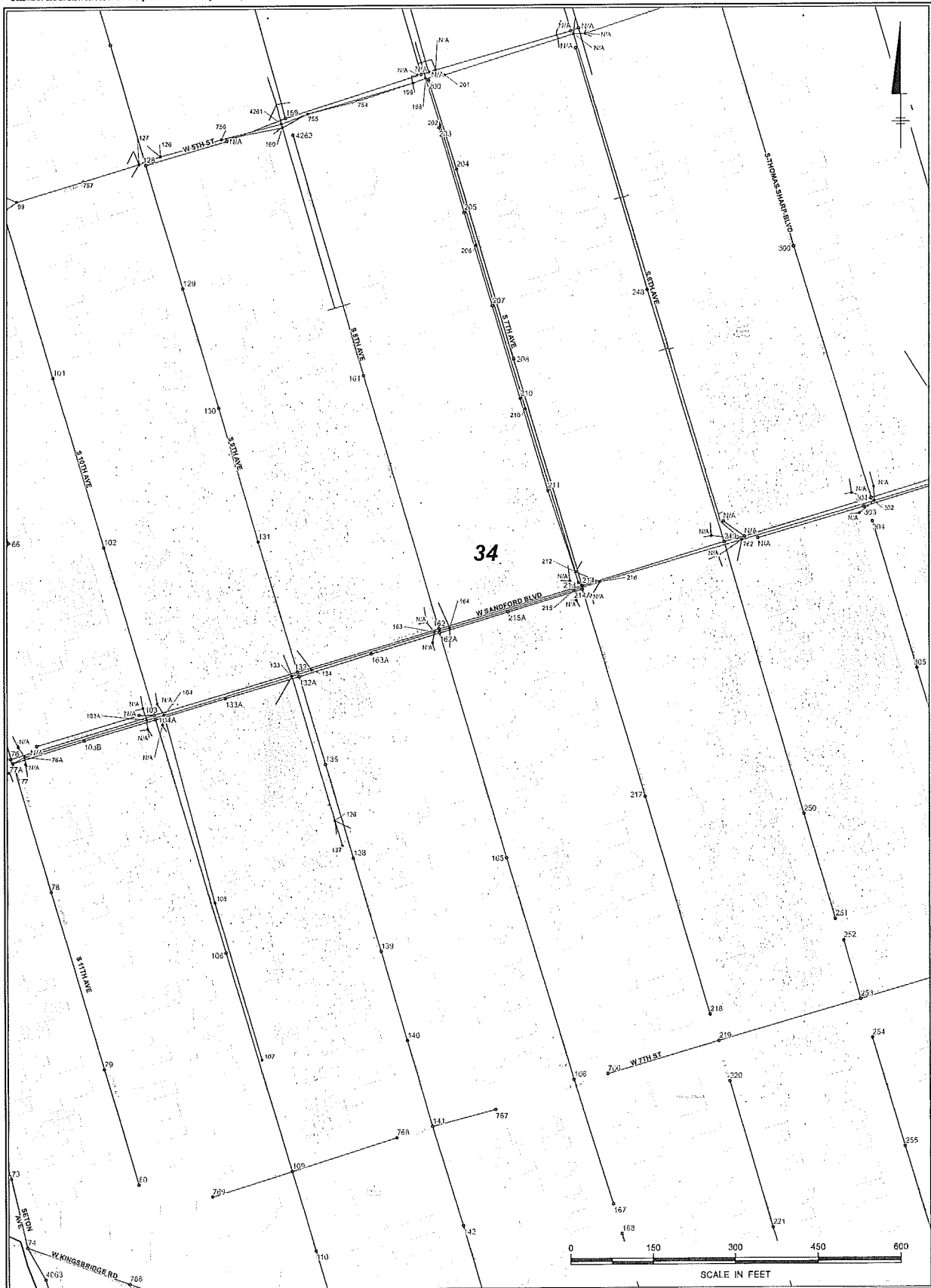
- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon Mount Vernon, New York	
OUTFALL 34 STORM SEWER DRAINAGE AREA INVESTIGATION	
	FIGURE C2

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- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

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OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
C3



Document Path: G:\GIS\Mount Vernon\Final Figures and MxD\Drainage Area Map\DM.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

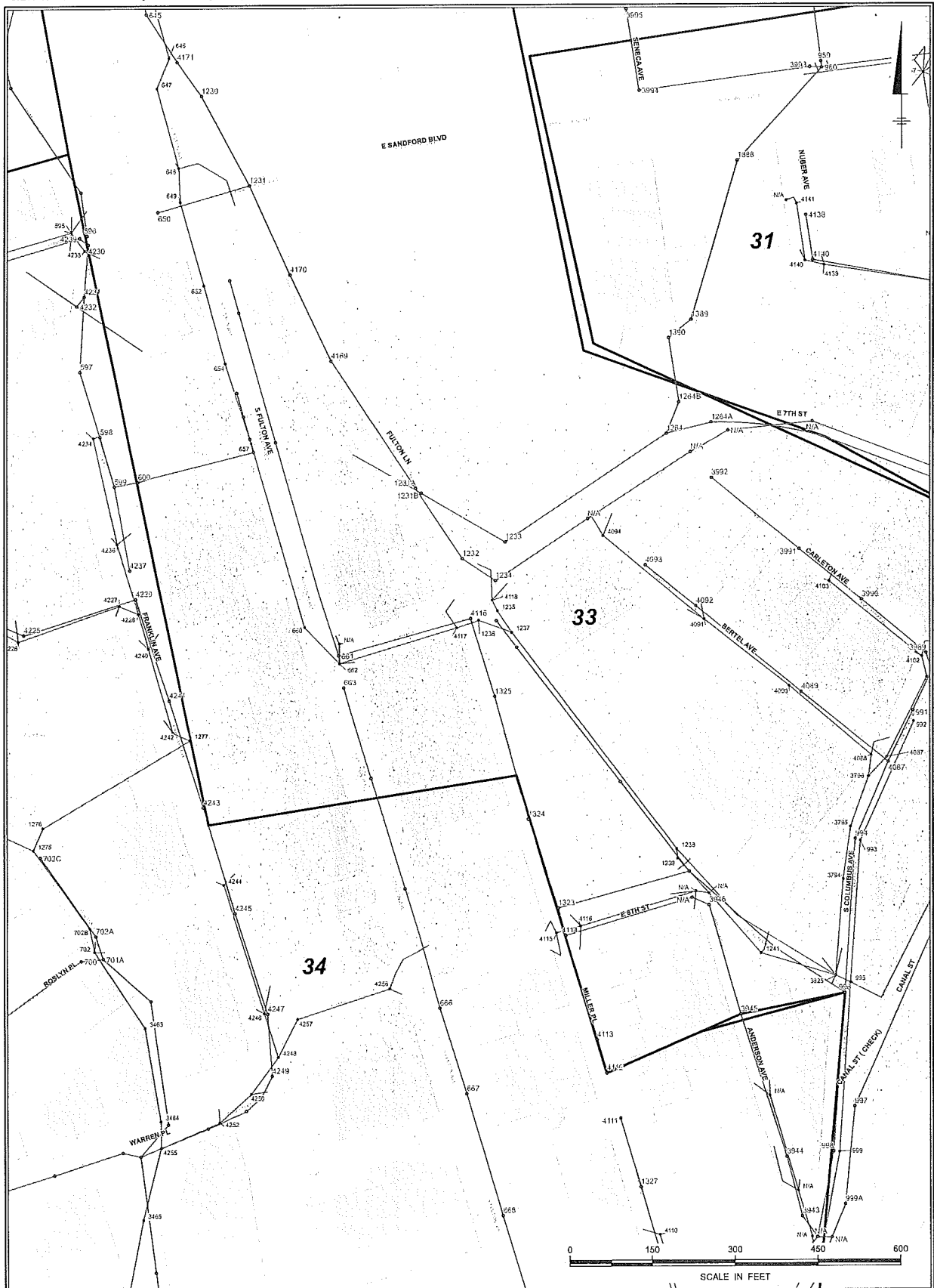
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
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OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
C4

Docu4 Path: G:\GIS\Mount Vernon\Final Figures and MDS\Drainage Area Maps\DM.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

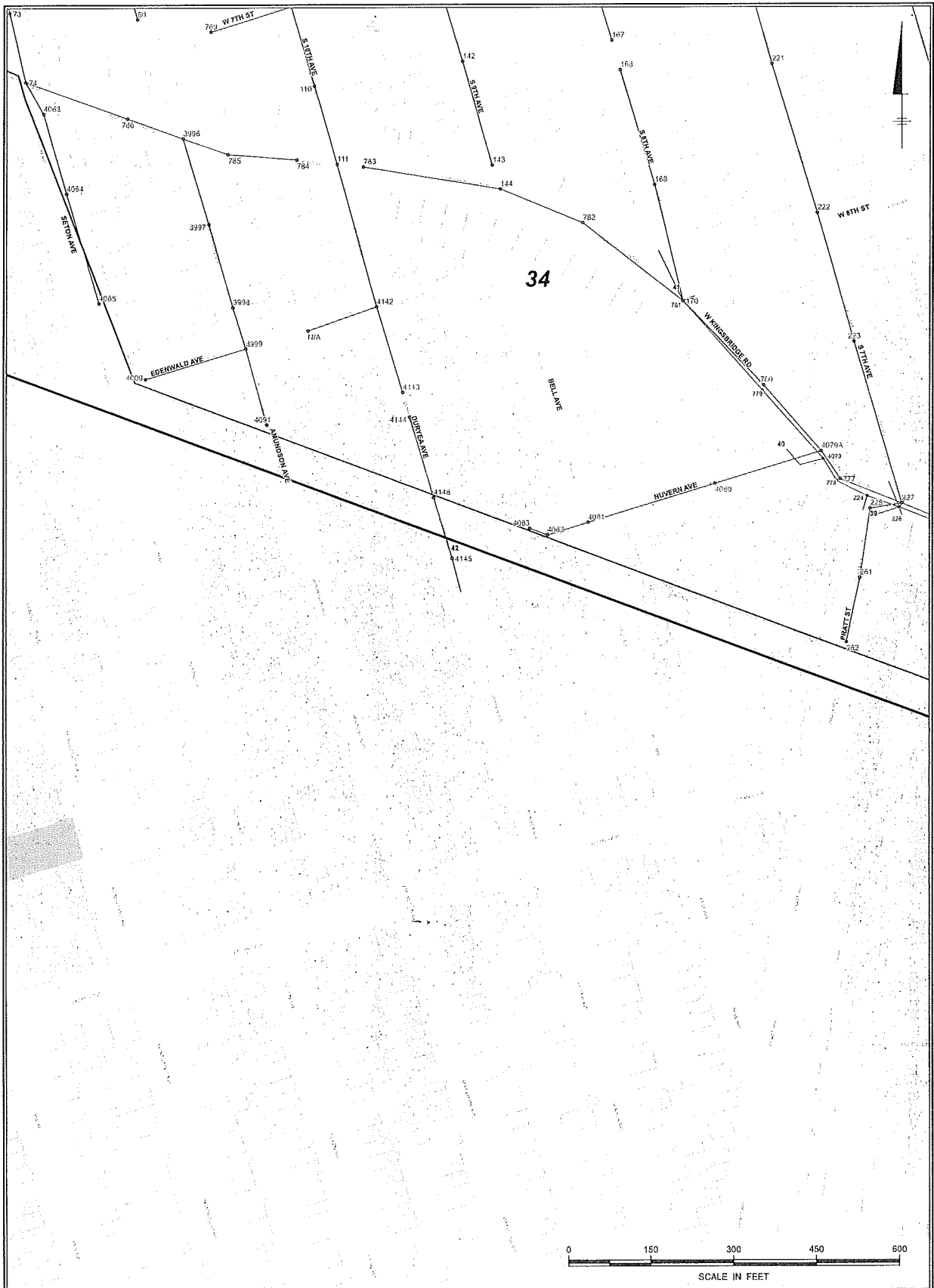
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
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**OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION**

FIGURE
ARCADIS C5

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Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

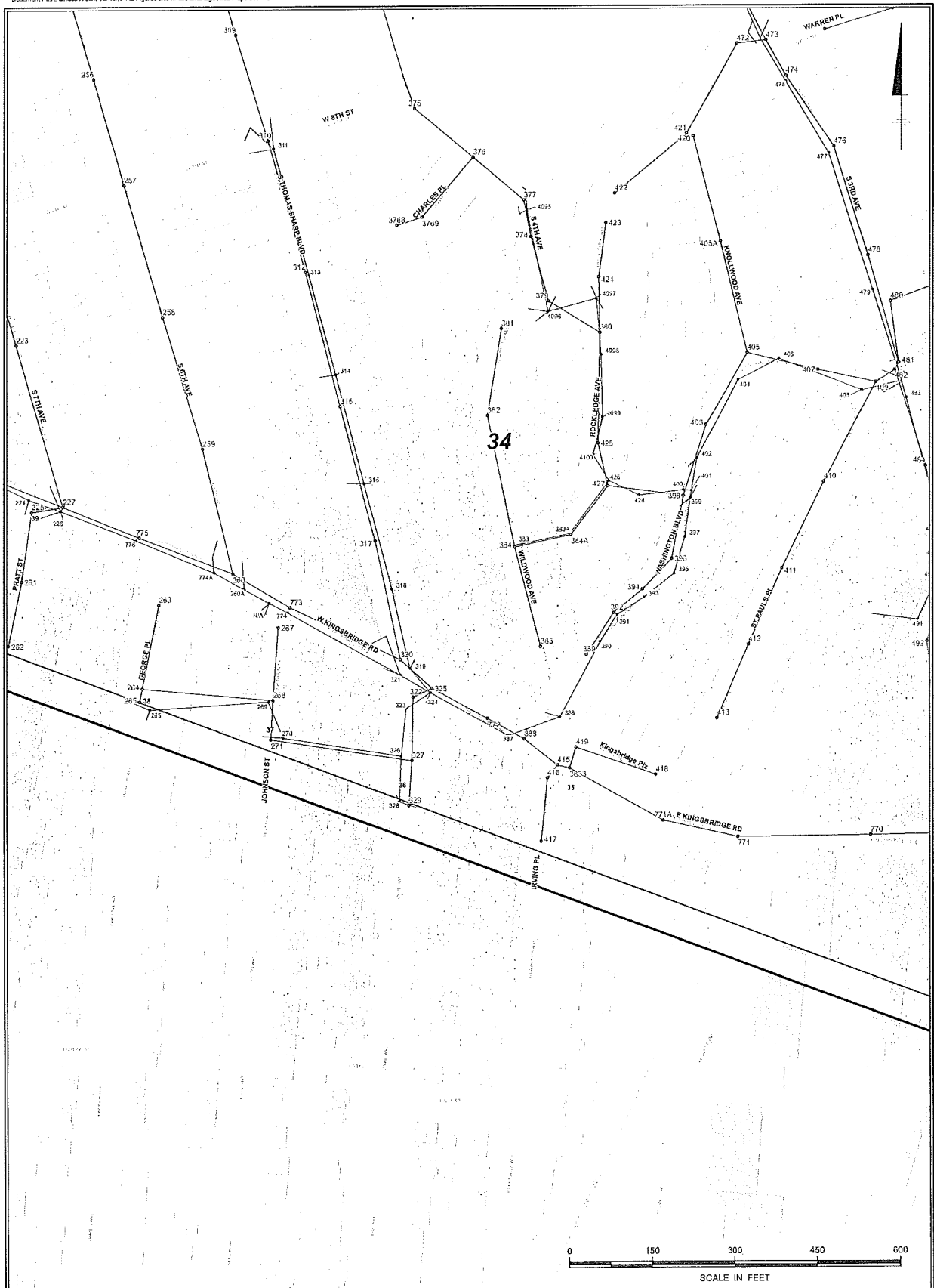
City of Mount Vernon
Mount Vernon, New York

OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
D3



Document Path: G:\GIS\Mount Vernon\Final Figures and MXD's\Drainage Area Maps\04.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

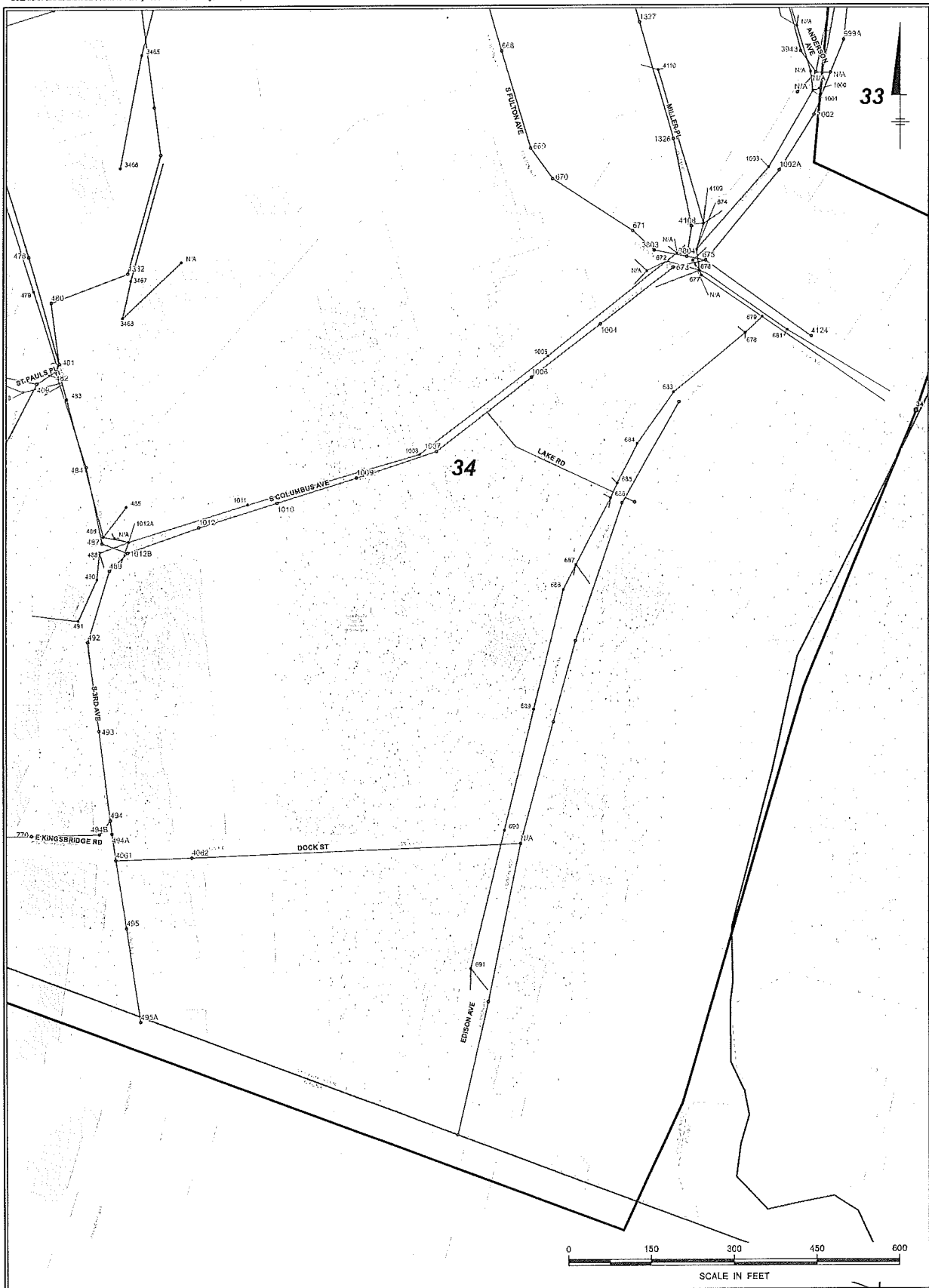
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
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OUTFALL 34
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
D4

Document Path: G:\GIS\Mount Vernon\Final Figures and MND\Drainage Area Map\34.mxd

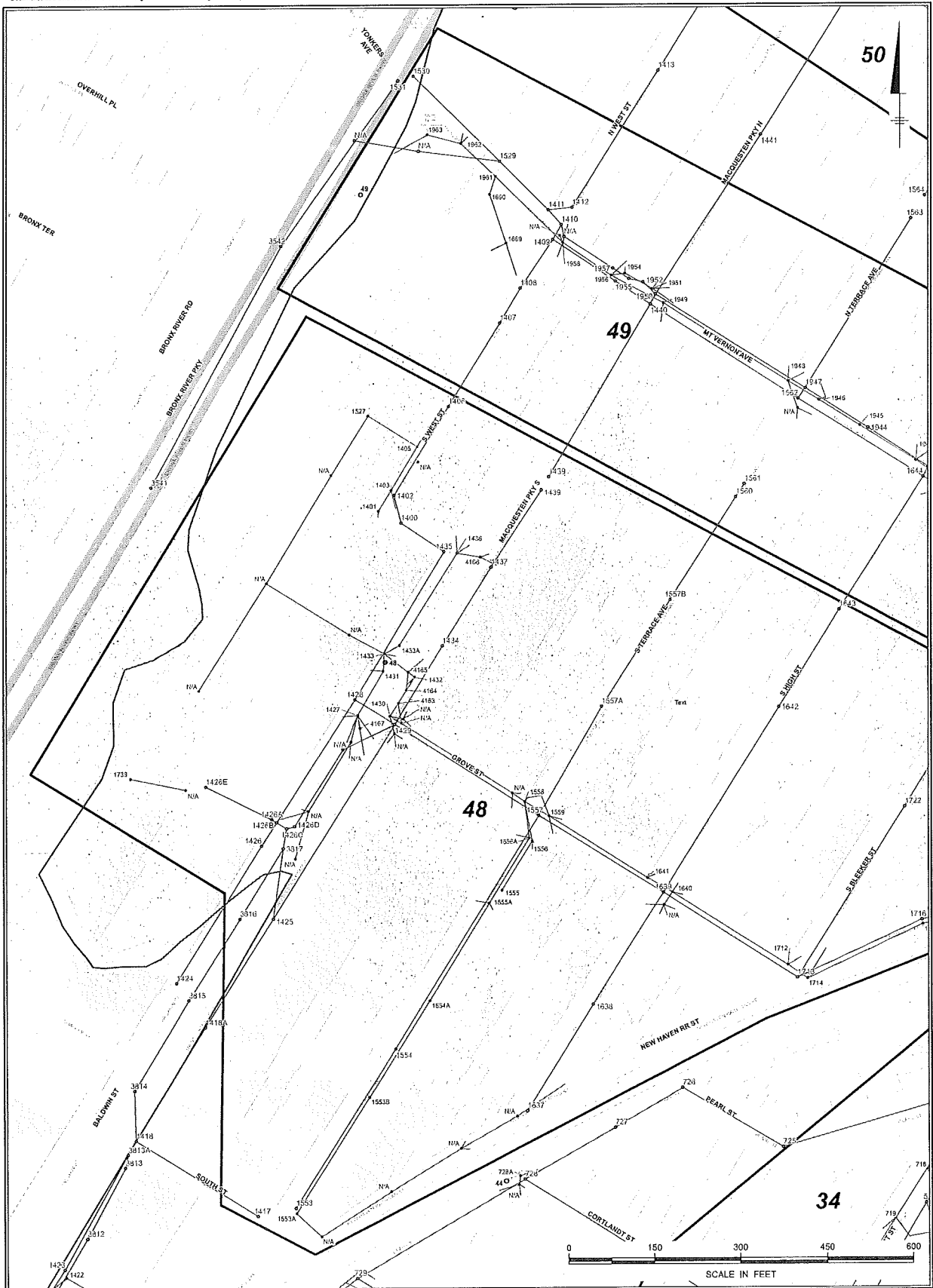


Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon Mount Vernon, New York	
OUTFALL 34 STORM SEWER DRAINAGE AREA INVESTIGATION	
	FIGURE D5

Document Path: G:\GIS\Mount Vernon\Final Figures and MWD\Drainage Area Maps\48.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

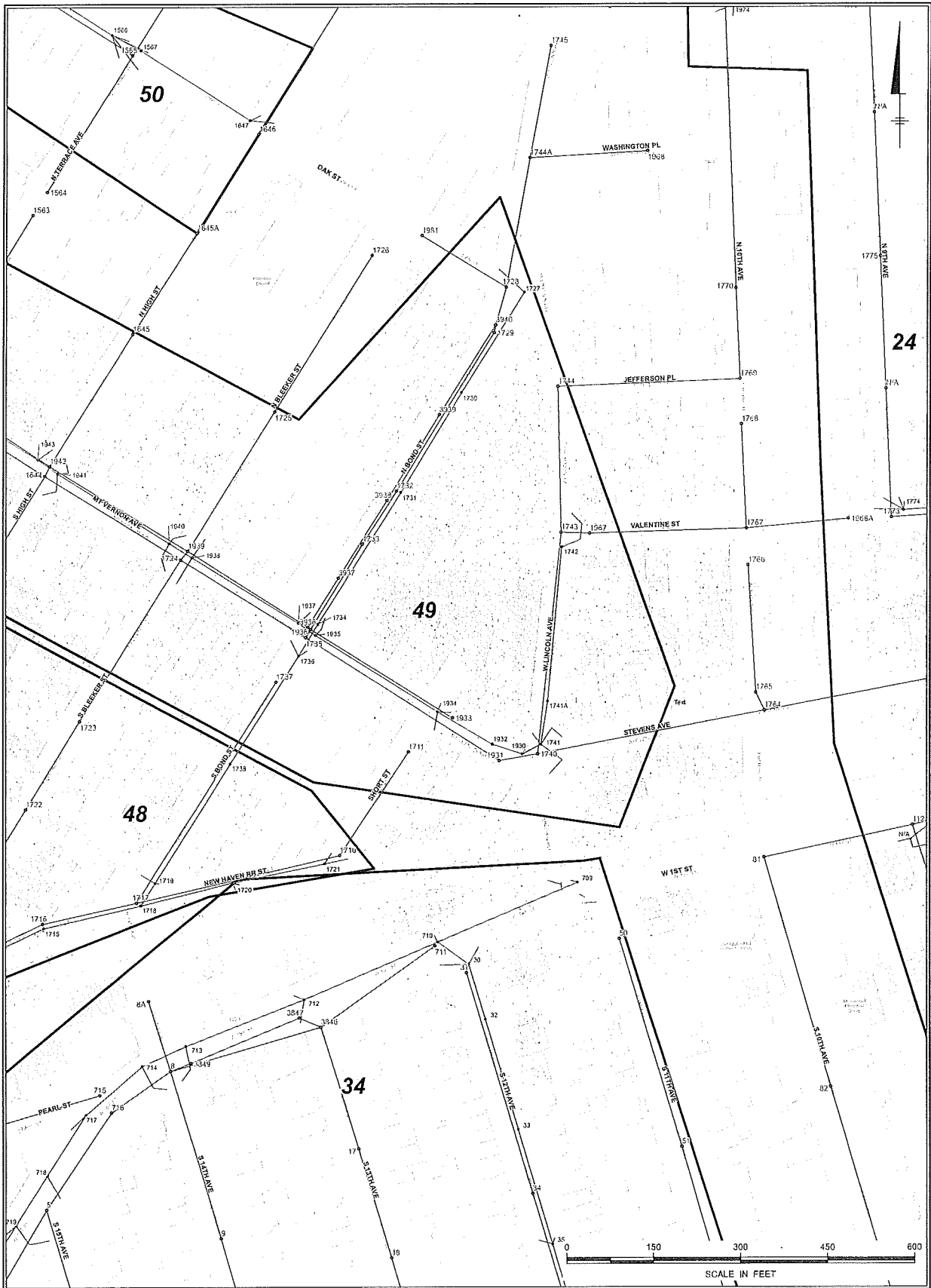
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
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OUTFALL 48
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
A1

Document Path: G:\GIS\Mount Vernon\Final Figures and MxD\Drainage Area Maps\48.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

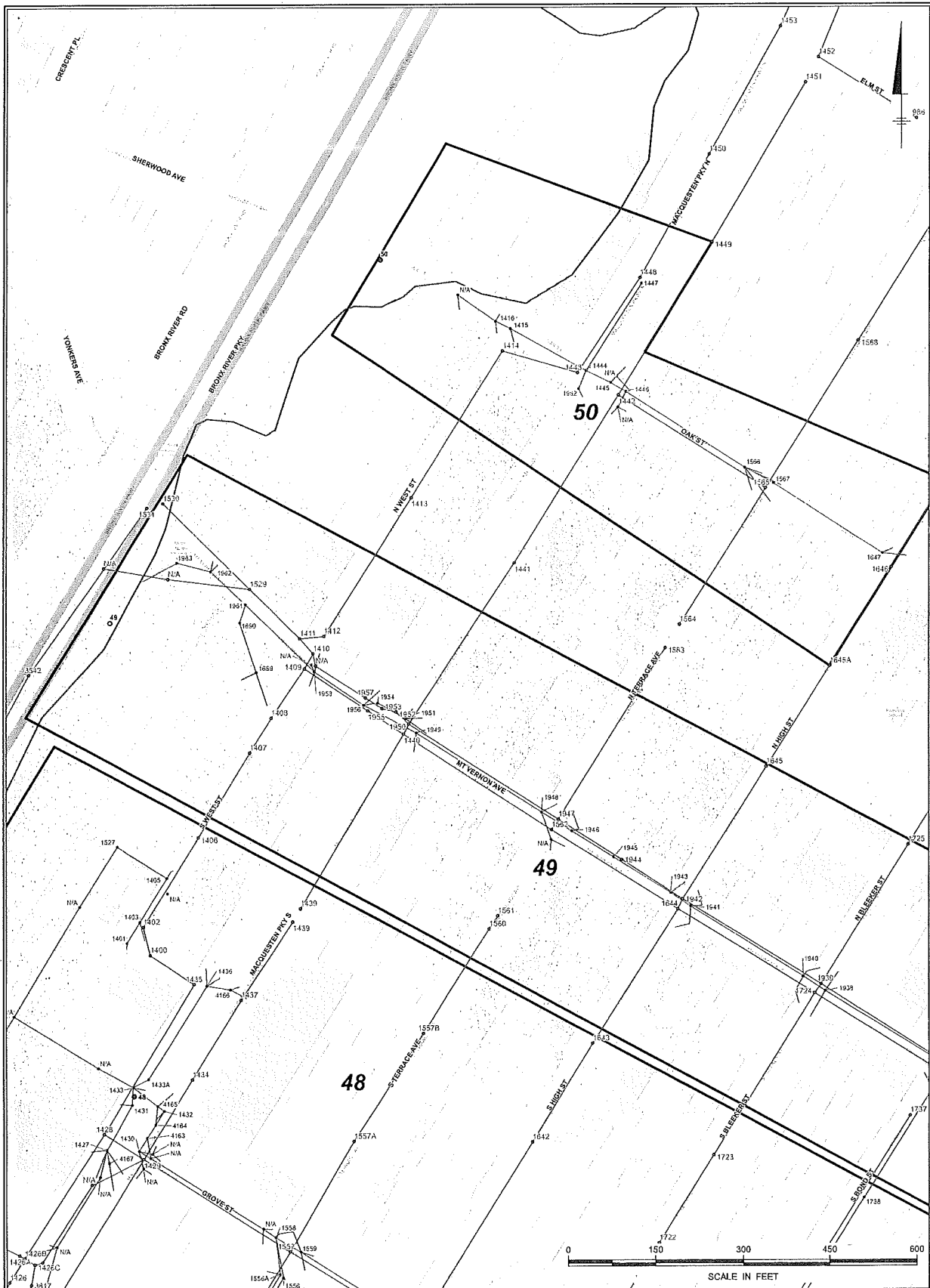
- Currently Not Accessible
- No Flow
- Flow Observed

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OUTFALL 48
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
ARCADIS A2

Document Path: G:\GIS\Mount Vernon\Final Figures and MDS\Drainage Area Map049.mxd



Legend

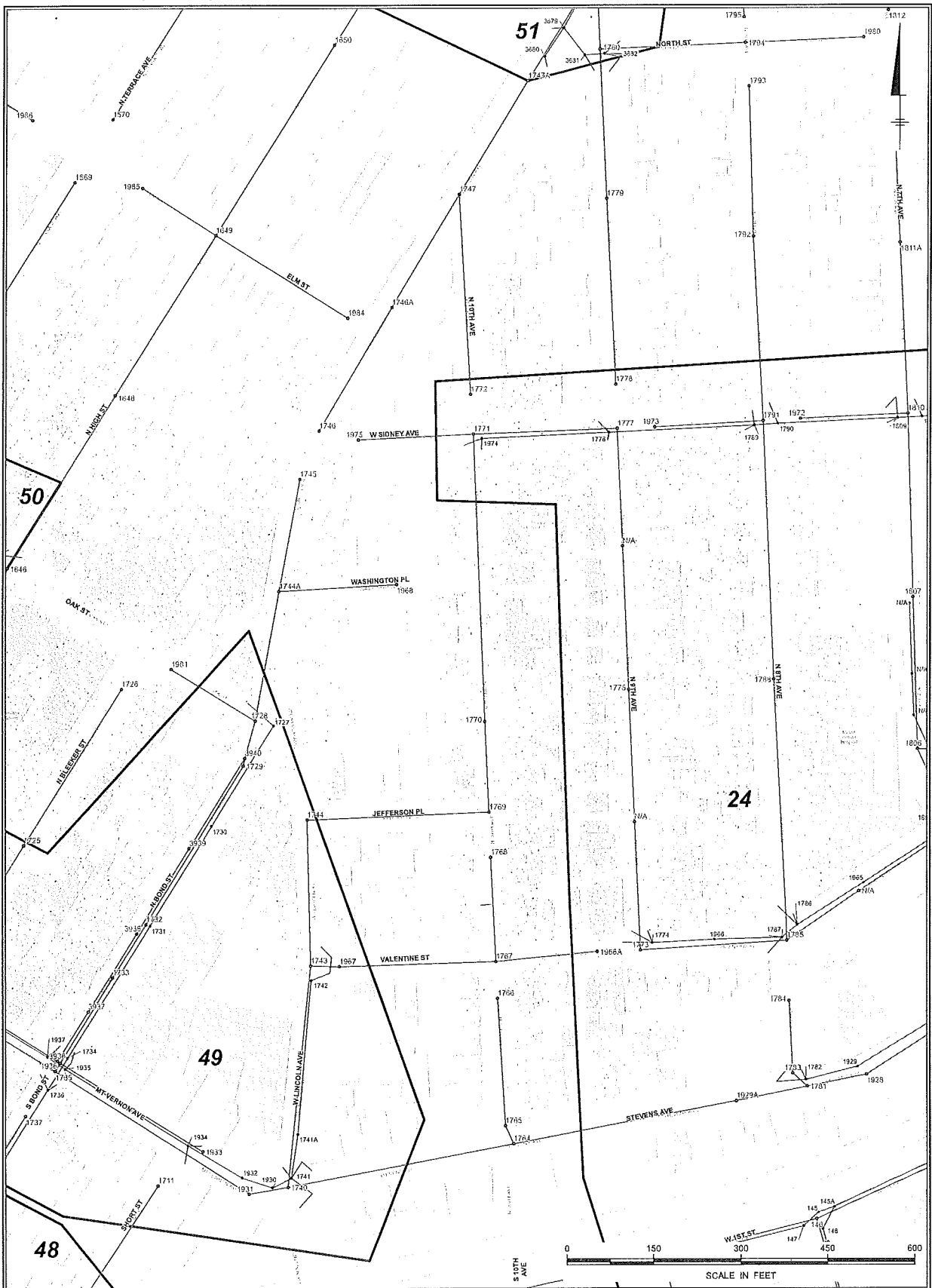
- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| □ Municipal Boundary | |
| □ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

OUTFALL 49
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
ARCADIS A1

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\49.mxd




Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

OUTFALL 49
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
A2



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\90.mxd



Legend


- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

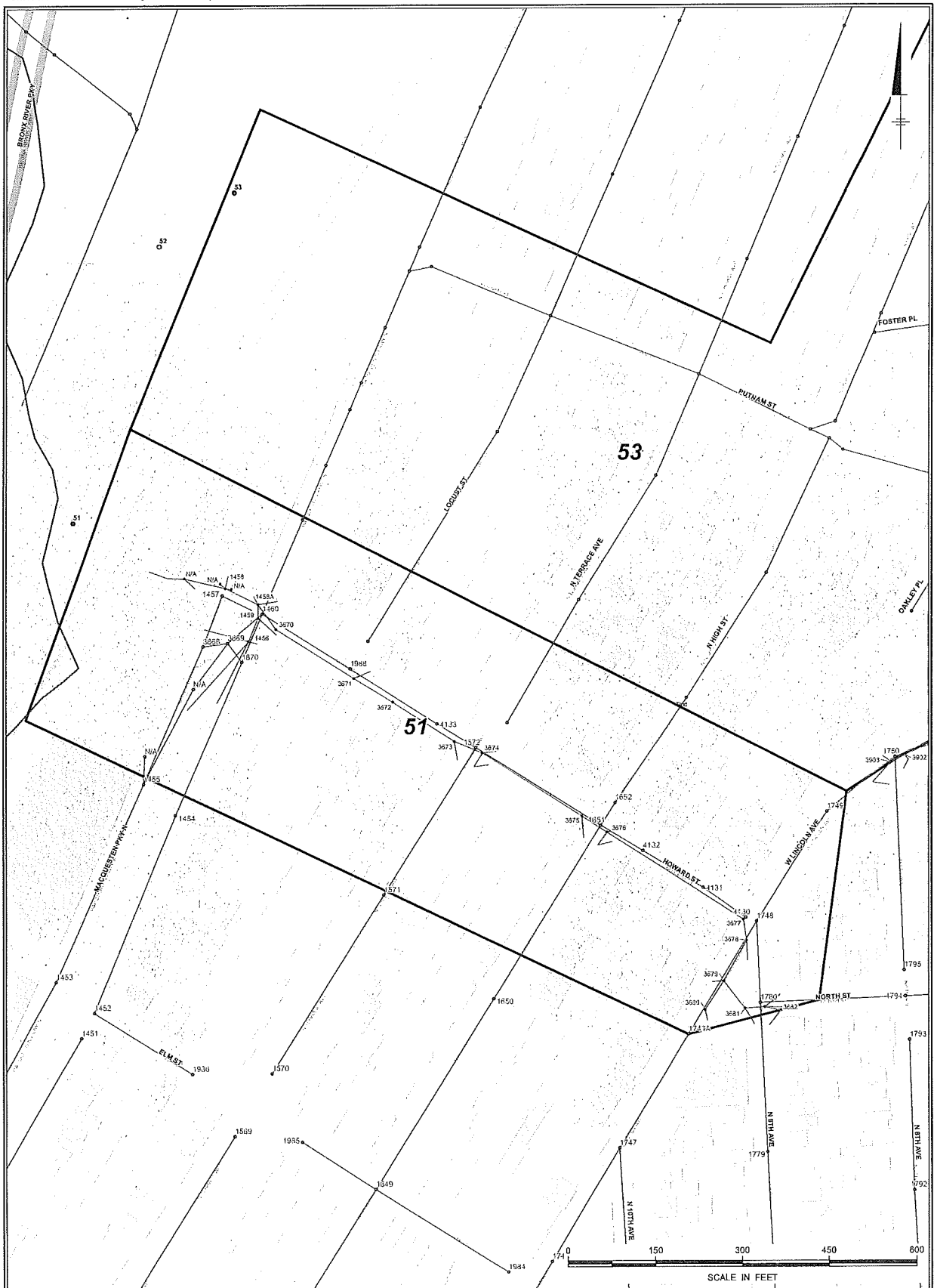
City of Mount Vernon
Mount Vernon, New York

OUTFALL 50
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
A1



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\51.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 51
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
A1

Document Path: G:\GIS\Mount Vernon\Final Figures and MWD's Drainage Area Maps\53.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 53
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
ARCADIS B1

Document Path: G:\GIS\Mount Vernon\Final Figures and MKD\Drainage Area Map\53.mxd




- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - Municipal Boundary
 - Storm Sewer Drainage Areas
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

OUTFALL 53
STORM SEWER DRAINAGE AREA INVESTIGATION

FIGURE
B2



Appendix D

Recent Sewer System Repairs

Dolph Rotfeld Engineering, P.C.

Date: July 2nd 2015

To: Jerry Ciotola, P.E. USEPA

From: Danny Peluso

RE: City of Mount Vernon IDDE Update. DRAFT

Since our previous meeting the City of Mount Vernon has performed the following in finding and eliminating illicit discharges within the City.

Repairs have been made at the Highland Avenue sanitary sewer siphon. The siphon manhole and piping were found poor condition allowing sewage to exfiltrate and surcharge to the adjacent Farrell Avenue Drain. The siphon was cleaned and 48 feet of sanitary sewer was replaced.

Work on the Havens Street sewer and storm drain has begun. A large source of sewage was discovered to be coming from a crushed 8" sanitary sewer in East 3rd Street and Peace Street infiltrating in the 25" foot deep storm drain. Work is currently under way to replace 200 feet of sewer to alleviate.

Our office has completed the CMOM for the city and it has been approved by your office.

As part of the ongoing investigation work we are investigating other illicit discharges from other utility and agencies. Will incorporate this info and data with the industrial discharge data base that we are currently reviewing and using as source during our inspections.

As the current TV contract is finishing, we are preparing bid documents to inspect and additional 40,000 feet of drain and sewer this season.

Department of Public Works Sewer Repairs

2015

3/09/2015 - 3/12/2015	\$23,705.30	16 Burkewood Ave	Removed a section of the 15" main and saw the line was broken up. We replaced the entire 15" line from manhole to manhole approximately 32 feet, using 15" SDR 35 pipe. Backfilled with item 4 and also repaired a nearby catch basin.
3/10/2015	\$4,807.00	3 Vernon Avenue	Backup in the basement. Cleaned out half a yard of debris that was inside the manhole to create a new concrete invert. After the manhole was cleaned, we televised and jet the lateral to confirm it was in good condition.
4/08/2015	\$7,316.10	159 Washington St.	Blockage located approximately 63 feet from the trap. There was a 5-foot section of 2" cast from pipe inside the 4" cast iron lateral that causing the backup. The 2" cast iron was removed and that cleared the backup.
4/15/2015 - 4/21/2015	\$18,826.90	Washington St. & Brookdale Place	Sewer collapse going downstream from manhole in the middle of the intersection. Replaced the new section (18 Linear Feet) with 8 inch SDR-35. & reconnected the house connection for the house at 122 Washington Street.
4/29/2015 - 5/14/2015	\$43,089.10	Hillside Ave	Made a new connection from manhole to manhole using 25 linear feet of 15" SDR 35 pipe. Backfilled the trench using item 4 and restored the curb and sidewalk with a new handicapped ramp.
5/06/2015 - 5/12/2015	\$40,032.80	25-35 Beechwood Ave	Collapsed sewer main at the manhole. Began excavation and made the 40 linear foot connection using 8" SDR 35 pipe and backfilled the trench. The next excavation was done to repair the blockage 15 feet from the manhole. We made the repair and brought the new 8" SDR 35 pipe inside the manhole.
5/27/2015 - 5/28/2015	\$8,464.00	Haven Street	On 3rd street we televised the storm downstorm from the manhole by the sidewalk, to find the buried manhole between 3rd Street and Haven St. While televising the storm line we found that the sewer main on top of the storm is dead up to Haven St. Also there was a substantial amount of water flowing into the Storm main. We poured dye into the sewer manhole on 3rd Street and found that the water getting into the Storm main was from the sewer. We televised the 8" sewer main on 3rd St.

6/03/2015 - 6/04/2015	\$14,397.00	Hillside/Beechwood Ave.	Finalized the restoration. Jobsite is now completely restored, including the sidewalk, curbs, blacktop and handicap ramps.
6/30/2015 - 8/08/2015	\$72,068.70	Lyons Place	The issue with Con Edison having sewage leak into their substation for some time causing a hazard flooding condition. Excavated between the sewer main and the Con Edison substation to uncover the joints to find the possible leak. Uncovered 4 joints closest to the manhole and found that each of them was leaking. All debris was removed around each joint to properly seal them using 4000psi concrete to guarantee the joints were sealed. The project was completed and backfilled using item 4 and paved with blacktop.
7/06/2015 - 7/17/2015	\$92,723.70	303 3rd St.	Televised the sewer main and found that 150 linear feet of the clay sewer main was completely damaged, which was why the sewage was leaking into the storm main located approximately 20 feet below. Work had to begin immediately to stop the sewage leak, so we located where our camera was, inside the sewer main and began the excavation where our camera came to a complete stop, which showed that the pipe was completely collapsed. We excavated at that point and created a test pit to place the camera in the main and televise the rest of the line until it reached the next manhole downstream. That section of main was intact so our excavation was only 150 linear feet upstream from that point. With the televising equipment we were able to save 125 linear feet of pipe downstream.
7/29/2015	\$1,938.00	Memorial Field	Televised the 18-inch storm main. The inspection found the location of a buried manhole which was located 120 linear feet downstream from the manhole we were told to start in.
9/30/2015 - 10/20/2015	\$27,361.80	1st Street	Televised the 8" sewer main and found that it had a collapsed section & began the excavation right away to prevent another backup. After that point repair was complete, another section of 14 linear feet was replaced due to damage.
10/13/2015	\$5,707.00	1st Street	Repaired 2 damaged sewer manhole inverts. Cleaned excess debris and created a new invert using SDR 35 pipe and 5000-psi cement.
TOTAL	\$360,437.40		

2018 and 2019 Sewer Repairs

- In Spring 2018, the City had heavy cleaning and inspecting completed for over 2,000 feet of 24" sanitary sewer line along the Hutchinson River. Over 200 feet of damaged sanitary sewer line was replaced to repair a chronic blockage problem that had plagued neighboring streets for years and caused sanitary sewage overflows directly to the Hutchinson River. - Ederer Declaration
- 204 Primrose Avenue - sanitary sinkhole due to damaged 6 inch sewer lateral Complete \$16,102.80 1/21/2019 Zonzoni invoice 2403 dated 1/21/2019, Mark Ederer's email on 5/17/2019
- Primrose and North Fulton Avenue - sanitary collapsed sanitary sewer, surcharging to manhole Complete \$17,371.00 1/21/2019 Zonzoni invoice 2403 dated 1/21/2019, Mark Ederer's email on 5/17/2019
- In May 2019, the City replaced 36' of damaged sanitary sewer line on Prospect Ave eliminating a source of sanitary sewage infiltration to Storm Drain Network No. 24. - Ederer Declaration
- In May 2019, the City excavated and replaced 36' of collapsed 12" sanitary sewer line in Levester Towers and performed a point repair at Eastchester Lane to eliminate surcharge on E 3rd St potentially infiltrating Storm Drain Network 34. - Ederer Declaration

Mount Vernon 2020 and 2021 Sewer Cleaning and Rehabilitation Through Cured-in-Place Lining

Street	Manholes	Diameter	LF	\$/LF	Cost	Invoice #	Date Completed	Map Page	Pre-Cleaning
North Bond Street	MH(3936-3937-3938-3939-3940)	15" CIPP	622	\$125.00	\$77,750.00	894	9/30/2020	28	7/21/2020
Haven Avenue	MH(841-842-843-844-845)	15" CIPP	435	\$125.00	\$54,375.00	923	10/28/2020	322	7/20/2020
Lyons Place	MH1349-MH1350-MH1351-MH815A-MH815-MH814	36" CIPP	578	\$455.00	\$262,990.00			400	7/21/2020
Cleaning Sewer Pipe - Extra (Sandford Boulevard)	CLEAN ONLY	24"	1980	\$10.00	\$19,800.00	998 - REV	12/31/2020		
East Prospect Avenue	MH 2506-MH 2232	8" CIPP	206	\$62.50	\$12,875.00	998 - REV	12/31/2020	487	
Washington Street	MH818A - MH818	8" CIPP	102	\$62.50	\$6,375.00			677	9/17/2020
Washington Street	MH820-MH821-MH823-MH824-MH826	8" CIPP	915	\$62.50	\$57,187.50			677	9/17/2020
East Prospect Avenue	MH 2175 - MH 2173	12" CIPP	326	\$125.00	\$40,750.00	1055 - REV	2/28/2021	488	
Dell Avenue	MH 2491 - MH 2490 - MH 2487	15" CIPP	526	\$125.00	\$65,750.00			96	
Overlook Street	MH 2593 - MH 2592, MH 2097- MH 2093	18" CIPP	462	\$180.00	\$83,160.00			460	
Hutchinson River Parkway	MH (1342-1343-1344-1345-1346-1347-1348)	24" CIPP	1197	\$235.00	\$281,295.00	1147	6/30/2021	720	
Cleaning Sewer Pipe		24"	4	\$1,000.00	\$4,000.00	1190	6/30/2021	720	
Willow Place	CLEAN ONLY	8" CIPP	415	\$10.00	\$4,150.00			689-A	

7768.00 \$970,457.50

Note: Work performed by Green Mountain Pipeline Services

Appendix E

Building Dye Test Records

8/22/2022

The addresses requiring further investigation were in the vicinity acquired by a combination of the distances read off the CCTV (Close Circuit Television) camera and the interpolation of the maps with the listed properties.

OUTFALL NETWORK #24 (FARRELL AVENUE)

Beechwood Avenue - South Columbus Avenue

1. 16 Beechwood Avenue - 121 South Columbus Avenue

9/26/19 – Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 357 feet upstream from MH 1108. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

2. 20 Beechwood Avenue

9/26/19 – Catch basin in the vicinity of the property at the above address, individual dye tests were conducted in the catch basin. The City tested for flow in storm sewer from catch basin by positioning the CCTV camera at the catch basin lateral approximately 124 feet upstream from MH 1108. The dye was observed in the storm sewer thereby verifying that the catch basin was properly connected to the storm sewer.

Corrective Actions:

None

25 Beechwood Avenue

9/26/19 – Catch basin in the vicinity of the property at the above address, individual dye tests were conducted in the catch basin. The City tested for flow in storm sewer from catch basin by positioning the CCTV camera at the catch basin lateral approximately 159 feet upstream from MH 1109. The dye was observed in the storm sewer thereby verifying that the catch basin was properly connected to the storm sewer

Corrective Actions:

None

8/22/2022

3. 25-35 Beechwood Avenue

9/24/19 – Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 129 feet upstream from MH 1109. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

37 Beechwood Avenue

9/26/19 – Storm branch from Esplanade in the vicinity of the property at the above address, an individual dye test was conducted in the manhole near Esplanade. The City tested for flow in storm sewer from storm branch by positioning the CCTV camera at the storm connection approximately 114 feet upstream from MH 1109. The dye was observed in the storm sewer thereby verifying that the catch basin was properly connected to the storm sewer.

Corrective Actions:

None

4. 37 Beechwood Avenue

9/24/19 – Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 114 feet upstream from MH 1109. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

5. 39 Beechwood Avenue

9/24/19 – Property at the above address, through field observations and verification using the positioning of the CCTV camera, showed that there were no lateral into storm sewer from this property.

Corrective Actions:

None

8/22/2022

- 6. 41 Beechwood Avenue**
9/24/19 – Property at the above address, through field observations and verification using the positioning of the CCTV camera, showed that there were no lateral into storm sewer from this property.
Corrective Actions:
None
- 7. 43 Beechwood Avenue**
9/24/19 – Storm branch from Lorraine Avenue in the vicinity of the property at the above address, an individual dye test was conducted in the manhole near Lorraine Avenue. The City tested for flow in storm sewer from storm branch by positioning the CCTV camera at the storm connection approximately 15 feet upstream from MH 1109. The dye was observed in the storm sewer thereby verifying that the storm branch was properly connected to the storm sewer
Corrective Actions:
None
- 8. 37 Grandview Avenue**
9/17-18/19 – Property at the above address, individual dye tests were not conducted. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 829 feet downstream from MH 1108.
Corrective Actions:
Pending
No one was home could not access the property
- 9. 40 Grandview Avenue**
9/18/19 – Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 829 feet downstream from MH 1108. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
Corrective Actions:
None

8/22/2022

10. 45 Grandview Avenue

9/17-18/19 – Property at the above address, individual dye tests were not conducted. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 829 feet downstream from MH 1108.

Corrective Actions:

Pending

No one was home could not access the property

8/22/2022

Washington Avenue – Bet. South Columbus & North Fulton Avenue

11. 250 Washington Avenue

9/19/18 – Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 18 feet downstream from MH 3392. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

12. 256 Washington Avenue

9/19/18 – Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 188 feet downstream from MH 3392. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

13. 270 Washington Avenue

9/19/18 – Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 533 feet downstream from MH 3392. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

14. 275 Washington Avenue

9/20/18 - Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 314 feet downstream from MH 3393. Dye was observed in STORM SEWER.

Corrective Actions:

City was notified that Sanitary lateral has been removed and capped off. Building will be demolished for new building at the site.

8/22/2022

None

15. 320 Washington Avenue

9/20/18 – Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 641 feet downstream from MH 3392. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

16. 323 Washington Avenue

9/20/18 – Property at the above address, individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 736 feet downstream from MH 3393. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

8/22/2022

West 1st Street – Between South 9th & South 6th Avenue

17. **56 West 1st Street** **CLOSED (ABANDONED)**
9/30/19- Three story building, first floor church. Property at the above address, through field observations and verification using the positioning of the CCTV camera, showed that there were no lateral into storm sewer from this property.
Corrective Actions:
Pending
18. **60 West 1st Street**
9/30/19 – New Multi story building with apartments. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 30 feet downstream from MH 171. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
Corrective Actions:
None
19. ~~62 West 1st Street~~ **64 West 1st Street** **CLOSED (ABANDONED)**
9/30/19- Four story mixed used store front. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 62 feet upstream from MH 171.
Corrective Actions:
Pending
20. **66 West 1st Street**
9/30/19 – Four story store building with apartments. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 119 feet upstream from MH 171. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
Corrective Actions:
None

8/22/2022

21. 102 West 1st Street

9/30/19 – Four story store building with apartments. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 230 feet upstream from MH 145. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

8/22/2022

South 4th Avenue - Between 1st & 2nd Street**22. 3 South 4th Avenue Smoke Shop**

7/31/19 – One story store front building Individual dye tests were conducted in bathroom (toilet and sink) and deli sink of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 944 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:**Pending****Further investigation of joint basement with building department.****2-4 South 4th Avenue Always 99**

8/3/19 – One story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 916 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:**None****5 South 4th Avenue GEM Pawn Boker**

8/3/19 – One story store front building Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 906 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:**Pending****Further investigation of joint basement with building department.**

8/22/2022

51/2 South 4th Avenue Grace Nails

8/3/19 – One story store front building Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 895 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

Pending

Further investigation of joint basement with building department.

23. 6 South 4th Avenue NAOMIS

8/3/19 – Three story mixed use store front building with two additional floors. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 909 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

10/2/19- No bathroom in the upper floors verified during field investigations, only storage space.

Corrective Actions:

None

7 South 4th Avenue Weekend Gift Shop

8/6/19 – Three story mixed use store front building with two abandon upper floors. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 859 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

10/2/19- No bathroom in the upper floors verified during field investigations. Bathroom were removed, space used for storage only.

Corrective Actions:

None

8/22/2022

24. **8 South 4th Avenue** **Martina's 89**
 8/17/19 - Three story mixed use store front building with apartments. Individual dye tests were conducted in bathrooms (toilet and sink) of the 1st floor and 2nd floor studio apartment of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 875 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
Corrective Actions:
 None
25. **9 South 4th Avenue** **Mountain Sports**
 8/5/19 – Two story store front building with second floor no front windows. Individual dye tests were conducted in bathrooms (toilet and sink) of the 1st floor and 2nd floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 832 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
Corrective Actions:
 None
- 10 South 4th Avenue** **Electronics Center**
 8/3/19 – Four story store front building with no front windows for upper floors. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 847 feet downstream from MH 345. Dye was observed in **STORM SEWER**. Inspection of the basement to identified storm and sanitary lines had to be postponed, debris in basement made it impossible to properly investigate, will come back when basement has been cleared.
Corrective Actions:
Pending
Summon to be written (issued)
Check - Further investigation of upper floors
26. **11 South 4th Avenue** **CLOSED (ABANDONED)**
 Three story store front building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 815 feet downstream from MH 345.
Corrective Actions:
Pending

8/22/2022

27. **12 South 4th Avenue King Discount**
8/5/19 - Three story store front building with upper floors with no front windows. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 826 feet downstream from MH 345. No dye was observed from the storm sewer lateral. No dye was observed in the sanitary sewer manhole thereby dye tests are inconclusive.
10/2/19- No bathroom in the upper floors verified during field investigations, attic space only.
Corrective Actions:
None
28. **13 South 4th Avenue Portabella**
8/5/19 – Two story store front building with second floor no front windows. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 798 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
10/2/19- Non-operable bathroom in the upper floors verified during field investigations, space used for storage only.
Corrective Actions:
None
29. **16-18 South 4th Avenue Celluar City**
8/5/19 - One story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 749 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
Corrective Actions:
None

8/22/2022

- 30. 19 South 4th Avenue Joey'z**
(700) 8/5/19 – Two story mixed used store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. 10/2/19- Individual dye tests were conducted in bathroom (toilet and sink) of the 2nd floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 693 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

20 South 4th Avenue WigTopia

8/5/19 – Three story mixed used store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 697 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

10/2/19- No bathroom in the upper floors verified during field investigations. Bathroom were removed, space used for storage only.

Corrective Actions:

None

- 31. 23 South 4th Avenue Rent-A-Center**

8/17/19 - Two story store front building with second floor no front windows. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. 10/2/19- Individual dye tests were conducted in bathroom (toilet and sink) of the 2nd floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 656 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

8/22/2022

32. **29 South 4th Avenue** **4 You Discount Inc.**
 8/3/19 – Three story mixed use store front with residential apartments on top two floors. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 638 feet downstream from MH 345. Dye was observed in **STORM SEWER**. Inspection of the basement to identify storm and sanitary lines had to be postponed, debris in basement made it impossible to properly investigate, will come back when basement has been cleared. 9/6/19- continued inspection of basement only one line was detected, property owner's plumber had inspected earlier and was only able to find one line too.
Corrective Actions:
Pending
Summon to be written (issued)
Check - Further investigation of upper floors
33. **30 South 4th Avenue** **Ashley**
 8/16/19 – Two story mixed used store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 625 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
 10/2/19- No bathroom in the upper floor verified during field investigations, only storage space.
Corrective Actions:
None
34. **31 South 4th Avenue** **Hosiery Plus**
 8/17/19 - One story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 610 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
Corrective Actions:
None

8/22/2022

34-38 South 4th Avenue VIM

8/3/19 – Three story store front building with upper floors with no front windows. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 528 feet downstream from MH 345. No dye was observed from the storm sewer lateral. No dye was observed in the sanitary sewer manhole thereby dye tests are inconclusive.

10/2/19- No bathroom in the upper floors verified during field investigations, only storage space.

Corrective Actions:

Pending

Requires Further Action, check basement

35. 37 South 4th Avenue Maddy's

7/31/19 – Four story store front building. Individual dye tests were conducted in the two bathrooms (toilet and sink) of the 1st floor of the building. 10/2/19- Individual dye tests were conducted in bathroom (toilet and sink) of the 2nd floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 498 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer. Cross-Connect of roof drain and sanitary line @ storm drain trap installed to relieve clogged storm lateral, owner to correct. 9/6/19- basement was checked to verify that cross-connect was disconnected, storm sewer had been cleared and new piping as necessary.

Corrective Actions:

None

40 South 4th Avenue Bejeweled

7/31/19 – Two story mixed used store front building. Individual dye tests were conducted in bathrooms (toilet and sink) of the 1st floor of the building. 10/2/19- Individual dye tests were conducted in bathroom (toilet and sink) of the 2nd floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 505 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

8/22/2022

41 South 4th Avenue RIYA Imports

8/6/19 – Three story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 486 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Split first floor New Style Boutique

7/25/19 – Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Second floor HAVA Hair Braiding

9/6/19- Individual dye tests were conducted in bathroom (toilet and sink) of the 2nd floor of the building. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer. Third floor locked door, used only for storage.

Corrective Actions:

None

36. 43 South 4th Avenue Boost Mobile/Total Wireless

8/6/19 – Two story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 460 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

9/6/19- Second floor was checked to see if there were any additionally fixtures on upper floor, no fixtures office space only.

Corrective Actions:

None

37. 44 South 4th Avenue Rainbow

7/25/19 - Two story store front building with second floor no front windows. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. 10/2/19- Individual dye tests were conducted in bathroom (toilet and sink) of the 2nd floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 431 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

8/22/2022

- None**
- 38. 49 South 4th Avenue T-Mobil**
 7/ /19 – The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 380 feet downstream from MH 345, the Bathroom 1st fl was dye tested, entire buildings sanitary system connected to storm lateral, #P12498-19 building permit on door.
 8/6/19 - connections confirmed with buildings department
Corrective Actions:
Pending
Summons was written
- 39. 52 South 4th Avenue Foot Locker**
 8/16/19 – Two story store front building with second floor no front windows. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 356 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
 10/2/19- No bathroom in the upper floors verified during field investigations, only storage space.
Corrective Actions:
None
- 40. 53 South 4th Avenue Charm**
 8/16/19 – Three story mixed used store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 325 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer. 9/6/19- Checked 2nd & 3rd floors, no occupancy on either floor, spaces used for storage only. No bathroom on the 3rd floor, bathroom on 2nd floor water was turned off
Corrective Actions:
None
- 41. 54 South 4th Avenue Payless (CLOSED)**
 Three story store front with no front widows on uppers floors. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 296 feet downstream from MH 345.
Corrective Actions:
Pending

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42. **60 South 4th Avenue** **CLOSED (ABANDONED)**
Four story mixed used store front. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 259 feet downstream from MH 345.
Corrective Actions:
Pending
43. **62 South 4th Avenue** **Regines**
8/16/19 – One story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 235 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
Corrective Actions:
None
44. **64 South 4th Avenue** **Supper 99**
8/16/19 – Two story mixed used store front building with second floor, windows cemented blocked up. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 200 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
10/2/19- No bathroom in the upper floors verified during field investigations, only storage space.
Corrective Actions:
None
45. **65 South 4th Avenue** **Chambers (CLOSED)**
8/16/19 - Two story store front building with second floor no front windows. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 187 feet downstream from MH 345.
Corrective Actions:
Pending

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46. **67 South 4th Avenue Golden Crust**
 7/24/19 – The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 157 feet downstream from MH 345, the Sink and sanitary fixture connected to storm drain. Visual observation of slop sink in basement and 2in sanitary waste line connected to storm drain in basement. Sanitary backed up flowing into storm sewer.
 8/6/2019 – inspection with building department, issues where being corrected
Corrective Actions:
Pending
47. **71 South 4th Avenue Heide Shoes**
 8/16/19 – Two story store front building with second floor no front windows. Individual dye tests were conducted in bathrooms (toilet and sink) of the 1st floor and 2nd floor (Queen Sheba Beauty Salon) of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 100 feet downstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.
Corrective Actions:
None
48. **72-(74 South 4th Avenue) Farmers Markets**
 7/17/19 – The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 131 feet downstream from MH 345, the Storm Drain in side yard, dye tested, positive in storm line, problem with shelter on property that houses fish leaks into the drain
 7/25/19 – 2nd storm drain in side yard, dye tested, positive in storm, yard needs to clean
 7/26/19 – North West roof drain, dye tested, positive in storm line, condensation line from freezer ties into drain
 7/26/19 – Bathroom (toilet & sink), dye tested, positive in sanitary sewer
Corrective Actions:
Pending
Summon to be written (issued)
Check - Further investigation of side yard

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South 4th Avenue - Between 2nd & 3rd Street**102 South 4th Avenue S & S Fabric**

8/10/19 – Three story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 27 feet upstream from MH 345. No dye was observed from the storm sewer lateral. No dye was observed in the sanitary sewer manhole thereby dye tests are inconclusive.

Corrective Actions:**Pending****Requires further investigation (with building department)****104 South 4th Avenue Wine & Spirit**

8/10/19 – Three story store front building. The second and third story Abandoned all windows were boarded up. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 48 feet upstream from MH 345. No dye was observed from the storm sewer lateral. No dye was observed in the sanitary sewer manhole thereby dye tests are inconclusive.

Corrective Actions:**Pending****Requires further investigation (with building department)****49. 109 South 4th Avenue Hair To Please**

8/10/19 – One story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 109 feet upstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:**None****111 South 4th Avenue Rolex Barber Shop**

8/10/19 – One story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 146 feet upstream from MH 345. No dye was observed

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from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

113 South 4th Avenue Ministry of Christ

8/10/19 – Three story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 175 feet upstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

Pending

Further investigation of upper floors

117 South 4th Avenue Hair Braiding

8/9/19 – Three story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 231 feet upstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

Pending

Further investigation of upper floors

50. 118 South 4th Avenue Juice & Salad

8/9/19 – Two story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 220 feet upstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:

None

51. 119 South 4th Avenue CLOSED (ABANDONED)

8/9/19- Two story commercial store front. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 251 feet upstream from MH 345.

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Corrective Actions:
Pending

120 South 4th Avenue Hair Braiding

8/9/19 – Two story mixed use store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor & 2nd floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 249 feet upstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:
None

52. 121 South 4th Avenue Barber Shop

8/9/19 – Two story mixed use store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 272 feet upstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:
Pending

Further investigation of upper floors

53. 122 South 4th Avenue CLOSED (ABANDONED)

8/9/19- Two story commercial store front. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 280 feet upstream from MH 345.

Corrective Actions:
Pending

54. 125 South 4th Avenue WESTHAB (129 South 4th Avenue)

8/9/19 – Four story mixed used commercial store front building connected to a similar building 129 South 4th Avenue. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 322 feet upstream from MH 345. Property was backed up, owner will contact when laterals are clear.

Corrective Actions:
Pending

Further Investigations with Building department

8/22/2022

130 South 4th Avenue Dazzels

8/9/19 – Three story mixed use store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor and basement of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 376 feet upstream from MH 345. Basement - No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer. 1st floor - Dye was observed from the **STORM SEWER** lateral. 10/2/19 – retest of 1st floor after owner corrected the plumbing. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were now properly connected to the sanitary sewer.

Corrective Actions:**None****132 South 4th Avenue Dazzels**

8/9/19 – Three story mixed use store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 2nd floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 401 feet upstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:**Pending****Further investigation of 1st floor****55. 133 South 4th Avenue Mangoville**

8/7/19 – One story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the basement floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 427 feet upstream from MH 345. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer.

Corrective Actions:**None**

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56. **153 South 4th Avenue Sofia Nails**
10/4/19 – One story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 167 feet downstream from MH 355.
Corrective Actions:
Pending
57. **154 South 4th Avenue Unisex Salon**
10/4/19 – One story store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 1st floor of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 165 feet downstream from MH 355.
Corrective Actions:
Pending
58. **163 South 4th Avenue 3 East 3rd Street**
7/16/19 - Four story mixed use store front building. Individual dye tests were conducted in bathroom (toilet and sink) of the 2nd and 4th floors of the building. The City tested for flow in storm sewer from property by positioning the CCTV camera at the sewer lateral approximately 49 feet downstream from MH 355. No dye was observed from the storm sewer lateral. The dye was observed in the sanitary sewer manhole thereby verifying these fixtures were properly connected to the sanitary sewer. Basement storm drain cleanout had illicit flow into **STORM SEWER** lateral.
Corrective Actions:
Pending

Appendix F

Investigation Forms

- Outfall Inspection and Sampling
- Manhole and Catch Basin Inspection
- Dye Testing

**CITY OF MOUNT VERNON
 PHASE II STORM WATER MANAGEMENT PROGRAM
 MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)**

MANHOLE INSPECTION

Inspected By:	Date:	Time:
Structure ID:	Location Sketch (Indicate address, streets, nearest intersections, etc.)	
Address:		
Nearest Intersection:		
GPS Location:		
Location: <input type="checkbox"/> Roadway <input type="checkbox"/> Gutter <input type="checkbox"/> Private Property <input type="checkbox"/> Easement <input type="checkbox"/> Other: _____		
Sewer Type: <input type="checkbox"/> Sanitary <input type="checkbox"/> Storm		
Material: <input type="checkbox"/> Brick <input type="checkbox"/> Concrete		
Cover Size: <input type="checkbox"/> 24-in. <input type="checkbox"/> 30-in. Invert Depth: ____ in.		

Structure					
	Satisfactory	Unsatisfactory	Not Applicable	Not Visible	If Unsatisfactory or Not Visible, Describe:
Cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ring/Frame	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rungs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Riser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shelf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Channels/Connections					
A	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			Draw channels/connections (A, B, C, D) in manhole and indicate direction of flow.
	Pipe Diameter: ____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: ____ in.		
B	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			
	Pipe Diameter: ____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: ____ in.		
C	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			
	Pipe Diameter: ____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: ____ in.		
D	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			
	Pipe Diameter: ____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: ____ in.		

Inflow/Surcharge Indications	Debris/Grease on: <input type="checkbox"/> Sides <input type="checkbox"/> Rungs <input type="checkbox"/> Shelf <input type="checkbox"/> Not Applicable <input type="checkbox"/> Not Visible		
Flow	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial <input type="checkbox"/> None	Appearance/Clarity	<input type="checkbox"/> Clear Water <input type="checkbox"/> Turbid Sewage <input type="checkbox"/> Not Applicable
Rate	<input type="checkbox"/> Steady <input type="checkbox"/> Intermittent <input type="checkbox"/> Not Applicable	Flow Depth Compared to Adjacent Manholes	<input type="checkbox"/> Same <input type="checkbox"/> Lower <input type="checkbox"/> Higher
Comments/Notes:			

Form Completed By:

Name (print):	Date:
Signature:	

**CITY OF MOUNT VERNON
 PHASE II STORM WATER MANAGEMENT PROGRAM
 MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)**

CATCH BASIN INSPECTION

Inspected By:	Date:	Time:
Structure ID:	Location Sketch (Indicate address, streets, nearest intersections, etc.)	
Address:		
Nearest Intersection:		
GPS Location:		
Location: <input type="checkbox"/> Roadway <input type="checkbox"/> Curb <input type="checkbox"/> Private Property <input type="checkbox"/> Basement <input type="checkbox"/> Gutter <input type="checkbox"/> Other: _____		
Material: <input type="checkbox"/> Brick <input type="checkbox"/> Concrete Bottom Depth: _____ in.		
Size: <i>If circular,</i> Diameter: _____ in. <i>If square or rectangular,</i> Length: _____ in., Width: _____ in.		

Structure					
	Satisfactory	Unsatisfactory	Not Applicable	Not Visible	If Unsatisfactory or Not Visible, Describe:
Cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ring/Frame	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rungs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bottom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Channels/Connections					
A	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____	Draw channels/connections (A, B, C, D) in catch basin and indicate direction of flow.		
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID) Invert Depth: _____ in.			
B	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID) Invert Depth: _____ in.			
C	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID) Invert Depth: _____ in.			
D	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID) Invert Depth: _____ in.			

Condition	<input type="checkbox"/> Clean/Dry <input type="checkbox"/> Standing Water <input type="checkbox"/> Flowing Water <input type="checkbox"/> Sediment <input type="checkbox"/> Organic Matter <input type="checkbox"/> Trash/Debris <input type="checkbox"/> Not Visible <input type="checkbox"/> Other: _____
Flow	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial <input type="checkbox"/> None-Standing Water <input type="checkbox"/> None-Dry
Rate	<input type="checkbox"/> Steady <input type="checkbox"/> Intermittent <input type="checkbox"/> Not Applicable <input type="checkbox"/> Sump Present <input type="checkbox"/> Yes <input type="checkbox"/> No
Illicit Discharge Indications Present? (dry weather flow, odor, color, floatables, turbidity, viscosity)	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, Complete Illicit Discharge Field Sheet (Form A).</i>
Comments/Notes:	

Form Completed By:

Name (print):	Date:
Signature:	

CITY OF MOUNT VERNON
 PHASE II STORM WATER MANAGEMENT PROGRAM
 MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

ILLICIT DISCHARGE FIELD SHEET

SECTION A: General Information

Structure ID:		Date:	Time:
Outfall:		Inspected by:	
Location:		GPS Location:	
Outside Air Temperature (°F):		Rainfall (inches) Last 24 hours:	Last 48 hours:
Land Use in Drainage Area: <input type="checkbox"/> Residential <input type="checkbox"/> Industrial/Commercial <input type="checkbox"/> Mixed Use <input type="checkbox"/> Other: _____			
Reason for Inspection:	<input type="checkbox"/> Citizen Notification <input type="checkbox"/> Routine/Scheduled Survey <input type="checkbox"/> Referral from Agency/Department:		
	<input type="checkbox"/> County/State Notification <input type="checkbox"/> Observed during Routine Work <input type="checkbox"/> Other: _____		

SECTION B: Description of Structure

SECTION C: Location Sketch

Type	<input type="checkbox"/> Outfall <input type="checkbox"/> Manhole <input type="checkbox"/> Ditch/Swale <input type="checkbox"/> Spillway <input type="checkbox"/> Catch Basin <input type="checkbox"/> Other: _____			Draw diagram and indicate closest streets (including address), nearby landmarks, etc.
Material	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____			
Shape	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____			
Size	If circular, Diameter: _____ inches If square or rectangular, Height: _____ inches Width: _____ inches			
Structure Bottom	Submerged: <input type="checkbox"/> No <input type="checkbox"/> Yes, Partially <input type="checkbox"/> Yes, Fully Blocked: <input type="checkbox"/> No <input type="checkbox"/> Yes, Partially <input type="checkbox"/> Yes, Fully			

SECTION D: Discharge Characteristics

Flow Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, skip the rest of this section.</i>	Description	Check one: <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial Check one: <input type="checkbox"/> Steady <input type="checkbox"/> Intermittent <input type="checkbox"/> Single Occurrence		
Flow Rate <i>(If possible, measure time it takes to fill a 5-gallon container)</i>	Temperature _____ °F			
Volume of Container Used _____ Gallons	Gallons + Minutes = _____	pH _____ pH Units		
Time to fill Container _____ Minutes	_____ gpm	Ammonia <i>(If measured in field)</i> _____ mg/L		
Indicator	Description	Severity		
Odor	<input type="checkbox"/> None <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sweet <input type="checkbox"/> Sewage <input type="checkbox"/> Other: _____	<input type="checkbox"/> Faint	<input type="checkbox"/> Easily detected	<input type="checkbox"/> Noticeable from a distance
Color	<input type="checkbox"/> Clear <input type="checkbox"/> Gray <input type="checkbox"/> Red <input type="checkbox"/> Orange <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Brown <input type="checkbox"/> Black <input type="checkbox"/> Other: _____	<input type="checkbox"/> Faint colors in sample bottle	<input type="checkbox"/> Clearly visible in sample bottle	<input type="checkbox"/> Clearly visible in outfall flow
Floatables	<input type="checkbox"/> None <input type="checkbox"/> Sewage (toilet paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Few/slight; origin not obvious	<input type="checkbox"/> Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)
Turbidity	See severity	<input type="checkbox"/> Clear	<input type="checkbox"/> Slight cloudiness	<input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque
Viscosity	Similar to:	<input type="checkbox"/> Water	<input type="checkbox"/> Oil (Vegetable/Motor)	<input type="checkbox"/> Molasses <input type="checkbox"/> Other: _____

Structure ID:	Outfall:	Date:	Time:
---------------	----------	-------	-------

SECTION E: Physical Condition

Condition	Present	If Present, Nature:	Comments
Structure Damage	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Peeling Paint <input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other: _____	
Abnormal Vegetation	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Odor <input type="checkbox"/> Color <input type="checkbox"/> Floatables <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Suds <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Other: _____	
Pipe growth	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other: _____	

SECTION F: Sample Collection

Sample Collected: <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, skip the rest of this section.</i>	Sample Submitted to Laboratory: <input type="checkbox"/> Yes <input type="checkbox"/> No
Date of Collection:	Laboratory Sample ID:
Time of Collection:	Sample Bottle IDs:
Laboratory Information	Name: Address: Phone:
Analyses Requested: <input type="checkbox"/> Fecal Coliform MPN <input type="checkbox"/> Color <input type="checkbox"/> Conductance <input type="checkbox"/> Turbidity <input type="checkbox"/> Dissolved Oxygen <input type="checkbox"/> Fluoride <input type="checkbox"/> Methylene Blue Activated Substances <input type="checkbox"/> Other: _____	
Collected from: <input type="checkbox"/> Flow <input type="checkbox"/> Pool	Method of Collection: <input type="checkbox"/> Direct collection <input type="checkbox"/> Sampling Equipment Used Specify type: _____
Gloves used: <input type="checkbox"/> Yes <input type="checkbox"/> No	Laboratory Sample Forms Completed: <input type="checkbox"/> Yes <input type="checkbox"/> No (<i>attach copy</i>)
Samples Placed on Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No	Chain of Custody Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No (<i>attach copy</i>)

SECTION G: Comments/Notes

Form Completed By:

Name (print):	Date:
Signature:	

DYE TEST INSPECTION FORM

Time: _____ Date: _____ Inspector(s): _____

Drainage Basin: _____ Observation Street: _____

Building Address: _____ Tax Map Address: _____

Contact Information:

Business Name: _____ Phone: _____

Owner's Name: _____ Phone: _____

Site Contact's Name: _____ Phone: _____

Property Description:

Property Type: _____	Approximate Age of Building: _____
Number of Stories / Apartments/ Units: _____	Number of Bathrooms: _____
	Evidence of a Remodel: _____

	Dye Test Floor: (Basement/ First/ Second)	Dye Test Drain: (Kitchen/Bath/Laundry)	Dye Color:	Results: (Pos/Neg)
Location 1	_____	_____	_____	_____
Location 2	_____	_____	_____	_____
Location 3	_____	_____	_____	_____
Location 4	_____	_____	_____	_____
Location 5	_____	_____	_____	_____
Location 6	_____	_____	_____	_____
Location 7	_____	_____	_____	_____
Location 8	_____	_____	_____	_____
Location 9	_____	_____	_____	_____
Location 10	_____	_____	_____	_____

Camera in between manhole: _____ and _____

CCTV Observation Points: _____
(Distance from Manhole)

Dye observed in Sanitary Manhole? _____ If Not Where? _____

General Problem Description: _____

Schedule a Second Dye Test? _____ If so, Why? _____

Additional Notes:

Sanitary Sewer Dye Test:

Dye Added to Sanitary Manhole: _____

Dye Test Result (Pos. / Neg.): _____



SMOKE TESTING INSPECTION FORM

Time: _____ Date: _____ Inspector: _____

General Information

Setup Manhole ID: _____

Date of Inspection: _____

Inspector: _____

Street Name: _____

General Notes: _____

Smoke Emissions

Defect #: _____

Surface Type: _____

Street Address: _____

Potential Inflow _____

Severity: _____

Defect Description: _____

Notes: _____



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Sanitary Sewer Evaluation Survey

City of Mount Vernon, New York

Initial Submission: June 2022

Revised Submission: January 2023

City of Mount Vernon
Sanitary Sewer Evaluation Survey

Sanitary Sewer Evaluation Survey

Mt. Vernon, New York

Prepared By:

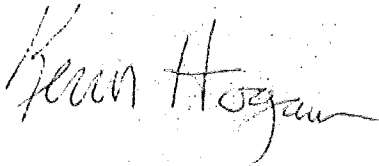
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Kevin Hogan, PE
Principal Engineer

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- Appendix A. Sanitary Sewer Map Book**
- Appendix B. Recent Sewer System Repairs**
- Appendix C. Investigation Forms**

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Acronyms and Abbreviations

ACO	Administrative Compliance Order
CCTV	closed circuit television
CIPPL	cured-in-place pipe liner
CIPSR	cured-in-place pipe short repair
CRT	chemical root treatment
EEO	Equal Employment Opportunity
EFC	Environmental Facilities Corporation
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
GSC	grind service connection
I/I	inflow and infiltration
IDAP	Illicit Discharge Action Plan
LCL	lateral connection liners
MS4	Municipal Separate Storm Sewer System
MWBE	Minority and Women Owned Business Enterprises
NASSCO	National Association of Sewer Service Companies
NYSDEC	New York State Department of Environmental Conservation
PACP	Pipeline Assessment Certification Program
SL-RAT	Sewer Line Rapid Assessment Tool
SSES	Sanitary Sewer Evaluation Survey
SWMP Plan	Stormwater Management Program Plan
TSJ	test and grout seal sewer joints
TSS	test and grout seal service connections
USDOJ	United States Department of Justice
USEPA	United States Environmental Protection Agency
UV	ultraviolet

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Executive Summary

The City of Mount Vernon was issued an Administrative Compliance Order (ACO) from the United States Environmental Protection Agency (USEPA) and several Remedial Orders due to suspected illicit discharges and exfiltration from the sanitary sewers into storm sewers. The Remedial Orders were the result of a case brought by the United States Department of Justice against the City of Mount Vernon.

In support of finding and eliminating these illicit discharges and in satisfying components of the Remedial Order, the City awarded a contract to Arcadis of New York, Inc. (Arcadis) to develop a Sanitary Sewer Evaluation Survey (SSES). The purpose of an SSES is to investigate the condition of the sanitary sewer, find defects that have the potential to cause illicit discharges, identify sources of inflow and infiltration, and assess structural integrity. The SSES will be completed in parallel with an Illicit Discharge Action Plan (IDAP) to find sources of illicit discharges entering the storm sewer system.

This report provides background on the project location, project history, and the role the SSES plays alongside other documents being prepared to locate illicit discharges so they can be eliminated. The City has approximately 105 miles of sanitary sewer and 84 miles of storm sewer, so work will be prioritized to first focus on sewers within storm sewer drainage areas that show the greatest fecal coliform pollutant load through sampling.

The State of New York will direct a historic \$150 million to the City to replace aging water and sewer infrastructure, improve quality of life and protect public health. There will be a three-way partnership between the State, City and Westchester County, and the funds will be in the form of grants and long-term financing.

This document provides information on steps to take prior to starting the investigation and establishes priorities and methodologies for sewer system investigation and rehabilitation. The work will require Closed Circuit Television (CCTV) inspections, manhole inspections, sewer and building dye testing, smoke testing, and other techniques to identify the sources of the illicit discharges. Industry standard methods for sewer and manhole rehabilitation are described and guidance is provided on how the right one is selected.

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1 Background

The City of Mount Vernon (City) is approximately 4.4 square miles and has over 70,000 residents. There are approximately 105 miles of sanitary sewer, 84 miles of storm sewer, and approximately 7,000 collection system structures between them. A location map is provided as **Figure 1**.

The United States Environmental Protection Agency (USEPA) conducted a Municipal Separate Storm Sewer System (MS4) compliance inspection in 2013 that ultimately resulted in an Administrative Compliance Order (ACO) on March 8, 2015. The City commenced work on the requirements of the ACO but due to lack of funding was not able to meet the compliance schedule. This resulted in subsequent Remedial Orders from a United States District Judge, as a result of a case brought by the United States Department of Justice (DOJ) against the City of Mount Vernon. The ACO and subsequent Orders are a result of suspected illicit discharges and exfiltration from the sanitary sewers into storm sewers and to adjacent streams.

City awarded a contract to Arcadis of New York, Inc. (Arcadis) to develop a Sanitary Sewer Evaluation Survey (SSES), an Illicit Discharge Action Plan (IDAP), and a Stormwater Management Program Plan (SWMP Plan). There is inherent overlap between these documents particularly with the IDAP and SSES. They both have very similar methodologies to find problems in the sewer system so they can be remedied.

This SSES provides a framework for sewer investigation and rehabilitation. For this project, the SSES will first focus on evaluating the sanitary sewer through a lens to find defects that have the potential to cause illicit discharges to the storm sewer, and investigating known sewer problem locations, including sewage backups into basements. The sanitary sewer will also be evaluated for infiltration and inflow (I/I) and structural integrity. I/I in the sewer can lead to reduced capacity and sanitary sewer overflows, which ultimately means sewage can enter the storm sewer system and bodies of water.

Related documents concurrently being developed include:

Illicit Discharge Action Plan (IDAP) – This document will be the primary document of the three, as it prioritizes outfall storm sewer drainage area investigations based on pollutant load and has a focus on finding and eliminating illicit discharges. Both documents provide guidance on techniques for investigation including CCTV investigations, smoke testing, dye testing, and manholes inspection with the intent of locating problems so they can be eliminated. The IDAP also includes investigations in the storm sewer and looks for illicit discharges from private residences.

Stormwater Management Program Plan (SWMP Plan) – Unlike the SSES and IDAP, which focus on specific locations within a defined duration of time, the SWMP Plan will establish long-term programs, policies, and procedures to improve water quality. The investigation methodology in the IDAP will include analyzing samples only for fecal coliform bacteria, as that was the parameter used by the USEPA during the initial sampling event and was the basis for the Remedial Orders. Alternatively, the SWMP Plan will provide for analyzing a variety of parameters as part of the NYS MS4 General Permit, Minimum Control 3, Illicit Discharge Detection and Elimination.

City of Mount Vernon
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2 Funding Considerations

The State of New York will direct a historic \$150 million to the City to replace aging water and sewer infrastructure, improve quality of life and protect public health. There will be a three-way partnership between the State, City and Westchester County, and the funds will be in the form of grants and long-term financing.

Prior to starting any work, or hiring any contractors, the City will review and understand the requirements and limitations of the grants and financing they plan to use. Some grants can only be used for investigation work, some only for construction, and all have specific requirements that should be understood prior to starting work. The City will put together a Funding Plan for each project that includes requirements specific to the funding to be used. It will include funding requirements, reporting requirements (e.g., quarterly, monthly, final), project management team, and schedule. This will help ensure the City obtains the funding they expect to receive, and in a timely manner.

Much of the funding will be from the Environmental Facilities Corporation (EFC). This link provides the mandatory terms and conditions associated with their grants and funding (<https://efc.ny.gov/terms-conditions>). It includes the following:

- Required Contract and Subcontract Language
- State Revolving Fund Mandatory Terms and Conditions
- State Financial Assistance (Grants) Terms and Conditions

Some example requirements to consider include participation requirements for Minority and Women Owned Business Enterprises (MWBE), participation requirements for New York State Certified Service-Disabled Veteran Owned Businesses, Davis-Bacon prevailing wage requirements, American Iron and Steel Requirement, and Equal Employment Opportunity (EEO).

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3 Mapping

The City has a complete set of sewer record drawings in PDF format, geographic information system (GIS) files of the sanitary sewer from the Westchester County countywide SSES completed in the 1990s, GIS files of areas of the storm sewer system completed by a consultant, and the Westchester County file titled "MS4 Non-Consortium Manholes and Catchbasins". However, there are considerable gaps in the storm sewer system mapping as shown on **Figure 2**. The sanitary sewer files are draft, developed by the City of Mount Vernon by performing heads-up digitizing of the Countywide SSES maps. Most of the files are missing critical attributes, such as manhole ID and manhole depth. **Table 1** shows the current attributes in the GIS files for sanitary infrastructure. Cells in the table which are grayed out represent attributes with little to no data. The sanitary sewer and manhole files include coverage throughout the City but do not contain complete attribute data. Many critical attributes have been created, but data has not been filled in. Invert elevations are available for some sanitary manholes.

Prior to starting an investigation in a particular sewershed/catchment area, it is imperative to have complete mapping of the sanitary and storm sewers with unique IDs for each structure. This is necessary to accurately keep track of the work completed and problems identified. The overall investigation and rehabilitation program being undertaken by the City will take several years to complete. It's critical to maintain detailed records of investigation and rehabilitation work completed on pipe segments, manholes, and building owner addresses. Mapping does not have to be complete for the entire City prior to starting, but it should be complete prior to starting an investigation within a sewershed or storm sewer drainage area. A detailed summary of work completed is also required by the USEPA and NYSDEC Remedial Orders, and for the many grants and long-term financing being utilized for this work.

The City has a set of record drawings that include both the sanitary and storm sewer. These drawings should be digitized to fill in the infrastructure gaps in GIS. GPS survey and field investigations should be used in areas known to have been updated since the record drawings were developed.

In addition, there should be provisions in place for marking up paper maps, or GIS maps on a tablet, in the field when they don't match real world conditions, and then frequently updating the City GIS with this information. The CCTV contractors will be provided complete maps so they can accurately record the pipe segments being cleaned and inspected. They will also be given instructions on how to number newly identified manholes in the field so that the engineer reviewing the records is confident in the location of the inspected infrastructure. The field marks-ups will be a required deliverable of the CCTV contractors.

As the City has the opportunity to make additional updates to the GIS through these investigations, the following additional attributes should be considered for inclusion:

- Sanitary and Storm Sewers
 - Unique Identifier
 - Illicit discharge status (e.g., confirmed illicit discharge, cleared, scheduled for repair)
 - Pipe diameter
 - Manhole rim and invert elevations
 - Pipe material
 - Age
 - Date last cleaned and inspected
 - Rehabilitation completed (e.g., replaced, cured-in-place lining, grouted)

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- Routine maintenance issues (e.g., grease, flat slope)
- Repairs needed
- Manholes and Catchbasins
 - Unique identifier
 - Manhole rim and invert elevations
 - Condition
 - Age
 - Amount of debris
 - Date last cleaned and inspected
 - Rehabilitation completed (e.g., replaced, cured-in-place lining, grouted)
 - Routine maintenance issues
 - Repairs needed
- Outfalls
 - Date last inspected
 - Dry weather flow (e.g., yes/no)
 - Sampling results
 - Status (No flow, minor pollutant load, moderate pollutant load, major pollutant load)
- Parcels
 - Date dye tested
 - Illicit connection status
 - Illicit connection repair date

The City has a desire to manage assets and work electronically in the near future. Collecting this GIS data during the investigation will help move the City forward towards that goal.

A sanitary sewer map book has been developed to use in planning the investigation work discussed in Section 6 below. The maps show an enlarged view of the sanitary and storm sewer, the storm sewer drainage basin boundary, outfall locations, building footprints, and road names. This map book is provided in **Appendix A**.

A Land Use figure (**Figure 3**) was developed to show Residential, Non-Residential, Open Space and Recreation, Vacant and Undeveloped, and Mixed Use property types. This will aid in understanding the various types of sanitary sewer problems encountered during the investigation. For example, is grease a prevalent problem with restaurants, or residential areas.

City of Mount Vernon
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4 Records Review

Prior to starting the investigation, it is important to document and map recent investigation and repair work, known illicit discharge locations, and known infrastructure in need of repair. This will help to avoid duplicating efforts and expedite the progress of the program. This includes documenting recent sewer cleaning, manhole and sewer investigation and rehabilitation, and illicit connection removal. Arcadis documented information provided by the City and summarized it below.

- The City maintains a list of sewers known to require periodic cleaning due to grease and/or other debris. The streets associated with these sewers have been highlighted in **Figure 4, Sewers Requiring Routine Maintenance**. The segments are cleaned a minimum of quarterly. This is the same list as is in the City Capacity, Management, Operation, and Maintenance (CMOM) program, and includes Grandview Avenue, Beechwood Avenue, Farrell Avenue, Brookside Avenue, Hillside Avenue, Sandford Boulevard, Pease Street, West 3rd Street Corridor, Pearl Street, MacQuesten Parkway, North 9th Avenue, West Lincoln/Howard Avenue, Fletcher/Primrose Avenue, Commonwealth Avenue, and Pennsylvania Avenue.
- The City has a list of 27 sanitary sewer pipe segments that are in need of repair. A table summarizing the planned work is provided as **Table 2, Summary of Sanitary Sewers Planned for Rehabilitation**.
- The City has a list of sewer repairs completed from 2015 through 2021. Dolph Rotfeld Engineering, PC completed an investigation of a portion of the sewer system in 2015, and repairs are summarized in the report. In addition, the City rehabilitated sewers in 2018, 2019, 2020 and 2021. A summary of these repairs is provided in **Appendix B – Recent Sewer System Repairs**. **Figure 5** shows the locations of the 2020/2021 Sewer Repairs. Unfortunately, the location for the other repairs is provided by street and does not include manhole numbers, so a figure was not created to show the locations.
- The City has a list of locations of reoccurring sewer backups, both at City residents and pipe segments that require frequent cleaning. This is provided as **Table 3**.
- There are sanitary sewer manholes and sewer located in Laurel Brook, and possibly other waterbodies, that should be evaluated for integrity. The City should consider relocating sewers that are in streams, and if not possible, they should all be rehabilitated and made watertight.

The City has completed additional investigation and rehabilitation work that has not yet been documented. If any of the following additional information is available, it should be recorded and mapped prior to starting investigations der to provide a holistic overview of the known problem areas and create an understanding of where repairs have been made.

- Additional investigation and repair information
- Buildings that have historically had sanitary sewer back-ups and other locations of sanitary sewer overflows (SSOs)
- Areas that periodically flood
- Areas where recent capital improvements or development have changed the sewer system configuration or components

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5 Investigation Methodology

This Section details the methodology to implement during the investigation. Prioritization of areas for SSES investigation will be based on the results of the fecal coliform sampling completed as part of the IDAP, storm sewers with unexpected dry weather flow, residents with sewage backups into their basements, and the City staff institutional knowledge of problem areas. For example, if the storm sewer system has dry weather flow, sampling shows high concentrations of fecal coliform, and the sanitary sewer is adjacent to or above the storm sewer, then the sanitary sewer will be investigated to find potential locations of direct and indirect connections to the storm sewer. Once investigations in prioritized areas are completed and there are no additional known sanitary sewer problems, the investigation will move to another sewershed to look for similar problems. All sanitary sewers will eventually be investigated as part of the overall SSES program, so it is critical that the areas investigated are properly documented to avoid duplication of efforts or missing areas.

5.1 Methodology and Techniques Used for Sanitary Sewer Evaluation Surveys

The goal of this SSES is to locate and eliminate illicit discharges from the sanitary sewer to the storm sewer and waterways, reduce I/I into the sanitary sewer, locate structural problems so they can be repaired, and investigate known sewer problems so they can be eliminated. Investigation will first focus on the drainage areas discharging the greatest fecal coliform pollutant load and locations with known serious sewer problems.

A variety of investigative techniques may be used to effectively evaluate the sanitary sewer and include the following:

The investigative techniques anticipated to be used for this SSES include:

- Closed Circuit Television (CCTV) Inspections
- Manhole Inspections
- Dye Testing
- Smoke Testing
- Acoustic Pipe Inspection

The methodology for each of these investigative techniques is detailed below. All field work should be documented including, but not limited to: field and sampling notes, analytical results, manhole inspections forms, CCTV reports, dye test forms, dye test notifications, violation notifications and corrective actions.

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5.1.1 Closed-Circuit Television (CCTV) Inspection

5.1.1.1 Technique Benefit/Uses:

- Use in conjunction with dye testing to determine direct and indirect connections to the storm sewer; and
- Identify structural and hydraulic deficiencies in the sewer.

Pipes are cleaned prior to inspection using a pressurized jet nozzle to remove debris, grease, and any accumulated material. A camera is then inserted into the pipe, which is remotely operated and directed through the pipe, and stopped at each defect and service connection to pan/tilt to observe and document the sewer features. The inspection of gravity sewer segments will be conducted in accordance with the NASSCO PACP© procedure standards and performed from manhole-to-manhole. Typical defects observed and recorded in the inspections of sewer segments include root intrusions, cracks, fractures, broken pipe, active infiltration, impending infiltration, evidential infiltration, deposit and grease buildup, and pipe wall deterioration. Service connections are not interrupted, and sanitary flows continue under normal conditions during these inspections.

Heavy cleaning and number of passes required during sewer cleaning will be tracked and recorded. Pipe segments where grease was a problem will be identified and documented for future inspections, the sewer cleaning priority list, and the City's Fats, Oils and Grease Program.

In accordance with NASSCO's PACP© format, each observed sanitary sewer pipe defect will be assigned a grade based on severity and occurrence of defects within each inspected pipe. NASSCO PACP© pipe defect grades are assigned in accordance with the following criteria:

- 1 *Excellent*: minor defects; failure unlikely in the foreseeable future.
- 2 *Good*: defects that have not begun to deteriorate; pipe unlikely to fail for at least 20 years.
- 3 *Fair*: moderate defects that will continue to deteriorate; pipe may fail in 10 to 20 years.
- 4 *Poor*: severe defects that will become Grade 5 defects in the foreseeable future; pipe will probably fail in 5 to 10 years.
- 5 *Immediate Attention*: defects requiring immediate attention; pipe has failed or will likely fail within the next 5 years.

The NASSCO's PACP© condition grades distinguish overall pipe grades for structural defects, and operation and maintenance defects separately. Defects that impact the structural integrity of a sanitary pipe include cracks, fractures, and holes. Maintenance defects pertain to the operational condition of the sewer, which includes, sags, grease deposits, root intrusions and infiltration.

The CCTV contractor will be required under contract to notify the City and Engineer when ratings of 4 and 5 are observed, provide daily downloads of videos, and provide an updated map showing completed work and notes.

5.1.2 Manhole Inspections

5.1.2.1 Technique Benefit/Uses:

- Debris in the manhole could be evidence of an upgradient break in the pipe;
- Collapsing manholes could lead to dangerous sink holes;

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- Observe active I/I and observe evidence of previous I/I
- Manholes in disrepair can allow sewage to exit the sanitary system and enter the storm system.

Excessive deposits, standing water, and evidence of surcharging in a sewer manhole often indicate that a portion of the sewer has collapsed or that a blockage caused by roots and/or debris is present. Breaks in upgradient pipe sections not only pose a threat to the structural integrity of the pipe, but it also provides means for sewage to exit the pipe.

When performing a manhole inspection, field teams will complete a manhole inspection form. During the inspection they will consider structural and operational condition, recording information on the chimney, cone, barrel, bench, channel, frame, and cover. Design characteristics of the manhole, included but not limited to, structure type, material, and incoming and exiting pipe orientation, diameter, and depth will be recorded. Adjacent storm sewer depths will also be recorded to determine if the storm sewer was installed below the sanitary sewer, which could lead to sewage entering the storm sewer. The field crew will look for I/I, both active and evident through staining on the walls. They will also evaluate the condition of the structure as it relates for potential exfiltration of sewage. A blank manhole inspection form is provided in **Appendix C – Investigation Forms**.

Manhole inspections will be completed at the same time as sewer CCTV inspections, so all manholes will eventually be inspected. As stated earlier, the sewers and manholes investigated initially will be located in storm sewer drainage areas with elevated fecal coliform concentrations.

During the investigation field crews will verify drainage area extents and terminal sewer manholes to confirm that mapping reflects all existing infrastructure. Results of the manhole inspections and establishment of the drainage area extents will direct field investigations to areas requiring further, more intensive examination.

5.1.3 Dye Testing

5.1.3.1 Technique Benefit/Uses:

- Determine the connectivity of a sewer system by pouring non-toxic dye in an upgradient structure and observing downgradient structures for dye.
- Identify direct and indirect connections between the sanitary and storm sewers.

Dye testing can be used to determine the connectivity of a sewer system, identify sources of inflow, and connections between the sanitary and storm sewer. A sanitary sewer dye test should be performed if there are elevated fecal coliform concentrations in the adjacent storm sewer, and if the sanitary sewer was constructed either above or at a similar elevation as an adjacent storm sewer. A sanitary sewer dye test is performed by placing dye in an upgradient sanitary sewer manhole and observing for dye with a CCTV inspection in the downgradient storm sewer.

Dye testing can also be performed in the sanitary sewer to confirm sources of inflow. Dye can be placed in building drains, catch basins, sump pumps, or roof leaders (gutters) to verify illicit connections to the sanitary sewer. In simple terms, an illicit discharge to the sanitary sewer can be anything not categorized as sewage, such as rain water and groundwater.

A dye test report will be completed for each dye test and will include, but is not limited to, the identification number of the sanitary sewer manhole that dye was placed in, the color of the dye, the stretch of pipe where the CCTV

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equipment was located, the dye test results for each test. A sample dye test form is provided as **Appendix C – Investigation Forms**.

5.1.4 Smoke Testing

5.1.4.1 Technique Benefit/Uses:

- Determine the connectivity of a sewer system, inflow sources, and direct and indirect connections between the sanitary and storm sewer systems

Smoke testing is a cost-effective technique to find sources of inflow, such as driveway drains, area drains, roof leaders (gutters), and missing cleanout caps. It is also used to find direct and indirect connections between the sanitary and storm sewer, and to determine pipe connectivity. Smoke testing is the process of blowing non-toxic smoke through a pipe or other conduit and observing smoke emissions above ground. It can be completed when the pipe is partially full of water and/or debris. The smoke does not enter buildings unless there are defects such as dry or missing drain traps, or improper connections. If smoke does enter a building, it is an indication that sewer gases also enter the building, which is potentially dangerous and should be corrected. Best results are often during times of low groundwater.

Although the smoke is non-hazardous, it requires notification to those in the area being tested, as well as the police and fire department prior to commencing the work. Details of smoke emissions thought to be associated with illicit connections and photographs of the emissions will be recorded. A sample smoke testing form is provided as **Appendix C – Investigation Forms**.

5.1.5 Acoustical Testing

5.1.5.1 Technique Benefit/Uses:

- Quickly identify blockages in between upgradient and downgradient manholes.

The City owns a device called the Sewer Line Rapid Assessment Tool (SL-RAT), by InfoSense, Inc. This device uses acoustic technology to determine if a pipe segment is clear, or if there are blockages. This is done by placing a transmitter in one manhole and a receiver in the next upgradient or downgradient manhole and transmitting sound through the pipe. The receiver provides a score based on how well the sound traveled through the pipe segment. By understanding which pipe segments have debris or blockages, the City can better allocate their cleaning and CCTV resources, as they have historically had oil and grease problems. This device allows for the quick evaluation of 10,000 to 20,000 ft/day of small diameter gravity sewer without confined space entry.

This tool will be most useful to the City for routine maintenance and determining where sewer flushing is needed. It can be used during the SSES, but since the City plans on completing CCTV inspections on all the sewer in the near term as part of a larger infrastructure evaluation program, it generally will not be used for the SSES. When used, the field team will record the pipe blockage rating, date, weather, and any observations from opening the manholes for the test. Results will be shared with the sewer foreman for follow-up actions.

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6 Data Compilation and Review

Details regarding data compilation and review are provided below. Timelines are discussed in Section 9.

CCTV Data Review:

The CCTV contractor will be required to notify the City and Engineering Consultant daily of any pipes with defects that have a NASSCO condition rating of 4 or 5, provide daily CCTV video downloads, and provide a complete package of CCTV reports and videos monthly. The Engineering Consultant will review the information and provide the City with recommendations and a timeline for repairs. Defects requiring immediate attention will be scheduled for repair under the City's Emergency or Master Services Agreements. The Engineering Consultant will review the videos and inspection logs for the remaining pipes when provided by the CCTV contractor.

The Engineering Consultant will assign condition values for the pipe segments in accordance with the NASSCO PACP© condition grading system summarized below.

- 1 *Excellent*: minor defects; failure unlikely in the foreseeable future.
- 2 *Good*: defects that have not begun to deteriorate; pipe unlikely to fail for at least 20 years.
- 3 *Fair*: moderate defects that will continue to deteriorate; pipe may fail in 10 to 20 years.
- 4 *Poor*: severe defects that will become Grade 5 defects in the foreseeable future; pipe will probably fail in 5 to 10 years.
- 5 *Immediate Attention*: defects requiring immediate attention; pipe has failed or will likely fail within the next 5 years.

The types of pipe rehabilitation that could be recommended and the associated general methodology is provided below.

- Grind Service Connection (GSC)
 - Service connection is protruding into the mainline; typically, greater than 1-inch or whenever the protruding service connection would impact maintenance or rehabilitation
- Cured-in-Place Pipe Liner (CIPPL)
 - Numerous significant defects or isolated defects with remaining pipe showing early signs of deterioration
 - Continuous roots, staining, and/or mineral deposits
 - Structural condition warrants CIPSRs, but more cost effective to line the entire segment (i.e. less expensive to CIPPL than installing multiple CIPSRs and possibly other rehab, such as TSJ).
 - Structural condition warrants other trenchless rehab methods besides CIPPL, but up/downstream segments are recommended for CIPPL or if adjacent segments were previously CIPPL
- Cured-in-Place Pipe Spot Repair (CIPSR)
 - Isolated defects (remaining pipe is in good structural condition with no signs of deterioration or other structural or continuous joint infiltration issues)

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- Consider CIPPL if non-CIPSR sections of pipe are showing signs of deterioration; if adjacent segments are similar age/material and in poor condition; if adjacent segments are being recommended for CIPPL or were previously lined; and/or if it is more cost effective to install CIPPL than multiple CIPSRs
- Test and Grout Seal Sewer Joints (TSJ)
 - Isolated roots in joints
 - Isolated evidence of infiltration or minor infiltration
 - Light cracks less than 6-inches from joints caused by “driving pipe home” during installation
 - TSJ is considered more of a short-term rehab method and CIPPL should be considered in instances of continuous roots, infiltration, or evidence of infiltration
- Test and Grout Seal Service Connections (TSS)
 - Break-in service connections
 - Active service connections reinstated post-lining
 - Reinstated service connections in previously lined pipe (if post-lining reinstated service connection grouting is not evident)
 - Infiltration or evidence of infiltration (e.g. staining or mineral deposits)
 - Minor structural issues (e.g. offset joints, cracks)
- Excavation Point Repair
 - Isolated defect unable to be repaired using trenchless methods
- Excavation Sewer Segment Replacement
 - Defects throughout sewer that cannot be lined or where preference is to replace old sewer with new sewer

Smoke Testing and Dye Testing:

The City and Engineering Consultant will review results of dye testing and smoke testing daily and make decisions on how to proceed with additional testing and rehabilitation.

Manhole Inspections:

The field team will notify the City and Engineering Consultant if they believe immediate attention is needed due to a structural issue or if they believe the manhole could be contributing to an illicit discharge. The Engineering Consultant will provide recommendations for rehabilitation or additional testing to confirm there is a problem. Defects requiring immediate attention will be scheduled for repair under the City’s Emergency or Master Services Agreements. The Engineering Consultant will review the manhole inspection forms and provide recommendations for the remaining manholes within the storm sewer drainage area once the inspections are completed.

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Map Updates and Documentation:

Once the investigation is completed in a storm sewer drainage basin, the City or Engineering Consultant will update the GIS. This will include changes to the location or extent of the sewer system, updates to pipe diameter and material, manhole invert elevation, location of direct connections identified and the status of elimination, locations where investigations were completed (i.e., smoke testing, dye testing, manhole inspections, sewer cleaning and CCTV), and locations that had heavy grease and/or debris for future consideration for routine maintenance. The GIS will also be updated to show the infrastructure planned for repair and the infrastructure that was repaired. This will include what was done and when it was completed.

An inventory of work completed, work planned, and scheduled repairs will be documented in a spreadsheet, or database.

All manhole inspections, smoke testing reports, dye testing reports and CCTV reports and videos will be saved to a one central repository.

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7 Rehabilitation

Sanitary sewer system rehabilitation, including manhole repair, building lateral rehabilitation, and sewer repair, is necessary for reductions of illicit discharges (sewage) to the storm sewer for sustaining these reductions. The illicit discharges associated with aging infrastructure, including leaks associated with deteriorating building laterals, sewers, and manholes, will be prevalent and a reoccurring problem in the City. Inherently, new illicit discharges associated with failing infrastructure will occur each year. This issue can make sewer investigation efforts less effective, as the same buildings and sewer must be re-tested each year to track down new problems.

Reductions of the illicit discharges of storm water to the sanitary sewer will also require sewer rehabilitation. An investment in the infrastructure is necessary to end the cycle of an investigation that is continuously reacting to new problems. This Section summarizes the common manhole and sewer rehabilitation techniques and when to use them.

7.1 Pipe Rehabilitation Techniques

7.1.1 Full Pipeline Repairs

Mainline rehabilitation takes into consideration the repair or replacement of a sanitary sewer mainline from manhole-to-manhole. The methods considered for recommendation include open-cut pipe replacement, cured-in-place pipe lining (CIPPL), and grout injection. Each of these technologies has advantages and disadvantages considered when identifying the most suitable method for rehabilitation of each mainline including disruption to traffic, businesses, and residents, permitting, and product lifespan.

7.1.1.1 Open-Cut Pipe Replacement

Open-cut pipe installation is a conventional method for installation of new sewer pipe and replacement of severely defective, collapsed, or undersized pipes. Replacing existing pipes involves digging a trench along the alignment of the existing, defective sewer, supporting the trench walls, removing the existing pipe, constructing the pipe bedding, placing, and connecting the new pipe, backfilling/compacting, and surface restoration. Open-cut pipe replacement is one of the most expensive and disruptive methods for revitalizing a sewer system, as it has several additional costs not directly included in the pipe installation cost, including traffic control, flow bypass, soils handling, rock removal, trench dewatering, paving if located in roadways, protection of trees/roots, and the added risk of damage to other adjacent utilities.

7.1.1.2 Cured-in-Place Pipe Lining

CIPPL is a trenchless rehabilitation technology which is widely used to rehabilitate sanitary sewers. CIPPL requires flow bypass and traffic control, but it does not require expensive and disruptive excavation methods. CIPPL can rehabilitate pipes ranging in size from 4 to 100 inches and continuous lengths of up to 1,000 LF at a time. CIPPL materials are designed for a 50-year service life, thereby extending the useful life of rehabilitated sanitary sewers.

CIPPL consists of a soft flexible tube that is impregnated with a thermosetting resin, installed as a liner in an existing sanitary sewer and cured through the application of heat (steam or hot water) or ultraviolet (UV) light. Prior to CIPPL installation, the host sanitary sewer must be cleaned and freed of protrusions and other

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impediments which would obstruct the CIPPL installation and curing. End seals are installed at the manhole inlets prior the liner inversion to prevent water from traveling in between the liner and the host sanitary sewer.

CIPPL is most often installed by direct inversion, whereby the liner is turned inside out before installation and inverted into the host sanitary sewer with either water or air pressure, as seen in **Figure 6**. Once the liner is installed, it is cured-in-place by circulating heated water or steam throughout the inverted liner. The liner may also be cured-in-place through the application of UV light. The CIPPL subsequently forms a new pipe within the host sanitary sewer.

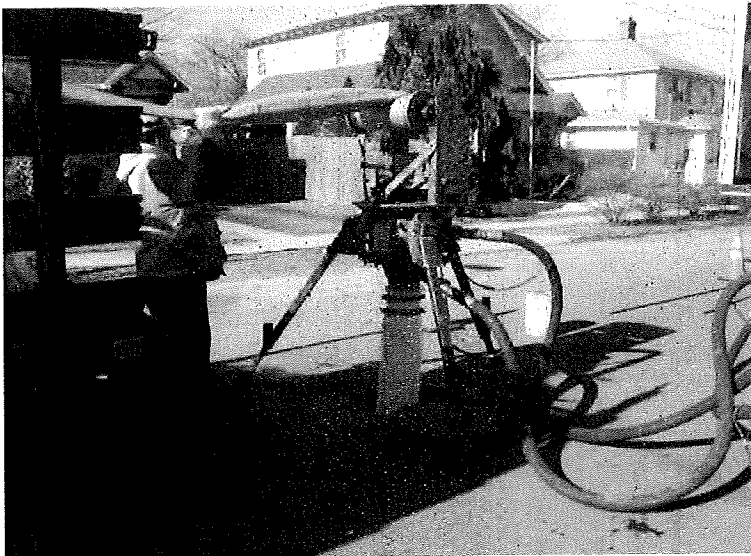


Figure 6. Installation of Cured-in-Place Pipe Lining

Upon the installation and curing completion, the ends of the CIPPL are trimmed to form a smooth, seamless pipe at the manholes. A robotic cutting device is used in conjunction with a CCTV camera to reopen service connections along the sanitary sewer. Typically, during lining curing, a small dimple is left in the CIPPL directly over each service connection, allowing them to be easily located for reinstatement. The fully installed CIPPL is finally inspected by means of a CCTV camera to ensure that the liner was installed satisfactorily and free of defects.

7.1.1.3 Grout Injection

Grout injection is one of the oldest and lowest cost methods of pipeline repair for leaking joints and circumferential cracks. It can also be used for repairing small holes and radial cracks and sealing joints. It is not used to repair longitudinal cracks or joints where one of the connecting pipes has a longitudinal crack near the joint. Grout injection is not a rehabilitation method for structural defects and should only be used for pipe sections that are primarily in good structural condition.

Grout injection is generally accomplished with a hollow metal sealing packer with inflatable rubber sleeves on each side of a center band, as shown in **Figure 7**. The grout is applied to joints, cracks, holes, and soil voids as the sleeves are inflated and forced into the surrounding soil. A CCTV camera is utilized for positioning and guidance of the sealing packer and for performing the pre- and post-grouting inspections.

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Air and water testing can also determine the grout effectiveness. Grouting is generally used for smaller diameter pipes, 24-inch diameter or less, but can be used on larger pipes with specialized equipment and/or personnel entry.

Sections of pipe with high infiltration at multiple joints and circumferential cracks are candidates for pre-CIPPL grout injection. The grout is used to stop groundwater leaks that may inhibit the CIPPL installation process. When applied alone, the expected lifespan of grout is approximately 10 years.

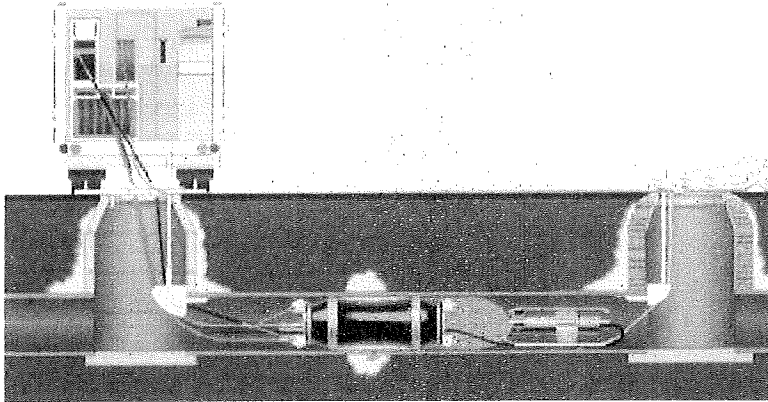


Figure 7. Grout Injection Diagram (Graphic by Logiball)

7.1.2 Point Repairs

Point repairs are an economical method for rehabilitating isolated structural defect, as opposed to rehabilitating or replacing the entire length of pipe. There are two widely used point repair methods, including cured-in-place spot repairs (CIPSR) and excavated point repairs. The selected method for point repair is on a case-by-case basis, depending on the severity of the structural defect, as well as constructability issues and construction costs.

7.1.2.1 Cured-in-Place Spot Repairs

CIPSR are an economical trenchless method of pipeline rehabilitation for isolated structural defects including holes, fractures, cracks, corrosion, and pipe distortions. CIPSR can rehabilitate pipe sizes ranging from 4-inches to 36-inches in diameter at lengths of 1 to 10 feet. The cured-in-place lining material is designed for a 50-year service life and consists of a soft flexible tubing or fiberglass material impregnated with an ambient curing resin.

Prior to installation of the CIPSR the sanitary sewer must be cleaned and cleared of all obstructions that would hinder the installation process. The location of the defect to be rehabilitated is identified and measured through CCTV inspection. After being “wet out” on-site, the CIPSR is pulled into place using a winch, as shown in **Figure 8**, and is allowed to cure in ambient conditions. A final CCTV inspection of the CIPSR is performed to ensure the liner was installed satisfactorily and is free of defects.

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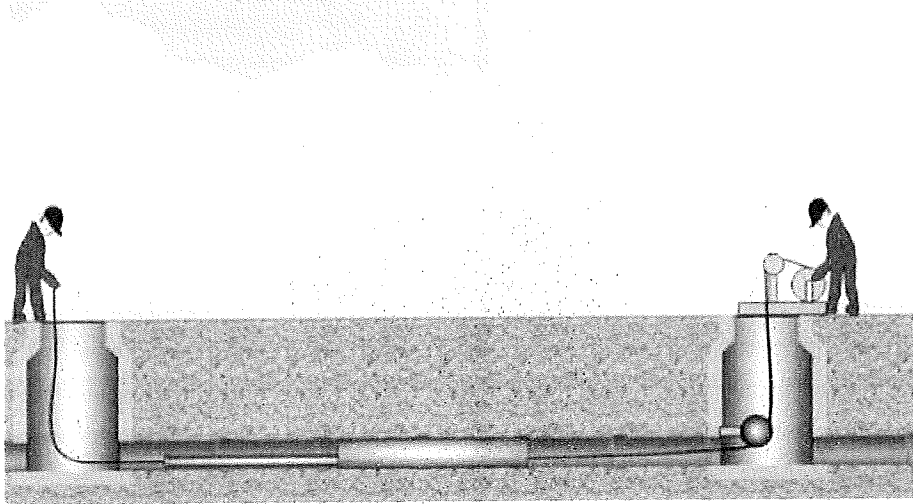


Figure 8: Cured-in-Place Spot Repair Diagram (Graphic by American Trenchless Technology)

7.1.2.2 Excavation Point Repairs

Excavated point repairs are a rehabilitation technology used to address isolated defects that cannot be repaired by CIPPL or CIPSR, such as large holes or collapsed sanitary sewer sections. Construction of a point repair requires excavating to the defective section of sanitary sewer. The existing sanitary sewer is saw-cut on both sides of the defect so a new pipe section can be installed. Couplings are installed at both ends of the new pipe section to join the new pipe section to the existing sanitary sewer. Point repairs are usually the most expensive rehabilitation method but are sometimes necessary to correct structural defects that cannot be addressed by other means.

7.1.3 Chemical Root Treatment

Chemical root treatment (CRT) is a technology used to remove existing roots and prevent root growth in sanitary sewers. An herbicide is applied as foam to the interior of the sanitary sewer using chemical injection pumps and hoses. The herbicidal foam fills the sanitary sewer volume and the roots uptake the chemical, thereby killing the roots after a period of several weeks. CRT does not eliminate infiltration, but it is commonly used as a pretreatment for CIPPL implementation.

In many cases, CRT may be used in a sanitary sewer segment without bypassing active sanitary flow. This condition typically holds true for sanitary sewers 42 inches in diameter and smaller and flowing less than half-full. Larger sanitary sewers or higher flows would require bypass pumping of active sanitary flow to complete CRT.

7.2 Lateral Connection Rehabilitation

Sanitary laterals and sewer connections are frequently cracked, broken, or improperly installed. CIPPL only rehabilitates mainline sanitary sewers, which leave avenues for infiltration at the sanitary lateral and sewer connections. Lateral connection liners (LCL), epoxy repair and service grout injection are three commonly used lateral repairs for removing infiltration. The selected method for lateral repairs is on a

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case-by-case basis, depending on the flow rate of infiltration, size of the pipe, condition of the service connection, soil and groundwater conditions, and construction costs.

7.2.1 Lateral Connection Liner

The LCL product consists of a resin-impregnated connection liner with either a full wrap or brim style mainline connection which is positioned on a pneumatic bladder inside the sanitary sewer at the location of the sanitary lateral, as shown in **Figure 9**. The bladder is inflated to install the LCL, which typically extends a minimum of 18 inches from the sanitary sewer into the lateral and can extend as much as 80 to 100 feet. The installed LCL is fully cured before the bladder is removed from the sanitary sewer. No access from the ground surface (such as a cleanout) is required at the upstream end of the LCL.

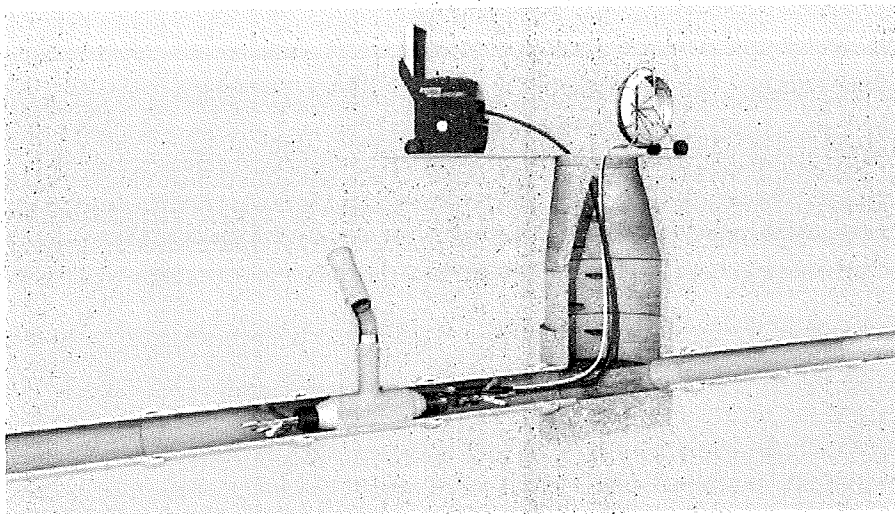


Figure 9: Installation of Lateral Connection Liner (Graphic by Trelleborg)

7.2.2 Lateral Epoxy Repair

Lateral epoxy repairs typically involve hand applied epoxy at the lateral and mainline, filling in any voids and extended approximately 12 inches into the lateral. Epoxy repairs generally requires man-entry, so are only considered viable options for larger diameter pipes.

7.2.3 Lateral Grout Injection

Lateral grout injection is a commonly used and highly effective method of stopping active infiltration at the lateral and mainline connection. The lateral grout material and injection method is very similar to the mainline joint grouting, however the sealing packer has an additional bladder that extends up the lateral. The grout is applied to the service and forced into the surrounding soil as the rubber sleeves of the packer and the lateral bladder are inflated. A CCTV camera is utilized for positioning and guidance of the sealing packer and for performing the pre- and post-grouting inspections.

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Installation of LCLs and epoxy repairs cannot be performed while there is active infiltration at the service connection. In cases where the lateral rehabilitation methods are required, pre-rehabilitation grout injection is utilized to stop the leak.

7.3 Manhole Rehabilitation

Generally, coating of sanitary manhole chimneys and walls or grout injection into manhole joints and cracks has been recommended to rehabilitate manhole structures. Cementitious manhole coating is accomplished by covering the structure with a cementitious or epoxy material to provide waterproofing, a barrier to root penetration and infiltration, and protection from corrosive H₂S gases. Additionally, at some defective manholes, the manhole frames, covers or chimneys may need to be either sealed, reset, raised, or replaced.

7.3.1 Cementitious Liner

For all defective manholes that are structurally sound, except those of precast concrete construction type, which are to be rehabilitated, a spray-on cementitious liner is typically recommended for infiltration. The spray-on cementitious product consists of a Portland cement enhanced with micro silica. Additives can be incorporated to resist biogenic corrosion. The product is typically applied to defective manholes with a spray mechanism. Rehabilitation of manholes with this product also serves to provide waterproofing, sealing and corrosion protection. **Figure 10** shows a before and after for a sanitary manhole rehabilitated with cementitious liner.

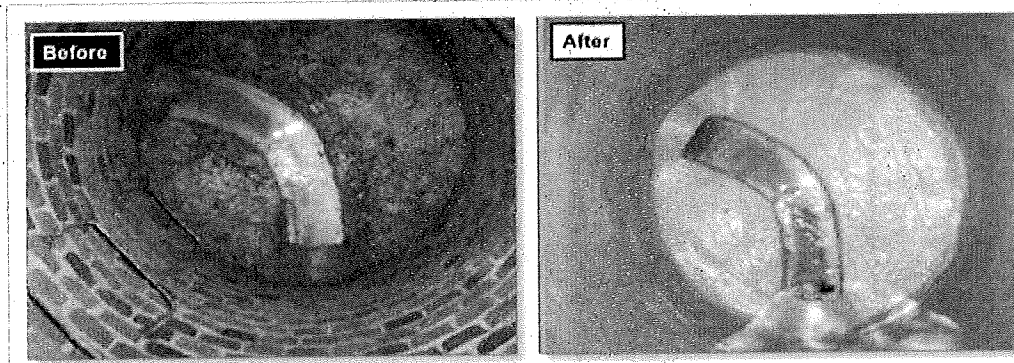


Figure 10: Cementitious Liner

7.3.2 Manhole Grout Injection

Manhole grout injection is typically recommended for structurally sound precast manholes which require rehabilitation for other reasons. The chemical grout is either acrylamide- or acrylic-based and can be supplemented with a latex additive for strength enhancement. Additionally, a root-deterrent chemical, such as dichlorobenzil, may be added to the chemical grout mixture to prevent intrusive root growth. Precast manhole rehabilitation by grout injection serves to provide waterproofing and sealing of manhole wall joints, benches, and inverts.

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7.3.3 Flex-Coat Chimney Seal

A flex-coat chimney seal is used to prevent infiltration and exfiltration through the frame joint area and above the manhole corbel. The chimney seal material is a flexible product which allows for vertical and horizontal movement of the frame due to frost lift, ground movement, or vehicular traffic. Application of the chimney seal material is achieved by coating the interior of the chimney area with the product after the application of other manhole rehabilitation products.

7.3.4 Chemical Protective Coating

Where warranted, an additional layer of a chemical protective coating may also be recommended for defective manholes for corrosion protection. The chemical coating is usually a proprietary epoxy material which is resistant to biological corrosion, water, oils, and other chemicals typically found in sewage. Through application of the chemical protective coating, manholes are offered an additional corrosion barrier, effectively reducing the potential for future infiltration.

7.3.5 Manhole Cover and Frame Reset

Manhole frames and covers below grade are reset by adding bricks, concrete blocks, or an extension adapter ring. Manhole covers and frames above grade are reset by the removal of brick or concrete blocks.

7.3.6 Replace Manhole Cover and Frame

Depending on the observed condition of manhole frames and covers during an inspection, some manhole frames and covers may need to be replaced. Implementing this rehabilitation is rather straightforward in that the existing frame and cover would be removed and replaced with a new frame and cover. In some areas, such as within the Federal Emergency Management Agency (FEMA) 100-year floodplain and where manholes are in roadway gutters, new watertight manhole frames and covers may need to be installed to prevent inflow of extraneous stormwater or surface water flow through the manhole frame and cover during wet weather.

7.3.7 Inflow Protectors and Lid Hole Plugs

Manholes where frames and covers show minimal signs of wear while located such that the cover is subject to surface runoff or minor ponding during rain events and snow melt, a cost-effective measure to minimize inflow between the frame and cover can be achieved by the installation of an inflow protector between the cover and frame to prevent inflow from entering the manhole or by plugging any exposed manufactured vent or pick holes in the cover. These are typically used in roadway gutter lines or parking lots that are not subject to high volume surface runoff or standing water and are not considered for their longevity, as such watertight frame and covers are the preferred long-term solution for prevention of inflow.

7.3.8 Injection Grouting

Stops infiltration by forcing grout through joints and cracks and into the surrounding soil where it solidifies with the soil to form a waterproof mass which cannot be pushed back into the sewer system. Grout can permanently stop water infiltration and seepage into all types of manholes but is mostly used on pre-cast manholes. The chemical

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grout is injected from the inside of the manhole to the outside to form a gel curtain around the outside of the manhole. This will seal signs of infiltration in manhole walls.

7.3.9 Repair Bench/Channel

In cases where bench/channel were noted to be missing or impacting flow of sewer system, it has been recommended that the bench and channel be repaired to improve flow and accessibility. Where bench/channel repair are recommended for upstream terminal manholes with flush tank manhole configuration, this recommendation includes removing flush tank mechanism and building a channel for flow. The intention for this rehabilitation is to allow for accessibility of sewer line, as the flushing mechanism currently blocks access. In some cases, the piping just downstream of an upstream terminal flush manhole has been damaged or sealed with concrete. In these cases, an excavated point repair may also be required to convert the flush manhole to a typical upstream terminal manhole.

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8 Notifications and Reporting

8.1 Illicit Discharge Notifications

The City will report discharge of untreated or partially treated sewage within two hours of discovery to the NYSDEC and WCDOH, and within four hours of discovery to the general public using the NY-ALERT system. Within 5 days, a written report as defined by 6NYCRR Part 750-2.7, will be submitted to the NYSDEC.

8.2 USEPA/NYSDEC Annual Report

An Annual Report summarizing the results of the investigation will be prepared and submitted to the USEPA/NYSDEC in February of each year. The report will include the following, broken out by drainage area:

- Purpose of document/intent;
- Narrative describing the selection of drainage areas for that years' investigation;
- Status of the investigations in each drainage area;
- A summary of the investigation and all repair work completed in each investigated drainage area;
- A summary of the analytical results from outfall sampling and a comparison to the results from prior years.
- Updated maps showing work completed and analytical results; and
- Summary of financials, including dollars spent for investigation and repairs.

8.3 Grant and Long-Term Financing Reporting

The grant and long-term finance will have monthly, quarterly, and/or annual reporting requirements. These requirements are specific to the grant and financing and should be part of the Funding Plan discussed in Section 2.

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9 Investigation Implementation and Rehabilitation Response

This section provides guidance on how to proceed with implementation of the SSES and the rehabilitation response.

9.1 Investigation Implementation and Schedule

The investigation will begin in the area that drains to Outfall 24. Field reconnaissance will be completed to confirm the extents of the sewer system. GIS mapping will be updated to confirm its complete and that there are unique numbers for all structures. Samples will be collected throughout the storm sewer where there is dry weather flow and analyzed for fecal coliform. The sampling results will be used to prioritize sanitary and storm sewer investigations, including dye testing, smoke testing, and CCTV investigations.

The City plans on completing the initial investigation of the Outfall 24 storm sewer drainage area in 12 months, with a 3-month contingency. The cleaning and CCTV contract will be awarded early 2023, so the anticipated start date of the investigation is March 1, 2023. With the 3-month contingency, the anticipated end date is May 31, 2024. The City will endeavor to complete the investigation as expeditiously as possible, but it must be noted that completion of the work relies on independent factors outside of the direct control of the City, which includes, among others, the authorization and final approvals necessary for the release of State funding, and the performance of third parties, such as scheduling with regard to the policies and procedures of the necessary partners for the work.

As previously discussed, Outfall 24 represents approximately 95% of the fecal coliform pollutant load. Completion of the initial investigation will be measured as completion of storm and sanitary sewer mapping as-needed, CCTV investigation of all storm sewer with dry weather flow, investigation of sanitary sewer that are at the same depth or above the adjacent storm sewer, completion of dye testing private buildings and sanitary sewer where potential illicit connections are discovered, and response to illicit connections as described below. The SSES and IDAP will be worked on simultaneously, with the emphasis first on illicit discharge detection and elimination. Therefore, some sanitary and storm sewers in the Outfall 24 drainage area may not be investigated in the first 12 months if there are no signs of illicit discharges. Instead, the investigation will move to another area that is experiencing illicit discharges.

The investigation will be a fluid process and investigation techniques will change based on information gained from the investigation. There is 73,000 linear feet of storm sewer and 140,000 linear feet of sanitary sewer in the Outfall 24 drainage area. This is a general summary of how the work will progress.

- Month 1 and 2 – Update GIS mapping, confirm extents of sewersheds, collect samples in the storm sewer and analyze for fecal coliform, award an agreement with a CCTV contractor, and schedule staff and work.
- Month 3 and 4 – Combination of CCTV inspections, storm sewer sample collection, manhole inspections, smoke testing, dye testing, and GIS map updates.
- Month 5 through 11 - Continue sewer investigation, mapping updates, review of CCTV footage, and develop recommendations for sewer repairs.
- Month 12 – Finish sewer investigation and investigation report.

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Similarly, the City plans that the initial investigation of the storm sewer drainage areas that drain to the remaining polluting outfalls (i.e., 48, 43, 15, 31, 53, and 30) will be completed 9-months after the Outfall 24 investigation, including a 3-month contingency. Therefore, the anticipated end date is November 30, 2024.

The City plans on continuing the SSES into the remaining areas of the City once completed in the areas listed above. The focus will shift to inspecting for structural deficiencies and evidence of inflow and infiltration. The City has approximately 105 miles (554,000 feet) of sanitary sewer and plans on completing the SSES investigation within 5-years (110,000 feet/year) with a 6 month contingency. A cleaning and CCTV contract will be awarded early 2023, so the anticipated start date of the investigation is March 1, 2023. The City plans on awarding a cleaning and inspection contract each year until the work has been completed. With the 6-month contingency, this work shall be completed by August 31, 2028.

Oversight of the CCTV inspection will be done to help determine in real time the sewers that will need to be repaired soon under an emergency contract. Oversight will also allow for decisions to be made in real time to perform sanitary sewer dye tests or confirm location of an illicit connection and plan for building dye tests.

9.2 Rehabilitation Response and Schedule

This section summarizes how identified problems will be corrected once identified. Construction oversight is critical for this rehabilitation work to confirm it is completed properly and according to plans and specifications.

Sewer Repairs

- Emergency or Near-Term Sanitary Sewer Repairs/Replacement – During CCTV inspections, or other investigation methods, if there is evidence of a partially collapsed pipe or a sewage exfiltrating through breaks in the sewer, the pipe will be scheduled for repair through the City's emergency contracting powers as duly authorized by law. Otherwise, the videos and logs from sewer CCTV inspections will be reviewed and evaluated once received from the CCTV contractor. Sanitary sewers found to have a PACP rating of 5 or thought to potentially be causing an illicit discharge will be scheduled for repair through the City's emergency contracts. This includes sewers with breaks within the normal sewage flow line that are adjacent to storm sewers constructed at the same depth or below the sanitary sewer.
- Planned Annual Repairs – Sanitary sewers that do not fit in the emergency or near-term repair category will be evaluated, prioritized, and recommended for repairs once they are received by the CCTV contractor. The City currently plans on soliciting bids for the lower priority repairs annually.

The City will utilize their emergency services contracts to expedite emergency repairs and will plan to complete the repairs within 30-days. Some repairs may be completed within a week, and some may need to extend past 30-days. For example, if the sewer is going to be lined with a cured-in-place pipe the liner needs to be ordered and custom made to fit the pipe. There will also be instances where the defective pipe first needs an excavation point repair and then will be lined. If the repair will take more than 30-days, the City will provide updates and show that progress is being made to complete the repair and a schedule for completion. If a sewer replacement requires survey and design, the City will plan to have the survey and design completed within 30-days, and the replacement completed within 60-days of identification. Similarly, if it takes longer the City will provide a plan and

City of Mount Vernon
Sanitary Sewer Evaluation Survey

schedule for completion. There are many factors out of the City's control regarding these timelines that could impact this schedule, such as weather, contractor availability, materials, and release of grants and financing.

The City has a contract with M. Zonzini Pipeline Services, Inc. for sewer excavation repairs and replacement, as well as some sewer investigation services. The City also utilized an existing agreement between Green Mountain Pipeline Services and Westchester County for sewer and manhole cleaning, inspection, and rehabilitation lining work. This contract recently expired, but the City plans on entering a new agreement with the contractor. Additionally, the City anticipates issuing a request for bids to obtain agreements for sewer and manhole rehabilitation. Standard details and specifications will be developed for this work, and Contractors will be asked to provide a list of unit costs for various types of inspection and repairs.

Manholes Repairs

- Emergency or Near-Term Manhole Repairs/Replacement – Manholes found to be at risk for collapse, or through the inspection it is believed that sewage can be leaking from the sanitary sewer manhole to an adjacent storm sewer manhole, they will be scheduled for repair through the City's emergency services contract as duly authorized by law. The City will plan to complete emergency repairs within 30-days. If a survey and design is required, the City will plan to have the survey and design completed within 30-days, and the replacement completed within 60-days of identification. There are many factors out of the City's control regarding these timelines that could impact this schedule, such as weather, contractor availability, and release of grants and financing.
- Planned Annual Repairs – Manholes that do not fit in the emergency or near-term repair category will be evaluated, prioritized and recommended for repairs. The City currently plans on soliciting bids for the lower priority repairs annually.

The City will follow the same schedule for manhole emergency and non-emergency repairs as described in the sewer repair section.

Tables



**Table 1
Sanitary Sewer
GIS Attributes**

Sanitary Sewer Evaluation Survey
City of Mount Vernon, New York

Sewer Manholes	Sewer Mains
OBJECTID_1	OBJECTID
OBJECTID	OBJECTID_1
MHNUMBER	SW_UID
MUNICIPAL	YEARBUILT
DISTRICT	DIAMETER
INVERTELEV	SOURCE
COMMENTS	TYPE
SYSTEM	MATERIAL
SCAN_ID	SCAN_ID
CUSTODIAN	CUSTODIAN
DATA_SOURCE	MANHOLE
ROUTE	DATA_SOURCE
RIM_ELEVATION	ROUTE
INVERT_ELEVATION	SECTION_LENGTH
DEPTH	SLOPE
NOTES	NOTES
LOCATION_DESCRIPTION	CITY
CITY	STATE
STATE	COUNTY
COUNTY	DATE_COMPILED
DATE_COMPILED	DELIVERY
X_COORD	DOWNSTREAM_MANHOLE_ID
Y_COORD	UPSTREAM_MANHOLE_ID
SEWER_MANHOLE_ID	UID
DELIVERY	Shape_Length
UID	

Note: Attributes in gray represent little to no data available.



Table 2
Planned Sanitary Sewer Repairs

Sanitary Sewer Evaluation Survey
City of Mount Vernon, New York

	Street	Location	Pages	Sewer	Size	Length (feet)	CIPP (\$)	Repair (\$)		Outfall #
1	Hutchinson Boulevard	E. Lincoln Avenue/ Overpass	350-351	Sanitary	12"	175		\$91,875	\$262,500	River
		Sanitary Sewer adjacent to Hutchinson River - Repair of 175ft completed		1933	12"	1365	\$170,625			
2	Adj. to the Hutchinson River	Hillside Avenue/ E 3rd Street	720-721	Sanitary	12"	150	\$18,750		\$148,350	River
				1935	20"	250	\$45,000			
		Sanitary Sewer adjacent to Hutchinson River			24"	360	\$84,600			
3	Beechwood Avenue	Grandview / Farrell Avenue	21	Sanitary	8"	1020	\$63,750		\$63,750	#24
		Maintenace to upstream sewers, of cleaned 24inch sewer adjacent to River		1932						
4	Beekman Avenue	Beekman/ Tecumseh Avenue	23	Sanitary	8"	30		\$15,750	\$15,750	#24
		Maintenace to the Sanitary sewer around the manhole, Point Repair		1932						
5	Brookside Avenue	Farrell / Warwick Avenue	37	Sanitary	10"	530	\$33,125		\$72,725	#25
		Maintenace to upstream sewers, of cleaned 24inch sewer adjacent to River		1932	20"	220	\$39,600			
6	Commonwealth Avenue	Under Cross County Pkwy	552	Sanitary	10"	200	\$12,500		\$12,500	
		Maintenace of the Sanitary sewer the goes under the Cross County Parkway		1933						
7	Dell Avenue	E. Prospect / Crest Avenue	96	Sanitary	15"	30		\$15,750	\$60,750	#24
		Sink hole in street created by broken sewer, Steel Plate covering hole		1933	15"	250	\$45,000			
8	Dock Street	Edison/ South 3rd Avenue	103A	Sanitary	8"	600	\$37,500		\$37,500	#34
		Maintenace to problem Sanitary sewer		1979						
9	Edison Avenue	Dock Street / South Fulton Avenue		Sanitary	8"	1400	\$87,500		\$87,500	#34
		Maintenace to problem Sanitary sewer	111-112	1979						
10	Farrell Avenue	Brookside / Hillside Avenue	259	Sanitary	8"	250	\$15,625		\$15,625	#24
		Maintenace to upstream sewers, of cleaned 24inch sewer adjacent to River		1932						
11	Langdon Avenue	Beekman Avenue / 4th Street	367-368	Sanitary	12"	30		\$15,750	\$49,500	#24
		Maintenace to sanitary sewer above storm sewer, Point Repairs		1932	15"	30	\$15,750			
					22" x 30"	30		\$18,000		
12	Langdon Avenue	4th Street / South Fulton Avenue	366-367	Sanitary	15"	910	\$163,800	\$0	\$163,800	#24
		Maintenace to problem Sanitary sewer		1932						
13	Primrose Avenue	@ Flectcher Avenue	483	Sanitary	8"	30		\$15,750	\$15,750	
		Maintenace to the Sanitary sewer around the manhole, Point Repair		1933						



Table 2
Planned Sanitary Sewer Repairs

Sanitary Sewer Evaluation Survey
City of Mount Vernon, New York

	Street	Location	Pages	Sewer	Size	Length (feet)	CIPP (\$)	Repair (\$)		Outfall #
14	Haven Avenue	@ Columbus Avenue		Sanitary	8"	30		\$15,750	\$15,750	
	Sink hole in street created by broken sewer, Steel Plate covering hole									
15	MacQuesten Parkway	Mt Vernon Avenue / Berg Street	404-408	Sanitary	8"	2050	\$128,125		\$262,500	
				1934	10"	810	\$50,625			
					12"	670	\$83,750			
	Maintenance to problem Sanitary sewer									
16	MacQuesten Parkway	@ Williams Street	404-408	Sanitary	12"	30		\$15,750	\$15,750	
	Sink hole in street created by broken sewer, Steel Plate covering hole									
17	Mount Vernon Avenue	@ Bond Street	427-429	Sanitary	18"	30		\$15,750	\$15,750	
	Maintenance to the Sanitary sewer around the manhole, Point Repair									
				1933						
18	North 9th Avenue	E. Sidney Avenue / Valentine Ave	443	Sanitary	8"	30		\$15,750	\$15,750	
	Maintenance to problem Sanitary sewer, Point Repair									
				1934						
19	Oakland Avenue	@ Pennsylvania Avenue	453	Sanitary	15"	200	\$36,000		\$36,000	
	Sink hole in street created by broken sewer, Steel Plate covering hole									
				1933						
20	Pearl Street	Cortlandt/South Street	475	Sanitary	8"	340		\$204,000	\$204,000	
	Point repair, removal of current bypass sewer line installed									
				1932						
21	Pease Street	East 3rd St/Beekman Ave	477	Sanitary	10"	470	\$29,375		\$29,375	
	Maintenance to the sanitary sewer above storm sewer									
				1932						
22	Sandford Boulevard	Highland/Garden Avenue	517-518	Sanitary	24"	800	\$188,000		\$188,000	
	Maintenance to downstream sewers, of recently cleaned 24inch sewer adjacent to River									
				1932						
23	South Columbus Avenue	Millington Avenue / East 4th St.	71	Sanitary	8"	30		\$15,750	\$15,750	
	Maintenance to the Sanitary sewer around the manhole Point Repair									
				1932						
24	South Fulton Avenue	5th Avenue / Sanford Boulevard	274-275	Sanitary	21"	875	\$157,500		\$157,500	#24
	Maintenance to problem Sanitary sewer									
				1932						
25	South 6th Avenue	West 2nd Street / West 3rd Street	567	Sanitary	8"	30		\$15,750	\$15,750	
	Maintenance to problem Sanitary sewer									
				1932						
26	Summit Avenue	Park Pl/ Maple PL	587	Sanitary	12"	360	\$45,000		\$45,000	
	Maintenance to problem Sanitary sewer									
				1933						
27	West 3rd Street Corridor	7th / 14th Avenue	635-637	Sanitary	8"	820	\$51,250		\$502,450	



Table 2
Planned Sanitary Sewer Repairs

Sanitary Sewer Evaluation Survey
City of Mount Vernon, New York

Street	Location	Pages	Sewer	Size	Length (feet)	CIPP (\$)	Repair (\$)		Outfall #
	Maintenace to problem Sanitary sewer in vicinity of 3rd Street Bore Hole.		1934	24'	1920	\$451,200			
			TOTALS		17,355	\$ 2,038,200	\$ 487,125	\$ 2,525,325	



Table 3
Sanitary Sewer
Backups

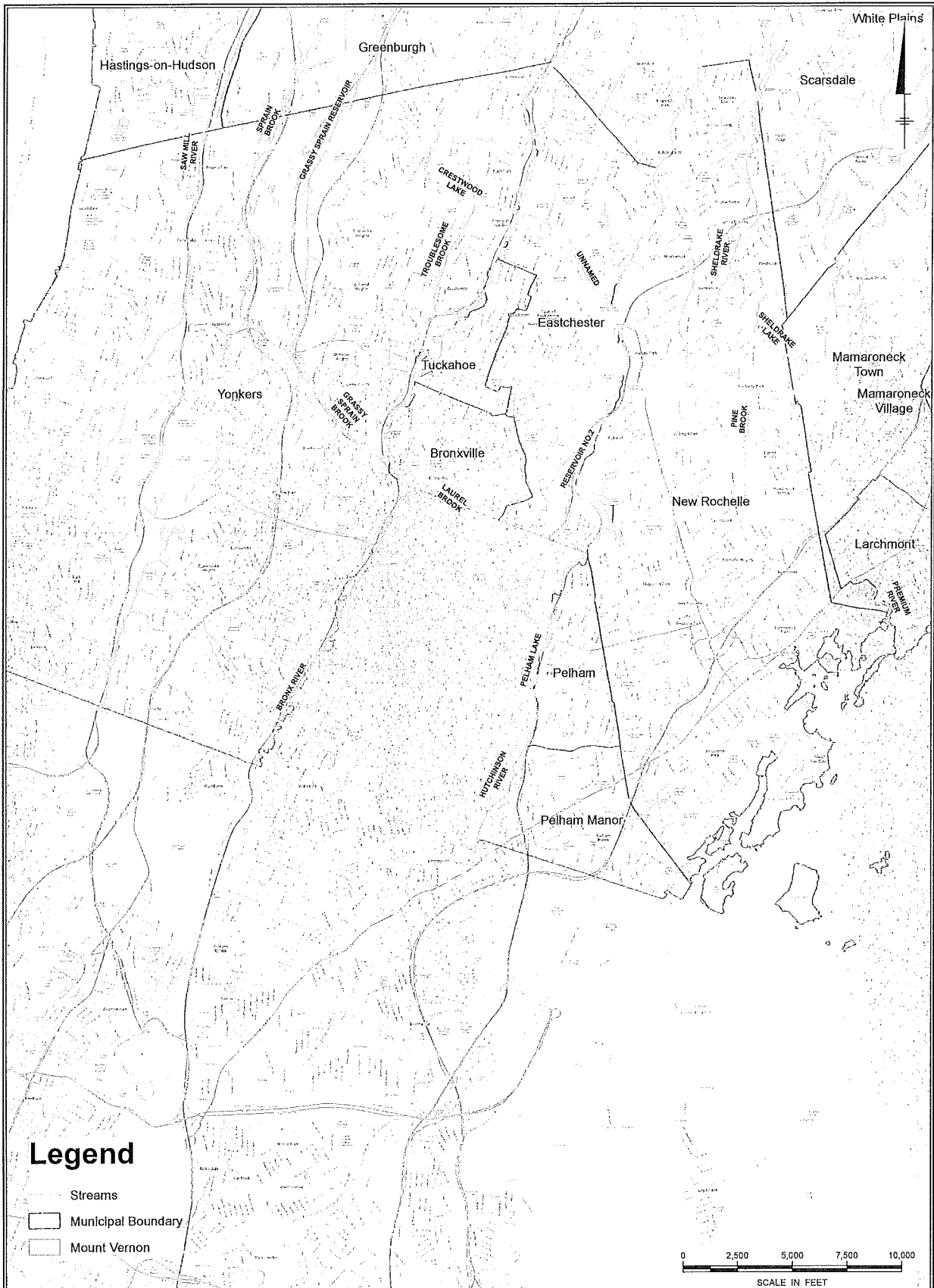
Sanitary Sewer Evaluation Survey
City of Mount Vernon, New York

Addresses of Reoccurring Sewage Backups
25 East Lincoln Avenue
37 West Grand Street
132/ 145 South 1 st Avenue
40 East 1 st Street
448 South 7 th Avenue
423 Nuber Avenue
311-315 North Fulton Avenue
156 South 12th Avenue
539 South 2nd Avenue
203 South 1st Avenue
457 South 5th Avenue

Locations of Sewer Requiring Frequent Cleaning
Pathmark Parking Lot
Mount Vernon Avenue (bet. Bond Street and North Terrace Avenue)
West Lincoln Avenue (bet. Howard and North 7 th Avenue)
Farrell Avenue (bet. Beechwood and Brookside Avenues)
Pease Street (bet. East 3 rd Street and Beekman Avenue)
Levister Towers (South 9 th Avenue side)
Elm Avenue & Claremont Avenue (upstream Nursing home)

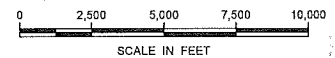
Figures

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Legend

- Streams
- Municipal Boundary
- Mount Vernon



City of Mount Vernon
Mount Vernon, New York

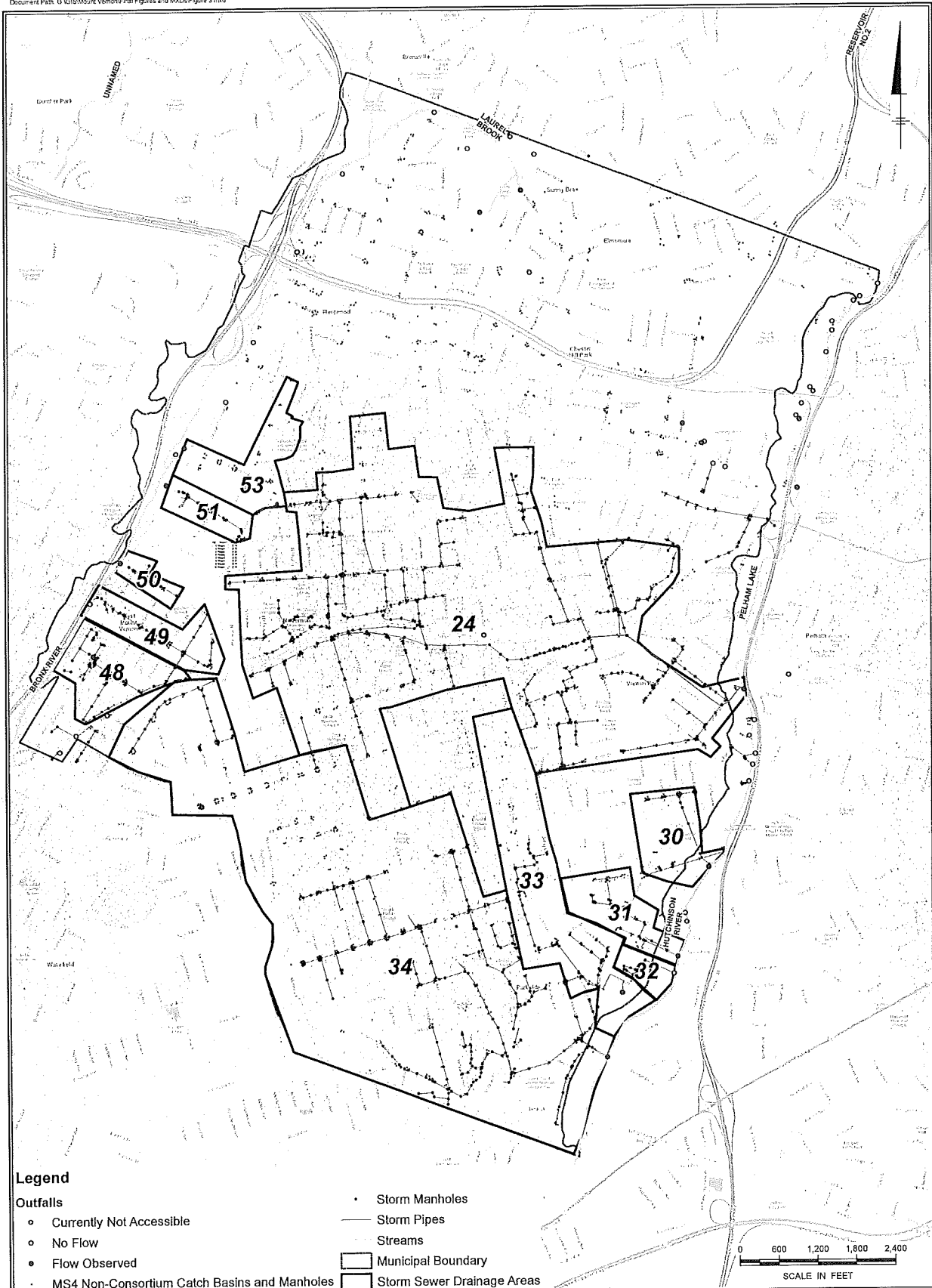
Site Location Map



FIGURE

1

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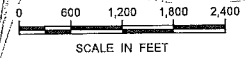


Legend

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed
- MS4 Non-Consortium Catch Basins and Manholes

- Storm Manholes
- Storm Pipes
- Streams
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas



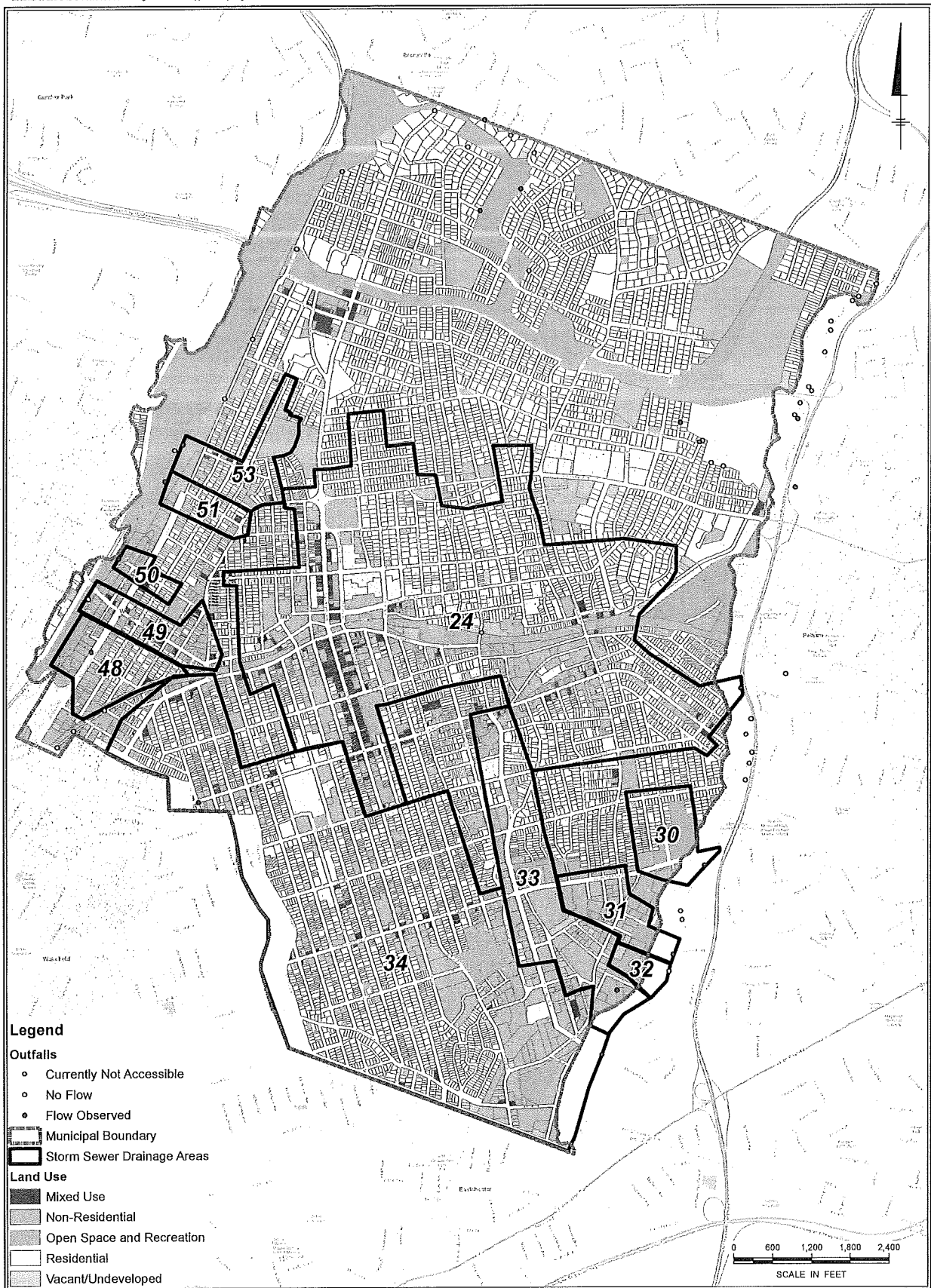
City of Mount Vernon
Mount Vernon, New York

Storm Sewer Mapping Gaps



FIGURE
2

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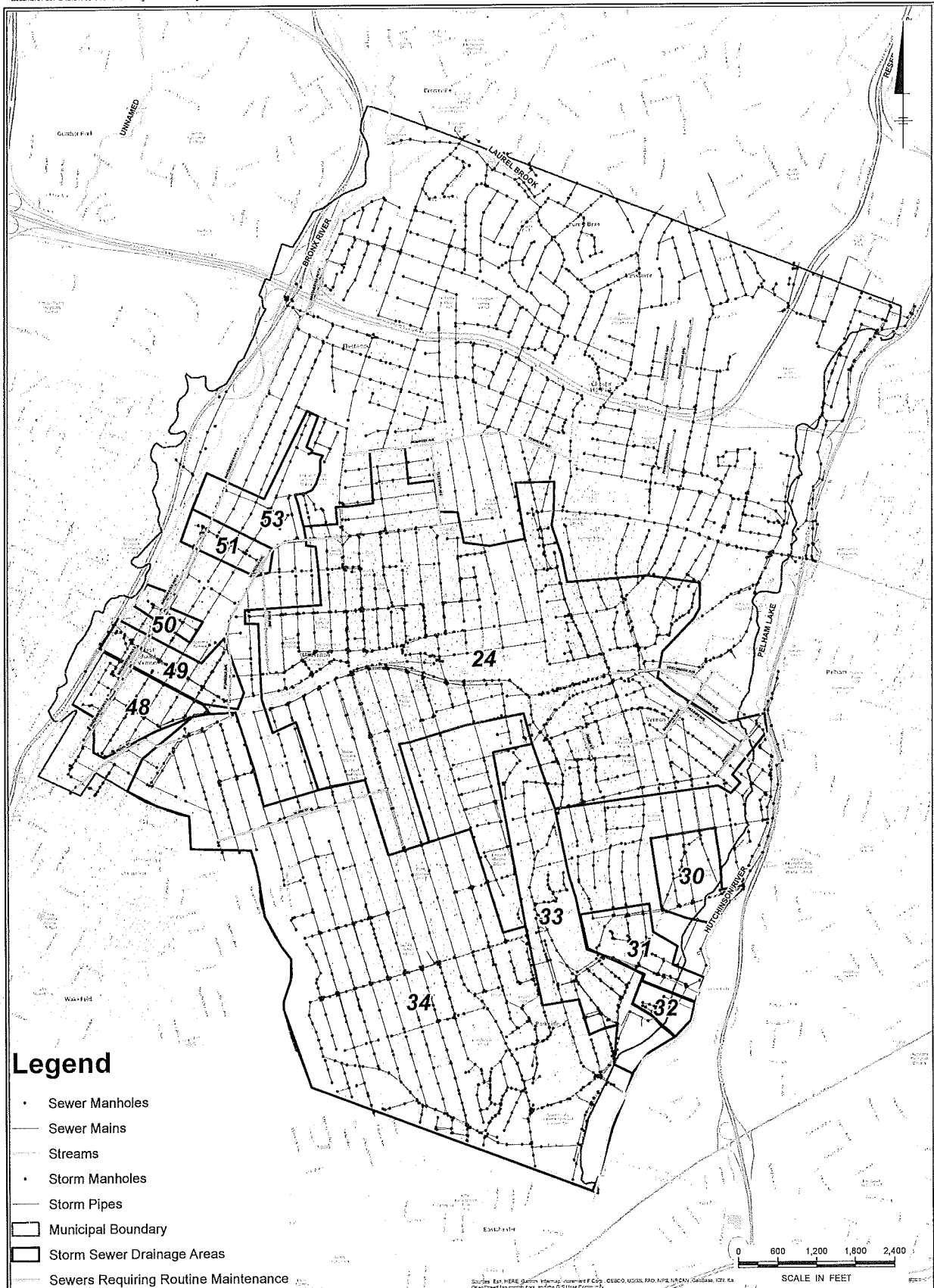
City of Mount Vernon
Mount Vernon, New York

Land Use



FIGURE
3

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Legend

- Sewer Manholes
- Sewer Mains
- Streams
- Storm Manholes
- Storm Pipes
- Municipal Boundary
- Storm Sewer Drainage Areas
- Sewers Requiring Routine Maintenance

Note: These are streets know to require periodic flushing or chemical treatment for grease and roots.

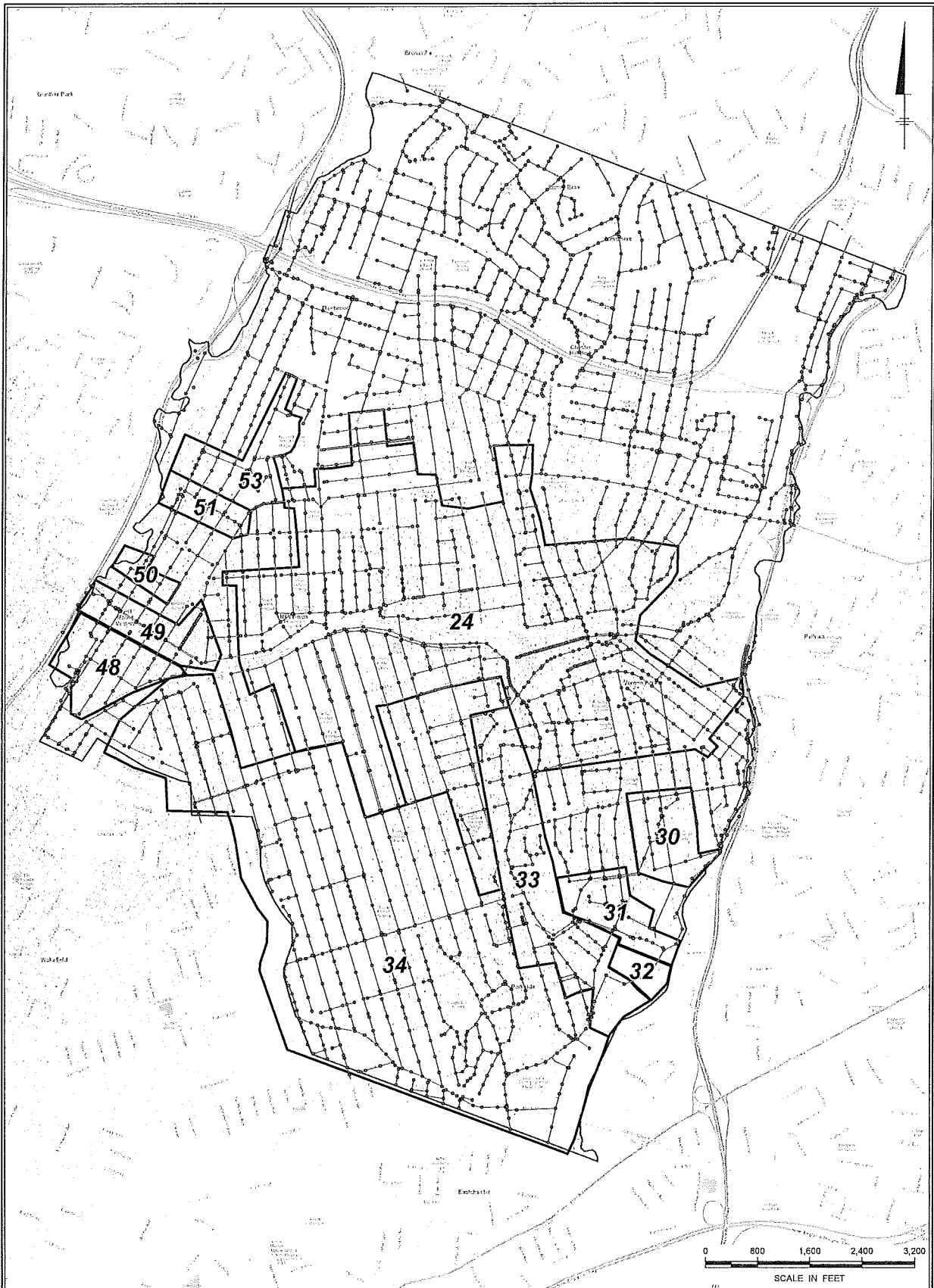
City of Mount Vernon
Mount Vernon, New York

Sewers Requiring Routine Maintenance



FIGURE
4

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Legend

- Sewer Manholes
- Sewer Mains**
- Sewer Mains
- Sewer Repair Location
- Municipal Boundary
- Approximate Location of Sewer Repair
- Storm Sewer Drainage Areas

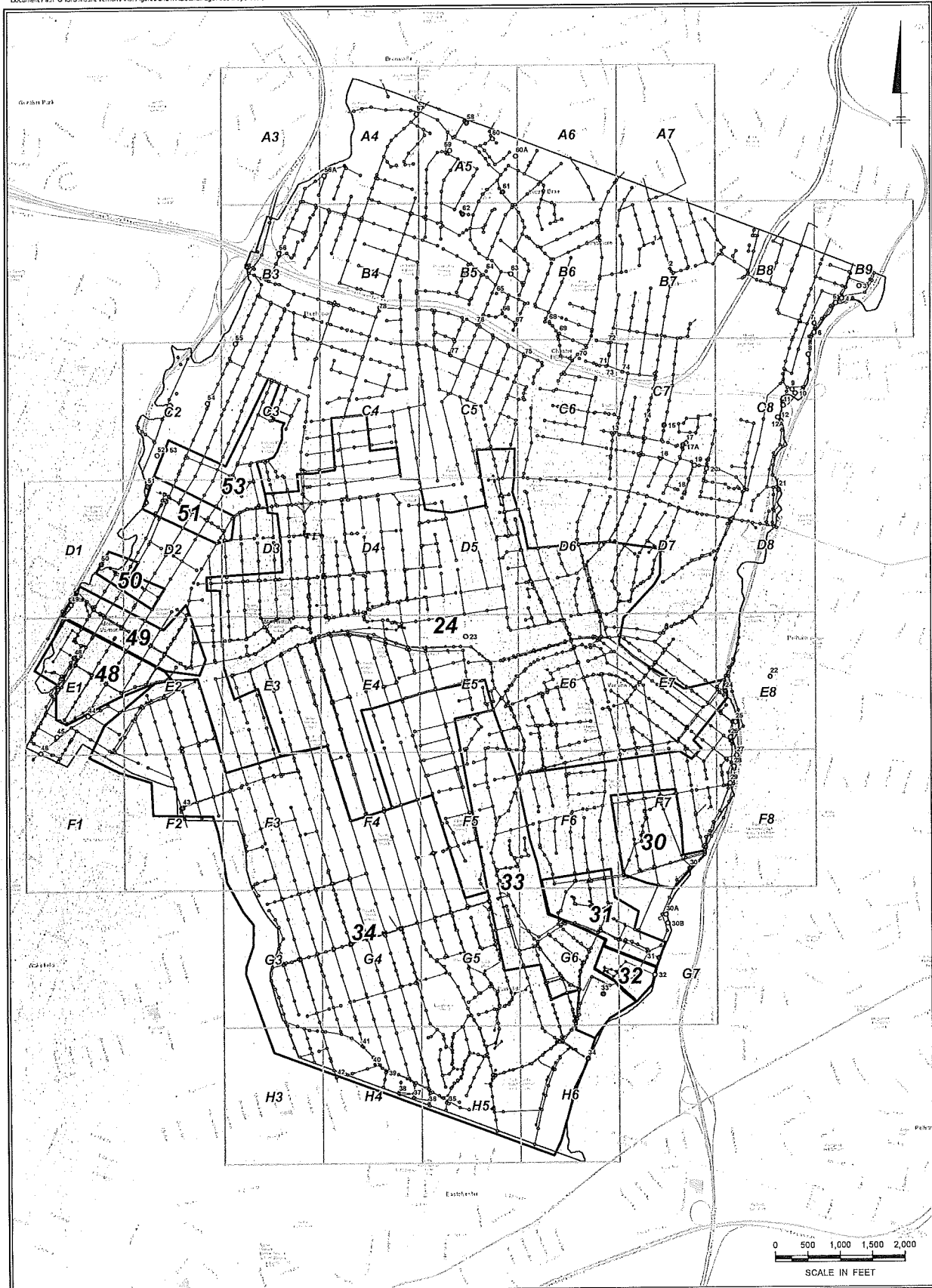
Note:
 Repairs shown are cured-in-place pipe. Not all manhole numbers are currently available in GIS, so some locations of repair were approximated. Specifically, the Overlook Street repairs, one segment of the Washington Street repairs and the Hutchinson River Parkway repairs.

City of Mount Vernon Mount Vernon, New York	
2020/2021 SEWER REPAIRS	
	FIGURE 5

Appendix A

Sanitary Sewer Map Book

Document Path: G:\GIS\Mount Vernon\Final Figures and MADS\Drainage Area Maps\SSW Index.mxd



Legend

- | | |
|--|--|
| <ul style="list-style-type: none"> • Sewer Manholes — Sewer Mains • Storm Manholes — Storm Pipes ▭ Municipal Boundary ▭ Storm Sewer Drainage Areas | <p>Outfalls</p> <ul style="list-style-type: none"> • Non-MS4 Outfall ○ Currently Not Accessible ○ No Flow ○ Flow Observed |
|--|--|

City of Mount Vernon
Mount Vernon, New York

**SEWER INDEX
SANITARY SEWER EVALUATION SURVEY**



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Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

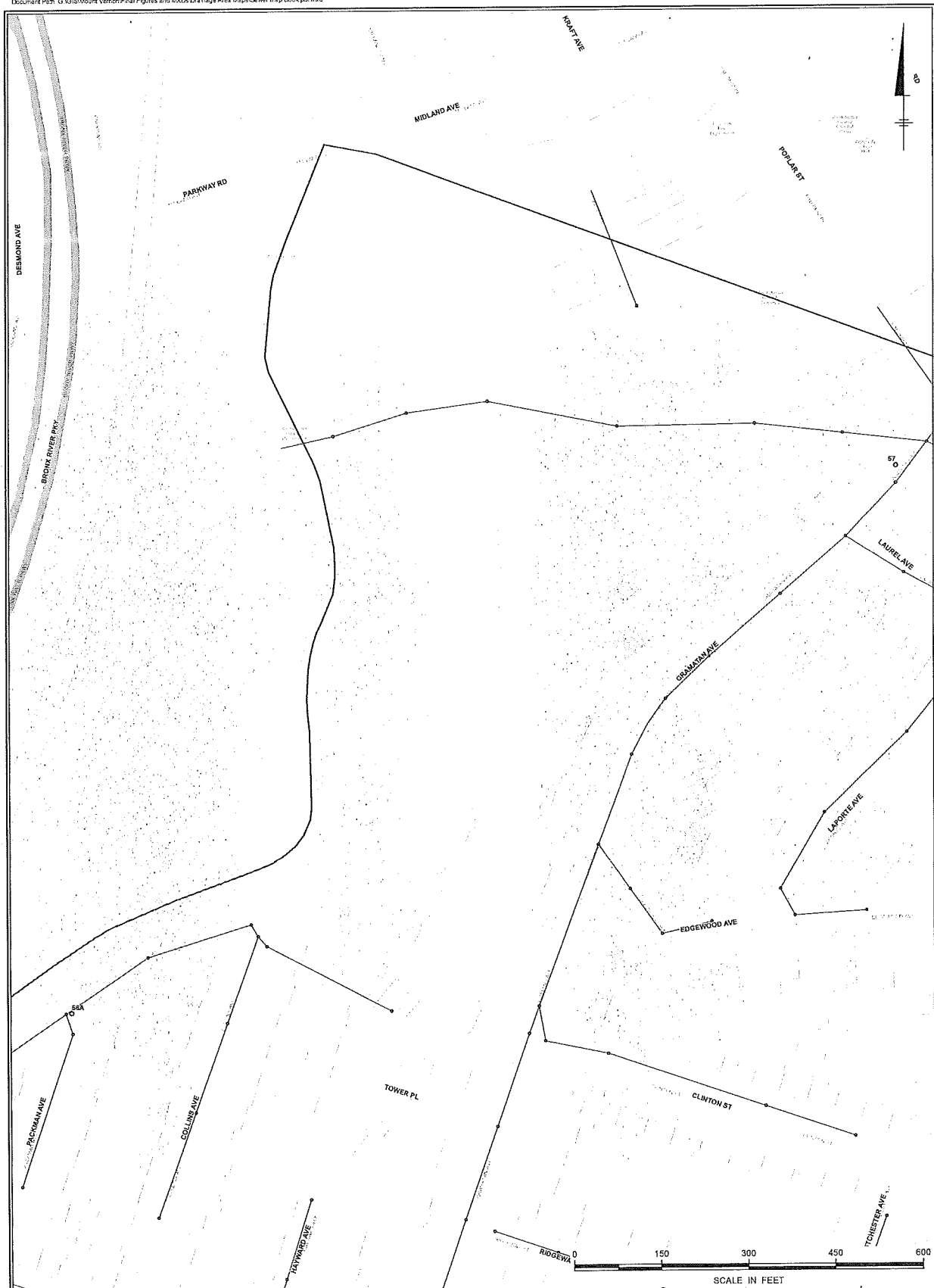
**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**



FIGURE

A3

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- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
A4



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Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

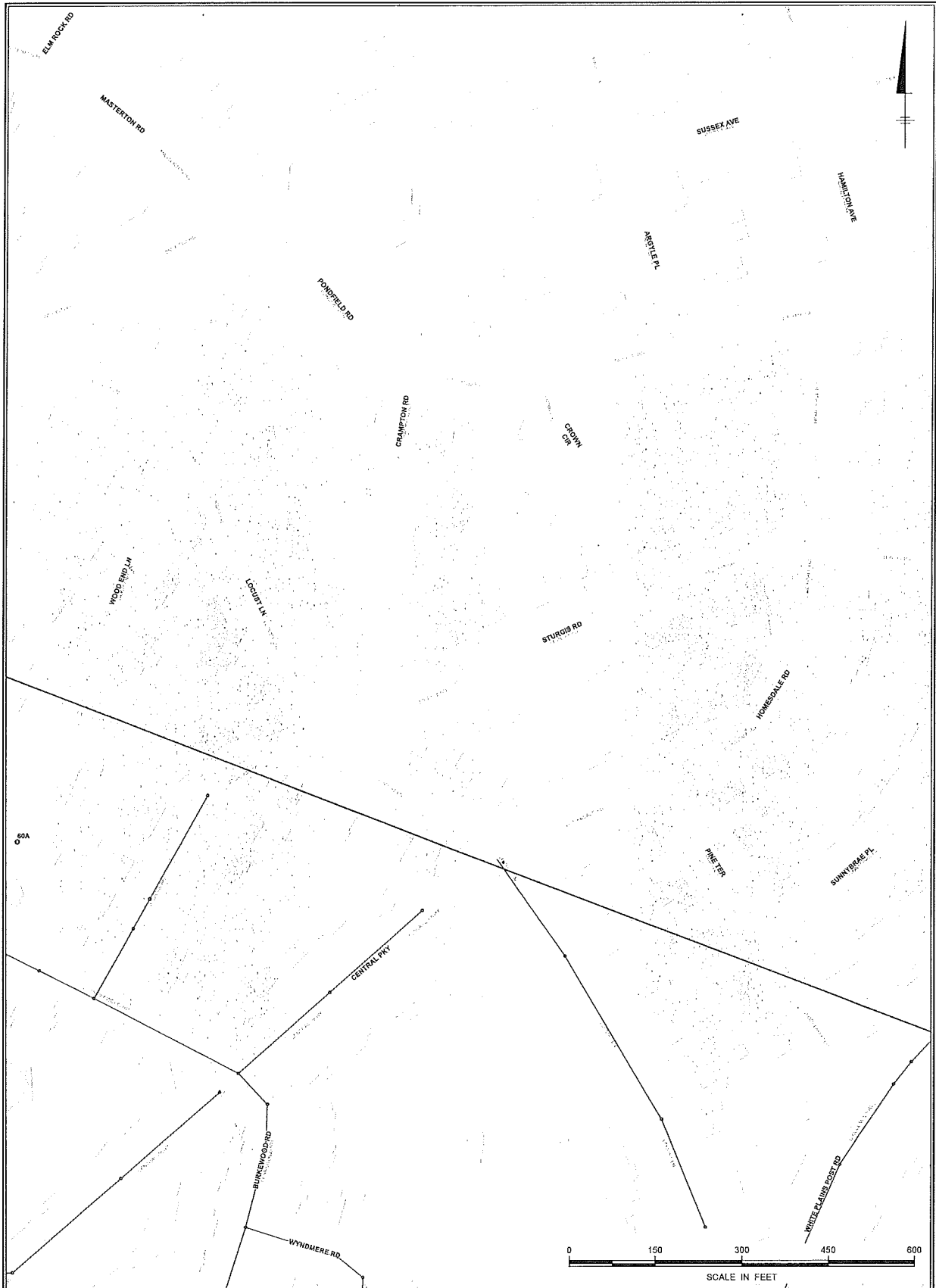
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
ARCADIS A5

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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

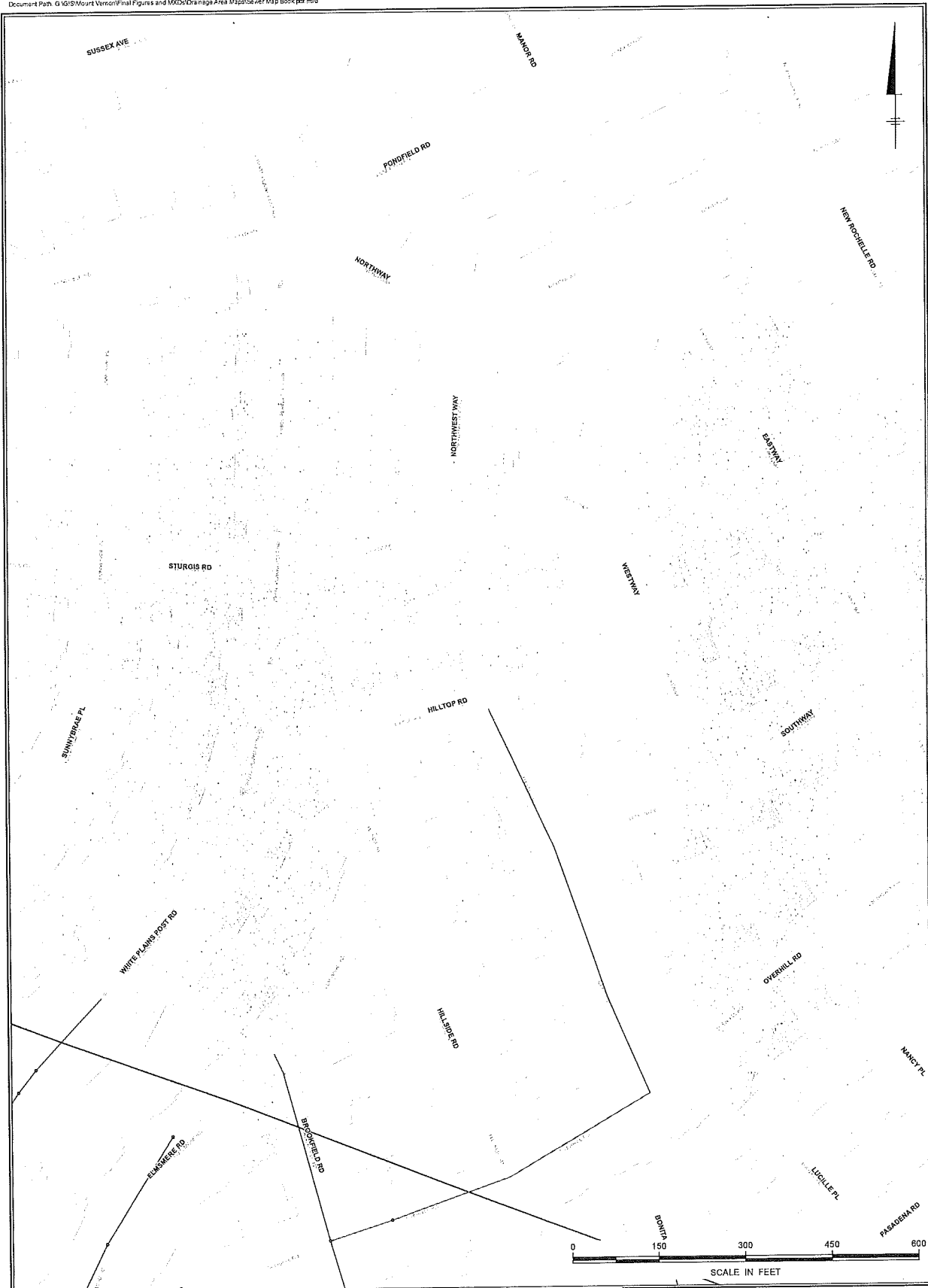
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
A6



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Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

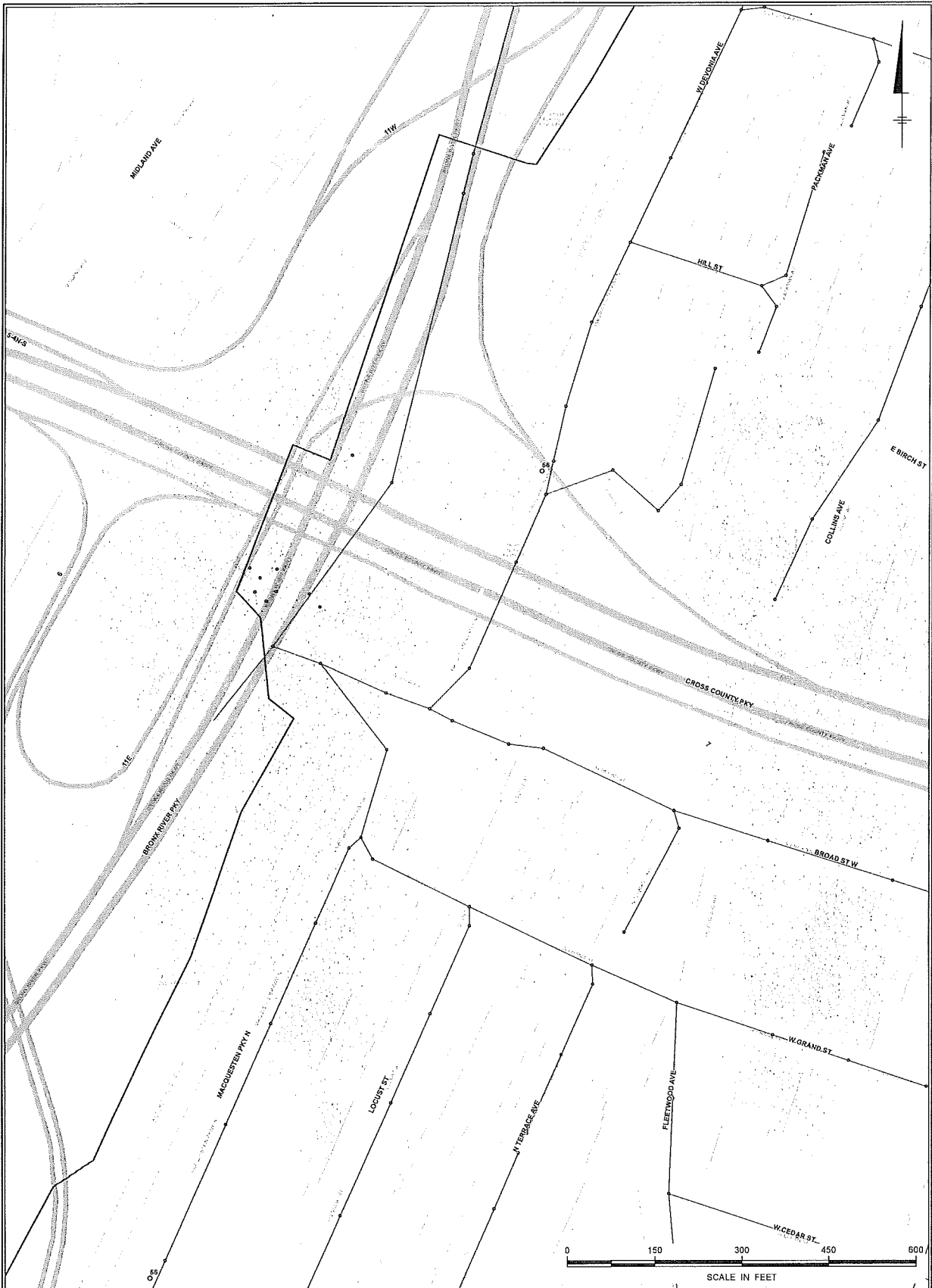
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**

FIGURE **ARCADIS** A7

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Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed



City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
B3

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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | • Currently Not Accessible |
| • Storm Manholes | • No Flow |
| — Storm Pipes | • Flow Observed |
| □ Municipal Boundary | |
| □ Storm Sewer Drainage Areas | |

City of Mount Vernon Mount Vernon, New York	
SEWER MAP SANITARY SEWER EVALUATION SURVEY	
	FIGURE B4

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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

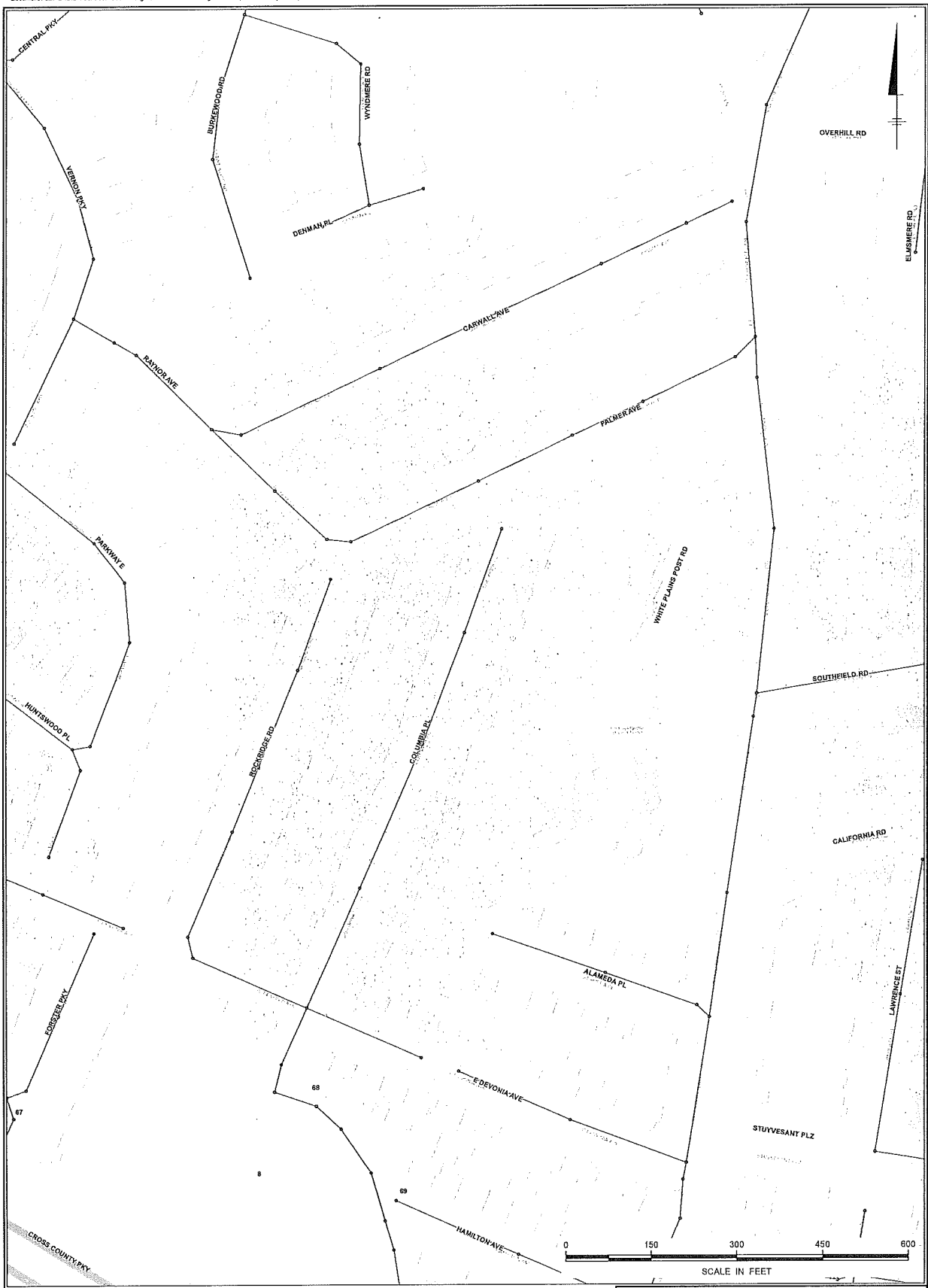
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
B5



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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| □ Municipal Boundary | |
| □ Storm Sewer Drainage Areas | |

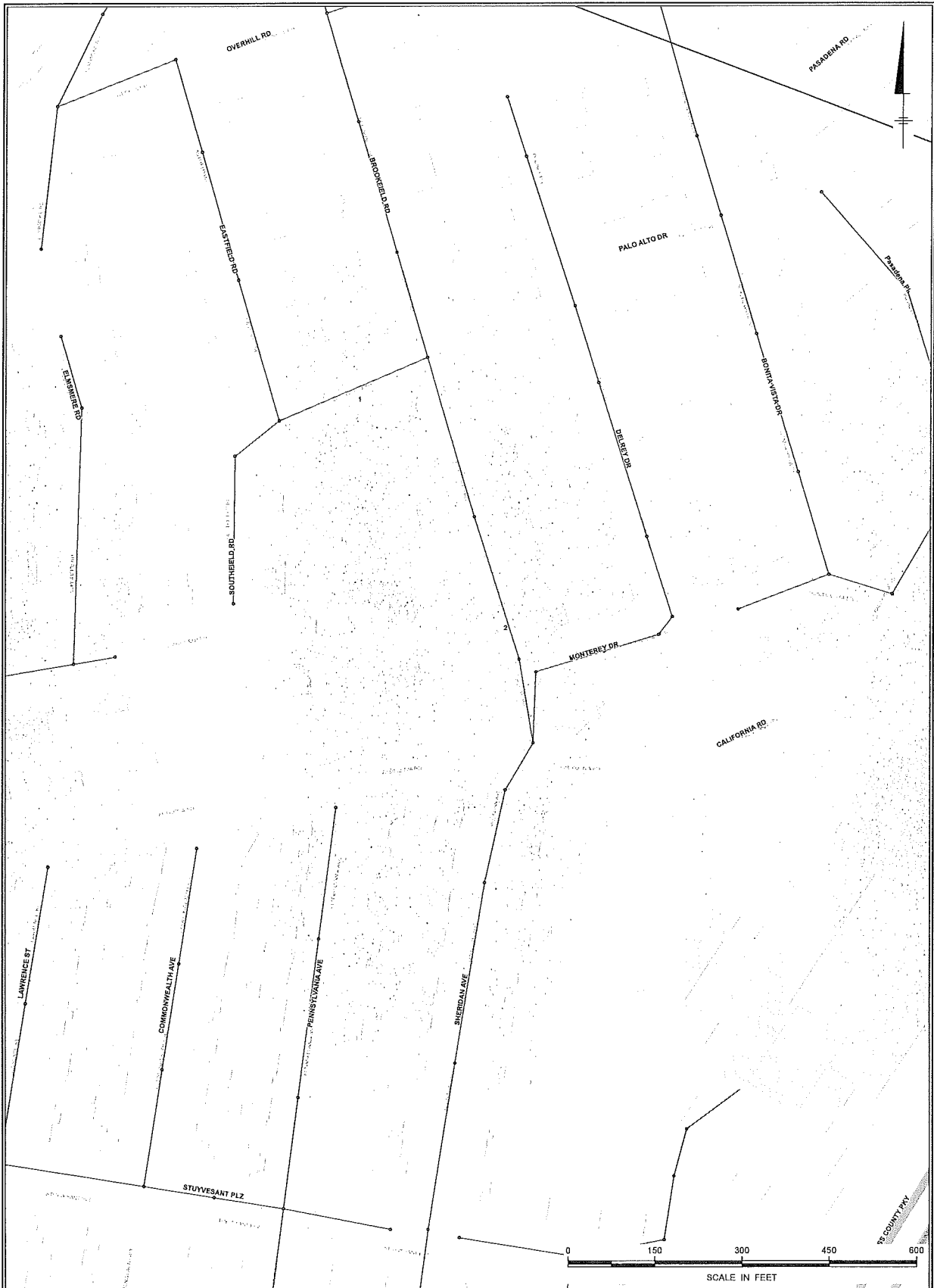
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
B6



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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon Mount Vernon, New York	
SEWER MAP SANITARY SEWER EVALUATION SURVEY	
ARCADIS	FIGURE B7

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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| □ Municipal Boundary | |
| □ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
B8

ARCADIS

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Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

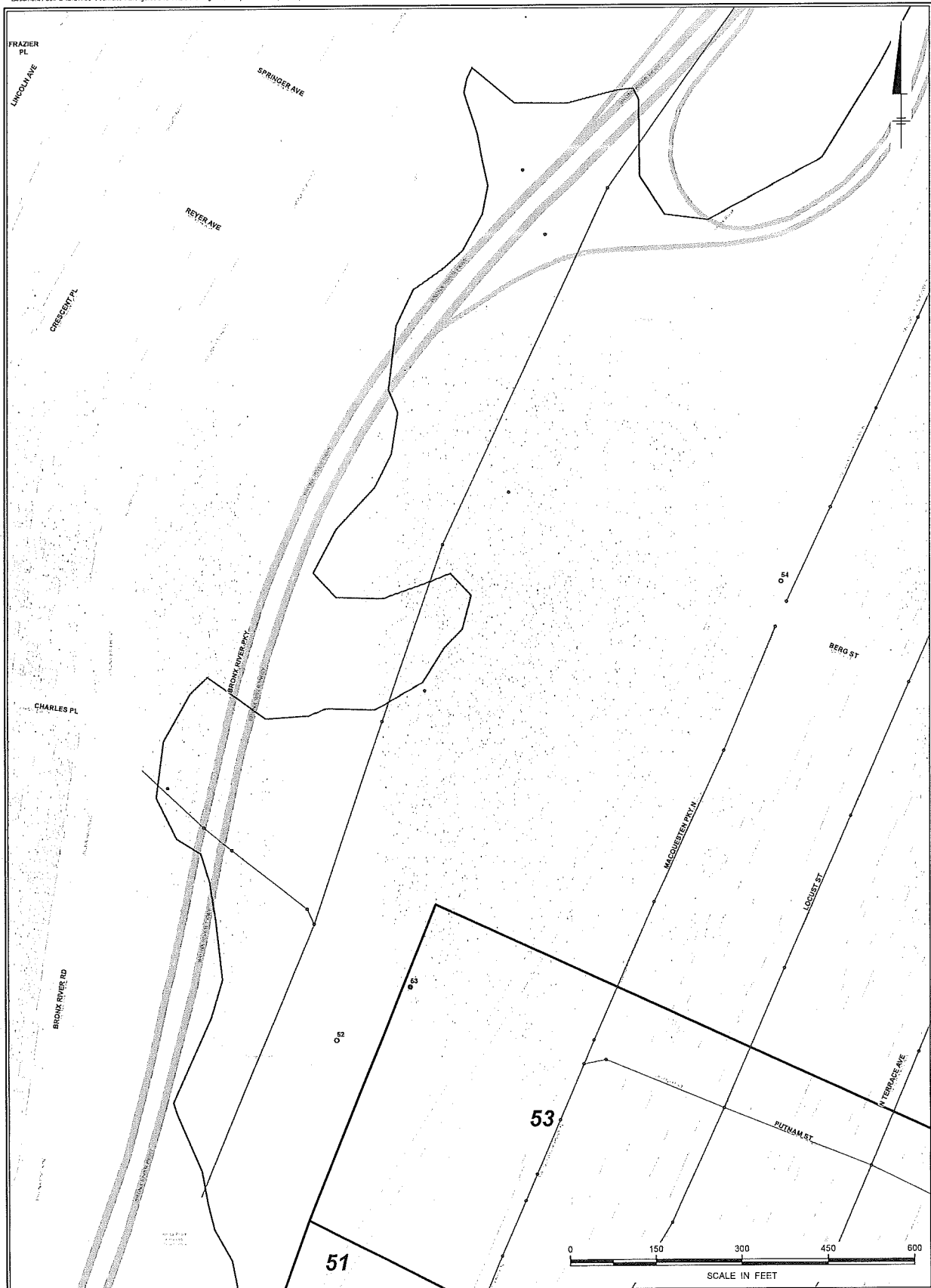
**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**



FIGURE

B9

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Legend

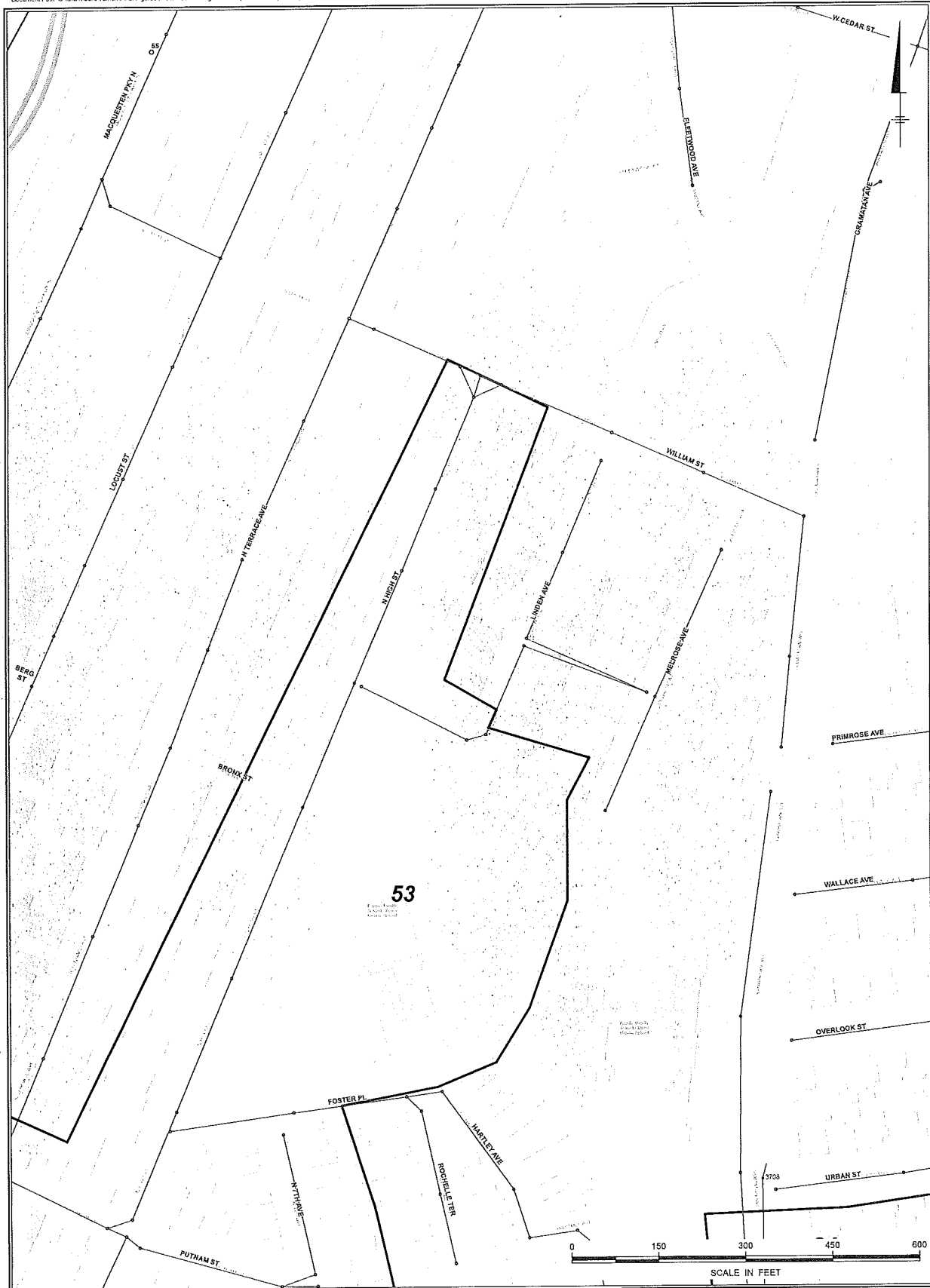
- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
ARCADIS C2

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Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- - - Storm Pipes

- Municipal Boundary
- Storm Sewer Drainage Areas

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**



FIGURE

C3

Document Path: G:\GIS\Mount Vernon\Final Figures and Maps\Drainage Area Maps\Sewer Map Book.pdf.mxd




Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
C4



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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
C5



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Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY




FIGURE
C6

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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
C7



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\Sever Map Book\pdf road




Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
C8



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\Sewer Map Book.pdf.mxd




- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

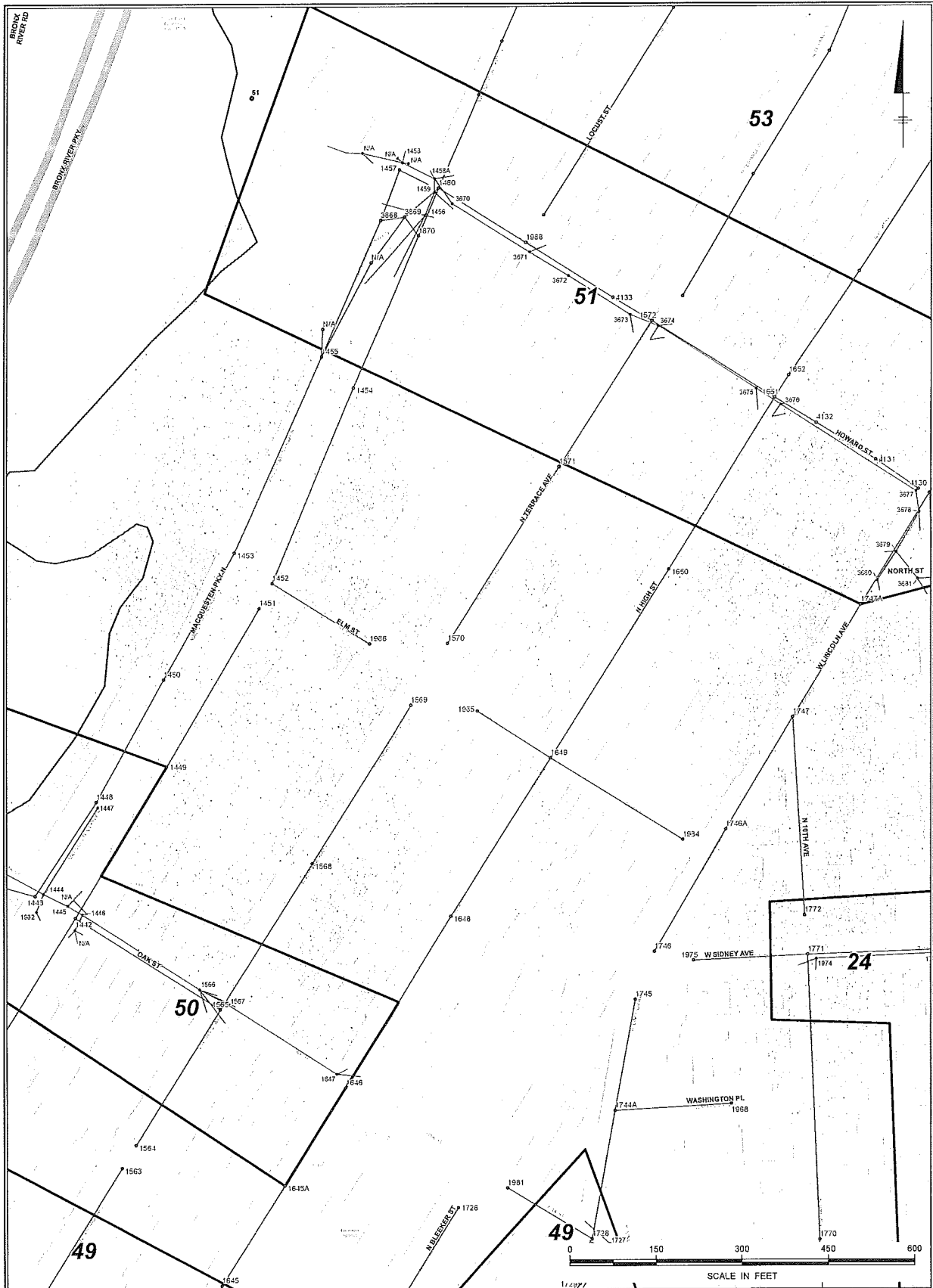
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
D1



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\Sewer Map Book.pdf.mxd



Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | • Currently Not Accessible |
| • Storm Manholes | • No Flow |
| — Storm Pipes | • Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
D2

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\Sewer Map Book.pdf.mxd




Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ◦ Currently Not Accessible |
| • Storm Manholes | ◦ No Flow |
| — Storm Pipes | ◦ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

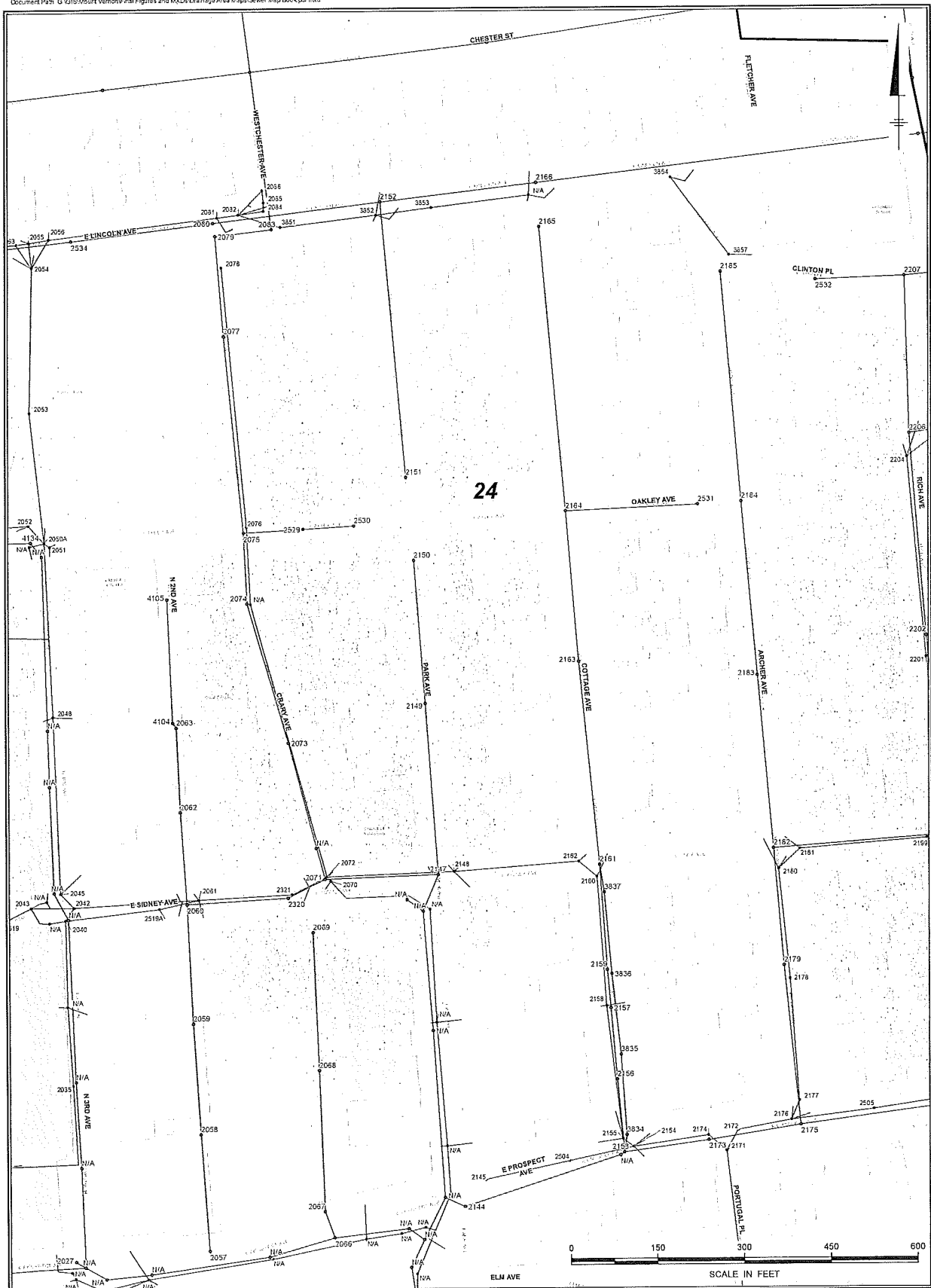
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
D3



Document Path: G:\GIS\Mount Vernon\Final Figures and MKD's\Drainage Area Maps\Sewer Map Book.pdf.mxd




Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**

FIGURE
D4



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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

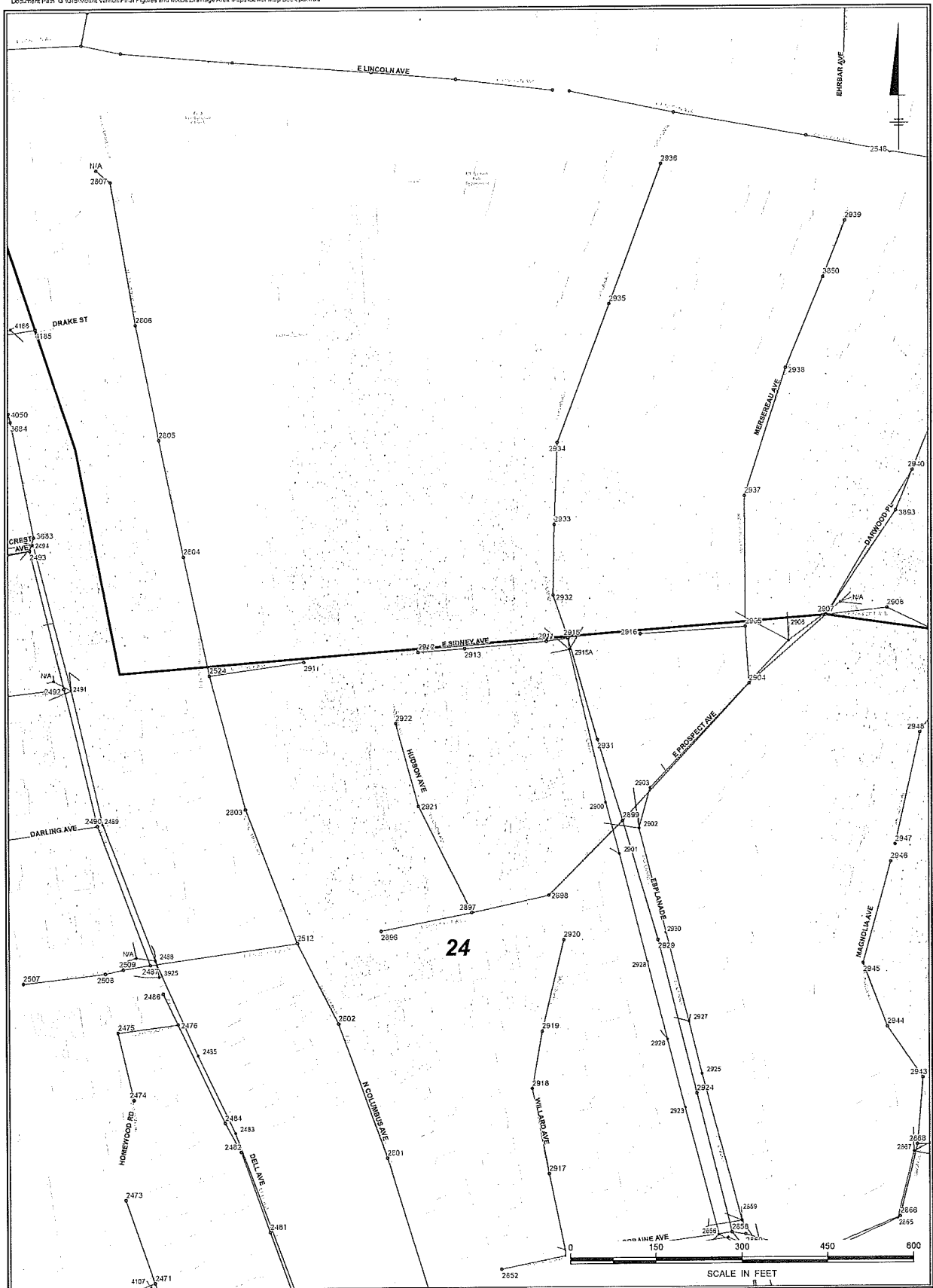
**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**



FIGURE


D5

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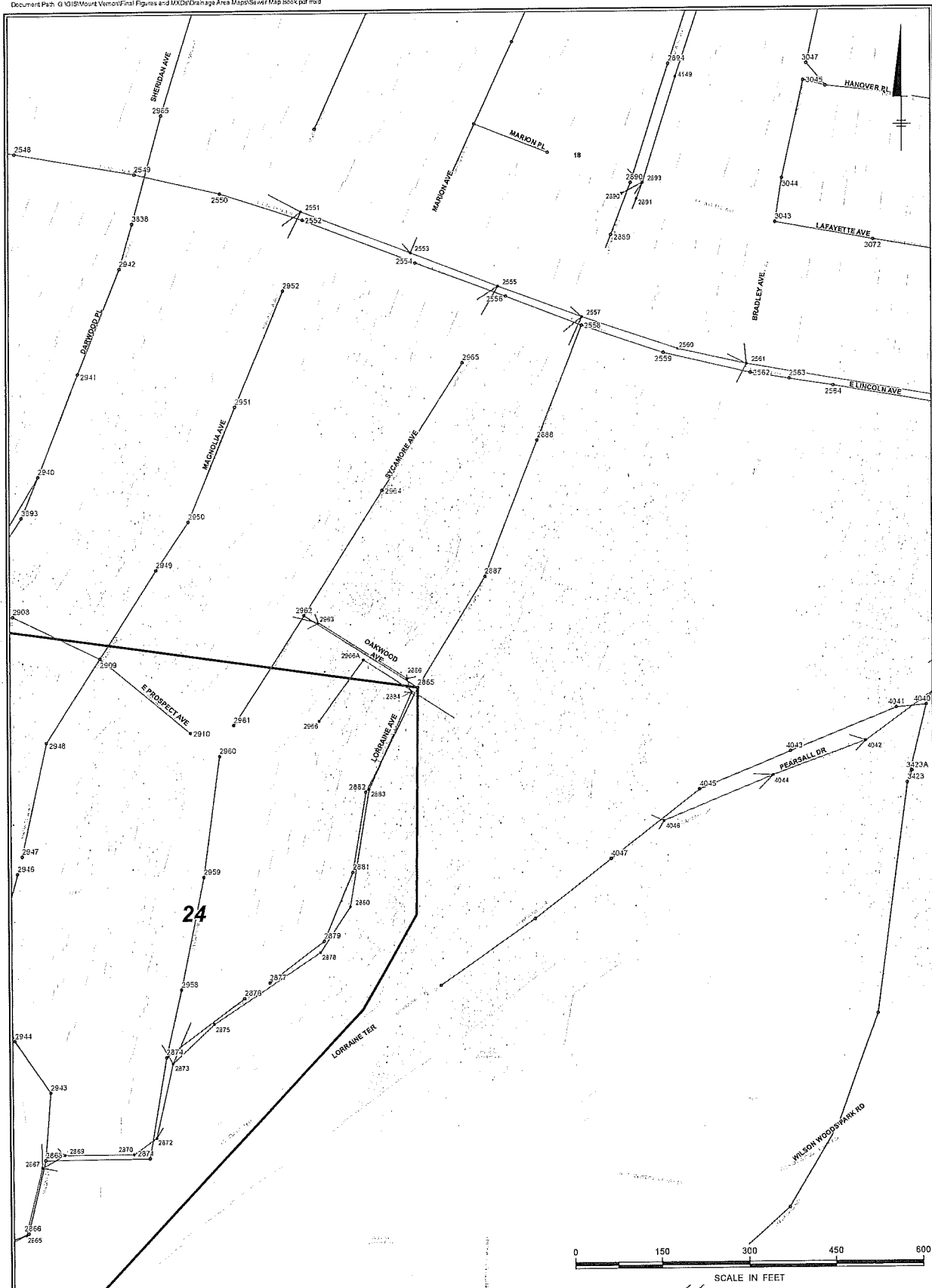


Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon Mount Vernon, New York	
SEWER MAP SANITARY SEWER EVALUATION SURVEY	
	FIGURE D6

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Legend

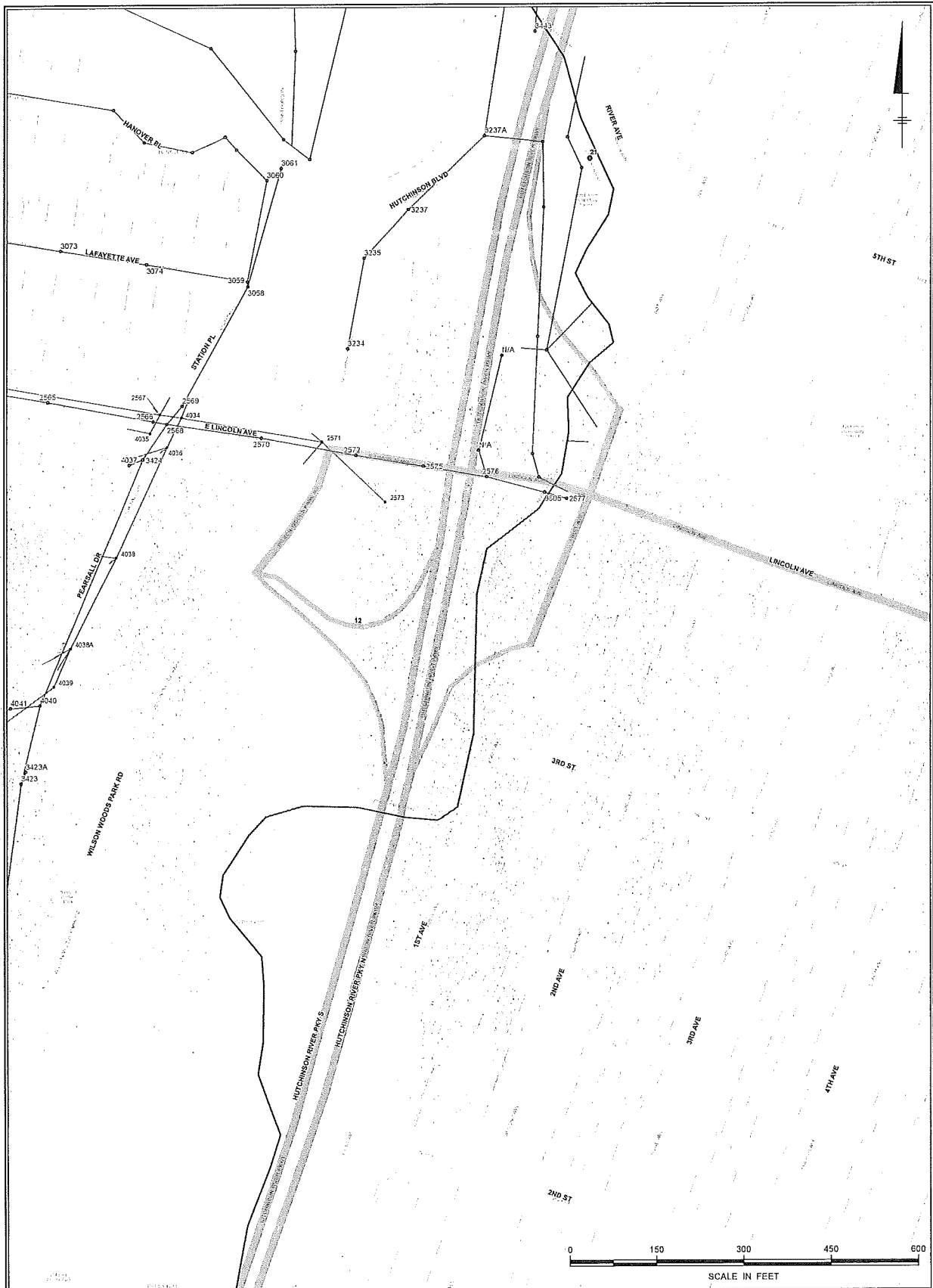
- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**

ARCADIS | **FIGURE D7**

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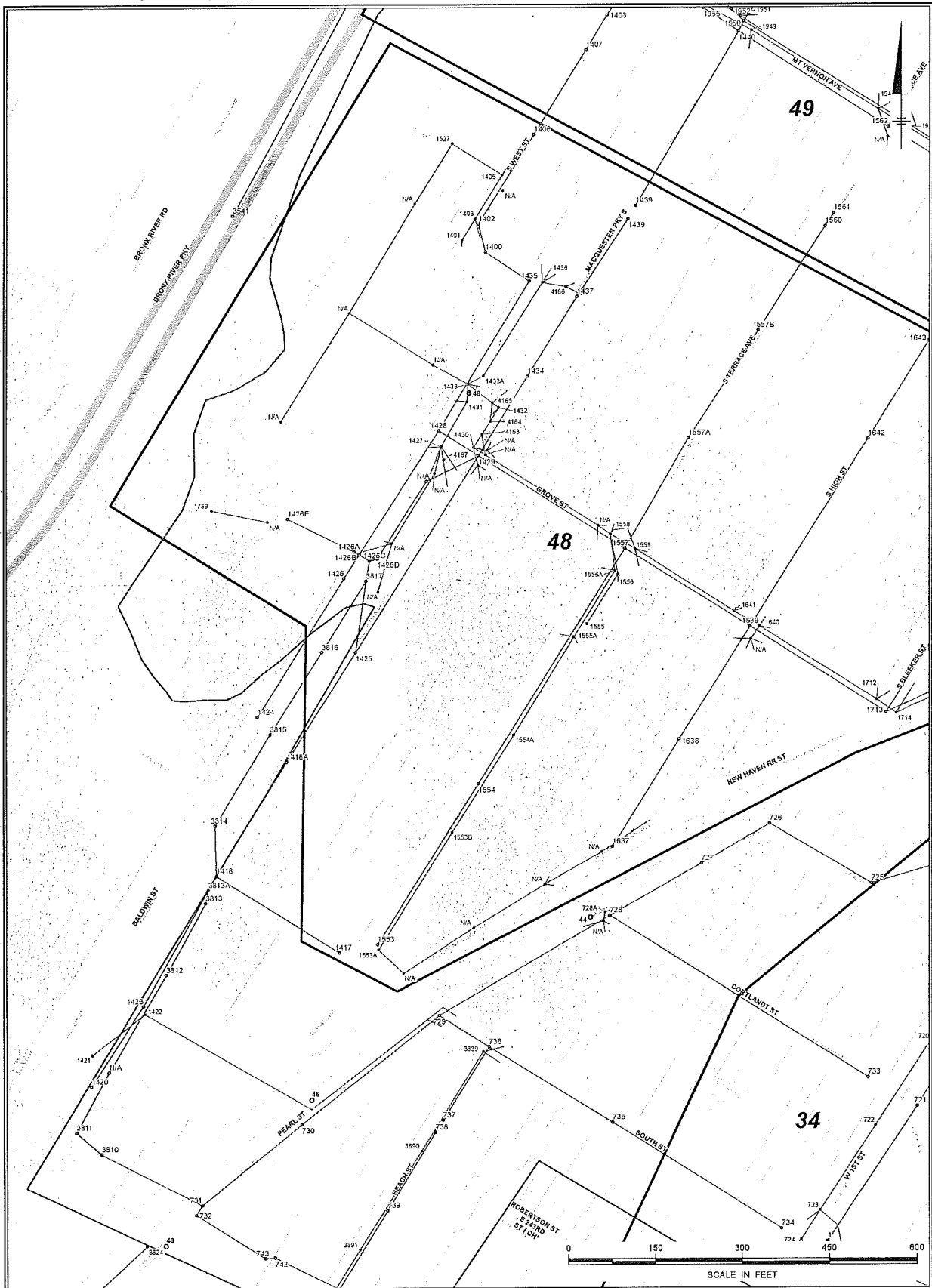


Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon Mount Vernon, New York	
SEWER MAP SANITARY SEWER EVALUATION SURVEY	
	FIGURE D8

Document Path: G:\GIS\Mount Vernon\Final\Figures and MXDs\Drainage Area Maps\Sanitary Map Book.pdf.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- - - Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

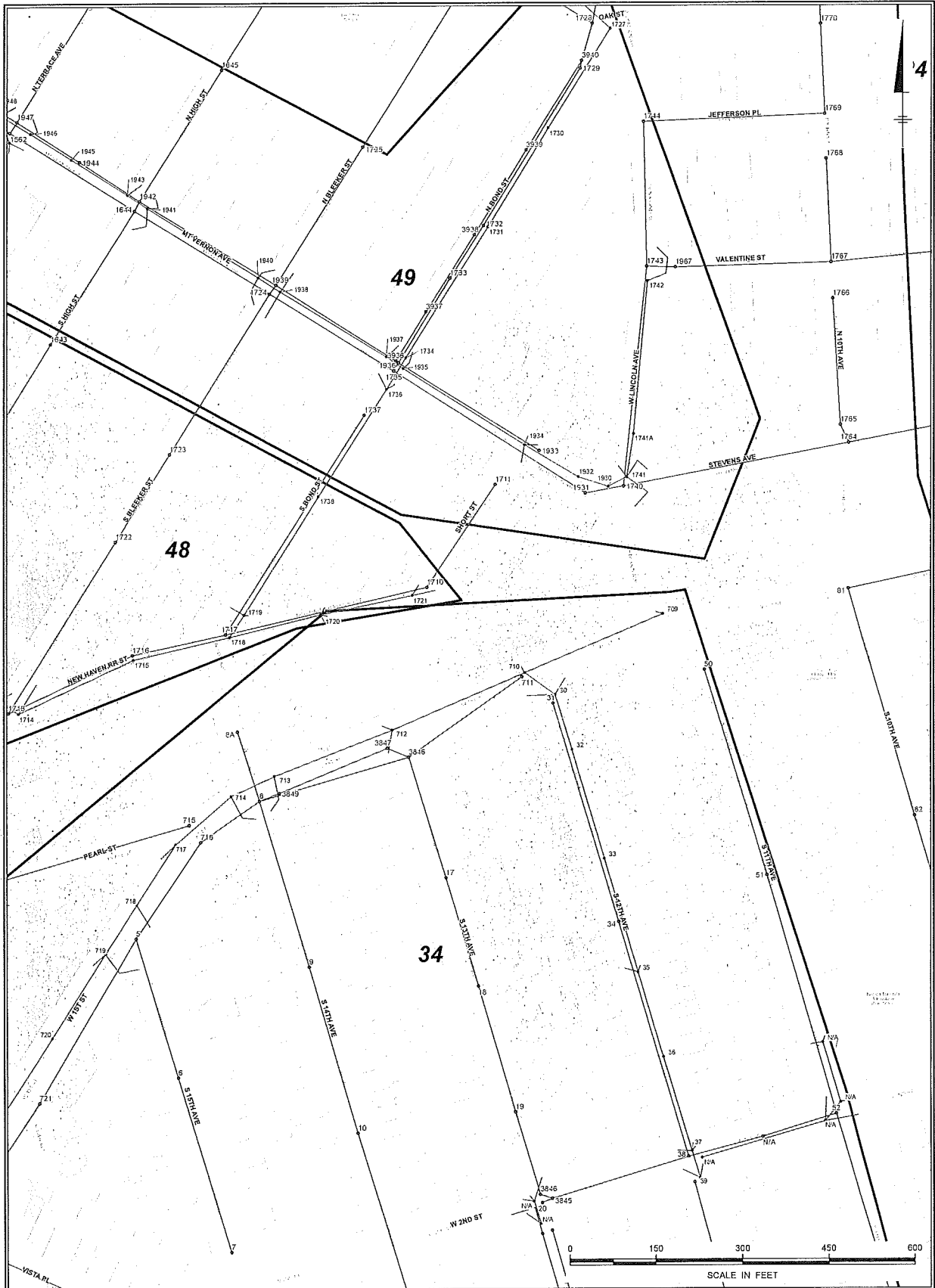
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
E1

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Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**

FIGURE
ARCADIS E2

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- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

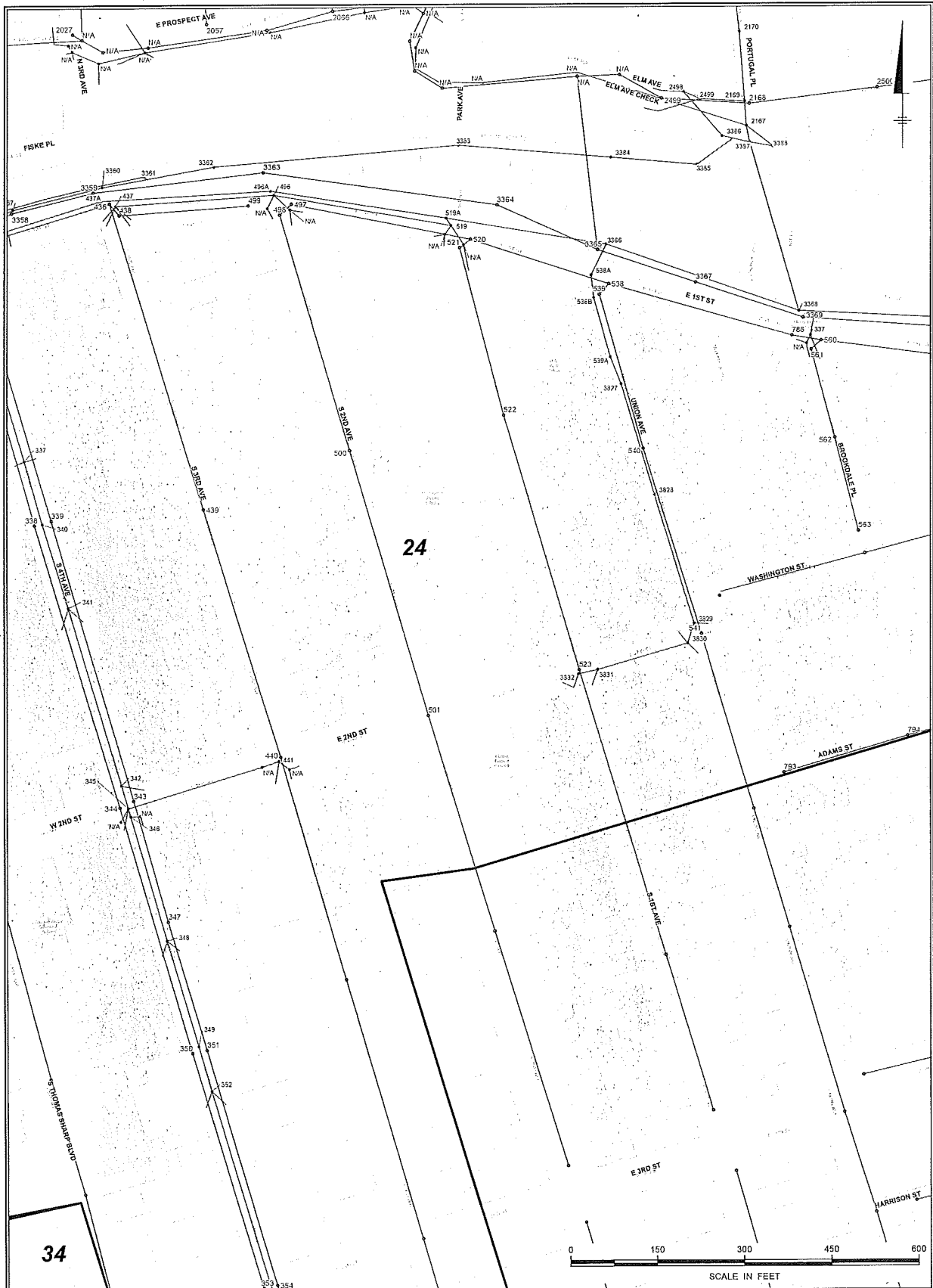
City of Mount Vernon
Mount Vernon, New York

**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**



FIGURE
E3

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Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
E4

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drawings Area Maps\Sewer Map Book.pdf.mxd



Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

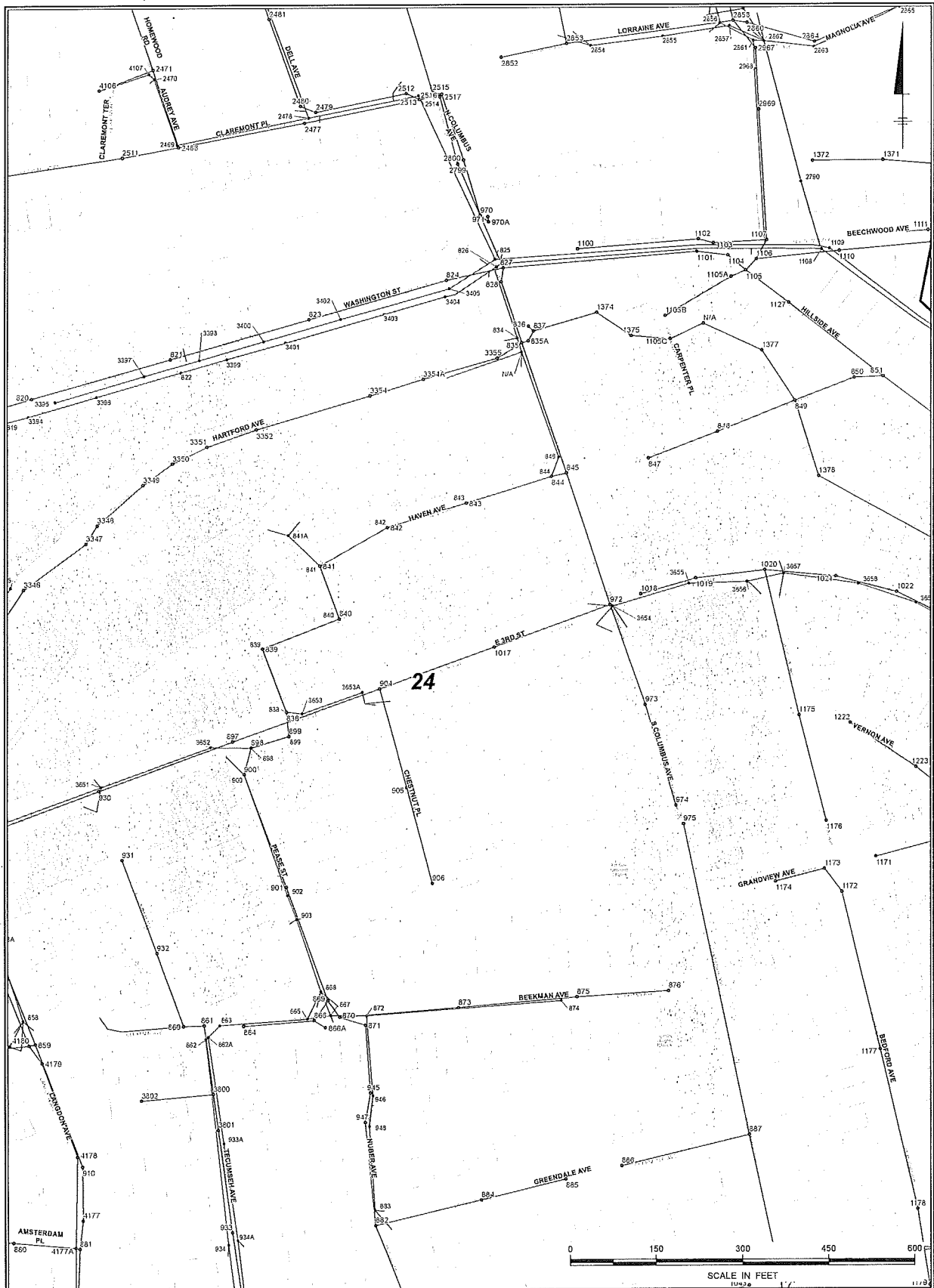
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**

FIGURE **E5**

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Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

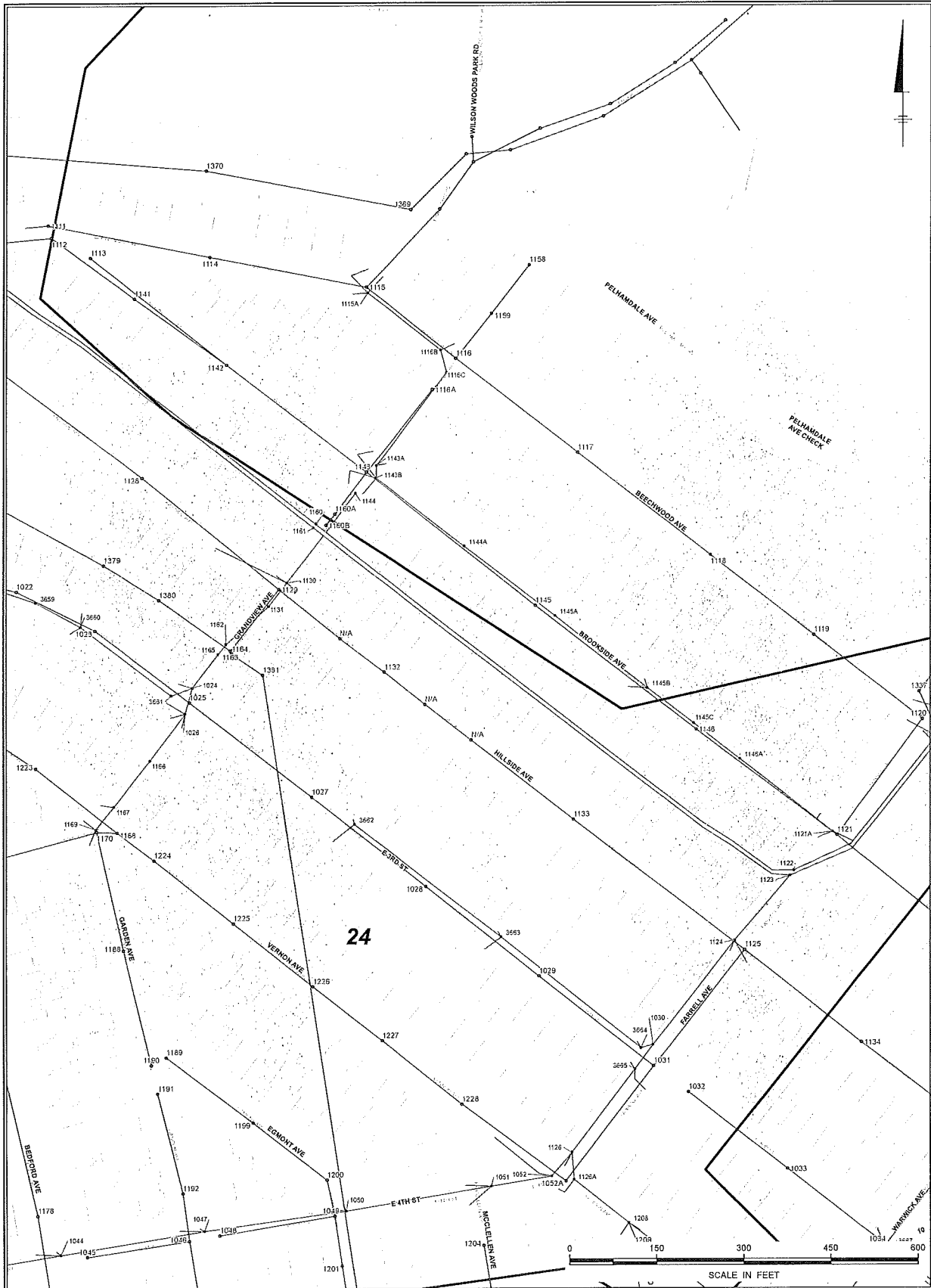
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
E6



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Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
E7



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Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

Outfalls

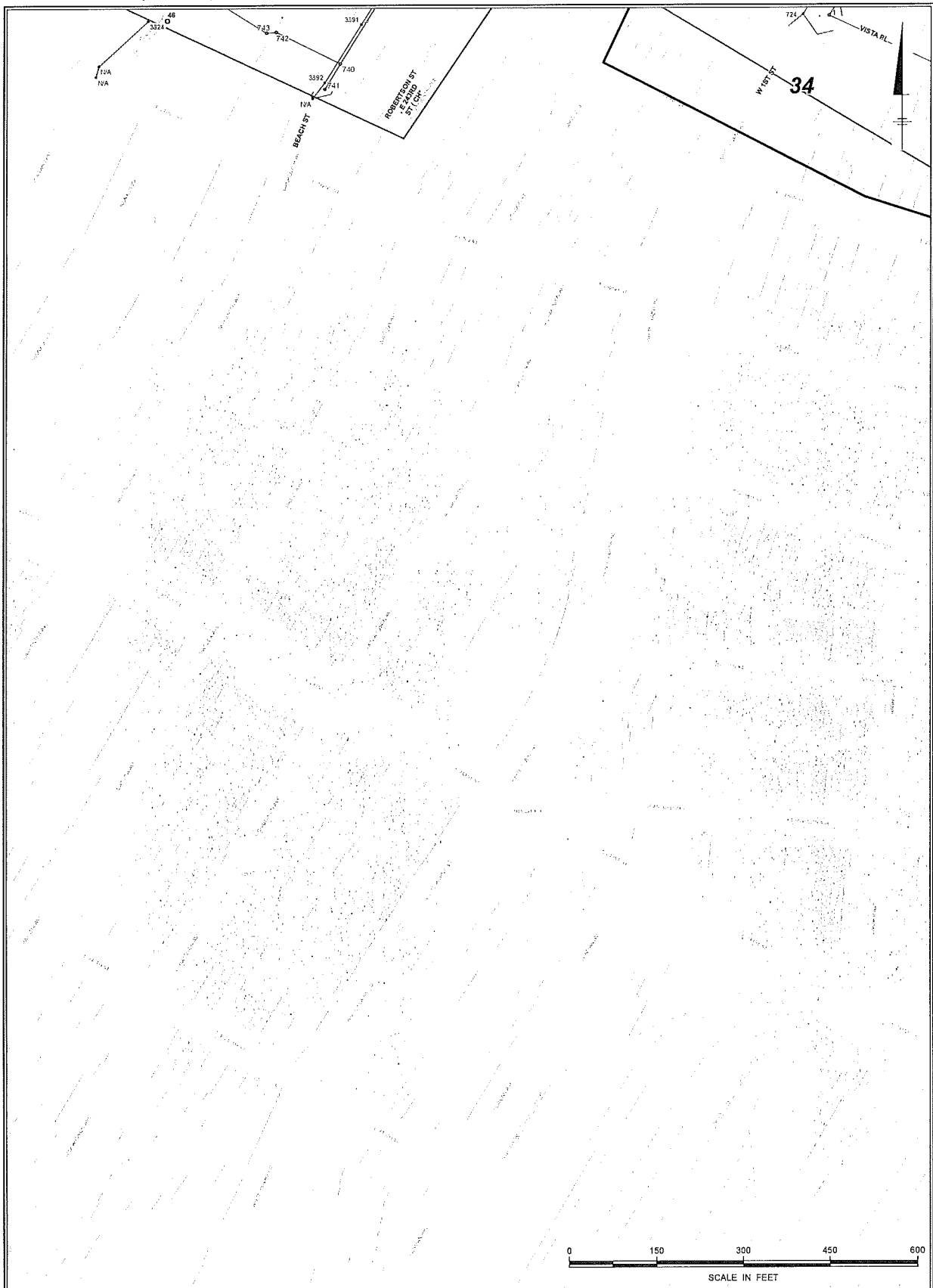
- Currently Not Accessible
- No Flow
- Flow Observed

City of Mount Vernon
Mount Vernon, New York

**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**


ARCADIS FIGURE
E8

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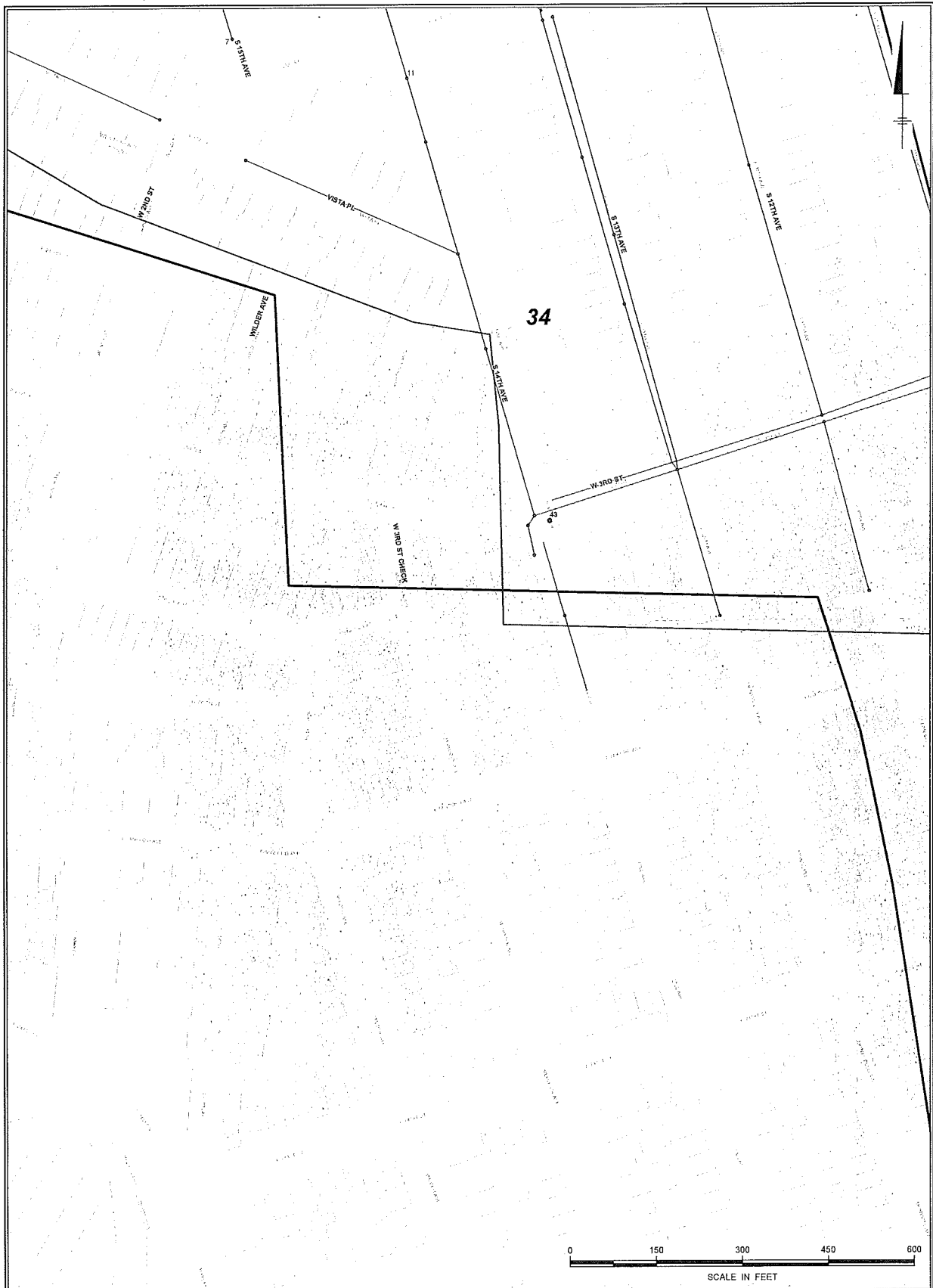


Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon Mount Vernon, New York	
SEWER MAP SANITARY SEWER EVALUATION SURVEY	
 ARCADIS	FIGURE F1

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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | • Currently Not Accessible |
| • Storm Manholes | • No Flow |
| — Storm Pipes | • Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

**SEWER MAP
SANITARY SEWER EVALUATION SURVEY**




FIGURE
F2

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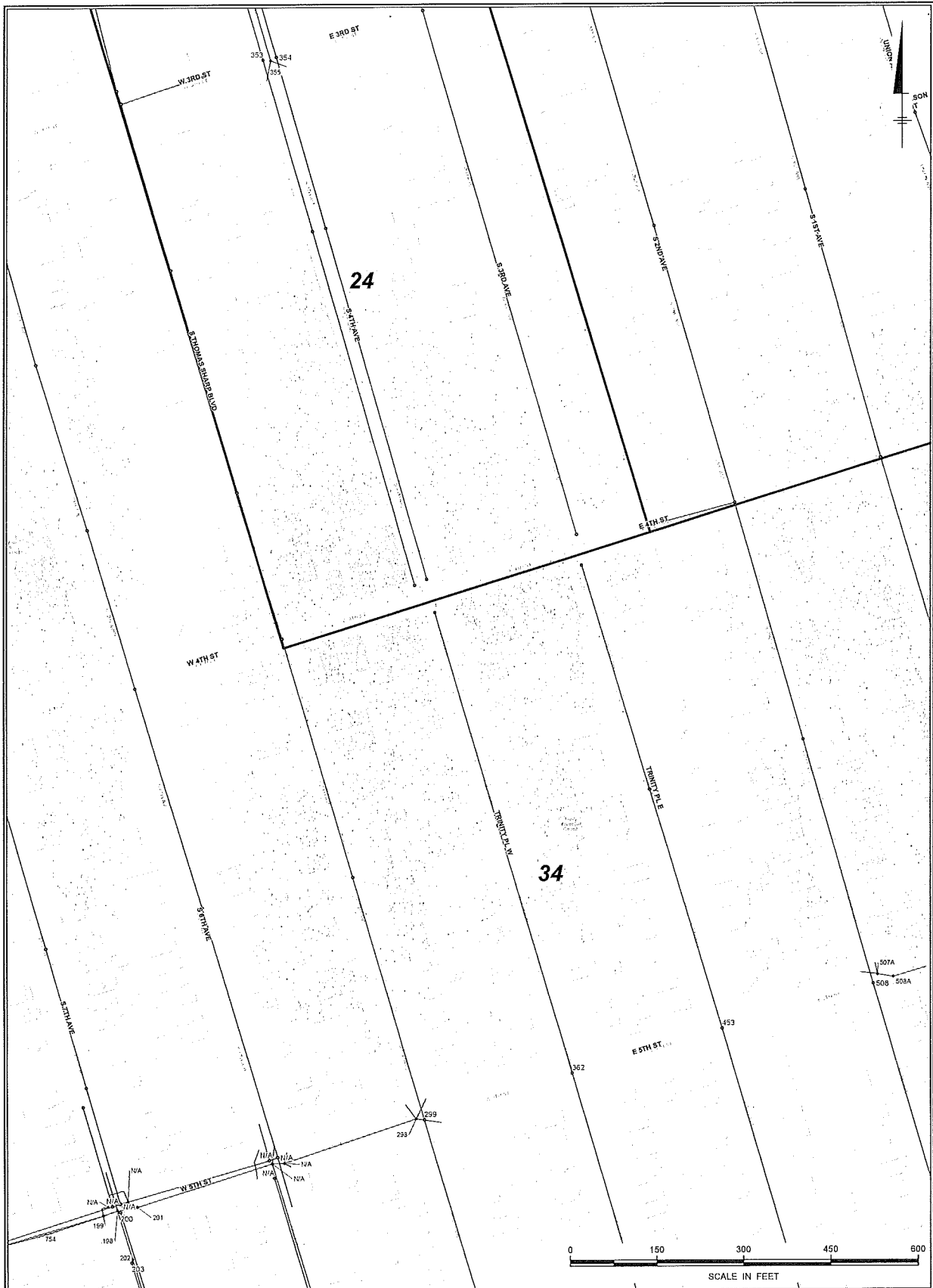


Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | • Currently Not Accessible |
| • Storm Manholes | • No Flow |
| --- Storm Pipes | • Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon Mount Vernon, New York	
SEWER MAP SANITARY SEWER EVALUATION SURVEY	
	FIGURE F3

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Legend

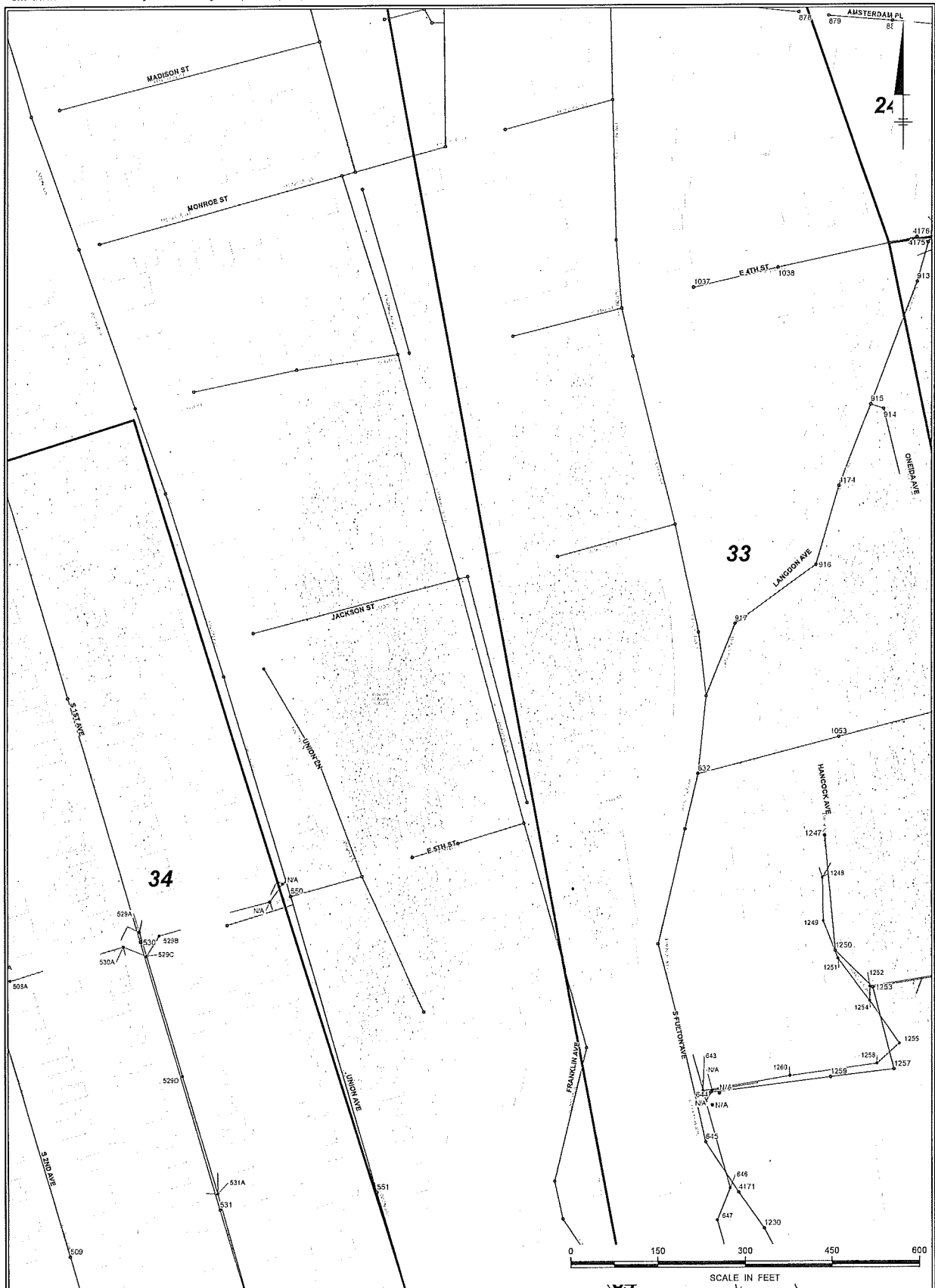
- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | • Currently Not Accessible |
| • Storm Manholes | • No Flow |
| — Storm Pipes | • Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
ARCADIS F4

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Legend

- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas
- Outfalls**
 - Currently Not Accessible
 - No Flow
 - Flow Observed

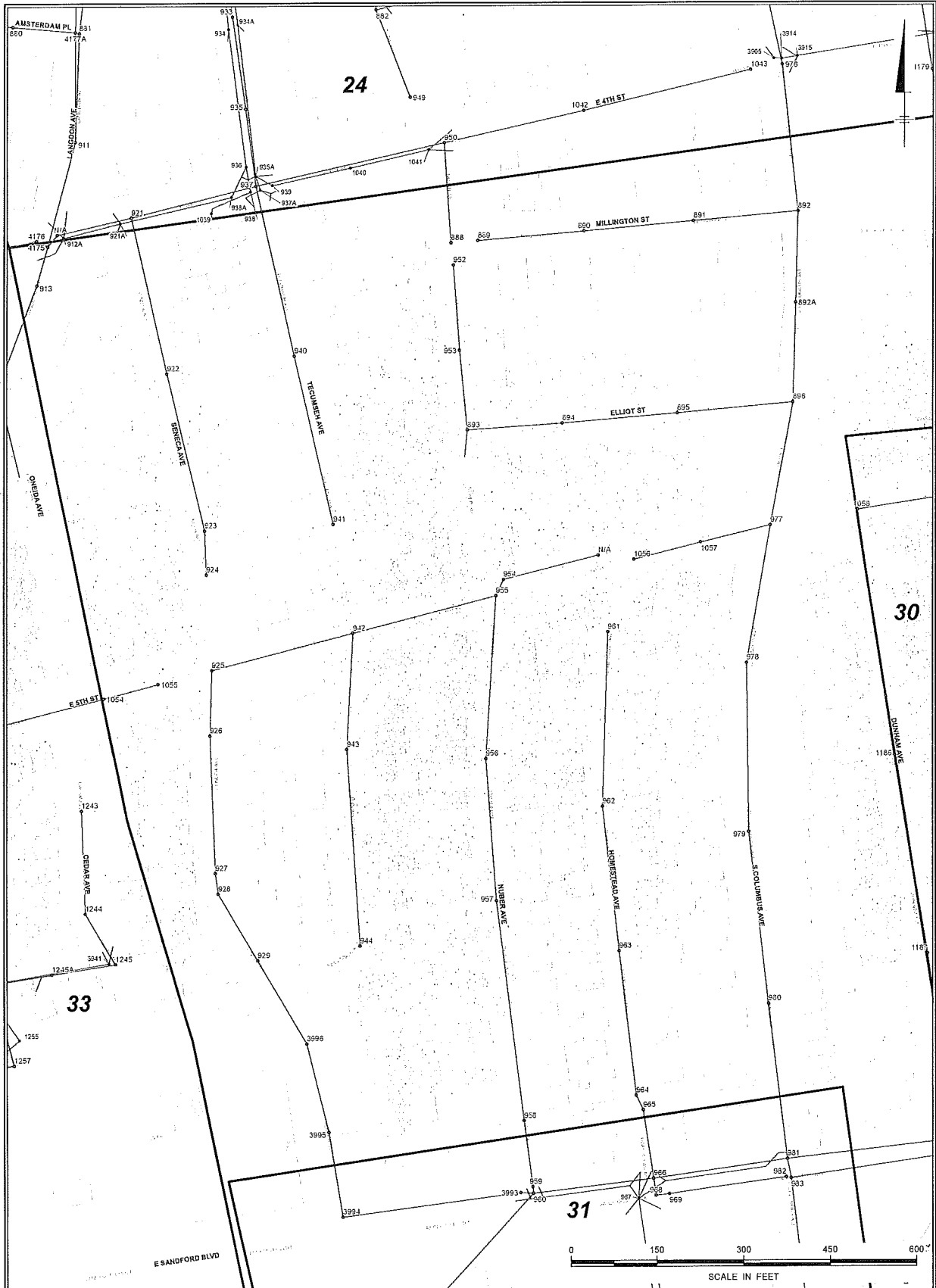
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
F5

ARCADIS

Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\Sanitary Sewer Map Book.pdf.mxd



Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
F6

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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
F7




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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | • Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon Mount Vernon, New York	
SEWER MAP SANITARY SEWER EVALUATION SURVEY	
	FIGURE F8

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Legend

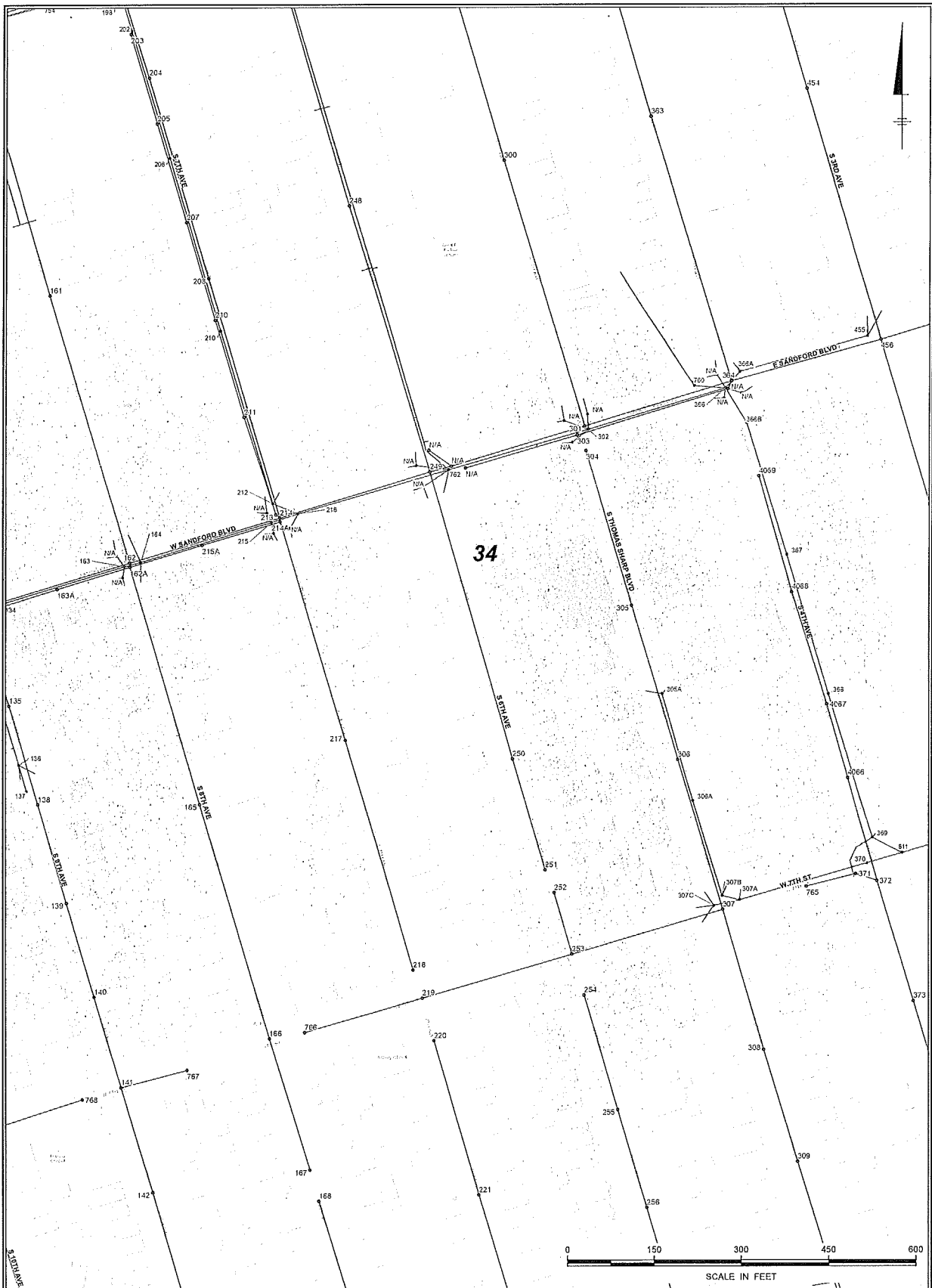
- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | • Currently Not Accessible |
| • Storm Manholes | • No Flow |
| — Storm Pipes | • Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
ARCADIS G3

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Legend

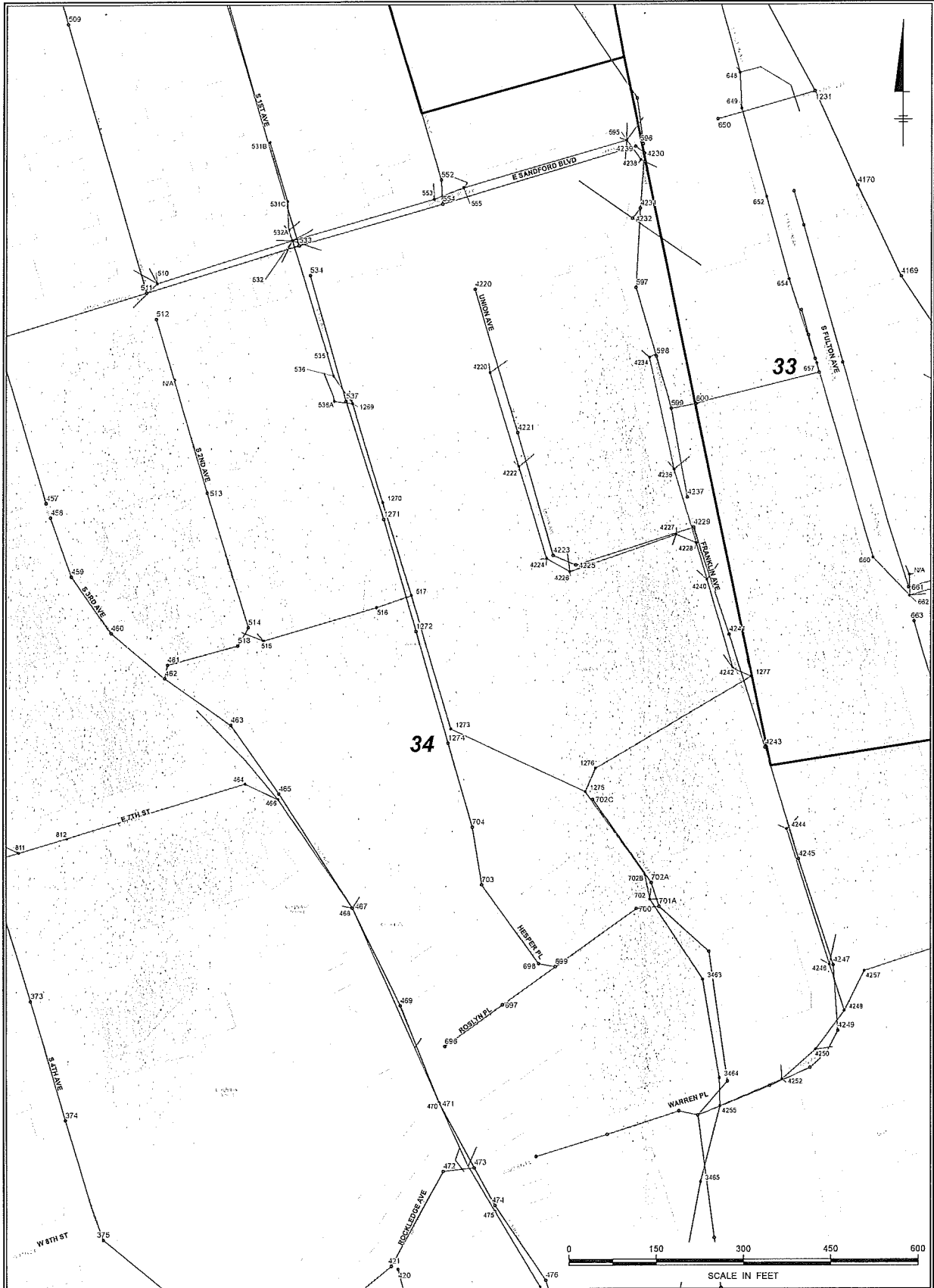
- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

ARCADIS FIGURE
G4

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- Legend**
- Sewer Manholes
 - Sewer Mains
 - Storm Manholes
 - Storm Pipes
 - ▭ Municipal Boundary
 - ▭ Storm Sewer Drainage Areas

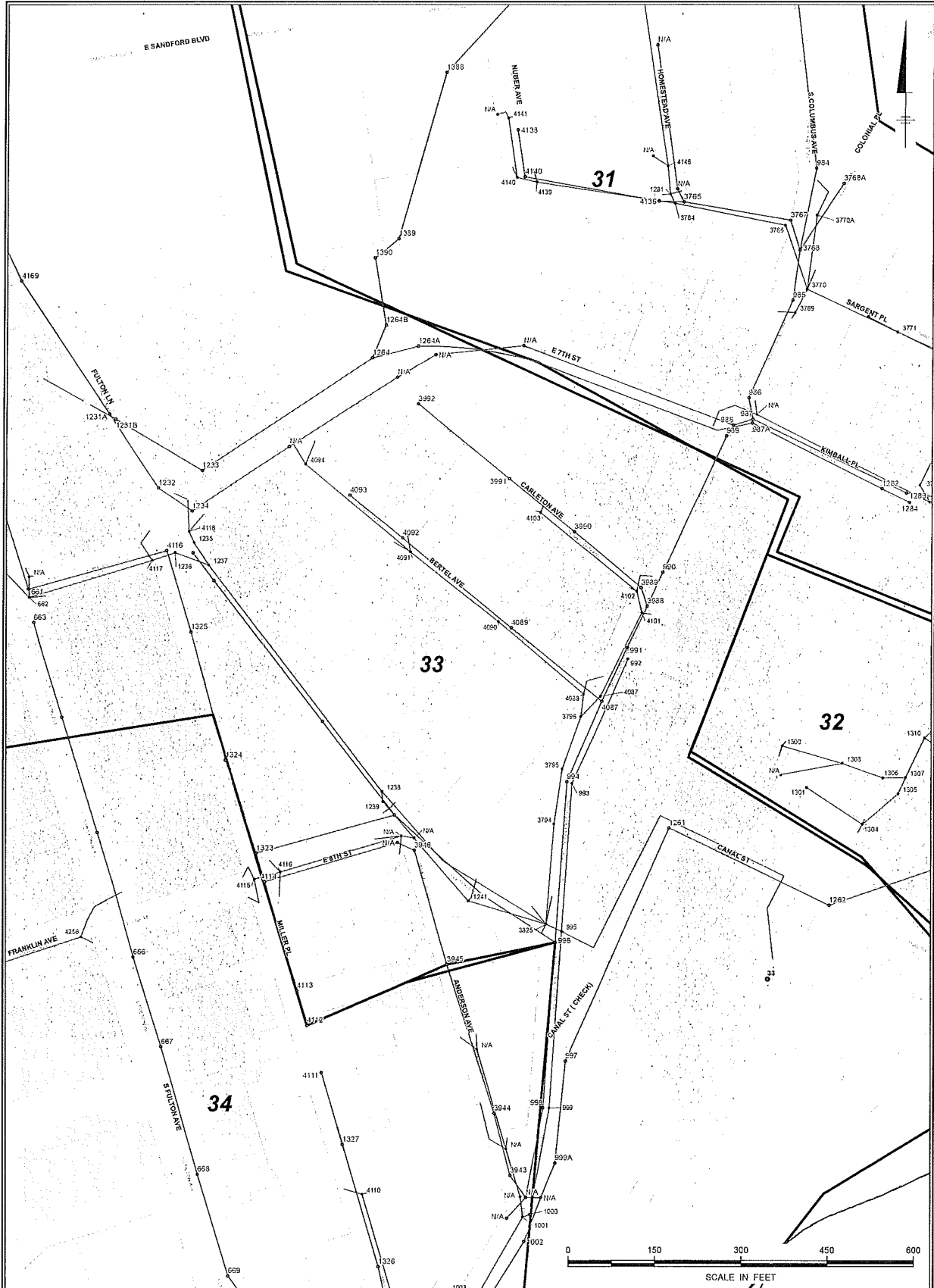
- Outfalls**
- Currently Not Accessible
 - No Flow
 - Flow Observed

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
G5

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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

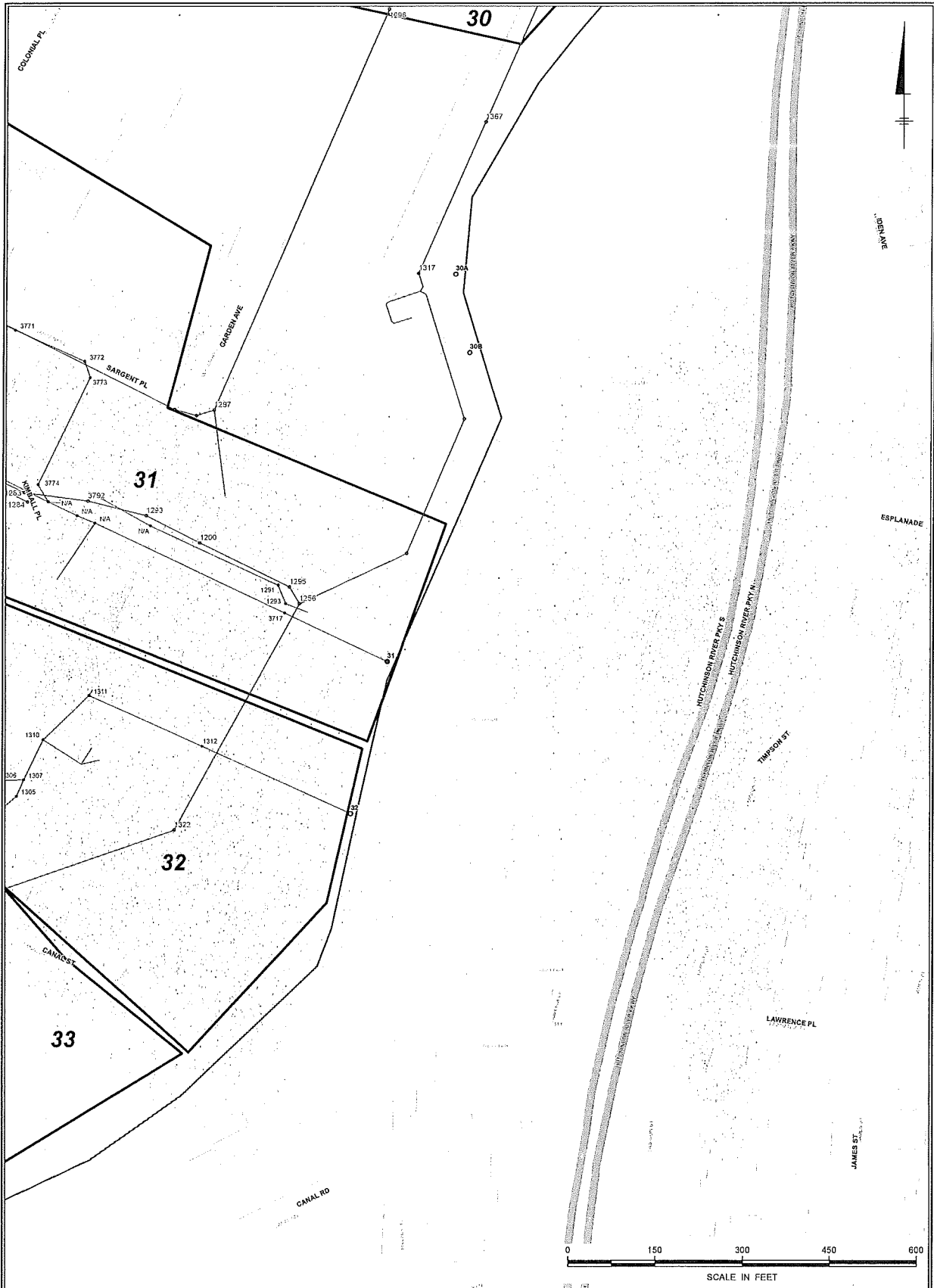
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
G6



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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | ○ Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

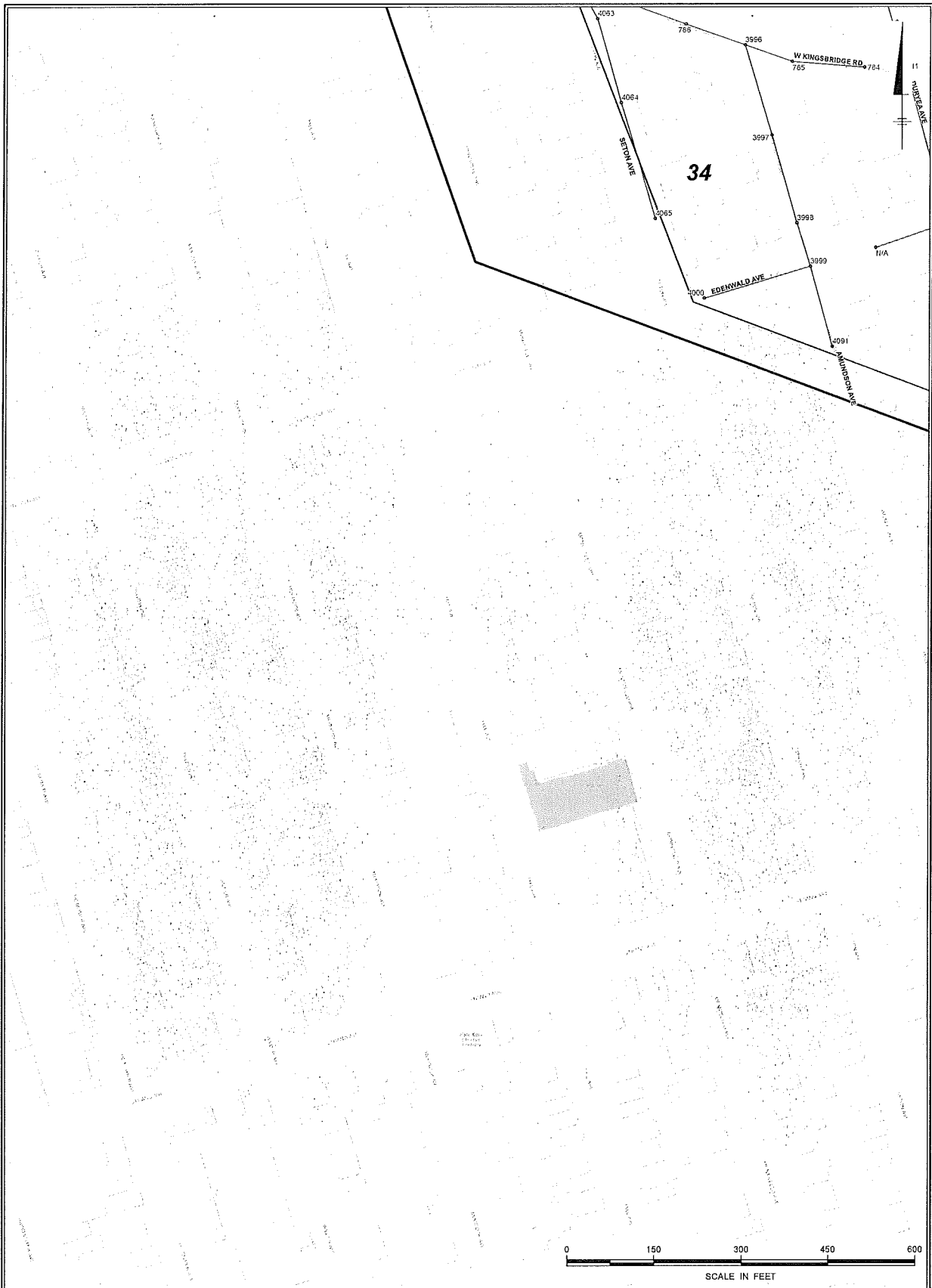
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
G7



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Legend

- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | • Flow Observed |
| □ Municipal Boundary | |
| □ Storm Sewer Drainage Areas | |

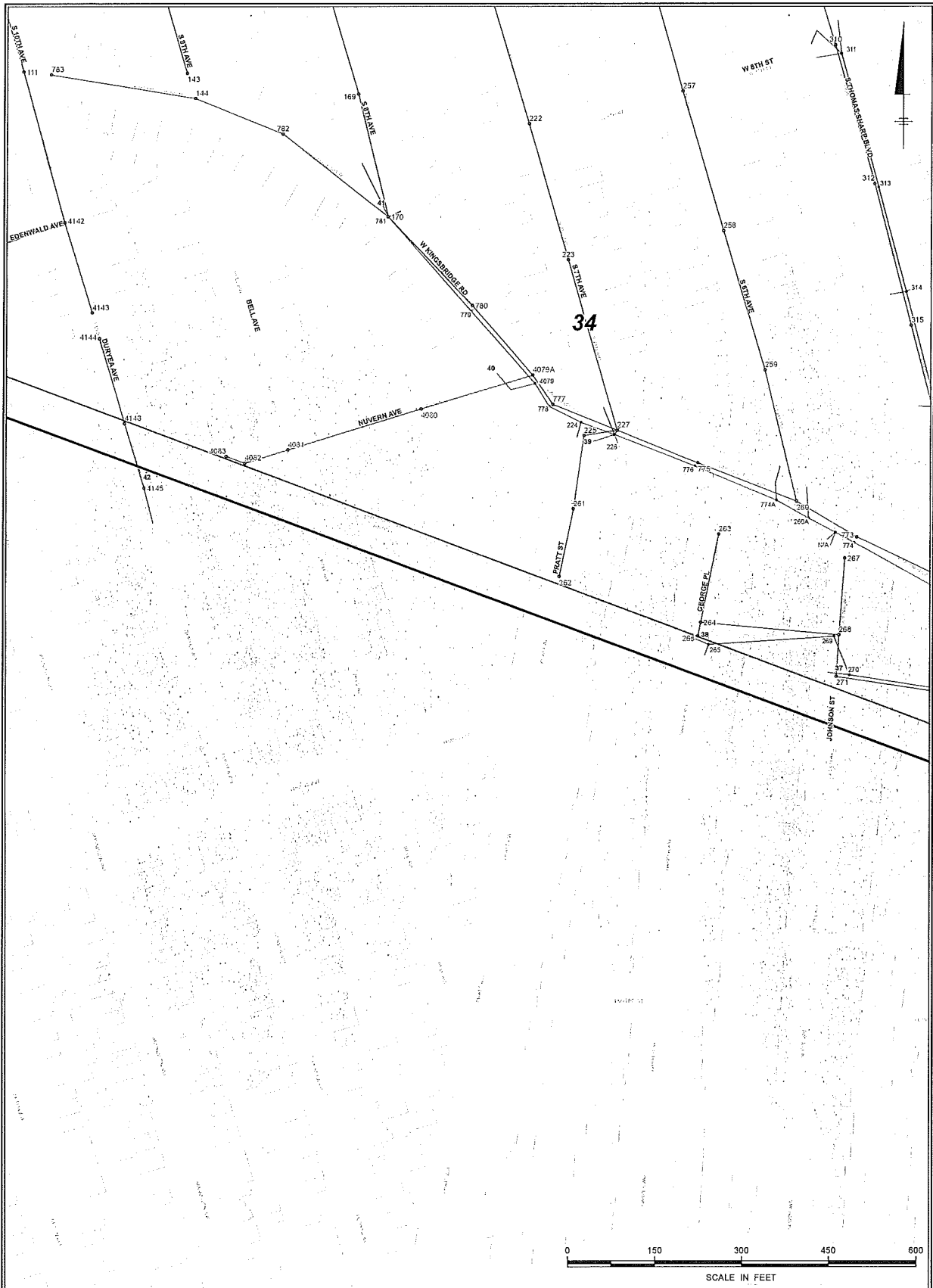
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
H3



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\Sewer Map Book.pdf.mxd



Legend

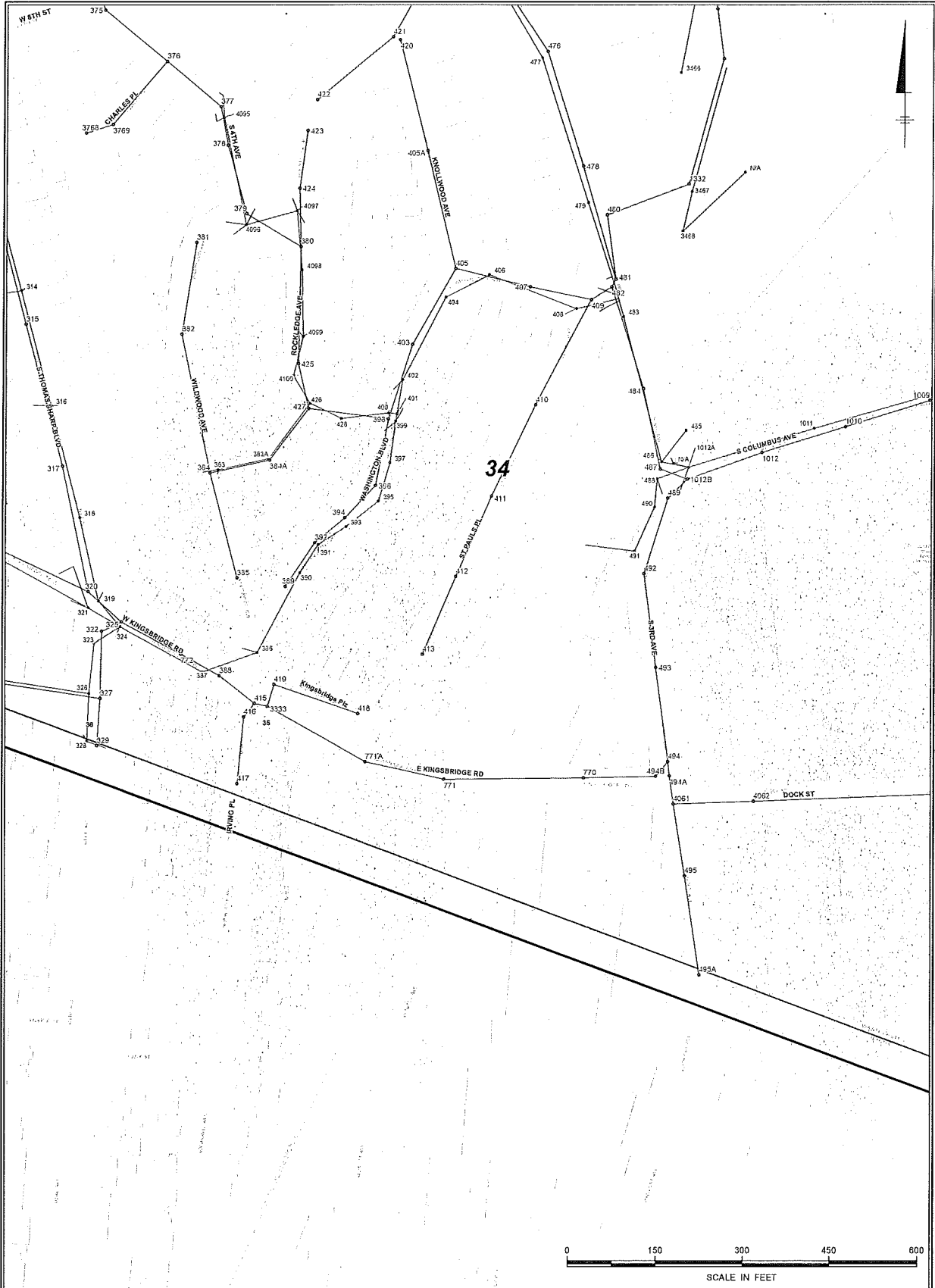
- | | |
|------------------------------|----------------------------|
| • Sewer Manholes | Outfalls |
| — Sewer Mains | ○ Currently Not Accessible |
| • Storm Manholes | ○ No Flow |
| — Storm Pipes | • Flow Observed |
| ▭ Municipal Boundary | |
| ▭ Storm Sewer Drainage Areas | |

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

ARCADIS | FIGURE H4

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Legend

- Sewer Manholes
- Sewer Mains
- Storm Manholes
- Storm Pipes
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas


Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed

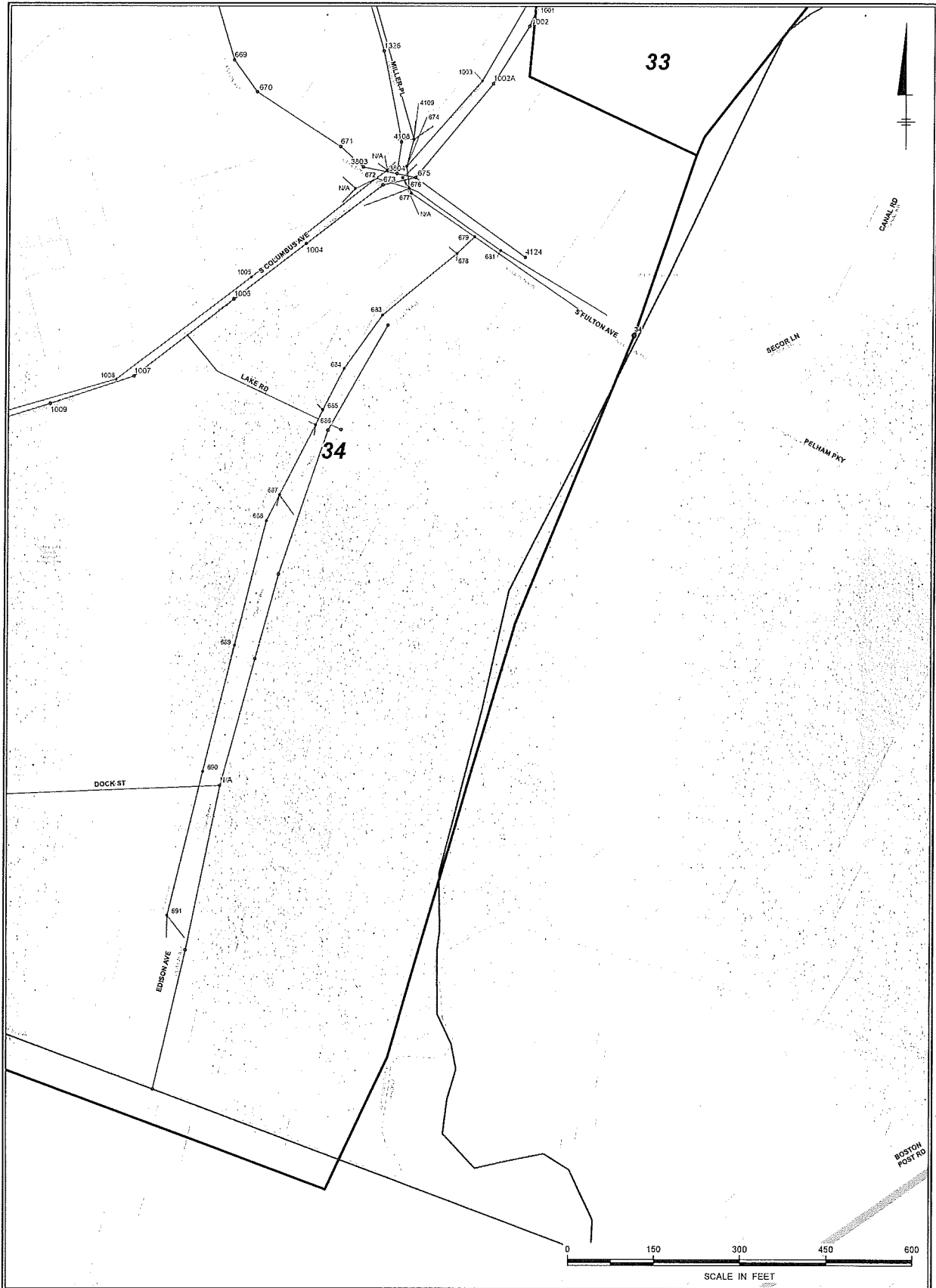
City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
H5



Document Path: G:\GIS\Mount Vernon\Final Figures and MXDs\Drainage Area Maps\Sewer Map Book.pdf.mxd




Legend	
• Sewer Manholes	Outfalls
— Sewer Mains	○ Currently Not Accessible
• Storm Manholes	○ No Flow
— Storm Pipes	○ Flow Observed
▭ Municipal Boundary	
▭ Storm Sewer Drainage Areas	

City of Mount Vernon
Mount Vernon, New York

SEWER MAP
SANITARY SEWER EVALUATION SURVEY

FIGURE
H6



Appendix B

Recent Sewer System Repairs

Dolph Rotfeld Engineering, P.C.

Date: July 2nd 2015

To: Jerry Ciotola, P.E. USEPA

From: Danny Peluso

RE: City of Mount Vernon IDDE Update. DRAFT

Since our previous meeting the City of Mount Vernon has performed the following in finding and eliminating illicit discharges within the City.

Repairs have been made at the Highland Avenue sanitary sewer siphon. The siphon manhole and piping were found poor condition allowing sewage to exfiltrate and surcharge to the adjacent Farrell Avenue Drain. The siphon was cleaned and 48 feet of sanitary sewer was replaced.

Work on the Havens Street sewer and storm drain has begun. A large source of sewage was discovered to be coming from a crushed 8" sanitary sewer in East 3rd Street and Peace Street infiltrating in the 25" foot deep storm drain. Work is currently under way to replace 200 feet of sewer to alleviate.

Our office has completed the CMOM for the city and it has been approved by your office.

As part of the ongoing investigation work we are investigating other illicit discharges from other utility and agencies. Will incorporate this info and data with the industrial discharge data base that we are currently reviewing and using as source during our inspections.

As the current TV contract is finishing, we are preparing bid documents to inspect and additional 40,000 feet of drain and sewer this season.

Department of Public Works Sewer Repairs			
2015			
3/09/2015 - 3/12/2015	\$23,705.30	16 Burkewood Ave	Removed a section of the 15" main and saw the line was broken up. We replaced the entire 15" line from manhole to manhole approximately 32 feet, using 15" SDR 35 pipe. Backfilled with item 4 and also repaired a nearby catch basin.
3/10/2015	\$4,807.00	3 Vernon Avenue	Backup in the basement. Cleaned out half a yard of debris that was inside the manhole to create a new concrete invert. After the manhole was cleaned, we televised and jet the lateral to confirm it was in good condition.
4/08/2015	\$7,316.10	159 Washington St.	Blockage located approximately 63 feet from the trap. There was a 5-foot section of 2" cast from pipe inside the 4" cast iron lateral that causing the backup. The 2" cast iron was removed and that cleared the backup.
4/15/2015 - 4/21/2015	\$18,826.90	Washington St. & Brookdale Place	Sewer collapse going downstream from manhole in the middle of the intersection. Replaced the new section (18 Linear Feet) with 8 inch SDR-35 & reconnected the house connection for the house at 122 Washington Street.
4/29/2015 - 5/14/2015	\$43,089.10	Hillside Ave	Made a new connection from manhole to manhole using 25 linear feet of 15" SDR 35 pipe. Backfilled the trench using item 4 and restored the curb and sidewalk with a new handicapped ramp.
5/06/2015 - 5/12/2015	\$40,032.80	25-35 Beechwood Ave	Collapsed sewer main at the manhole. Began excavation and made the 40 linear foot connection using 8" SDR 35 pipe and backfilled the trench. The next excavation was done to repair the blockage 15 feet from the manhole. We made the repair and brought the new 8" SDR 35 pipe inside the manhole.
5/27/2015 - 5/28/2015	\$8,464.00	Haven Street	On 3rd street we televised the storm downstorm from the manhole by the sidewalk, to find the buried manhole between 3rd Street and Haven St. While televising the storm line we found that the sewer main on top of the storm is dead up to Haven St. Also there was a substantial amount of water flowing into the Storm main. We poured dye into the sewer manhole on 3rd Street and found that the water getting into the Storm main was from the sewer. We televised the 8" sewer main on 3rd St.

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6/03/2015 - 6/04/2015	\$14,397.00	Hillside/Beechwood Ave.	Finalized the restoration. Jobsite is now completely restored, including the sidewalk, curbs, blacktop and handicap ramps.
6/30/2015 - 8/08/2015	\$72,068.70	Lyons Place	The issue with Con Edison having sewage leak into their substation for some time causing a hazard flooding condition. Excavated between the sewer main and the Con Edison substation to uncover the joints to find the possible leak. Uncovered 4 joints closest to the manhole and found that each of them was leaking. All debris was removed around each joint to properly seal them using 4000psi concrete to guarantee the joints were sealed. The project was completed and backfilled using item 4 and paved with blacktop.
7/06/2015 - 7/17/2015	\$92,723.70	303 3rd St.	Televised the sewer main and found that 150 linear feet of the clay sewer main was completely damaged, which was why the sewage was leaking into the storm main located approximately 20 feet below. Work had to begin immediately to stop the sewage leak, so we located where our camera was, inside the sewer main and began the excavation where our camera came to a complete stop, which showed that the pipe was completely collapsed. We excavated at that point and created a test pit to place the camera in the main and televise the rest of the line until it reached the next manhole downstream. That section of main was intact so our excavation was only 150 linear feet upstream from that point. With the televising equipment we were able to save 125 linear feet of pipe downstream.
7/29/2015	\$1,938.00	Memorial Field	Televised the 18-inch storm main. The inspection found the location of a buried manhole which was located 120 linear feet downstream from the manhole we were told to start in.
9/30/2015 - 10/20/2015	\$27,361.80	1st Street	Televised the 8" sewer main and found that it had a collapsed section & began the excavation right away to prevent another backup. After that point repair was complete, another section of 14' linear feet was replaced due to damage.
10/13/2015	\$5,707.00	1st Street	Repaired 2 damaged sewer manhole inverts. Cleaned excess debris and created a new invert using SDR 35 pipe and 5000 psi cement.
TOTAL	\$360,437.40		

2018 and 2019 Sewer Repairs

- In Spring 2018, the City had heavy cleaning and inspecting completed for over 2,000 feet of 24" sanitary sewer line along the Hutchinson River. Over 200 feet of damaged sanitary sewer line was replaced to repair a chronic blockage problem that had plagued neighboring streets for years and caused sanitary sewage overflows directly to the Hutchinson River. - Ederer Declaration
- 204 Primrose Avenue - sanitary sinkhole due to damaged 6 inch sewer lateral Complete \$16,102.80 1/21/2019 Zonzoni invoice 2403 dated 1/21/2019, Mark Ederer's email on 5/17/2019
- Primrose and North Fulton Avenue - sanitary collapsed sanitary sewer, surcharging to manhole Complete \$17,371.00 1/21/2019 Zonzoni invoice 2403 dated 1/21/2019, Mark Ederer's email on 5/17/2019
- In May 2019, the City replaced 36' of damaged sanitary sewer line on Prospect Ave eliminating a source of sanitary sewage infiltration to Storm Drain Network No. 24. - Ederer Declaration
- In May 2019, the City excavated and replaced 36' of collapsed 12" sanitary sewer line in Levester Towers and performed a point repair at Eastchester Lane to eliminate surcharge on E 3rd St potentially infiltrating Storm Drain Network 34. - Ederer Declaration

Mount Vernon 2020 and 2021 Sewer Cleaning and Rehabilitation Through Cured-in-Place Lining

Street	Manholes	Diameter	LF	\$/LF	Cost	Invoice #	Date Completed	Map Page	Pre-Cleaning
North Bond Street	MH(3936-3937-3938-3939-3940)	15" CIPP	622	\$125.00	\$77,750.00	894	9/30/2020	28	7/21/2020
Haven Avenue	MH(841-842-843-844-845)	15" CIPP	435	\$125.00	\$54,375.00	923	10/28/2020	322	7/20/2020
Lyons Place	MH1349-MH1350-MH1351-MH815A-MH815-MH814	36" CIPP	578	\$455.00	\$262,990.00			400	7/21/2020
Cleaning Sewer Pipe - Extra (Sandford Boulevard)	CLEAN ONLY	24"	1980	\$10.00	\$19,800.00	998 - REV	12/31/2020		
East Prospect Avenue	MH 2506-MH 2232	8" CIPP	206	\$62.50	\$12,875.00	998 - REV	12/31/2020	487	
Washington Street	MH818A - MH818	8" CIPP	102	\$62.50	\$6,375.00			677	9/17/2020
Washington Street	MH820-MH821-MH823-MH824-MH826	8" CIPP	915	\$62.50	\$57,187.50			677	9/17/2020
East Prospect Avenue	MH 2175 - MH 2173	12" CIPP	326	\$125.00	\$40,750.00	1055 - REV	2/28/2021	488	
Dell Avenue	MH 2491 - MH 2490 - MH 2487	15" CIPP	526	\$125.00	\$65,750.00			96	
Overlook Street	MH 2593 - MH 2592, MH 2097- MH 2093	18" CIPP	462	\$180.00	\$83,160.00			460	
Hutchinson River Parkway	MH (1342-1343-1344-1345-1346-1347-1348)	24" CIPP	1197	\$235.00	\$281,295.00	1147	6/30/2021	720	
Cleaning Sewer Pipe		24"	4	\$1,000.00	\$4,000.00	1190	6/30/2021	720	
Willow Place	CLEAN ONLY	8" CIPP	415	\$10.00	\$4,150.00			689-A	

Note: Work performed by Green Mountain Pipeline Services

7768.00

\$970,457.50

Appendix C

Investigation Forms

**CITY OF MOUNT VERNON
 PHASE II STORM WATER MANAGEMENT PROGRAM
 MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)**

MANHOLE INSPECTION

Inspected By:	Date:	Time:
Structure ID:	Location Sketch (<i>Indicate address, streets, nearest intersections, etc.</i>)	
Address:		
Nearest Intersection:		
GPS Location:		
Location: <input type="checkbox"/> Roadway <input type="checkbox"/> Gutter <input type="checkbox"/> Private Property <input type="checkbox"/> Basement <input type="checkbox"/> Other: _____		
Sewer Type: <input type="checkbox"/> Sanitary <input type="checkbox"/> Storm		
Material: <input type="checkbox"/> Brick <input type="checkbox"/> Concrete		
Cover Size: <input type="checkbox"/> 24-in. <input type="checkbox"/> 30-in. Invert Depth: _____ in.		

Structure					
	Satisfactory	Unsatisfactory	Not Applicable	Not Visible	If Unsatisfactory or Not Visible, Describe:
Cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ring/Frame	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rungs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Cone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Riser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shelf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Channels/Connections				
A	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____		Draw channels/connections (A, B, C, D) in manhole and indicate direction of flow.
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: _____ in.	
B	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____		
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: _____ in.	
C	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____		
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: _____ in.	
D	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____		
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: _____ in.	

Inflow/Surcharge Indications		Debris/Grease on: <input type="checkbox"/> Sides <input type="checkbox"/> Rungs <input type="checkbox"/> Shelf <input type="checkbox"/> Not Applicable <input type="checkbox"/> Not Visible		
Flow	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial <input type="checkbox"/> None	Appearance/Clarity	<input type="checkbox"/> Clear Water <input type="checkbox"/> Turbid Sewage <input type="checkbox"/> Not Applicable	
Rate	<input type="checkbox"/> Steady <input type="checkbox"/> Intermittent <input type="checkbox"/> Not Applicable	Flow Depth Compared to Adjacent Manholes	<input type="checkbox"/> Same <input type="checkbox"/> Lower <input type="checkbox"/> Higher	
Comments/Notes:				

Form Completed By:

Name (print):	Date:
Signature:	

**CITY OF MOUNT VERNON
 PHASE II STORM WATER MANAGEMENT PROGRAM
 MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)**

CATCH BASIN INSPECTION

Inspected By:	Date:	Time:
Structure ID:	Location Sketch (<i>Indicate address, streets, nearest intersections, etc.</i>)	
Address:		
Nearest Intersection:		
GPS Location:		
Location: <input type="checkbox"/> Roadway <input type="checkbox"/> Curb <input type="checkbox"/> Private Property <input type="checkbox"/> Easement <input type="checkbox"/> Gutter <input type="checkbox"/> Other: _____		
Material: <input type="checkbox"/> Brick <input type="checkbox"/> Concrete Bottom Depth: _____ in.		
Size: <i>If circular,</i> <i>If square or rectangular,</i> Diameter: _____ in. Length: _____ in., Width: _____ in.		

Structure					
	Satisfactory	Unsatisfactory	Not Applicable	Not Visible	If Unsatisfactory or Not Visible, Describe:
Cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ring/Frame	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rungs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bottom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Channels/Connections				
A	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____		Draw channels/connections (A, B, C, D) in catch basin and indicate direction of flow.
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: _____ in.	
B	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____		
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: _____ in.	
C	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____		
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: _____ in.	
D	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____		
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)	Invert Depth: _____ in.	

Condition	<input type="checkbox"/> Clean/Dry <input type="checkbox"/> Standing Water <input type="checkbox"/> Flowing Water <input type="checkbox"/> Sediment <input type="checkbox"/> Organic Matter <input type="checkbox"/> Trash/Debris <input type="checkbox"/> Not Visible <input type="checkbox"/> Other: _____				
Flow	<input type="checkbox"/> Trickle	<input type="checkbox"/> Moderate	<input type="checkbox"/> Substantial	<input type="checkbox"/> None-Standing Water	<input type="checkbox"/> None-Dry
Rate	<input type="checkbox"/> Steady	<input type="checkbox"/> Intermittent	<input type="checkbox"/> Not Applicable	Sump Present	<input type="checkbox"/> Yes <input type="checkbox"/> No
Illicit Discharge Indications Present? (dry weather flow, odor, color, floatables, turbidity, viscosity)			<input type="checkbox"/> Yes <input type="checkbox"/> No	<i>If Yes, Complete Illicit Discharge Field Sheet (Form A).</i>	
Comments/Notes:					

Form Completed By:

Name (print):	Date:
Signature:	

CITY OF MOUNT VERNON
 PHASE II STORM WATER MANAGEMENT PROGRAM
 MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

ILLICIT DISCHARGE FIELD SHEET

SECTION A: General Information

Structure ID:		Date:	Time:
Outfall:		Inspected by:	
Location:		GPS Location:	
Outside Air Temperature (°F):		Rainfall (inches) Last 24 hours:	Last 48 hours:
Land Use in Drainage Area: <input type="checkbox"/> Residential <input type="checkbox"/> Industrial/Commercial <input type="checkbox"/> Mixed Use <input type="checkbox"/> Other: _____			
Reason for Inspection:	<input type="checkbox"/> Citizen Notification <input type="checkbox"/> Routine/Scheduled Survey <input type="checkbox"/> Referral from Agency/Department:		
	<input type="checkbox"/> County/State Notification <input type="checkbox"/> Observed during Routine Work <input type="checkbox"/> Other: _____		

SECTION B: Description of Structure

SECTION C: Location Sketch

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Type</td> <td><input type="checkbox"/> Outfall <input type="checkbox"/> Manhole <input type="checkbox"/> Ditch/Swale</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Spillway <input type="checkbox"/> Catch Basin <input type="checkbox"/> Other: _____</td> </tr> <tr> <td>Material</td> <td><input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC</td> </tr> <tr> <td></td> <td><input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____</td> </tr> <tr> <td>Shape</td> <td><input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Other: _____</td> </tr> <tr> <td>Size</td> <td> <i>If circular,</i> Diameter: _____ inches <i>If square or rectangular,</i> Height: _____ inches Width: _____ inches </td> </tr> <tr> <td rowspan="2">Structure Bottom</td> <td>Submerged: <input type="checkbox"/> No <input type="checkbox"/> Yes, Partially <input type="checkbox"/> Yes, Fully</td> </tr> <tr> <td>Blocked: <input type="checkbox"/> No <input type="checkbox"/> Yes, Partially <input type="checkbox"/> Yes, Fully</td> </tr> </table>	Type	<input type="checkbox"/> Outfall <input type="checkbox"/> Manhole <input type="checkbox"/> Ditch/Swale		<input type="checkbox"/> Spillway <input type="checkbox"/> Catch Basin <input type="checkbox"/> Other: _____	Material	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC		<input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	Shape	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box		<input type="checkbox"/> Other: _____	Size	<i>If circular,</i> Diameter: _____ inches <i>If square or rectangular,</i> Height: _____ inches Width: _____ inches	Structure Bottom	Submerged: <input type="checkbox"/> No <input type="checkbox"/> Yes, Partially <input type="checkbox"/> Yes, Fully	Blocked: <input type="checkbox"/> No <input type="checkbox"/> Yes, Partially <input type="checkbox"/> Yes, Fully	Draw diagram and indicate closest streets (including address), nearby landmarks, etc.
Type	<input type="checkbox"/> Outfall <input type="checkbox"/> Manhole <input type="checkbox"/> Ditch/Swale																	
	<input type="checkbox"/> Spillway <input type="checkbox"/> Catch Basin <input type="checkbox"/> Other: _____																	
Material	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC																	
	<input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____																	
Shape	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box																	
	<input type="checkbox"/> Other: _____																	
Size	<i>If circular,</i> Diameter: _____ inches <i>If square or rectangular,</i> Height: _____ inches Width: _____ inches																	
Structure Bottom	Submerged: <input type="checkbox"/> No <input type="checkbox"/> Yes, Partially <input type="checkbox"/> Yes, Fully																	
	Blocked: <input type="checkbox"/> No <input type="checkbox"/> Yes, Partially <input type="checkbox"/> Yes, Fully																	

SECTION D: Discharge Characteristics

Flow Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, skip the rest of this section.</i>	Description	Check one: <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial	Check one: <input type="checkbox"/> Steady <input type="checkbox"/> Intermittent <input type="checkbox"/> Single Occurrence	
Flow Rate <i>(If possible, measure time it takes to fill a 5-gallon container)</i>	Temperature _____ °F			
Volume of Container Used _____ Gallons	Gallons ÷ Minutes = _____ gpm	pH _____ pH Units		
Time to fill Container _____ Minutes	Ammonia <i>(if measured in field)</i> _____ mg/L			
Indicator	Description	Severity		
Odor	<input type="checkbox"/> None <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sweet <input type="checkbox"/> Sewage <input type="checkbox"/> Other: _____	<input type="checkbox"/> Faint	<input type="checkbox"/> Easily detected	<input type="checkbox"/> Noticeable from a distance
Color	<input type="checkbox"/> Clear <input type="checkbox"/> Gray <input type="checkbox"/> Red <input type="checkbox"/> Orange <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Blue <input type="checkbox"/> Brown <input type="checkbox"/> Black <input type="checkbox"/> Other: _____	<input type="checkbox"/> Faint colors in sample bottle	<input type="checkbox"/> Clearly visible in sample bottle	<input type="checkbox"/> Clearly visible in outfall flow
Floatables	<input type="checkbox"/> None <input type="checkbox"/> Sewage (toilet paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other: _____	<input type="checkbox"/> Few/slight; origin not obvious	<input type="checkbox"/> Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)
Turbidity	See severity	<input type="checkbox"/> Clear	<input type="checkbox"/> Slight cloudiness	<input type="checkbox"/> Cloudy <input type="checkbox"/> Opaque
Viscosity	Similar to:	<input type="checkbox"/> Water	<input type="checkbox"/> Oil (Vegetable/Motor)	<input type="checkbox"/> Molasses <input type="checkbox"/> Other: _____

Structure ID:	Outfall:	Date:	Time:
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SECTION E: Physical Condition

Condition	Present	If Present, Nature:	Comments
Structure Damage	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Peeling Paint <input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other: _____	
Abnormal Vegetation	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Odor <input type="checkbox"/> Color <input type="checkbox"/> Floatables <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Suds <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Other: _____	
Pipe growth	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other: _____	

SECTION F: Sample Collection

Sample Collected: <input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, skip the rest of this section.</i>	Sample Submitted to Laboratory: <input type="checkbox"/> Yes <input type="checkbox"/> No
Date of Collection:	Laboratory Sample ID:
Time of Collection:	Sample Bottle IDs:
Laboratory Information	Name: Address: Phone:
Analyses Requested: <input type="checkbox"/> Fecal Coliform MPN <input type="checkbox"/> Color <input type="checkbox"/> Conductance <input type="checkbox"/> Turbidity <input type="checkbox"/> Dissolved Oxygen <input type="checkbox"/> Fluoride <input type="checkbox"/> Methylene Blue Activated Substances <input type="checkbox"/> Other: _____	
Collected from: <input type="checkbox"/> Flow <input type="checkbox"/> Pool	Method of Collection: <input type="checkbox"/> Direct collection <input type="checkbox"/> Sampling Equipment Used Specify type: _____
Gloves used: <input type="checkbox"/> Yes <input type="checkbox"/> No	Laboratory Sample Forms Completed: <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(attach copy)</i>
Samples Placed on Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No	Chain of Custody Initiated: <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(attach copy)</i>

SECTION G: Comments/Notes

Form Completed By:

Name (print):	Date:
Signature:	

DYE TEST INSPECTION FORM

Time: _____ Date: _____ Inspector(s): _____

Drainage Basin: _____ Observation Street: _____

Building Address: _____ Tax Map Address: _____

Contact Information:

Business Name: _____ Phone: _____

Owner's Name: _____ Phone: _____

Site Contact's Name: _____ Phone: _____

Property Description:

Property Type: _____	Approximate Age of Building: _____
Number of Stories / Apartments/ Units: _____	Number of Bathrooms: _____
	Evidence of a Remodel: _____

	Dye Test Floor: (Basement/ First/ Second)	Dye Test Drain: (Kitchen/Bath/Laundry)	Dye Color:	Results: (Pos/Neg)
Location 1	_____	_____	_____	_____
Location 2	_____	_____	_____	_____
Location 3	_____	_____	_____	_____
Location 4	_____	_____	_____	_____
Location 5	_____	_____	_____	_____
Location 6	_____	_____	_____	_____
Location 7	_____	_____	_____	_____
Location 8	_____	_____	_____	_____
Location 9	_____	_____	_____	_____
Location 10	_____	_____	_____	_____

Camera in between manhole: _____ and _____

CCTV Observation Points: _____
(Distance from Manhole)

Dye observed in Sanitary Manhole? _____ If Not Where? _____

General Problem Description: _____

Schedule a Second Dye Test? _____ If so, Why? _____

Additional Notes:

Sanitary Sewer Dye Test:
 Dye Added to Sanitary Manhole: _____
 Dye Test Result (Pos. / Neg.): _____



SMOKE TESTING INSPECTION FORM

Time: _____ Date: _____ Inspector: _____

General Information

Setup Manhole ID: _____

Date of Inspection: _____

Inspector: _____

Street Name: _____

General Notes: _____

Smoke Emissions

Defect #: _____

Surface Type: _____

Street Address: _____

Potential Inflow _____

Severity: _____

Defect Description: _____

Notes: _____



Arcadis of New York, Inc.
855 Route 146, Suite 210
Clifton Park
New York 12065
Phone: 518 250 7300
Fax: 518 371 2757
www.arcadis.com



City of Mount Vernon

Stormwater Management Program Plan

City of Mount Vernon, New York

Initial Submission: June 2022

Updated Submission January 2023

Stormwater Management Program Plan
City of Mount Vernon, New York

Stormwater Management Program Plan

January 2023

Prepared By:

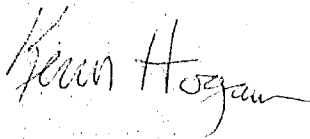
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Stormwater Management Program Plan
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Acronyms and Abbreviations

BMP	Best Management Practice
CGP	Construction General Permit
DPW	Department of Public Works
EDP/EDC	Effective Date of the Permit/Effective Date of Coverage
ERP	Enforcement Response Plan
FOG	fats, oils and grease
GIS	Geographic Information System
IDAP	Illicit Discharge Action Plan
MCM	Minimum Control Measures
MS4	Municipal Separate Storm Sewer System
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation and Maintenance
POC	Pollutant of Concern
QA/QC	Quality Assurance/Quality Control
SPDES	State Pollutant Discharge Elimination System
SSO	Sanitary Sewer Overflow
SMO	Stormwater Management Officer
SMP	Stormwater Management Practices
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load

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1 Introduction

In response to a United States Environmental Protection Agency (EPA) mandate under the Clean Waters Act, the New York State Department of Environmental Conservation (NYSDEC) initiated its Phase II Stormwater Permit Program in 2003, with the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4 Permit). Small MS4s that are located within defined urbanized areas are regulated under this MS4 Permit and must develop a stormwater management program to reduce the amount of pollutants transported by stormwater during storm events to waterbodies. The goal of the program is to improve water quality and recreational use of waterways. Since 2003 the NYSDEC has issued subsequent MS4 Permits, and there is currently a draft 2022 MS4 permit that is expected to be issued later this year.

The City of Mount Vernon (City) is a publicly funded entity that owns and operates separate storm sewer systems within urbanized areas and is therefore considered an MS4 and is required to obtain permit coverage under this program.

The main goal of a Stormwater Management Program is to reduce the discharge of pollutants from projects and activities to the maximum extent practicable in order to protect water quality and to satisfy the appropriate water quality requirements of the Environmental Conservation Law and the Clean Waters Act. The program must include the following minimum control measures:

- Public Education and Outreach on Stormwater Impacts;
- Public Involvement/Participation;
- Illicit Discharge Detection and Elimination;
- Construction Site Stormwater Run-off Control;
- Post-Construction Stormwater Management;
- Pollution Prevention/Good Housekeeping for Municipal Operations.

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The MS4 Permit requires that each MS4 have a SWMP Plan to document developed, planned, and implemented SWMP elements. This document represents the City's updated SWMP Plan and is based on the 2022 draft MS4 Permit. The City is mandated by a Court Order to develop an updated SWMP, but the timeline for submittal falls within the new MS4 permit cycle. It was agreed upon that the new draft MS4 permit should be used to develop this SWMP Plan. Since the Permit is still in draft, some of the requirements of the draft may change, and therefore, it is important to review and update this Plan once the new MS4 permit is finalized.

Documents that Support the SWMP Plan

A summary of the documents that should be used in conjunction with this SWMP plan is provided below:

1. Documents developed by the NYSDEC that are relevant to the MS4 permit:
 - a. **The Draft General Permit for Small Municipal Separate Storm Sewer Systems (MS4s), GP-0-22-002** (<https://www.dec.ny.gov/chemical/43150.html>)
 - b. **General Permit for Stormwater Discharges Associated with Construction Activity, GP-0-20-001** (<https://www.dec.ny.gov/chemical/43133.html>)
 - c. **Notice of Intent (NOI) and Notice of Termination for Stormwater Discharges Associated with Construction Activity under SPDES General Permit GP-0-20-001.** (<https://www.dec.ny.gov/chemical/43133.html#Forms>)
 - d. **NYS Stormwater Management Design Manual (January 2015)** - New York State Stormwater Management Design Manual provides designers with a general overview on how to size, design, select, and locate stormwater management practices at a development site to comply with State stormwater performance standards. (<https://www.dec.ny.gov/chemical/29072.html>)
 - e. **New York State Standards and Specifications for Erosion and Sediment Control (2016)** <http://www.dec.ny.gov/chemical/29066.html>- This document provides standards and specifications for selection, design and implementation of erosion and sediment control practices.
2. City Documents that are relevant to the MS4 permit:
 - a) **Public Works Operations Facility SWPPP (2010)** – Components of this document were incorporated in this SWMP Plan. This document is still relevant but will require some updates based on final permit requirements and recent updates to City facilities.
 - b) **SWPPP Guidance Document – Appendix C, Supporting Document**

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These City documents will need to be updated once the new MS4 permit is finalized.

How to Use this Document

This purpose of the SWMP Plan is to summarize the MS4 permit requirements and schedule, document how those requirements are planned to be met, and to track progress. The draft 2022 MS4 Permit requires extensive documentation of work being planned and completed for this program.

This document includes sections on Administrative Requirements, Reporting Requirements, and requirements for each of the Six Minimum Controls. Excerpts from the permit are provided in call out boxes in each section, followed by the City's response and plans for each requirement. Many of the requirements of the draft MS4 Permit are new and the NYSDEC provides the MS4 time to develop the program components. Templates have been developed for most of the items that need to be tracked and are provided in **Appendix B, Templates**. This SWMP Plan does not cover all MS4 Permit requirements only SWMP Plan requirements. The MS4 permit should be referenced for more detailed information on how to meet permit requirements.

There is also a checklist based on tools developed from the NYSDEC in **Appendix B, Annual SWMP Updates Checklist**. This includes a summary of requirements and the frequency in which the requirements must be addressed. The City will use this summary to remind them of when requirements are due.

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2 Administrative

2.1 Staff

2.1.1 Stormwater Coordinator

- 1) *The name, title, and contact information of the Stormwater Program Coordinator must be documented in the SWMP Plan.*

The Stormwater Program Coordinator's information is provided below:

Jason Miller, Stormwater Coordinator
Department of Public Works
City of Mount Vernon, New York
Email: jmiller@cmvny.com
Website: www.cmvny.com
Voice: 914.665.2343

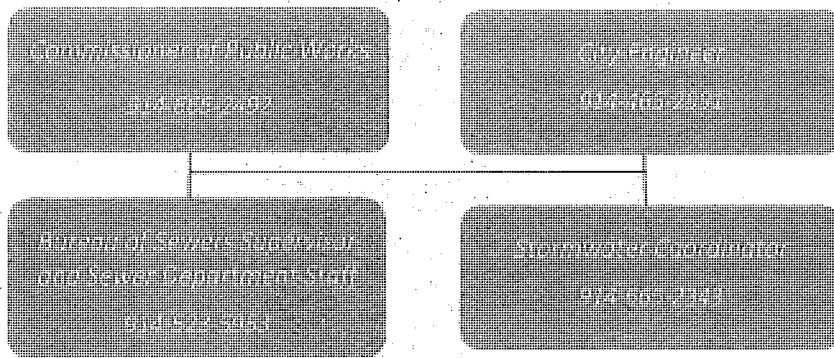
- 2) *The stormwater coordinator must complete four (4) hours of training endorsed by the Department in stormwater management and the requirements of this SPDES general permit. The completion of this requirement must be documented in the SWMP Plan.*

The stormwater coordinator training is tracked in **Appendix A: Trained Individuals**. **Appendix B: Templates**, includes a PDF and electronic version of the spreadsheet. This information will be recorded electronically and an updated spreadsheet will be added to this Appendix annually.

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2.1.2 Staffing Plan/Organizational Chart

- 1) *Within six (6) months of EDP/EDC, the MS4 Operator must develop a written staffing plan that clearly identifies the individuals, including those identified in Part IV.A.2, and the roles and responsibilities for each corresponding to the required elements of the SWMP. The staffing plan must describe how information will be communicated and coordinated among all those with identified responsibilities. All staffing plan/organization charts must be documented in the SWMP Plan (Part IV.B.).*



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2.2 Relevant Law

- 1) *Enact a legal mechanism with content equivalent to the model local law, with documentation in the SWMP Plan from the attorney representing the MS4 Operator of the equivalence. Equivalent legal mechanisms must include the following:*
 - a) *For illicit discharges:*
 - i. *A prohibition of:*
 - *Illicit discharges, spills or other release of pollutants;*
 - *Unauthorized connections into the MS4;*
 - ii. *A mechanism to:*
 - *Receive and collect information related to the introduction of pollutants into the MS4;*
 - *Require installation, implementation, and maintenance of post-construction stormwater management practices;*
 - *Require compliance and take enforcement action; and,*
 - *Access property for inspection.*
 - b) *To be adequate the legal mechanism must also ensure:*
 - i. *Applicable construction activities are effectively controlled and include post-construction runoff controls for new development and redevelopment projects; and*
 - ii. *Post-construction stormwater management practices are properly operated and maintained by requiring the following:*
 - *A stormwater pollution prevention plan (SWPPP) with erosion and sediment controls that meets or exceed the New York State Standards and Specifications for Erosion & Sediment Control, November 2016 (NYS E&SC 2016) and requires post-construction stormwater management practices (SMPs) for applicable construction activity described in Part VI.D.1 in conformance with the SPDES General Permit for Stormwater from Construction Activities, GP-0-20-001 (CGP);*
 - *Post-construction SMPs as required by CGP meet the sizing criteria specified in the New York State Stormwater Management Design Manual, January 2015 (NYS SWMDM 2015), and performance criteria, or equivalent, including Operation & Maintenance Plans for long term maintenance;*
 - *Construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste, all of which may cause adverse impacts to water quality; and*
 - *Receive and collect information related to compliance with the approved SWPPP including verification of maintenance of post-construction SMPs (if conducted by private entities).*
 - *The stormwater coordinator must complete four (4) hours of training endorsed by the Department in stormwater management and the requirements of this SPDES general permit. The completion of this requirement must be documented in the SWMP Plan.*

The City has several local codes that establish legal mechanisms for control of illicit discharges, construction activities, and post-construction controls. Relevant City codes include the following:

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For illicit discharges, the City has implemented Section I, Part II, Chapter 154, "Illicit Discharges: Storm Sewer System" (<https://ecode360.com/MO0742/laws/LF1058814.pdf>). For construction activities and post-construction stormwater management, the City has implemented Section I, Part II, Chapter 226, "Stormwater Management" (<https://ecode360.com/27088944>).

A summary of the relevant points of the Mount Vernon code in Section 1, Part II, Chapter 154 "Illicit Discharge: Storm Sewer System" is below:

The illicit discharge code prohibits connections to the City's Municipal Separate Storm Sewer System (MS4) without a permit, including connections made prior to this law being in place. Connecting lines conveying sewage or other pollutants to the City's MS4, or allowing such a connection to continue is prohibited. Interior floor drains and trench drains at the entrances to buildings or other structures are also prohibited. Additional activities prohibited include operating a failing individual sewage treatment system in areas tributary to the City's MS4 and contaminating stormwater.

The law grants the Stormwater Management Officer (SMO) access to all facilities that need to be inspected to enforce provisions of the illicit discharge chapter, or whenever the enforcement agency has cause to believe that a violation of the illicit discharge chapter exists, or potentially exists. The City may also set up monitoring and conduct sampling of any facility's storm water discharge, or require a facility to set up monitoring at the facility's own expense.

If the conditions in the illicit discharge chapter are violated, the City Engineer will provide a notice of violation to the person who has committed the violation. The notice may require any or all the actions below:

- The elimination of unauthorized connections or discharges,
- That violating discharges, practices, operations, activities, or connections shall cease and desist,
- The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property,
- The performance of monitoring, analyses, and reporting,
- Payment of a fine, and
- The implementation of source control or treatment Best Management Practices (BMPs). If abatement of a violation and or restoration of affected property is required, the notice shall set for the deadline with which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency, or a contractor and the expense thereof shall be charged to the violator.

The enforcement measures for illicit discharges can be seen in Section 2.3 Enforcement Measures.

The City has also implemented Section I, Part II, Chapter 226, "Stormwater Management" for construction activities and post-construction stormwater management. A summary of the relevant points of the code are below:

The Stormwater Management code lists out the activities that require a SWPPP and what is required in a submitted SWPPP. The language for this can be seen in Section 226-4: Stormwater Management Applicability and Section 226-8: Stormwater Management Contents.

The Code covers performance and design criteria for stormwater management and erosion and sediment control facilities; the maintenance, inspection, and repair of these facilities; administration, and enforcement.

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Where stormwater management and erosion and sediment control facilities are to be operated and maintained by the developer or by a corporation that owns or manages a commercial or industrial facility, the developer, prior to construction, may be required to provide the City with an irrevocable letter of credit from an approved financial institution or surety to ensure proper operation and maintenance of all stormwater management and erosion control facilities both during and after construction, and until the facilities are removed from operation. If the developer or landowner fails to properly operate and maintain stormwater management and erosion and sediment control facilities, the City may draw upon the account to cover the costs of proper operation and maintenance, including engineering and inspection costs.

The two relevant chapters of the City Code and the attorney's certification that the City's laws are equivalent to the State Madel laws are attached in **Appendix C: Supporting Documents**.

2.3 Enforcement Measures

- 1) *Within six (6) months, the MS4 Operator must develop and implement an enforcement response plan (ERP) which clearly describes the action(s) to be taken for violations of the legal authority that the MS4 Operator has enacted for illicit discharge (Part VI.C.1 and Part VII.C.1), construction (Part VI.D.2 and Part VII.D.2) and post-construction (Part VI.E.2 and Part VII.E.2). The ERP must be documented in the SWMP Plan. The ERP must set forth a protocol to address repeat and continuing violations through progressively stricter responses (i.e., escalation of enforcement) as needed to achieve compliance with the terms and conditions of this SPDES general permit.*

The enforcement response plan for construction and post-construction stormwater violations are included in the City Code Section I. Part II, Chapter 154-16 "Illicit Discharge: Enforcement". A summary of the section is below:

Any person who violates the provisions of the illicit discharge chapter shall be guilty of a violation punishable by a fine not exceeding one-thousand dollars (\$1,000) or imprisonment for a period not to exceed 2 months, or both for conviction of a first offense; for conviction of a second offense both of which were committed within a period of 5 years, punishable by a fine not less than one-thousand dollars (\$1,000) nor more than two thousand dollars (\$2,000) or imprisonment for a period not to exceed 2 months, or both; and upon conviction for a third or subsequent offense all of which were committed within a period of 5 years, punishable by a fine not less than two-thousand dollars (\$2,000) nor more than five thousand dollars (\$5,000) or imprisonment for a period not to exceed 2 months, or both. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this chapter shall be deemed misdemeanors and for such purpose only all provisions of law relating to misdemeanors shall apply to such violation. Each week's violation shall constitute a separate additional violation.

In addition to the enforcement processes and penalties provided, any violation of the provisions of the illicit discharge chapter that is a threat to public health, safety, and welfare, and is declared a nuisance, may be abated or restored at the violator's expense; or a civil action to compel the end of the nuisance may be taken.

The chapter and section detailing the enforcement measures for stormwater violations is provided in **Appendix C: Supporting Documents**.

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The enforcement response plan for construction and post-construction stormwater violations are included in the City Code Section I. Part II, Chapter 226-18, "Stormwater Management: Enforcement; Penalties for Offenses." A summary of the enforcement measures is provided below:

When the City determines that a land development or redevelopment activity is not being carried out in accordance with the requirements of this chapter, it may issue a written notice of violation to the landowner.

The City may issue a stop-work order for violations of this chapter. Persons receiving a stop-work order shall be required to halt all land development or redevelopment activities, except those activities that address the violations leading to the stop-work order. The stop-work order shall be in effect until the City confirms that the land development or redevelopment activity is in compliance and the violation has been satisfactorily addressed. Failure to address a stop-work order in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this chapter. Violations. Any land development or redevelopment activity that is commenced or is conducted contrary to this chapter may be restrained by injunction or otherwise abated in a manner provided by law.

In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this chapter shall be guilty of a violation punishable by a fine not exceeding \$350 or imprisonment for a period not to exceed six months, or both for conviction of a first offense; for conviction of a second offense, both of which were committed within a period of five years, punishable by a fine not less than \$350 nor more than \$700 or imprisonment for a period not to exceed six months, or both; and upon conviction for a third or subsequent offense, all of which were committed within a period of five years, punishable by a fine not less than \$700 nor more than \$1,000 or imprisonment for a period not to exceed six months, or both. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this chapter shall be deemed misdemeanors and for such purpose only all provisions of law relating to misdemeanors shall apply to such violations. Each week's continued violation shall constitute a separate additional violation.

If any building or land development or redevelopment activity is installed or conducted in violation of this chapter, the SMO may prevent the occupancy of said building or land.

Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the City may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

The chapter and section detailing the enforcement measures for stormwater violations can be seen in **Appendix C: Supporting Documents**.

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2.4 SWMP Plan

2.4.1 Developments and Updates

- 1) *Annually, the MS4 Operator must evaluate the SWMP for compliance with the terms and conditions of this SPDES general permit, including the effectiveness or deficiencies of components of the individual SWMP Plan, and the status of achieving the requirements outlined in this SPDES general permit and document the evaluation in the SWMP Plan.*

The City will conduct an annual evaluation and update of the SWMP Plan. This update period is tentatively scheduled to occur during the month of March each year. During this review, the SWMP will be evaluated for effectiveness or deficiencies of components of the individual SWMP Plan, and the status of achieving the requirements outlined in the SPDES general permit. Any deficiencies, missed schedule milestones, or outstanding requirements will be noted and added to **Appendix H: Annual Reports**.

2.4.2 Availability

- 1) *Within six (6) months of EDP/EDC, the MS4 Operator must make the current SWMP Plan, and any documentation associated with the implementation of the SWMP Plan, available during normal business hours to the MS4 Operator's management and staff responsible for implementation as well as the Department and United States Environmental Protection Agency (USEPA) staff. The completion of this permit requirement must be documented in the SWMP Plan.*
- 2) *Within six (6) months of EDP/EDC, the MS4 Operator must make a copy of the current SWMP Plan available for public inspection during normal business hours at a location that is accessible to the public, or on a public website managed by the MS4 Operator. The location of the SWMP Plan must be kept current. The completion of this permit requirement must be documented in the SWMP Plan.*

The SWMP Plan is located at the Department of Public Work's (DPW) office for the staff and public to view. The current document will also be added to the City's website in 2022 for public access.

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2.5 Mapping

- 1) *The MS4 Operator must develop and maintain a comprehensive system map. The comprehensive system map, if hardcopy, or the location of the map, if digital, must be documented in the SWMP Plan. The comprehensive system map must be in a readily accessible hard copy or electronic format, with scale and detail appropriate to provide a clear understanding of the MS4, to serve as a planning tool to allow for prioritization of efforts and facilitate management decisions by the MS4 Operator. The MS4 Operator must update the map annually after Phase I (Part IV.D.2.a.) completion, including updates to prioritization information of monitoring locations (Part VI.C.1.d.) construction sites (Part VI.D.5), and municipal facilities (Part VI.F.2.c.i. e).*
- 2) *Within six (6) months of EDP/EDC, the comprehensive system map must include the following information:*
 - a) *MS4 outfall locations (as required for MS4 Operators continuing coverage from previous iterations of this SPDES general permit);*
 - b) *Preliminary storm-sewershed boundaries (as required for MS4 Operators continuing coverage from previous iterations of this SPDES general permit);*
 - c) *Publicly available geographic information system (GIS) data:*
 - i. *Regulated area boundaries;*
 - ii. *Names and location of all surface waters of the State, including:*
 - *Classification;*
 - *Impairment and pollutant of concern (POC), if applicable; and*
 - *TMDL watershed areas;*
 - iii. *Land use, including:*
 - *Industrial;*
 - *Residential;*
 - *Commercial;*
 - *Open space; and*
 - *Institutional;*
 - iv. *Roads; and*
 - v. *Topography (USGS Quadrangle Map or better).*

The City has developed a map in geographic information system (GIS) that has the MS4 outfall locations, preliminary sewershed boundaries, and publicly available GIS data. This includes all information summarized in Part C above. For the purpose of documenting this information in this Plan, Figures have been developed and are provided in the Figures section. Figures include, Site Location Map, Outfall Locations and Water Quality, Storm Sewer Mapping, Land Use, and Catch Basin Locations. The City has this information in GIS and has developed maps with detail and scale appropriate for field work and managing the MS4 program.

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- 1) *The comprehensive system map must be updated with the data collected for each phase of mapping within the timeframe for each phase as outlined below:*
 - a) *Phase I: Within three (3) years of the EDP/EDC, the comprehensive system map must include the following information:*
 - i. *Monitoring locations, with associated prioritization (Part VI.C.1.d. or Part VII.C.1.d, depending on the MS4 Operator type);*
 - ii. *Preliminary storm-sewershed boundaries (for a newly designated MS4 Operator);*
 - iii. *Focus areas (Part VI.A.1.a. or Part VII.A.1.a, depending on the MS4 Operator type);*
 - iv. *Municipally owned post-construction stormwater management practices (Part VI.E.3. or Part VII.E.3, depending on the MS4 Operator type); and*
 - v. *Municipal facilities, with associated prioritization (Part VI.F.2.c. or Part VII.F.2.c, depending on the MS4 Operator type).*
 - b) *Within three (3) years of the EDP/EDC, the comprehensive system map (Part IV.D.) must include conveyance and sewershed information for each MS4 outfall discharging to pathogen impaired waters listed in Appendix C, completed in geographic information system (GIS) format, and containing the following additional elements:*
 - i. *Areas with high groundwater or seasonal high water table, impacting septic or sanitary alignments;*
 - ii. *The location where a post-construction SMP discharges;*
 - iii. *Areas with a history of sanitary sewer overflows;*
 - iv. *Waterfowl congregation areas on municipal property or right of way;*
 - v. *Areas where pets/domestic animals may frequent (e.g., veterinary offices, pet supply stores, pet grooming, stables, public trails); and*
 - vi. *Waste disposal areas (active landfills, transfer stations).*
 - c) *Within three (3) years of the EDP/EDC, the comprehensive system map (Part IV.D) must include conveyance and sewershed information for each MS4 outfall discharging to floatables impaired waters listed in Appendix C, completed in geographic information system (GIS) format.*

The City will develop comprehensive system maps as required for parts a, b, and c above within 3-years of the Effective Date of the Permit/Effective Date of Coverage (EDP/EDC).

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- a) *Phase II: Within five (5) years of the EDP/EDC, the comprehensive system map must include the following information:*
- i. *MS4 infrastructure, including:*
 - *Conveyance system*
 - *Type (closed pipe or open drainage); and*
 - *Conveyance description (material type, shape, dimensions, and direction of flow);*
 - *Stormwater structures*
 - *Type (drop inlet(s), catch basin(s), and manhole(s)); and*
 - *Structure description (number of connections to and from catch basins and manholes);*
 - ii. *Privately-owned post-construction stormwater management practices which discharge to the MS4 (Part VI.E.3. or Part VII.E.2, depending on the MS4 Operator type)*
 - *If the location of the practice is unavailable for privately owned post-construction practices, the MS4 Operator must map the location where the practice discharge enters the MS4.*

The City will develop comprehensive system maps as required in part d above within 5-years of the EDP/EDC. The City has already started developing conveyance piping and structures, and will make significant gains in the next couple of years.

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3 Reporting

3.1 Annual Reports

- 1) *Annually, MS4 Operators must submit an Annual Report to the Department using the form provided by the Department. The completion of this permit requirement must be documented in the SWMP Plan.*

An annual report for March 1st of the current year to February 28th or 29th of the reporting year is submitted to the New York State Department of Environmental Conservation (NYSDEC) by June 1st each year.

The Stormwater Coordinator has developed a checklist for items that will need to be addressed annually. That spreadsheet is in **Appendix C: Supporting Documents**. A blank PDF and electronic version of this spreadsheet is saved in **Appendix B: Templates**.

3.2 Interim Progress Certification

- 1) *Twice a year, MS4 Operators must submit to the Department an Interim Progress Certification that verifies the activities included in this SPDES general permit have been completed by the date specified using the form provided by the Department. The completion of this permit requirement must be documented in the SWMP Plan.*
 - a) *MS4 Operators located within the watersheds listed in Table 3 must include additional information to identify the activities that have been performed during the reporting period to demonstrate progress made by the MS4 Operator towards completion of the reduction requirements, prescribed in Part IX.*
 - b) *An Interim Progress Certification for the period of March 1 through September 1 of each year must be submitted to the Department by December 1 of the same year. An Interim Progress Certification for the period of September 2 through February 28, February 29 if on a leap year, of the following year must be submitted to the Department by June 1 of the same year along with the Annual Report. Submission of the Annual Report is not a substitute for submission of the Interim Progress Certification.*

An Interim Progress Certification will be submitted to the NYSDEC twice a year for future reporting periods, as required. For future reporting periods, the Interim Progress Certifications submitted to the NYSDEC the past year will be attached in **Appendix C: Supporting Documents**. The Interim Progress Certification document is not yet available on the NYSDEC website.

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4 Minimum Control Measures (MCMs) for Traditional Land Use Control MS4

4.1 MCM1 – Public Education and Outreach Program

The purpose of the Public Education and Outreach minimum control measure is to help the public understand why protecting stormwater is important and what they can do as individuals to protect and restore our waterways. The City of Mount Vernon has a public education and outreach program that engages the public and key stakeholders to inform them of water quality, sources of stormwater pollutants, and steps the public can take to reduce pollutants in stormwater runoff. The stormwater education and outreach program is a component of a larger Department of Public Works effort to increase awareness and engagement related to infrastructure and environmental issues. The City's most successful education and outreach has been through Neighborhood Association meetings and Town Hall meetings but the City has multiple other mechanisms in place for distributing information to residents.

Public Education and Outreach is a minimum control measure that is required by the Permit. A list of the requirements of this minimum control, and the measures that the City has taken are provided below.

4.1.1 Development

4.1.1.1 Measure(s) Required By This Minimum Control

- 1) *Within three (3) years of the EDP/EDC, the MS4 Operator must identify and document the focus areas in the SWMP Plan. The focus areas to be considered are as follows:*
 - a) *Areas contributing to waterbodies of significant value (i.e., drinking water supply, public bathing beaches, shellfishing, high recreation value);*
 - b) *Sewersheds for impaired waters listed in Appendix C (subject to Part VIII requirements);*
 - c) *TMDL watersheds (subject to Part IX requirements);*
 - d) *Areas with construction activities;*
 - e) *Areas where stormwater flows have potential to cause erosion (e.g., areas with steep slopes, inactive construction sites, unvegetated soil, sand stockpiles for road application);*
 - f) *Areas with onsite wastewater systems subject to Part VIII or Part IX requirements;*
 - g) *Residential, commercial, and industrial areas;*
 - h) *Stormwater hotspots; and*
 - i) *Areas with illicit discharges.*

The City has identified the following focus areas for education and outreach:

- Sewersheds for impaired waters listed in Appendix C of the Municipal Separate Storm Sewers (MS4s) Permit No. GP-0-22-002
- TMDL watersheds (subject to Part IX requirements);
- Areas with Illicit Discharges

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The Bronx River and the Hutchinson River both included on the New York State 303(d) List of Impaired Waterbodies and the City of Mount Vernon within the Long Island Sound Total Maximum Daily Load (TMDL) Watershed.

New York State 303(d) List of Impaired Waterbodies

Stream Name	Classification	Impairment	Part
Bronx River, Upper, and tribs	C	Dissolved Oxygen and Fecal Coliform	Part 1
Hutchinson River, Middle, and tribs	B	Dissolved Oxygen, Fecal Coliform, and Oil/Grease	Part 1
Hutchinson River, Lower, and tribs	SB	Dissolved Oxygen, Garbage/Refuse	Part 3c
Part 1 - Individual Waterbodies Segments with Impairment Requiring TMDL development			
Part 3c - Waterbodies for which TMDLs are Deferred			

TMDL Watershed

Name	Impairment
Long Island Sound	Dissolved Oxygen

The City will focus areas for education and outreach on impaired waters and illicit discharges in an ongoing effort to reduce illicit discharges and pollutants contributing to the waterbody impairments.

- 2) *Within three (3) years of the EDP/EDC, the MS4 Operator must identify and document the applicable target audience(s) and associated pollutant generating activities that the outreach and education will address for each focus area identified by the MS4 Operator in Part VI.A.1.a in the SWMP Plan. The target audiences are as follows:*
 - a) *Residents;*
 - b) *Commercial: Business owners and staff;*
 - c) *Institutions: Managers, staff, and students;*
 - d) *Construction: Developers, contractors, and design professionals;*
 - e) *Industrial: Owners and staff; and*
 - f) *MS4 Operator's municipal staff*
- 3) *Within three (3) years of the EDP/EDC, the MS4 Operator must identify and document in the SWMP Plan the education and outreach topics and how the education and outreach topics will reduce the potential for pollutants to be generated by the target audience(s) (Part VI.A.1.b.) for the focus area(s)(Part VI.A.1.a.).*

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The City has identified stormwater education and outreach topics for each audience. Many of these topics are for multiple focus areas, as illicit discharges lead to pollutants being discharged into impaired waters and the TMDL watershed. Below are the topics that the City covers for each target audience to reduce the potential for pollution for the focus area.

- Residents
 - Storm Water Management Program – General education for the public about what the storm sewer is and how pollution is caused including recommendations for safe lawn care, auto care, dog waste, and household product disposal.
 - Waste Management – Educating the public on proper waste management prevents littering and improper dumping of waste into easily accessible waterbodies.
 - Sewer Education and Demonstration – Annual event held by the City’s Department of Public Works in conjunction with National Public Works Week in May to demonstrate different technologies utilized to clean and maintain the sewers.
 - Information is distributed to residents about what to avoid flushing down the toilet and putting down sink drains to avoid clogging pipes and causing sanitary sewer overflows (SSOs).
 - Commercial: Business owners and staff
 - Information is sent out to restaurants on proper disposal of fats, oils, and grease (FOGs). The reduction of fats, oils, and greases disposed into the sewer can lead to the reduction of SSOs, which can result in a reduction of illicit discharges.
 - MS4 Operator’s municipal staff
 - MS4 Operator’s municipal staff receive regular training in maintenance and inspection procedures, as well as other stormwater topics. Throughout the year, the training will improve the staff’s knowledge in all focus areas.
- 4) *Within six (6) months of the EDP/EDC, the MS4 Operator must make information related to the prevention of illicit discharges, available to municipal employees, businesses, and the public and document the completion of this requirement in the SWMP Plan. The information related to the prevention of illicit discharges must include the following:*
- a) *What types of discharges are allowable (Part I.A.3.);*
 - b) *What is an illicit discharge and why is it prohibited (Part VI.C.);*
 - c) *The environmental hazards associated with illicit discharges and improper disposal of waste;*
 - d) *Proper handling and disposal practices for the most common behaviors within the community (e.g., septic care, car washing, household hazardous waste, swimming pool draining, or other activities resulting in illicit discharges to the MS4); and*
 - e) *How to report illicit discharges they may observe (Part VI.C.1.).*

The City has already developed outreach material to disseminate information about the prevention of illicit discharges. They developed a poster through a partnership with the Bronx River Advisory Board that explains why it’s important to pick up pet waste, and developed a Storm Water Management Program brochure that describes illicit discharges and stormwater pollution and how to avoid them. The City will update this information

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within 6 months of the EDP/EDC as required above, and make it available to the municipal employees, businesses, and the public.

4.1.2 Implementation and Frequency

4.1.2.1 Measure(s) Required By This Minimum Control

- 1) *Once a permit term, the MS4 Operator must identify and document in the SWMP Plan which of the following method(s) are used for the distribution of educational messages:*
 - a) *Printed materials (e.g., mail inserts, brochures, and newsletters, etc.);*
 - b) *Electronic materials (e.g., websites, email listservs, etc.);*
 - c) *Mass media (e.g., newspapers, public service announcements on radio or cable, etc.);*
 - d) *Workshops or focus groups;*
 - e) *Displays in public areas (e.g., town halls, library, parks, etc.); or*
 - f) *Social Media (e.g., Facebook, Twitter, blogs, etc.).*

The City utilizes many methods of contact to distribute education messages. The methods and information distributed is detailed below. Copies of the printed and electronic materials are located in **Appendix D: Public Outreach**. During the annual review of the SWMP Plan, the City will identify and document in the SWMP Plan which methods are used for the distribution of educational messages.

Printed Materials

Printed materials are provided for the public at kiosks located in the public library, City Hall, DPW Garage, and Dole Center. Additionally, materials are periodically hand-delivered to residents in door-to-door distribution efforts. Examples of pamphlets distributed to the public are listed below and provided in Appendix D: Public Outreach.

- Storm Water Management Program Pamphlet: This pamphlet explains what the storm sewer is and describes sources of pollution to the separate storm sewer.
- Commercial Kitchen Safety Pamphlet "Think at the Sink": Restaurants received the Commercial Kitchen Safety pamphlet to encourage correct use of commercial sinks which will prevent oil and grease accumulation in the sewers resulting in SSO events, which may in turn reduce illicit discharges to adjacent storm sewers.
- Household Recycling Day Flyer: Information on recycling and trash days are posted on the city website and at the public library, and pamphlets with this information is handed out door-to-door. Annually there is a Household Recycling Day where hazardous wastes are collected.
- Bathroom Flyer: This flyer provides information about what cannot be flushed down toilets to prevent clogs and SSOs.
- Kitchen Safety Flyer: This flyer provides information about what cannot be put down sinks to prevent clogs and SSOs.

Electronic Materials

The City has an automated email list-serve with approximately 10,000 people that is utilized to distribute electronic tri-fold pamphlets. Any materials that are provided in printed form can also be distributed through this list-serve. The Storm Water Management Program Pamphlet "Storm Drains: What are they?" has been distributed through this method.

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Mass Media

Public Works Week events are advertised annually in the local newspaper for approximately 14 days.

Workshops or focus groups

The City holds the following workshops, public meetings, and events:

- National Public Works Week: On the third week of May, annually, the City hosts national public works week, which includes events to educate residents about the storm sewer. Annually, there is a Sewer Education & Demonstration session where the DPW showcases their capabilities in addressing sewer issues, for example manhole rehabilitation.
- Town Hall Meetings and Neighborhood Association Meetings: The City hosts public events including Town Hall meetings and Neighborhood Association meetings that include storm water pollution prevention education and Clean Water Act compliance topics.
- Household Recycling Day: The City provides an annual Household Recycling Day where household wastes are collected and properly disposed. Collected materials that may otherwise impact watersheds are automotive fluids, pesticides, insecticides, herbicides, kerosene, turpentine, and flammable liquids, freon-containing appliances, and prescriptions, among other items.

Displays in public areas

Printed materials are available to residents at kiosks in the public library, City Hall, DPW garage, and Dole Center.

Social Media

The City uses a Facebook page to share information on what not to put in the sewer and to inform the public of upcoming sewer and stormwater work. The City also posts information and posters on the DPW webpage.

- 2) *Following the completion of Part VI.A.1.a, Part VI.A.1.b, and Part VI.A.1.c, once a permit term, the MS4 Operator must deliver an educational message to each target audience(s) (Part VI.A.1.b.) for each focus area(s) (Part VI.A.1.a.) based on the defined education and outreach topic(s) (Part VI.A.1.c.) and document the completion of this requirement in the SWMP Plan.*

The City has compiled a spreadsheet to track educational messages distributed to each target audience. A blank PDF template and an electronic version of this spreadsheet is provided in **Appendix B: Templates**. Dates and information on the topic(s) covered in that message will be recorded in **Appendix D: Public Outreach** and updated annually in the SWMP Plan.

- 3) *Following the completion of Part VI.A.1.a, Part VI.A.1.b, and Part VI.A.1.c, annually, within thirty (30) days of the annual evaluation of the SWMP (Part V.C.), the MS4 Operator must update/modify the focus areas, target audiences, and/or education and outreach topics as recommended by the annual evaluation of the SWMP and document the completion of this requirement in the SWMP Plan.*

The Public Education and Outreach Program will be reviewed by the City annually and updated as necessary.

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4.1.3 Enhanced Requirements for Impaired Waters

MS4 Operators discharging to waters impaired for phosphorus, silt/sediment, pathogens, nitrogen, or floatables, must develop and implement additional requirements targeted at reducing the POC. These requirements must be implemented in sewersheds draining to the MS4 outfalls that discharge to the impaired segment in addition to the applicable requirements in Part VI or VII, depending on the MS4 Operator type. The requirements contained in this Part, applicable to the POC, must be incorporated in the MS4 Operator's SWMP and SWMP Plan.

The City's stormwater outfalls discharge to the Hutchinson River, the Bronx River, and Laurel Brook. The Bronx River and the Hutchinson River both included on the New York State 303(d) List of Impaired Waterbodies and the City of Mount Vernon within the Long Island Sound TMDL Watershed.

New York State 303(d) List of Impaired Waterbodies

Stream Name	Classification	Impairment	Part
Bronx River, Upper, and tribs	C	Dissolved Oxygen and Fecal Coliform	Part 1
Hutchinson River, Middle, and tribs	B	Dissolved Oxygen, Fecal Coliform, and Oil/Grease	Part 1
Hutchinson River, Lower, and tribs	SB	Dissolved Oxygen, Garbage/Refuse	Part 3c
Part 1 - Individual Waterbodies Segments with Impairment Requiring TMDL development			
Part 3c - Waterbodies for which TMDLs are Deferred			

TMDL Watershed

Name	Impairment
Long Island Sound	Dissolved Oxygen

The NYSDEC has additional minimum control measures for each of the following pollutant categories:

- Phosphorous
- Silt/sediment
- Pathogens and fecal coliform
- Floatables (Garbage & refuse, oil/grease, and oil & floating substances)

A list of the requirements of this minimum control for the relevant pollutants and the steps that are being taken by the City of Mount Vernon to address them, are summarized below.

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4.1.3.1 Measure(s) Required By This Minimum Control

- 1) *Pathogens and fecal coliform*
 - a) *Within six (6) months of the EDP/EDC, the MS4 Operator must make available information on any ordinances in place and the consequences for violations that they are implementing to address the impairment.*
 - b) *Following the completion of Part VII.C.1, twice a year, once from March to August and once from September to February, the MS4 Operator must provide educational messages with information specific to the impairment. The SWMP Plan must be updated with changes made to public education and outreach program (Part VI.A). MS4 Operators must document the completion of this requirement in the SWMP Plan.*
- 2) *Floatables*
 - a) *Within six (6) months of the EDP/EDC, the MS4 Operator must make available information on any ordinances in place and the consequences for violations that they are implementing to address the impairment.*
 - b) *Following the completion of Part VII.C.1, twice a year, once from March to August and once from September to February, the MS4 Operator must provide educational messages with information specific to the impairment. The SWMP Plan must be updated with changes made to public education and outreach program (Part VI.A). MS4 Operators must document the completion of this requirement in the SWMP Plan.*

There is currently a City ordinance that prohibits illicit discharges, which can be a source of fecal coliform and floatables. The code is available for the public to review at City Hall and on the Village website. Specifically, it prohibits any conveyance of non-stormwater discharges to the MS4 including, but not limited to, treated or untreated sewage, process wash water, and discharges from building plumbing. It also prohibits against activities that will contribute to the MS4 receiving pollutants, which include both pathogens/fecal coliform and floatables.

The City will distribute educational measures specific to fecal coliform and floatables twice a year, once from March to August, and once from September to February. Information to address illicit discharges, which can lead to floatables and fecal coliform polluting storm water has been distributed to the public in the past via flyers and posters about the proper disposal of kitchen oil and grease, picking up pest waste, and how to keep household pollutants out of the MS4. The City will continue to use these documents to inform the public on how to prevent illicit discharges and address the floatables and fecal coliform impairments.

The City has compiled a spreadsheet to track educational messages distributed to each target audience. This spreadsheet will also be utilized to track the messages about the impairments. A blank PDF template and an electronic version of this spreadsheet is provided in **Appendix B: Templates**. Dates and information on the topic(s) covered in that message will be recorded in **Appendix D: Public Outreach** and updated annually in the SWMP Plan.

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4.2 MCM 2 – Public Involvement and Participation

4.2.1 Public Involvement/Participation

The public provides valuable input and assistance in the development and implementation of the stormwater management program. Public Involvement and Participation is a minimum control measure that is required by the Permit. A list of the requirements of this minimum control, and the measures that the City has taken, or plans to take, are provided below.

4.2.1.1 Measure(s) Required By This Minimum Control

- 1) *Annually, the MS4 Operator must provide an opportunity for public involvement/participation in the development and implementation of the SWMP. The MS4 Operator must document the public involvement/participation opportunities in the SWMP Plan. The opportunities for public involvement/participation are as follows:*
 - a) *Citizen advisory group on stormwater management;*
 - b) *Public hearings or meetings;*
 - c) *Citizen volunteers to educate other individuals about the SWMP;*
 - d) *Coordination with other pre-existing public involvement/participation opportunities;*
 - e) *Reporting concerns about activities or behaviors observed; or*
 - f) *Stewardship activities*

The City will hold an annual public meeting specifically for the public to provide input on the MS4 program and SWMP Plan and document the opportunities provided.

The City currently holds town hall style meetings that are open to the public called "Sundays with the Mayor" where the MS4 program has been a topic of discussion, with questions and answers. Neighborhood Association meetings are held where matters pertaining to the MS4 program are discussed. The City also provides opportunities for public involvement and participation through Saturday cleanup events and other beautification and environmental stewardship programs.

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- 2) *Annually, the MS4 Operator must inform the public of the opportunity (Part VI.B.1.a.) for their involvement/participation in the development and implementation of the SWMP and how they can become involved. The MS4 Operator must document the method for distribution of this information in the SWMP Plan. The methods for distribution are as follows:*
 - a) *Public notice;*
 - b) *Printed materials (e.g., mail inserts, brochures and newsletters, etc.);*
 - c) *Electronic materials (e.g., websites, email listservs, etc.);*
 - d) *Mass media (e.g., newspapers, public service announcements on radio or cable, etc.);*
 - e) *Workshops or focus groups;*
 - f) *Displays in public areas (e.g., town halls, library, parks, etc.); or*
 - g) *Social Media (e.g., Facebook, Twitter, blogs, etc.).*

The MS4 Operator informs the public of ways they can be involved in the development and implementation of the SWMP through the kiosk in City Hall and the library and through the City's website. Community and Stakeholder meetings are advertised on the City's website. Cleanup events and other stewardship opportunities are advertised on the City's Facebook page.

- 3) *Within six (6) months, the MS4 Operator must identify a local point of contact to receive and respond to public concerns regarding stormwater management and compliance with permit requirements. The name or title of this individual, with contact information, must be published on public outreach and public participation materials and documented in the SWMP Plan.*

The Stormwater Coordinator will be the point of contact to receive and respond to public stormwater management concerns. The contact information for the Stormwater Coordinator is in Section 2.1.1.

4.2.2 Public Notice and Input Requirements

4.2.2.1 Measure(s) Required By This Minimum Control

- 1) *No later than May 1, annually, the MS4 Operator must provide an opportunity for the public to review and comment on the publicly available SWMP Plan (Part VI.B.2.b.). The public must have the ability to ask questions and submit comments on the SWMP Plan. The completion of this permit requirement must be documented in the SWMP Plan. This requirement may be satisfied by Part VI.B.1.*

The current SWMP Plan is available at the City Hall, Department of Public Works (1 Roosevelt Square, Mount Vernon, NY). Future SWMP Plans will also be posted on the City's website for review and comment. Comments can be submitted to the Stormwater Coordinator, who's contact information is in Section 2.1.1.

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- 2) *No later than May 1, annually, the MS4 Operator must provide an opportunity for the public to review and comment on the draft annual report. The completion of this permit requirement must be documented in the SWMP Plan. This requirement may be satisfied by either:*
 - a) *Presentation of the draft annual report at a regular meeting of an existing board (e.g., administrative, planning, zoning) or a separate meeting specifically for stormwater, as designated by the MS4 or if requested by the public. The public must have the ability to ask questions about and make comments on the draft annual report during that presentation; or*
 - b) *Posting of the draft annual report on a public website. The website must provide information on the timeframes and procedures to submit comments and/or request a meeting. However, if a public meeting is requested by two or more persons, the MS4 Operator must hold such a meeting.*

The draft annual report will be available in City Hall and posted on the City's website for review. The City will provide information on the timeframes and procedures to submit comments and/or request a meeting.

- 3) *Annually, the MS4 Operator must include, in the SWMP Plan, a summary of comments received on the SWMP Plan and draft annual report.*

The City has created a spreadsheet titled Public Comments on the SWMP Plan and Draft Annual Report. A blank PDF spreadsheet, and electronic copy on a flash drive, is provided in **Appendix B**. This information will be recorded electronically and an updated spreadsheet will be added to **Appendix E: Public Input** annually.

4.3 MCM 3 – Illicit Discharge Detection and Elimination

Any discharge to the Waters of the United States that is not composed entirely of stormwater, is not a SPDES permitted discharge, or is determined to be a substantial contributor of pollutants by the NYSDEC, is considered an illicit discharge. Illicit discharges may enter a storm sewer system directly through a non-permitted connection, or indirectly through a cracked or broken storm sewer. Pollutants may include heavy metals, toxics, oil and grease, surfactants, microbes, and more. An illicit discharge can come from a variety of sources, including: sanitary wastewater, septic tank effluent, vehicle wash water, improper disposal of oil, radiator fluid or other automotive fluids, laundry wastewater, spills from roadway accidents, materials storage, and improper disposal of household toxics.

Illicit Discharge Detection and Elimination is a minimum control measure that is required by the Permit. A list of the requirements of this minimum control, and the measures that the City has taken, or plans to take, to meet the requirements are provided below.

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4.3.1 Illicit Discharge Detection

4.3.1.1 Measure(s) Required By This Minimum Control

- 1) *Within six (6) months of EDP/EDC, the MS4 Operator must establish and document in the SWMP Plan an email or phone number (with message recording capability) for the public to report illicit discharges.*

The public can report illicit discharges to the stormwater coordinator. The stormwater coordinator's contact information can be found in Section 2.1.1.

- 2) *Within thirty (30) days of an illicit discharge, the MS4 Operator must document each report of an illicit discharge in the SWMP Plan with the following information, when applicable:*
 - a) *Name/contact information of the reporting individual;*
 - b) *Date of the report;*
 - c) *Location of the illicit discharge;*
 - d) *Nature of the illicit discharge;*
 - e) *Follow up actions taken or needed (including response times); and*
 - f) *Inspection outcomes and any enforcement taken.*

A spreadsheet has been developed to track public notifications of illicit discharges as presented above. A blank spreadsheet is provided in **Appendix B: Templates**, and an electronic file provided on a flash drive in **Appendix B**. This information will be recorded electronically and an updated spreadsheet will be added to this Appendix F: Inventories annually.

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- 3) *Within three (3) years of the EDP/EDC, the MS4 Operator must develop and maintain an inventory of the monitoring locations in the SWMP Plan with the following information must be included in the inventory:*
- a) *Inventory information for MS4 outfalls*
 - i. *ID;*
 - ii. *Prioritization (high or low) (Part VI.C.1.d.);*
 - iii. *Type of monitoring location (Part VI.C.1.b.);*
 - iv. *Name of municipal facility, if located at a municipal facility; 11*
 - v. *Receiving waterbody name and class;*
 - vi. *Land use in drainage area;*
 - vii. *Type of conveyance (open drainage, closed pipe);*
 - viii. *Material;*
 - ix. *Shape;*
 - x. *Dimensions;*
 - xi. *Submerged in water; and*
 - xii. *Submerged in sediment.*
 - b) *Inventory information for interconnections*
 - i. *ID;*
 - ii. *Prioritization (high or low) (Part VI.C.1.d.);*
 - iii. *Type of monitoring location (Part VI.C.1.b.);*
 - iv. *The name of MS4 Operator receiving discharge or private storm*
 - v. *system;*
 - vi. *Name of MS4 Operator's municipal facility, if located at a municipal*
 - vii. *facility; and*
 - viii. *Receiving waterbody name and class.*
 - c) *Inventory information for locations where stormwater is conveyed from a municipal facility to the MS4 Operator's own MS4*
 - i. *ID;*
 - ii. *Prioritization (high or low) (Part VI.C.1.d.);*
 - iii. *Type of monitoring location (Part VI.C.1.b.);*
 - iv. *Name of MS4 Operator's municipal facility, if located at a municipal*
 - v. *facility; and*
 - vi. *Receiving waterbody name and class.*

The City currently has an inventory of the MS4 outfalls, has inspected each outfall, and has sampled each outfall that had flow during dry weather. The inventory is in table format and is shown graphically on a GIS map. An updated outfall inventory, an interconnections inventory, and a stormwater conveyed from a municipal facility inventory, will be developed within three (3) years of the EDP/EDC as required above.

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- 4) *Within two (2) years of EDP/EDC, the MS4 Operator must develop and implement a monitoring locations inspection and sampling program. The monitoring locations inspection and sampling program must be documented in the SWMP Plan specifying:*
- a) *The monitoring locations inspection and sampling procedures including:*
 - i. *The following frequencies to inspect all monitoring locations during dry weather:*
 - *Inspect high priority monitoring locations twice a permit term, separated by a minimum of one (1) year; and*
 - *Inspect low priority monitoring locations once a permit term.*
 - ii. *Documentation of all monitoring location inspections, including any sampling results, using the Monitoring Locations Inspection and Sampling Field Sheet (Appendix D) or an equivalent form containing the same information and include the completed monitoring location inspections and sampling results in the SWMP Plan (e.g., the completed Monitoring Locations Inspection and Sampling Field Sheets);*
 - iii. *Provisions to sample all monitoring locations which had inspections which resulted in a suspect or obvious illicit discharge characterization. The sampling requirement is based on the number and severity of physical indicators present in the flow to better inform track down procedures (Part VI.C.2.). If the source of the illicit discharge is clear and discernable (e.g., sewage), sampling is not necessary;*
 - iv. *Sampling may be done with field test kits or field instrumentation that are sufficiently sensitive to detect the parameter below the sampling action level used¹² and are not subject to 40 CFR Part 136 requirements for approved methods and certified laboratories;*
 - v. *Provisions to initiate, or cause to initiate,¹³ track down procedures (Part VI.C.2.a.), in accordance with the timeframes specified in Part VI.C.2.a.iii, for monitoring locations with an overall characterization¹⁴ as suspect illicit discharge or that exceed any sampling action level used;*
 - *If there is a physical indicator not related to flow, potentially indicative of intermittent or transitory discharges, the monitoring location must be re-inspected within thirty (30) days of initial inspection utilizing techniques described in Chapter 12.6 of the Center for Watershed Protection Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assistance, October 2004 (CWP 2004) or equivalent. If physical indicators persist, the MS4 Operator must initiate illicit discharge track down procedures (Part VI.C.2.a.).*

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- b) *The training provisions for the MS4 Operator's monitoring locations inspection and sampling procedures (Part VI.C.1.e.i.).*
 - i. *If new staff are added, training on the MS4 Operator's monitoring locations inspection and sampling procedures (Part VI.C.1.e.i.) must be given prior to conducting monitoring locations inspections and sampling procedures;*
 - ii. *For existing staff, training on the MS4 Operator's monitoring locations inspection and sampling procedures (Part VI.C.1.e.i.) must be given prior to conducting monitoring locations inspections and sampling and once a permit term, thereafter; and*
 - iii. *If the monitoring locations inspection and sampling procedures (Part VI.C.1.e.i.) are updated/modified (Part VI.C.1.e.v.) as a result of the annual evaluation of the SWMP (Part V.C.), training on the updates/modifications must be given to all staff prior to conducting monitoring locations inspections and sampling.*
- c) *The names, titles, and contact information for the individuals who have received monitoring locations inspection and sampling procedures training and update annually;*
- d) *An annual analysis of monitoring location inspection results to identify trends, patterns, areas with illicit discharges, and common problems to guide ongoing illicit discharge elimination efforts. In the SWMP Plan, the MS4 Operator must document the analysis of monitoring locations inspection results and how it impacted the SWMP; and*
- e) *Annually, within thirty (30) days of the annual evaluation of the SWMP (Part V.C.), the MS4 Operator must update/modify the monitoring location inspection and sampling procedures (Part VI.C.1.e.i.) as recommended by the annual evaluation of the SWMP and document the completion of this requirement in the SWMP Plan.*

The City currently only monitors outfalls, but will be monitoring and sampling storm sewer manholes as part of their Illicit Discharge Action Plan. The City will develop and implement a monitoring locations inspection and sampling program within two (2) years of EDP/EDC as required above.

The City has created a spreadsheet to track the individuals trained to inspect and sample at the MS4's monitoring locations in **Appendix B: Templates**. This spreadsheet will be updated annually, and an updated copy will be added to **Appendix A: Training Documentation**, annually. This information will be tracked electronically, and an electronic file is provided on a flash drive in **Appendix B**.

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4.3.2 Illicit Discharge Action Program

4.3.2.1 Measure(s) Required By This Minimum Control

- 1) *Within two (2) years of EDP/EDC, the MS4 Operator must develop and implement an illicit discharge track down program to identify the source of illicit discharges and the responsible party. The illicit discharge track down program must be documented in the SWMP Plan specifying:*
 - a) *The illicit discharge track down procedures including:*
 - i. *Procedures as described in Chapter 13 of CWP 2004 or equivalent;*
 - ii. *Steps taken for illicit discharge track down procedures;*
 - iii. *The following timeframes to initiate illicit discharge track down:*
 - o *Within twenty-four (24) hours of discovery, the MS4 Operator must initiate track down procedures for flowing MS4 monitoring locations with obvious illicit discharges*
 - o *Within two (2) hours of discovery, the MS4 Operator must initiate track down procedures for obvious illicit discharges of sanitary wastewater that would affect bathing areas during bathing season, shell fishing areas or public water intakes and report orally or electronically to the Regional Water Engineer and local health department; and*
 - o *Within five (5) days of discovery, the MS4 Operator must initiate track down procedures for suspect illicit discharges.*
 - b) *The training provisions for the MS4 Operator's illicit discharge track down procedures (Part VI.C.2.a.).*
 - i. *If new staff are added, training on the MS4 Operator's illicit discharge track down procedures (Part VI.C.2.a.) must be given prior to conducting illicit discharge track downs;*
 - ii. *For existing staff, training on the MS4 Operator's illicit discharge track down procedures (Part VI.C.2.a.) must be given prior to conducting illicit discharge track downs and once a permit term, thereafter; and*
 - iii. *If the illicit discharge track down procedures (Part VI.C.2.a.) are updated/modified (Part VI.C.2.d.) as a result of the annual evaluation of the SWMP (Part V.C.), training on the updates/modifications must be given to all staff prior to conducting illicit discharge track downs.*
 - c) *The names, titles, and contact information for the individuals who have received illicit discharge track down procedures training and update annually; and*
- 2) *Annually, within thirty (30) days of the annual evaluation of the SWMP (Part V.C.), the MS4 Operator must update/modify the illicit discharge track down procedures (Part VI.C.2.a.) as recommended by the annual evaluation of the SWMP and document the completion of this requirement in the SWMP Plan.*

The City has developed an Illicit Discharge Action Plan (IDAP) which provides methodology for tracking down sources of illicit discharges so they can be eliminated. The City will review the requirements of the final 2022 MS4 permit when issued and utilize the information from the IDAP to complete this task within two (2) years of EDP/EDC.

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4.3.3 Illicit Discharge Elimination Program

4.3.3.1 Measure(s) Required By This Minimum Control

- 1) *Within two (2) years of EDP/EDC, the MS4 Operator must develop and implement an illicit discharge elimination program. The illicit discharge elimination program must be documented in the SWMP Plan specifying:*
 - a) *The illicit discharge elimination procedures including:*
 - i. *Provisions for escalating enforcement and tracking, both consistent with the ERP required in Part IV.F of this SPDES general permit;*
 - ii. *Provisions to confirm the corrective actions have been taken;*
 - iii. *Steps taken with illicit discharge elimination procedures; and*
 - iv. *The following timeframes for illicit discharge elimination:*
 - o *Within twenty-four (24) hours of identification of an illicit discharge that has a reasonable likelihood of adversely affecting human health or the environment, the MS4 Operator must eliminate the illicit discharge;*
 - o *Within five (5) days of identification of an illicit discharge that does not have a reasonable likelihood of adversely affecting human health or the environment, the MS4 Operator must eliminate the illicit discharge; and*
 - o *Where elimination of an illicit discharge within the specified timeframes (Part VI.C.3.a.iv.) is not possible, the MS4 Operator must notify the Regional Water Engineer.*
 - b) *The training provisions for the MS4 Operator's illicit discharge elimination procedures (Part VI.C.3.a.):*
 - i. *If new staff are added, training on the MS4 Operator's illicit discharge elimination procedures (Part VI.C.3.a.) must be given prior to conducting illicit discharge eliminations;*
 - ii. *For existing staff, training on the MS4 Operator's illicit discharge elimination procedures (Part VI.C.3.a.) must be given prior to conducting illicit discharge eliminations and once a permit term, thereafter; and*
 - iii. *If the illicit discharge elimination procedures (Part VI.C.3.a.) are updated/modified (Part VI.C.3.d.) as a result of the annual evaluation of the SWMP (Part V.C.), training on the updates/modifications must be given to all staff prior to conducting illicit discharge eliminations.*
 - c) *The names, titles, and contact information for the individuals who have received illicit discharge elimination procedures training and update annually; and*
- 2) *Annually, within thirty (30) days of the annual evaluation of the SWMP (Part V.C.), the MS4 Operator must update/modify the illicit discharge elimination procedures (Part VI.C.3.a.) as recommended by the annual evaluation of the SWMP and document the completion of this requirement in the SWMP Plan.*

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The City has developed an Illicit Discharge Action Plan (IDAP) which provides methodology for illicit discharge elimination. The City will review the requirements of the final 2022 MS4 permit when issued and utilize the information from the IDAP to complete this task within two (2) years of EDP/EDC.

4.3.4 Enhanced Requirements for Impaired Waters

MS4 Operators discharging to waters impaired for phosphorus, silt/sediment, pathogens, nitrogen, or floatables, must develop and implement additional requirements targeted at reducing the POC. These requirements must be implemented in sewersheds draining to the MS4 outfalls that discharge to the impaired segment in addition to the applicable requirements in Part VI or VII, depending on the MS4 Operator type. The requirements contained in this Part, applicable to the POC, must be incorporated in the MS4 Operator's SWMP and SWMP Plan.

The Bronx River and the Hutchinson River both included on the New York State 303(d) List of Impaired Waterbodies and the City of Mount Vernon within the Long Island Sound TMDL Watershed.

New York State 303(d) List of Impaired Waterbodies

Stream Name	Classification	Impairment	Part
Bronx River, Upper, and tribs	C	Dissolved Oxygen and Fecal Coliform	Part 1
Hutchinson River, Middle, and tribs	B	Dissolved Oxygen, Fecal Coliform, and Oil/Grease	Part 1
Hutchinson River, Lower, and tribs	SB	Dissolved Oxygen, Garbage/Refuse	Part 3c
Part 1 - Individual Waterbodies Segments with Impairment Requiring TMDL development			
Part 3c - Waterbodies for which TMDLs are Deferred			

TMDL Watershed

Name	Impairment
Long Island Sound	Dissolved Oxygen

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4.3.4.1 Measure(s) Required By This Minimum Control

- 1) *Pathogens and fecal coliform*
 - a) *Following the completion of Part VIII.C., once per permit term, the MS4 Operator must inspect the areas identified in Part VIII.C.1 for potential illicit discharges.*
 - i. *The MS4 Operator must document the inspection results, including the necessary corrective actions, in the SWMP Plan.*
 - ii. *The MS4 Operator must follow IDDE procedures identified in Part VI.C for any discovered illicit discharges.*

The City will inspect the areas identified in Part VIII.C.1 for potential illicit discharges so they can be eliminated as required above.

4.4 MCM 4 – Construction Site Stormwater Runoff Control

The MS4 Operator must develop, implement, and enforce a program to ensure construction sites are effectively controlled. This MCM is designed to prevent pollutants from construction related activities, within the automatically and additionally designated areas, as well as promote the proper planning and installation of post-construction SMPs.

Proper stormwater management at construction sites prevents erodible soil and other pollution in stormwater run-off from causing degradation of adjacent waterbodies. To satisfy the construction site run-off control minimum control measure, MS4s needs to develop, implement, and enforce a program to reduce pollutants and reduce the peak stormwater discharge run-off from construction activities that result in one of the following:

- Result in a total land disturbance of greater than or equal to one acre; or
- Disturb less than one acre if part of a larger common plan of development or sale; or
- Disturb greater than 5000 square feet in the East of Hudson Watershed.

Contractors performing construction for, and in the City of Mount Vernon, are bound by the requirements of the project Storm Water Pollution Prevention Plan (SWPPP), which the City reviews and approves.

Construction Site Stormwater Runoff Control is a minimum control measure that is required by the Permit. A list of the requirements of this minimum control, and the measures that the City has taken, or plans to take, to meet the requirements are provided below.

4.4.1 Applicable Construction Activities/Projects/Sites

The construction site stormwater runoff control program must address will with construction activities within the automatically and additionally designated areas that:

- Result in a total land disturbance of greater than or equal to one acre; or
- Disturb less than one acre if part of a larger common plan of development or sale; or
- Disturb greater than 5000 square feet in the East of Hudson Watershed.

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4.4.2 Public Reporting of Construction Site Complaints

4.4.2.1 Measure(s) Required By This Minimum Control

- 1) *Within six (6) months of EDP/EDC, the MS4 Operator must establish and document in the SWMP Plan an email or phone number (with message recording capability) for the public to report complaints related to construction stormwater activity.*

Complaints shall be reported to the Stormwater Coordinator. The stormwater coordinator's contact information can be found in Section 2.1.1 and will be posted on the City's website by February 1, 2023.

- 2) *The MS4 Operator must document reports of construction site complaints in the SWMP Plan with the following information:*
 - a) *Name/contact information of the reporting individual, when provided;*
 - b) *Date of the report;*
 - c) *Location of the construction site;*
 - d) *Nature of complaint;*
 - e) *Follow up actions taken or needed; and*
 - f) *Inspection outcomes and any enforcement taken.*

The Stormwater Coordinator shall record public complaints on a spreadsheet titled Public Reporting of Construction Site Complaints. A blank spreadsheet is provided in **Appendix B: Templates**, and an electronic file provided on a flash drive. A completed spreadsheet will be added to **Appendix E: Public Input** annually.

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4.4.3 Construction Oversight Program

4.4.3.1 Measure(s) Required By This Minimum Control

- 1) *Within one (1) year of EDP/EDC, the MS4 Operator must develop and implement a construction oversight program. The construction oversight program must be documented in the SWMP Plan specifying:

 - a) *The construction oversight procedures including:

 - i. *When the construction site stormwater control program applies (Part VI.D.1.);*
 - ii. *Inventorizing of construction sites (Part VI.D.4.);*
 - iii. *Prioritization of construction sites (Part VI.D.5.);*
 - iv. *To whom SWPPPs apply;*
 - v. *The procedures for submission of SWPPPs;*
 - vi. *SWPPP review requirements (Part VI.D.6.)*
 - vii. *Pre-construction oversight requirements (Part VI.D.7.)*
 - viii. *Construction site inspection requirements (Part VI.D.8.);*
 - ix. *Construction site close-out requirements (Part VI.D.9.);*
 - x. *Enforcement process/expectations for compliance; and*
 - xi. *Other procedures associated with the control of stormwater runoff from applicable construction activities.***

The City developed a Stormwater Pollution Prevention Plan (SWPPP) Guidance Document that includes many of the construction site oversight components listed above.

The City's SWPPP Guidance Document, which is a separate stand-alone document, is made available to construction site owner/operators, design engineers, City staff and other applicable individuals working within the City's jurisdiction. The SWPPP Guidance Document contains valuable information regarding the City's construction storm water requirements, when construction storm water requirements apply, to whom they apply, the City's procedures for submission of SWPPPs, required owner/operator construction site inspections, and other procedures associated with the control of construction site storm water discharges. The City provides the SWPPP Guidance Document to construction project sponsors/applicants applying for land use/building permits within the City's jurisdiction so that they are aware of the City and State construction site storm water discharge requirements. However, this document will need to be updated to meet the new 2022 MS4 General Permit requirements once finalized within one (1) year of EDP/EDC as-required. The current SWPPP Guidance document is included as **Appendix C: Supporting Documents**.

- b) *The training provisions for the MS4 Operator's construction oversight procedures (Part VI.D.3.a.)*

The Stormwater Pollution Prevention Plan (SWPPP) Guidance Document will be updated to include the training provisions for the MS4 Operator's construction oversight. The current SWPPP Guidance document is included as **Appendix C: Supporting Documents**.

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- c) *The names, titles, and contact information for the individuals who have received construction oversight training and update annually;*
- d) *The names, titles, and contact information of all those involved in the construction activity itself (e.g., contractor, subcontractor, qualified inspector, SWPPP reviewers) who have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity and update annually; and*
- e) *Annually, within thirty (30) days of the annual evaluation of the SWMP (Part V.C.), the MS4 Operator must update/modify the construction oversight procedures (Part VI.D.3.a.) as recommended by the annual evaluation of the SWMP document the completion of this requirement in the SWMP Plan.*

A spreadsheet summarizing the completed training, as outlined above, has been developed to document completed training. A blank spreadsheet is provided in **Appendix B: Templates**, and an electronic file provided on a flash drive. An updated spreadsheet will be added to **Appendix A: Training Documentation**, annually.

4.4.4 Impaired Waters

The City's stormwater outfalls discharge to the Hutchinson River, the Bronx River, and Laurel Brook. The Bronx River and the Hutchinson River both included on the New York State 303(d) List of Impaired Waterbodies and the City of Mount Vernon within the Long Island Sound TMDL Watershed.

New York State 303(d) List of Impaired Waterbodies

Stream Name	Classification	Impairment	Part
Bronx River, Upper, and tribs	C	Dissolved Oxygen and Fecal Coliform	Part 1
Hutchinson River, Middle, and tribs	B	Dissolved Oxygen, Fecal Coliform, and Oil/Grease	Part 1
Hutchinson River, Lower, and tribs	SB	Dissolved Oxygen, Garbage/Refuse	Part 3c
Part 1 - Individual Waterbodies Segments with Impairment Requiring TMDL development			
Part 3c - Waterbodies for which TMDLs are Deferred			

TMDL Watershed

Name	Impairment
Long Island Sound	Dissolved Oxygen

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4.4.4.1 Measure(s) Required By This Minimum Control

- 1) *Pathogens and fecal coliform*
 - a) *Following the completion of Part VIII.A.1, during active construction, high priority inspection sites must be inspected by the MS4 Operator every 30 days after the pre-construction meeting. The qualified inspector's report cannot be used to satisfy this requirement. MS4 Operators must document the inspections in the SWMP Plan.*

The City will inspect the high priority construction sites every 30 days after the pre-construction meeting as described above and the inspections will be documented in the SWMP Plan.

4.4.5 Construction Site Inventory & Inspection Tracking

4.4.5.1 Measure(s) Required By This Minimum Control

- 1) *Within six (6) months of the EDP/EDC, the MS4 Operator must develop and maintain an inventory of all applicable construction sites (Part VI.D.1.a.) and construction sites which have terminated coverage since EDP/EDC (retain on inventory for five (5) years) in the SWMP Plan. The following information must be included in the inventory:*
 - a) *Location of the construction site;*
 - b) *Owner/operator contact information, if other than the MS4 Operator;*
 - c) *Receiving waterbody name and class;*
 - d) *Prioritization (high or low) (Part VI.D.5);*
 - e) *Construction project SPDES identification number;*
 - f) *SWPPP approval date;*
 - g) *Inspection history (dates and ratings – satisfactory, unsatisfactory, or marginal); and*
 - h) *Current status of the construction site/project (i.e., active, temporarily shut down, complete¹⁷).*
- 2) *The MS4 Operator must update the construction site inventory within thirty (30) days of when construction projects are approved, completed, or re-prioritized (Part VI.D.5).*

The City has developed a spreadsheet to track all ongoing construction projects that have SWPPPs. A blank spreadsheet is provided in **Appendix B: Templates**, and an electronic file provided on a flash drive. A completed spreadsheet will be added to **Appendix F: Inventories** annually. Detailed information for each project will be kept in **Appendix G: SWPPP Project Information**. A blank copy of the detailed site summary template is in **Appendix B: Templates**. This summary, along with the inspection information and pre-construction meeting minutes will be kept in **Appendix G: SWPPP Project Information**.

The inventory of all applicable construction sites and construction sites which have terminated coverage since EDP/EDC will be retained for (5) years in the SWMP Plan.

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4.4.6 SWPPP Review

4.4.6.1 Measure(s) Required By This Minimum Control

- 1) *Ensure individual(s), responsible for reviewing SWPPPs for acceptance, receive:*
 - a) *Two (2) hours of Department endorsed SWPPP review training once a permit term; and*
 - b) *Four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity. This training must be completed within three (3) years of the EDP/EDC and every three (3) years thereafter.*
 - c) *Document the completion of this requirement in the SWMP Plan.*
- 2) *In the SWMP Plan, document and update annually the names, titles, and contact information for the individuals who have received the trainings listed in Part VI.D.6.a.i and Part VI.D.6.a.ii.*

The City has developed a spreadsheet for tracking individuals trained for construction oversight, construction site inspections, and SWPPP reviews. A blank spreadsheet is provided in **Appendix B: Templates**, and an electronic file provided on a flash drive. A completed spreadsheet will be added to **Appendix A: Training Documentation** annually.

- 3) *In the SWMP Plan, document the SWPPP review including the information found in Part III.B. of the CGP;*

The City's current SWPPP review process is outlined in the Stormwater Pollution Prevention Plan Guidance Document for Construction Site Owners/Operators in Appendix C. The City will develop a checklist for the SWPPP reviewer to use that will list the requirements of Part III B of the Construction General Permit (CGP). SWPPP records will be stored in **Appendix G: SWPPP Project Information**

4.4.7 Pre-Construction Meeting

4.4.7.1 Measure(s) Required By This Minimum Control

- 1) *Prior to commencement of construction activities, the MS4 Operator must ensure a pre-construction meeting is conducted. The date and content of the pre-construction inspection/meeting must be documented in the SWMP Plan.*

The date of the pre-construction meetings will be tracked in the Construction Site Inventory and Status spreadsheet in **Appendix F: Inventories**. Minutes from the pre-construction meeting will be kept in **Appendix G: SWPPP Project Information**.

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4.4.8 Construction Site Inspections

4.4.8.1 Measure(s) Required By This Minimum Control

- 1) *Ensure individual(s), responsible for construction site inspections, receive:*
 - a) *Two (2) hours of Department endorsed SWPPP review training once a permit term; and*
 - b) *Four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity. This training must be completed within three (3) years of the EDP/EDC and every three (3) years thereafter.*
 - c) *Document the completion of this requirement in the SWMP Plan.*
- 2) *In the SWMP Plan, document and update annually the names, titles, and contact information for the individuals who have received the trainings listed in Part VI.D.8.a.i and Part VI.D.8.a.ii.*

The City has developed a spreadsheet titled Individuals Trained for Construction Oversight, Construction Site Inspections, and SWPPP Reviews. A blank spreadsheet is provided in **Appendix B: Templates**, and an electronic file provided on a flash drive. A completed spreadsheet will be added to **Appendix A: Training Documentation** annually. Individuals currently have completed the four hours of Department endorsed training but have not completed the two hours endorsed SWPPP review training. Individuals will complete the two hour endorsed SWPPP training once it is available.

- 3) *Document all inspections using the Construction Site Inspection Report Form (Appendix D) or an equivalent form containing the same information. The MS4 Operator must include the completed Construction Site Inspection Reports in the SWMP Plan.*

A blank copy of the Construction Site Inspection Form is attached in **Appendix B: Templates**. Completed reports, including the site closeout inspection will be added to the SWMP. The date of the closeout inspection will be noted in the Construction Site Inventory and Status spreadsheet. The inventory of all applicable construction sites and construction sites which have terminated coverage since EDP/EDC will be retained for (5) years in the SWMP Plan, **Appendix G: SWPPP Project Information**.

4.4.9 Construction Site Closeout

4.4.9.1 Measure(s) Required By This Minimum Control

- 1) *The MS4 Operator must ensure a final construction site inspection is conducted and documentation of the final construction site inspection must be maintained in the SWMP Plan. The final construction site inspection must be documented using the Construction Site Inspection Report Form (Appendix D) or accept the construction site owner/operator's qualified inspector final inspection certification required by the CGP.*

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A blank copy of the Construction Site Inspection Form is attached in **Appendix B: Templates**. Completed reports, including the site closeout inspection will be added to the SWMP Plan. The date of the closeout inspection will be noted in the Construction Site Inventory and Status spreadsheet.

4.5 MCM 5 – Post-Construction Stormwater Management

Post-construction run-off control includes a combination of structural and non-structural management practices to reduce the discharge of pollutants. Permanent structural controls may include stormwater ponds, vegetated swales, designed wetlands, sand filters, and infiltration systems. These controls are designed to reduce peak run-off and improve the quality of the stormwater. Non-structural management practices ensure that the permanent controls are designed, installed, and maintained. They could also include policies to limit development and/or the amount of impervious area. A list of the requirements of this minimum control, and the procedures that the City has in place, or plans to have in place to address them, are summarized below.

4.5.1 Inventory & Inspection tracking

4.5.1.1 Measure(s) Required By This Minimum Control

- 1) *Within five (5) years of the EDP/EDC, the MS4 Operator must develop and maintain an inventory of post-construction SMPs, installed after March 10, 2003, in the SWMP Plan. The following information must be included in the inventory either by using the MS4 Operator maintenance records or by verification of maintenance records provided by the owner of the post-construction SMP:*
 - a) *Location of practice (street address and coordinates);*
 - b) *Type;*
 - c) *Receiving waterbody name and class;*
 - d) *Date of installation (if available) or discovery;*
 - e) *Ownership;*
 - f) *Responsible party for maintenance;*
 - g) *Contact information for party responsible for maintenance;*
 - h) *Location of documentation depicting O&M requirements and legal agreements for post-construction SMP;*
 - i) *Frequency for inspection of post-construction SMP, as specified in the New York State Department of Environmental Conservation Maintenance Guidance: Stormwater Management Practices, March 31, 2017 (NYS DEC Maintenance Guidance 2017) or as specified in the O&M plan contained in the approved SWPPP (Part VI.D.6.);*
 - j) *Reason (i.e., new development, redevelopment, retrofit, flood control, etc.);*
 - k) *Date of last inspection;*
 - l) *Inspection results;*
 - m) *Any corrective actions identified and completed;*
- 2) *The MS4 Operator must update the post-construction SMP inventory within thirty (30) days of when post-construction SMPs are approved or discovered.*

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The City has developed a spreadsheet to inventory post-construction SMPs. A blank copy of the spreadsheet is in **Appendix B: Templates** and an electronic file provided on a flash drive. The current inventory is included in **Appendix F: Inventories**. The City will develop a complete inventory of post-construction storm water management practices, installed after March 10, 2003, in the SWMP Plan within five (5) years of the EDP/EDC as required above.

4.5.2 SWPPP Review

4.5.2.1 Measure(s) Required By This Minimum Control

New projects with permanent controls are reviewed by Trained Individuals that have received the following:

- *Two (2) hours of Department endorsed SWPPP review training once a permit term; and*
- *Four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity. This training must be completed within three (3) years of the EDP/EDC and every three (3) years thereafter.*

The City has developed a spreadsheet to track individuals trained for SWPPP review and site inspections. A blank copy of the spreadsheet is in **Appendix B: Templates** and an electronic file provided on a flash drive. A completed spreadsheet will be added to **Appendix A: Training Documentation** annually.

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4.5.3 Post-Construction SMP Inspection and Maintenance Program

4.5.3.1 Measure(s) Required By This Minimum Control

- 1) *The post-construction SMP inspection and maintenance program must be documented in the SWMP Plan specifying:*
 - a) *The post-construction SMP inspection and maintenance procedures including:*
 - b) *Provisions to ensure that each post-construction SMP identified in the post-construction SMP inventory (Part VI.E.2.) is inspected at the frequency specified in the NYS DEC Maintenance Guidance 2017 or as specified in the O&M plan contained in the approved SWPPP (Part VI.D.6.), if available;*
 - i. *MS4 Operator can only accept Level 1 inspections (NYS DEC Maintenance Guidance 2017) by private owners inspecting post-construction SMPs.*
 - ii. *Documentation of post-construction SMP inspections using the Post-Construction SMP Inspection Checklist or an equivalent form containing the same information. The MS4 Operator must include the completed post-construction SMP inspections (i.e., the completed Post-Construction SMP Inspection Checklist) in the SWMP Plan;*
 - c) *Provisions to initiate follow-up actions (i.e., maintenance, repair, or higher-level inspection) within thirty (30) days of post-construction SMP inspection; and*
 - d) *Provisions to initiate enforcement within sixty (60) days of the inspection if follow-up actions are not complete.*

Inspections of SMPs will be done utilizing the SMP Inspection Checklist attached in **Appendix B: Templates**.

The City developed a Stormwater Pollution Prevention Plan (SWPPP) Guidance Document that includes many of the provisions for site inspection and maintenance listed above. However, this document will need to be updated to meet the new 2022 MS4 General Permit requirements once finalized. The current SWPPP document is included as **Appendix C: Supporting Documents**.

- 2) *The training provisions for the MS4's Operator's post-construction SMP inspection and maintenance procedures (Part VI.E.4.a.) and procedures outlined in the Department endorsed program.*

The Stormwater Pollution Prevention Plan (SWPPP) Guidance Document includes the training provisions for the MS4 Operator's construction oversight. However, this document will need to be updated to meet the new 2022 MS4 General Permit requirements once finalized. The current SWPPP document is included as **Appendix C: Supporting Documents**.

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- 3) *The names, titles, and contact information for the individuals who have received post-construction SMP inspection and maintenance procedures training and update annually; and*
- 4) *Annually, within thirty (30) days of the annual evaluation of the SWMP (Part V.C.), the MS4 Operator must update/modify the post-construction SMP inspection and maintenance procedures (Part VI.E.4.a.) as recommended by the annual evaluation of the SWMP and document the completion of this requirement in the SWMP Plan.*

The City has developed a spreadsheet to track individuals trained for SMP inspections. A blank spreadsheet and electronic version is provided in **Appendix B: Templates**. A completed spreadsheet will be added to **Appendix A: Training Documentation** annually.

4.6 MCM 6 – Pollution Prevention and Good Housekeeping

The Pollution Prevention/Good Housekeeping minimum control requires MS4s to examine their operations and assets and use Best Management Practices (BMPs) to reduce pollution to waterways and the environment to the maximum extent practicable. The typical City facilities include vehicle and equipment cleaning and maintenance facilities; storage facilities for parts, vehicles, and vehicle fluids; salt storage; fueling facilities; and parking facilities.

A list of the requirements of this minimum control, and the procedures that the City has in place to address them, are summarized below.

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4.6.1 Best Management Practices (BMPs) for Municipal Facilities & Operations

4.6.1.1 Measure(s) Required By This Minimum Control

- 1) *Within five (5) years of the EDP/EDC, the MS4 Operator must implement best management practices (BMPs) to minimize the discharge of pollutants associated with municipal facilities and municipal operations. The BMPs must be documented in the SWMP Plan.*
- 2) *Alternative Implementation Options (Part IV.A.1)*
 - a) *When alternative implementation options are utilized, require the parties performing municipal operations as contracted services, including but not limited to street sweeping, snow removal, and lawn/grounds care, to meet permit requirements as the requirements apply to the activity performed (Part IV.A.1).*
 - b) *In the SWMP Plan, the MS4 Operator must develop and maintain an inventory of third-party entities performing municipal operations that includes the following information:*
 - i. *Name of third-party entity performing municipal operations; and*
 - ii. *Municipal operations performed by third party entity.*
- 3) *No Exposure Certification for High Priority Facilities*
 - a) *Municipal facilities may qualify for No Exposure Certification (Appendix D) when all activities and materials are completely sheltered from exposure to rain, snow, snowmelt and/or runoff.*
 - b) *High priority municipal facilities (Part VI.F:2.c.i.a)) with uncovered parking areas for vehicles awaiting maintenance may be considered a low priority municipal facility (Part VI.F.2.c.i.b)) if only routine maintenance is performed inside and all other no exposure criteria are met.*
 - c) *Municipal facilities accepting or repairing disabled vehicles and/or vehicles that have been involved in accidents are not eligible for the No Exposure Certification.*
 - d) *Municipal facilities must maintain the No Exposure Certification and document in the SWMP Plan. The No Exposure Certification ceases to apply when activities or materials become exposed.*

Within five (5) years of the EDP/EDC, the City will review the requirements of the final 2022 MS4 General Permit and, review their existing best management practices (BMPs) used to minimize the discharge of pollutants associated with municipal facilities and municipal operations, and make revisions as needed. The City has developed the following BMPs to prevent pollution at municipal facilities:

Minimizing exposure

The City implements the following practices to minimize the exposure of materials to rain, snow, snowmelt, and runoff. These practices are utilized at vehicle and equipment fueling, maintenance, washing and storage facilities:

- Ensure that all containers of vehicle and equipment fluids are stored in enclosed areas
- Utilize drip pan under leaking vehicles until repairs can be made
- Have spill kits readily available
- Use absorbent materials on spills

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No current sites have No Exposure Certification. A blank copy of the No Exposure Certification Form is available in **Appendix B: Templates**. If a new facility is added that meets the no exposure requirements, this form will be completed for the facility and added into **Appendix C: Supporting Documents**.

Follow a Preventive Maintenance Program

The City's preventative maintenance program includes regular inspections of facilities and the training of staff on the BMPs for minimizing exposure and spill prevention as well as other topics.

- Perform inspections of stormwater systems, preventative maintenance of stormwater drainage, source controls, treatment systems, and plant equipment and systems. Regular inspections are done at municipal facility sites. The frequency of inspections is specified under 3.6.2.1.
- Maintain non-structural BMPs (keep spill response supplies available and train staff on procedures)
- Routine maintenance of BMPs. The timeline for maintenance is specified under 3.6.2.1

Spill Prevention and Response Procedures

The City reduces the potential for leaks, spills, and other releases that may be exposed to stormwater by utilizing the following BMPs:

- Discourage "topping off" of tanks
- Store materials in enclosed areas
- Utilize drip pan under leaking vehicles until repairs can be made
- Have spill kits readily available
- Use absorbent materials on spills
- Wash vehicles inside when possible so particulates and debris drain to the sanitary sewer system
- Train employees in proper spill cleanup procedures

Manage Vegetated Areas and Open Space on Municipal Property

The City utilizes the following BMPs to prevent the pollution of stormwater on municipal-owned vegetated areas and open space:

- Pet waste disposal containers and signage for pet waste collection
- Proper use, storage, and disposal of pesticides, herbicides, and fertilizers including minimizing the use of these products and only using them in accordance to the manufacturer's instructions.

Salt Storage Piles or Pile Containing Salt

The City currently covers salt used for deicing or pavement with a tarp, but has plans for a new shed. Salt that spills outside of the shed during delivery or vehicle loading during storm events is cleaned up.

Waste, Garbage, and Floatable Debris

The City reduces the potential for stormwater to be in contact with waste, garbage, and floatable debris by utilizing the following BMPs:

- Clean out catch basins
- Enclose recyclables and trash on municipal facilities indoors when possible
- Frequent pick up of debris and trash on MS4 Operator owned property and rights of way.

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4.6.1.2 Measure(s) Required By This Minimum Control

- 1) *Within three (3) years of the EDP/EDC, the MS4 Operator must develop and implement a municipal facility program. The municipal facility program must be documented in the SWMP Plan specifying*
 - a) *The municipal facility procedures including:*
 - i. *The high priority municipal facility requirements (Part VI.F.2.d.) as applied to the specific municipal facility; and*
 - ii. *The low priority municipal facilities requirements (Part VI.F.2.e.) as applied to the specific municipal facility.*
 - b) *The training provisions for the MS4 Operator's municipal facility procedures (Part VI.F.2.a.i.).*
 - i. *If new staff are added, training on the MS4 Operator's municipal facility procedures (Part VI.F.2.a.i.) must be given prior to conducting municipal facility procedures;*
 - ii. *For existing staff, training on the MS4 Operator's municipal facility procedures (Part VI.F.2.a.i.) must be given prior to conducting municipal facility procedures and once a permit term, thereafter; and*
 - iii. *If the municipal facility procedures (Part VI.F.2.a.i.) are updated/modified (Part VI.F.2.a.iv.) as a result of the annual evaluation of the SWMP (Part V.C.), training on the updates/modifications must be given to all staff prior to conducting municipal facility procedures.*
 - c) *The names, titles, and contact information for the individuals who have received municipal facility training and update annually; and*
 - d) *Annually, within thirty (30) days of the annual evaluation of the SWMP (Part V.C.), the MS4 Operator must update/modify the municipal facility procedures (Part VI.F.2.a.i.) as recommended by the annual evaluation of the SWMP and document the completion of this requirement in the SWMP Plan.*
- 2) *Annually, the MS4 Operator must complete a comprehensive site assessment for each high priority municipal facility using the Municipal Facility/Operation Assessment Form (Appendix D) or an equivalent form containing the same information, and document in the municipal facility specific SWPPP and SWMP Plan that:*
 - a) *The municipal facility is in compliance with the terms and conditions of this SPDES general permit;*
 - b) *Deficiencies were identified and all reasonable steps will be taken to minimize any discharge in violation of the permit, which has a reasonable likelihood of adversely affecting human health or the environment;*
 - i. *Within twenty-four (24) hours, the MS4 Operator must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented; or*
 - c) *Deficiencies were identified and all reasonable steps will be to minimize any discharge in violation of the permit, which does not have a reasonable likelihood of adversely affecting human health or the environment; Within seven (7) days, the MS4 Operator must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented.*

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Within three (3) years of the EDP/EDC, the City will develop a municipal facility program. The City has compiled a list of all municipal properties and in the process of identifying best management practices to reduce the potential release of pollutants. This task will be completed by the end of March 2023.

Currently, the City has one identified municipal facility site: the DPW Operations Facility. Steps are being taken to meet the standards set in the SPDES general permit at the DPW Operations Facility.

The facility has recently cleaned out their oil/water separator (10,000 and a 3,000 gallon tanks) and removed their underground fuel tanks. Those fuel tanks have been replaced with above ground tanks with proper containment. Soil sampling is being done where the underground tanks were located to determine if the soil was contaminated.

The DPW Operations Facility used to have a shed that stored their salt and the recycling from the City. The shed was in disrepair and has been torn down, and temporary storage of the salt and recycling is located outdoors near the edge of the Hutchinson River. This has the potential to contaminate stormwater that would flow offsite into the Hutchinson River. The City covers the salt pile with tarps to mitigate this potential, and plans are in place to move the salt and recycling piles away from the Hutchinson River and back under cover of a building.

Once measures have been taken to get the DPW Facility into compliance, the existing **Public Works Operations Facility SWPPP** will be updated, and staff will be trained on the new BMPs at the site.

Training for municipal facilities' staff is conducted on an annual basis, and new staff review the training documents prior to starting their assigned duties. Typical training topics covered in the training include:

- Illicit discharge detection and elimination,
- Pollution prevention and good housekeeping,
- Spill prevention and response, and
- Stormwater management for municipal vehicle repair facilities.

The City has created a spreadsheet to track individuals who have received training on the municipal facilities and operations. A blank copy of the spreadsheet is in **Appendix B: Templates**. This spreadsheet will be updated annually and the current list of individuals who have received training is kept in **Appendix A: Training Documentation**.

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- 3) *Within two (2) years of the EDP/EDC, the MS4 Operator must develop and maintain an inventory of all municipal facilities in the SWMP Plan. The following information must be included in the inventory:*
- a) Name of municipal facility;*
 - b) Address;*
 - c) Type of municipal facility (e.g., DPW, park, town hall);*
 - d) Prioritization (high or low) (Part VI.F.2.c.);*
 - e) Latitude/Longitude;*
 - f) Receiving waterbody name and class;*
 - g) Contact information;*
 - h) Responsible department;*
 - i) Location of SWPPP (when completed);*
 - j) Type of activities present on site;*
 - k) Size of facility (acres);*
 - l) Date of last assessment;*
 - m) BMPs identified; and*
 - n) Projected date of next assessment (Part VI.F.2.d. or Part VI.F.2.e. depending on the municipal facility prioritization (Part VI.F.2.c.)).*

The City has developed a spreadsheet to inventory the municipal facilities. A blank PDF version and an electronic version of the spreadsheet is in **Appendix B: Templates**. Once the municipal facilities program is established, this spreadsheet will be updated annually and kept in **Appendix F: Inventories**. Detailed site information will be tracked using a Spreadsheet in **Appendix B**. This information will be recorded electronically and an updated spreadsheet will be added to **Appendix F** annually.

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4.6.2 Municipal Operations & Maintenance

4.6.2.1 Measure(s) Required By This Minimum Control

- 1) *Within three (3) years of the EDP/EDC, the MS4 Operator must develop and implement a municipal operations program. The municipal operations program must be documented in the SWMP Plan specifying:*
 - a) *The municipal operations procedures including:*
 - i. *The municipal operations assessments and corrective actions requirements (Part VI.F.3.b.); and*
 - ii. *The infrastructure maintenance requirements (Part VI.F.3.c.).*
 - b) *The training provisions for the MS4 Operator's municipal operations procedures (Part VI.F.3.a.i.).*
 - i. *If new staff are added, training on the MS4 Operator's municipal operations procedures (Part VI.F.3.a.i.) must be given prior to conducting municipal operations procedures;*
 - ii. *For existing staff, training on the MS4 Operator's municipal operations procedures (Part VI.F.3.a.i.) must be given prior to conducting municipal operations procedures and once a permit term thereafter; and*
 - iii. *If the municipal operations procedures (Part VI.F.3.a.i.) are updated/modified (Part VI.F.3.a.iv.) as a result of the annual evaluation of the SWMP (Part V.C.), training on the updates/modifications must be given to all staff prior to conducting municipal operations procedures.*
 - c) *The names, titles, and contact information for the individuals who have received municipal operations training and update annually; and*
 - d) *Annually, within thirty (30) days of the annual evaluation of the SWMP (Part V.C.), the MS4 Operator must update/modify the municipal operations procedures (Part VI.F.3.a.i.) as recommended by the annual evaluation of the SWMP and document the completion of this requirement in the SWMP Plan.*
 - e) *Within three (3) years of the EDP/EDC, the MS4 Operator must develop and implement a municipal operations program. The municipal operations program must be documented in the SWMP Plan specifying:*

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- 2) *Annually, the MS4 Operator must assess each municipal operation and infrastructure maintenance (Part VI.F.3.c.). In conducting the assessments, the MS4 Operator must use the Municipal Facility/Operation Assessment Form (Appendix D) or an equivalent form containing the same information, to document the assessment in the SWMP Plan and either:*
- a) *Ensure compliance with the terms and conditions of this SPDES general permit; or*
 - b) *Implement corrective actions according to the following schedule and, after implementation, ensure the facility is in compliance with the terms and conditions of this SPDES general permit:*
 - i. *Within twenty-four (24) hours of discovery for situations that have a reasonable likelihood of adversely affecting human health or the environment;*
 - ii. *Initiated within seven (7) days of inspection and completed within thirty (30) days of inspection for situations that do not have a reasonable likelihood of adversely affecting human health or the environment; and*
 - iii. *For corrective actions that require special funding or construction that will take longer than thirty (30) days to complete, a schedule must be prepared that specifies interim milestones that will ensure compliance in the shortest reasonable time. Progress must be reported with the annual report.*

The City will develop and begin to implement a municipal operations program within the next three years, as required above.

- 3) *Within three (3) years of the EDP/EDC, the MS4 Operator must develop and implement a catch basin inspection program. The catch basin inspection program must be documented in the SWMP Plan specifying:*
- a) *The catch basin inspection procedures including:*
 - i. *Inspection and inventory of all catch basins within five (5) years of the EDP/EDC;*
 - ii. *An inventory of catch basin inspection and cleaning information including:*
 - *Date of inspection;*
 - *Approximate level of trash, sediment, and/or debris captured at time of clean-out (no debris, <50% sump capacity, >50% sump capacity);*
 - *Depth of structure;*
 - *Depth of sump; and*
 - *Date of clean out, if applicable (Part VI.F.3.c.i.a)iii).*
 - iii. *The following timeframes to clean out catch basins:*
 - *Within ninety (90) days after the catch basin inspection, catch basins which had trash, sediment, and/or debris exceeding 50% sump capacity as a result of a catch basin inspection must be cleaned out;*
 - *Within six (6) months after the catch basin inspection, catch basins which had trash, sediment, and/or debris at less than 50% sump capacity as a result of a catch basin inspection must be cleaned out; and*
 - *Catch basins which have no debris do not need to be cleaned out.*

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City of Mount Vernon, New York

- iv. *Proper management (handling and disposal) of materials removed from catch basins during clean out so that:*
 - *Water removed during the catch basin cleaning process will not reenter the MS4 or surface waters of the State;*
 - *Material removed from catch basins is screened for contamination and any debris containing trash or waste materials are disposed of in accordance with environmental regulations; and*
 - *Screened/uncontaminated material will not reenter the MS4.*
- v. *How to determine if there are signs/evidence of illicit discharges and procedures for referral/follow-up if illicit discharges are encountered.*
- b) *The training provisions for the MS4 Operator's catch basin inspection procedures (Part VI.F.3.c.i.a).*
 - i. *If new staff are added, training on the MS4 Operator's catch basin inspection procedures (Part VI.F.3.c.i.a) must be given prior to conducting any catch basin inspection;*
 - ii. *For existing staff, training on the MS4 Operator's catch basin inspection procedures (Part VI.F.3.c.i.a) must be given prior to conducting any catch basin inspection and once a permit term, thereafter; and*
 - iii. *If the catch basin inspection procedures (Part VI.F.3.c.i.a) are updated/modified (Part VI.F.3.c.i.e) as a result of the annual evaluation of the SWMP (Part V.C.), training on the updates/modifications must be given to all staff prior to conducting catch basin inspection.*
- c) *The names, titles, and contact information for the individuals who have received catch basin inspection training and update annually;*
- d) *Annually, within thirty (30) days of the annual evaluation of the SWMP (Part V.C.), the MS4 Operator must update/modify the catch basin inspection procedures (Part VI.F.3.c.i.a) as recommended by the annual evaluation of the SWMP and document the completion of this requirement in the SWMP Plan.*

The City has started to develop a catch basin cleaning and inspection program as required above. The City purchased a new clam shell catch basin cleaning vehicle and has a team proactively cleaning catch basins daily. The City has begun inspecting catch basins using the Catch Basin Inspection Form in **Appendix B: Templates**. The City plans on tracking the catch basin cleaning and inspection work in GIS. A list of the catch basins that have been cleaned is located in **Appendix F: Inventories** and a map showing the location of catch basins is in **Figure 5**.

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- 4) *Within six (6) months of EDP/EDC, the MS4 Operator must develop and implement procedures for sweeping and/or cleaning municipal streets, bridges, parking lots, and right of ways owned/operated by the MS4 Operator. The procedures and completion of permit requirements must be documented in the SWMP Plan specifying:*
- a) *All roads, bridges, parking lots, and right of ways must be swept and/or cleaned annually in the spring (following winter activities such as sanding). This requirement is not applicable to rural uncurbed roads with no catch basins or high-speed limited access highways.*
 - b) *Twice a year, from April 1 through October 31, roads in business districts and commercially zoned areas must be swept.*

City streets are swept on a regular basis, except in winter. The City has multiple street sweeping crews and completes the entire City weekly. They complete south of the railroad tracks adjacent to 1st Street on Monday and Tuesday from 8:00 am to 12:00 pm. They complete north of the railroad tracks on Wednesday, Thursday, and Friday from 8:00 am to 12:00 pm. They complete it in the business areas daily from 4:00 am to 7:00 am. Citizens are aware of the sweeping schedule, and cars are removed to allow for sweeping of the entire street.

4.6.3 Impaired Waters

From the permit: MS4 Operators discharging to waters impaired for phosphorus, silt/sediment, pathogens, nitrogen, or floatables, must develop and implement additional requirements targeted at reducing the POC. These requirements must be implemented in sewersheds draining to the MS4 outfalls that discharge to the impaired segment in addition to the applicable requirements in Part VI or VII, depending on the MS4 Operator type. The requirements contained in this Part, applicable to the POC, must be incorporated in the MS4 Operator's SWMP and SWMP Plan.

The Bronx River and the Hutchinson River both included on the New York State 303(d) List of Impaired Waterbodies and the City of Mount Vernon within the Long Island Sound TMDL Watershed.

New York State 303(d) List of Impaired Waterbodies

Stream Name	Classification	Impairment	Part
Bronx River, Upper, and tribs	C	Dissolved Oxygen and Fecal Coliform	Part 1
Hutchinson River, Middle, and tribs	B	Dissolved Oxygen, Fecal Coliform, and Oil/Grease	Part 1
Hutchinson River, Lower, and tribs	SB	Dissolved Oxygen, Garbage/Refuse	Part 3c
Part 1 - Individual Waterbodies Segments with Impairment Requiring TMDL development			
Part 3c - Waterbodies for which TMDLs are Deferred			

Stormwater Management Program Plan
City of Mount Vernon, New York

TMDL Watershed

Name	Impairment
Long Island Sound	Dissolved Oxygen

A list of the requirements of this minimum control for the relevant pollutants and the steps that are being taken by the City, are summarized below.

4.6.3.1 Measure(s) Required By This Minimum Control

1) *Pathogens and fecal coliform*

Following the completion of Part VIII.C.1:

a) *Infrastructure Maintenance*

- i. *Twice a year, from April 1 through October 31, all streets located in sewersheds discharging to pathogen impaired segments must be swept. MS4 Operators must document the completion of this requirement in the SWMP Plan.*

The City has multiple street sweeping crews and completes street sweeping of the entire City weekly. They complete south of the railroad tracks adjacent to 1st Street on Monday and Tuesday from 8:00 am to 12:00 pm. They complete north of the railroad tracks on Wednesday, Thursday, and Friday from 8:00 am to 12:00 pm. The complete it in the business areas daily from 4:00 am to 7:00 am

- ii. *Within six (6) months of MS4 outfall inspection, the MS4 Operator must repair all MS4 outfall protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. MS4 Operators must document the completion of this requirement in the SWMP Plan.*

The City will add MS4 outfall protection and bank stability to the outfall inspection forms and training. Repairs will be documented in the SWMP in **Appendix F: Inventories**

Stormwater Management Program Plan
City of Mount Vernon, New York

b) *Wildlife Control*

- i. *Within six (6) months of the EDP/EDC, the MS4 Operator must identify municipal facilities with nuisance bird populations that have the potential to contribute pathogens (e.g., Canada Geese) and document those municipal facilities in the SWMP Plan.*
- ii. *Within six (6) months of the EDP/EDC, signage must be available at these facilities, instructing the public not to feed wildlife. MS4 Operators must document the completion of this requirement in the SWMP Plan.*
- iii. *Within six (6) months of the EDP/EDC, the MS4 Operator must remove accumulated trash and debris from municipally owned facilities when necessary to eliminate potential food sources for wildlife. MS4 Operators must document the completion of this requirement in the SWMP Plan.*
- iv. *Within one (1) year of the EDP/EDC, MS4 Operators must evaluate the effectiveness of deterrents, population controls, and other measures that may reduce bird related pathogen contributions and document the results of the evaluation in the SWMP Plan.*

The City's municipal facilities do not have nuisance bird populations. However, this will be reviewed again in accordance with the Wildlife Control requirement.

c) *Animal Waste Control*

- i. *Within one (1) year of the EDP/EDC, the MS4 Operator must make dog waste receptacles available in areas where pets/domestic animals may frequent (e.g., veterinary offices, pet supply stores, pet grooming, stables, public trails). MS4 Operators must document the completion of this requirement in the SWMP Plan.*

The City will review this and make dog waste receptacles available as required in the permit.

2) *Garbage & refuse, oil/grease, and oil & floating substances*

Following completion of Part VIII.E.1:

- a) *Twice a year, from April 1 through October 31, all streets located in sewersheds discharging to floatables impaired segments must be swept. MS4 Operators must document the completion of this requirement in the SWMP Plan.*

All streets in Mount Vernon are swept twice a year. The City has multiple street sweeping crews and completes the entire City weekly. They complete south of the railroad tracks adjacent to 1st Street on Monday and Tuesday from 8:00 am – 12:00 pm. They complete north of the railroad tracks on Wednesday, Thursday, and Friday from 8:00 am to 12:00 pm. They complete it in the business areas daily from 4:00 am to 7:00 am

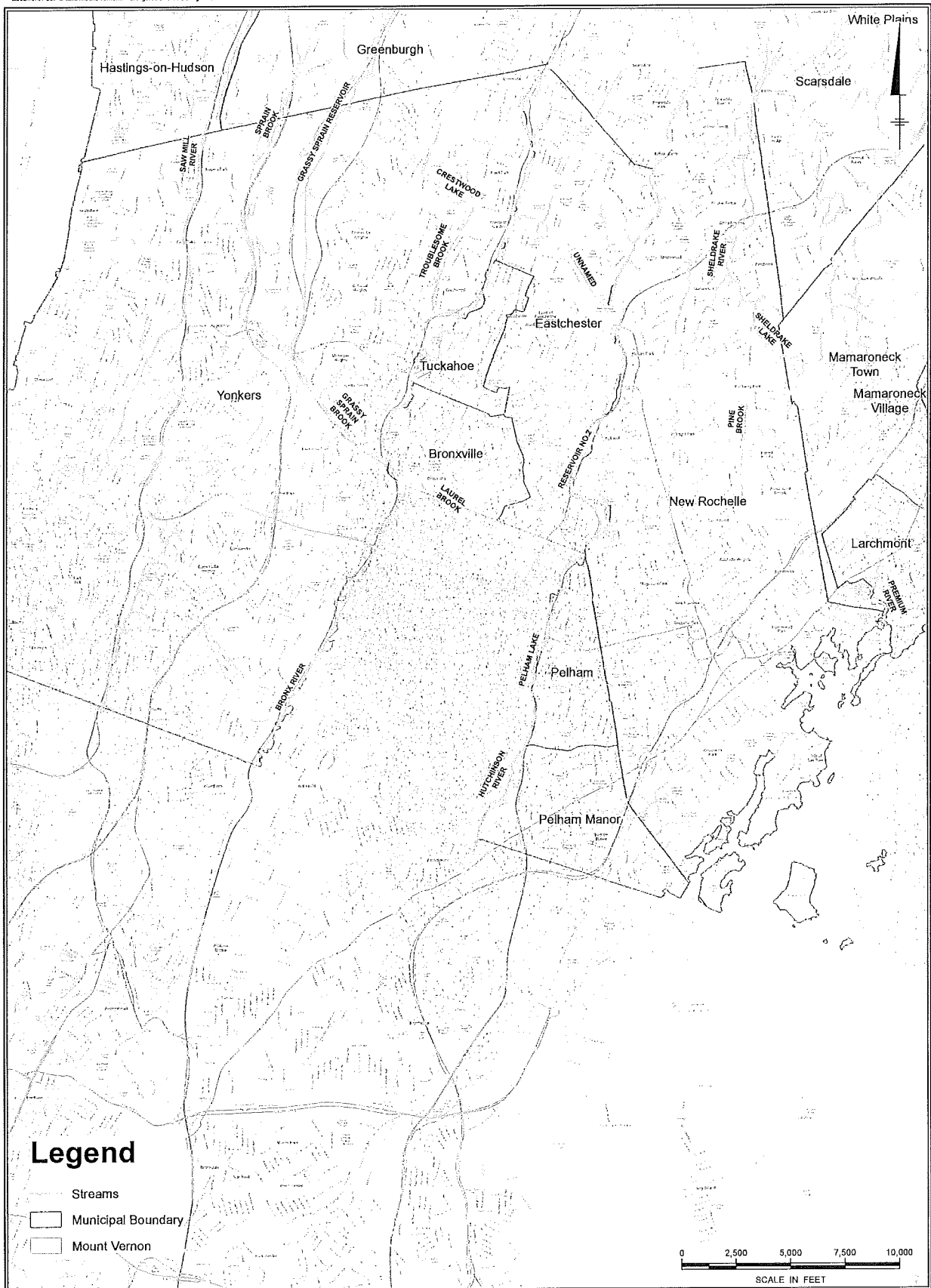
Stormwater Management Program Plan
City of Mount Vernon, New York

- b) *Within six (6) months of MS4 outfall inspection, the MS4 Operator must repair all MS4 outfall protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. MS4 Operators must document the completion of this requirement in the SWMP Plan.*

Bank stability problems and repairs will be documented in the SWMP in **Appendix F. Inventories**

Figures

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Legend

- Streams
- Municipal Boundary
- Mount Vernon

0 2,500 5,000 7,500 10,000
SCALE IN FEET

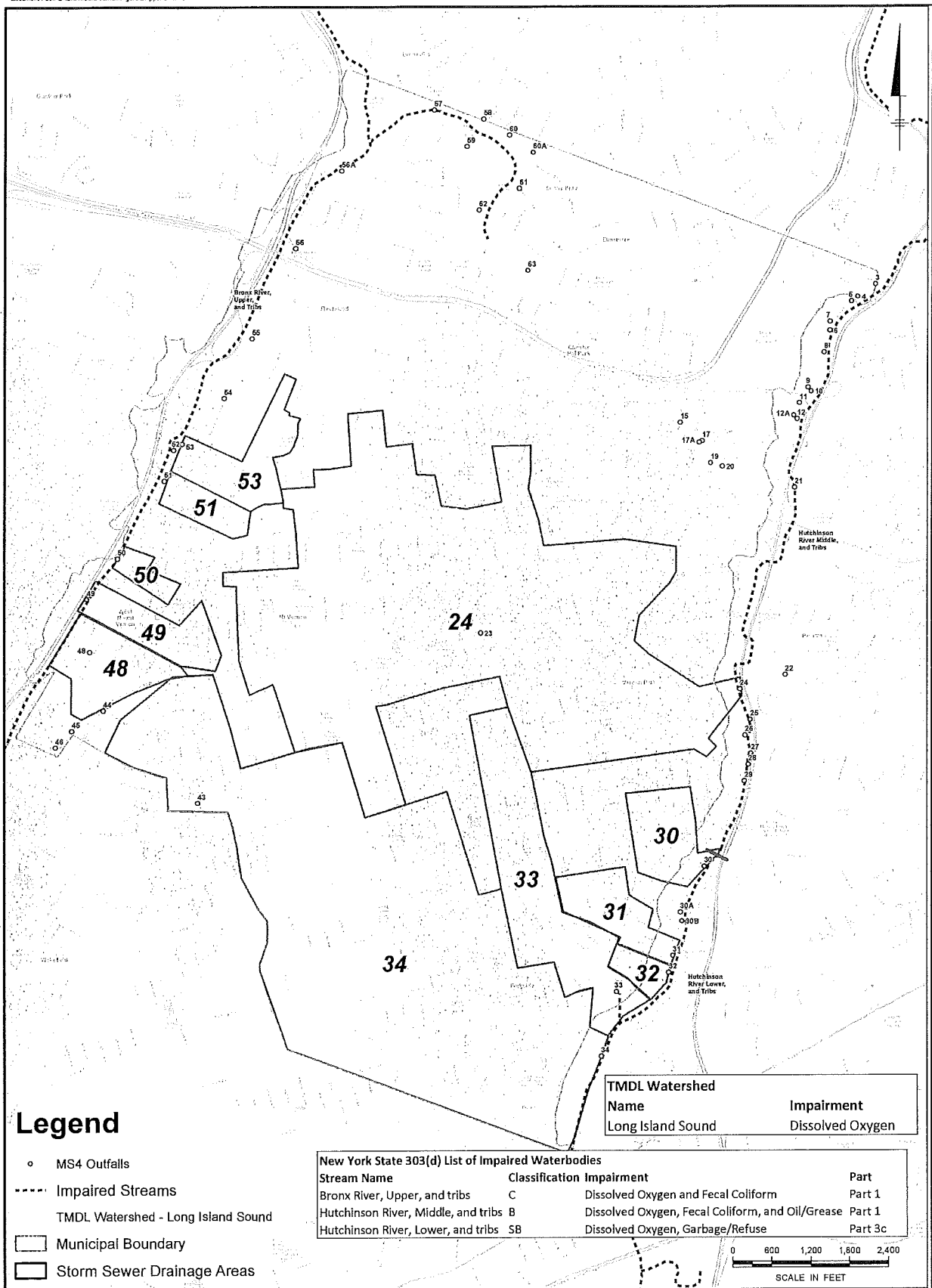
City of Mount Vernon
Mount Vernon, New York

Site Location Map

ARCADIS

FIGURE
1

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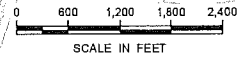
Legend

- MS4 Outfalls
- Impaired Streams
- TMDL Watershed - Long Island Sound
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

New York State 303(d) List of Impaired Waterbodies

Stream Name	Classification	Impairment	Part
Bronx River, Upper, and tribs	C	Dissolved Oxygen and Fecal Coliform	Part 1
Hutchinson River, Middle, and tribs	B	Dissolved Oxygen, Fecal Coliform, and Oil/Grease	Part 1
Hutchinson River, Lower, and tribs	SB	Dissolved Oxygen, Garbage/Refuse	Part 3c

TMDL Watershed Name	Impairment
Long Island Sound	Dissolved Oxygen



Notes: Part 1 - Individual Waterbodies Segments with Impairment Requiring TMDL development
 Part 3c - Waterbodies for which TMDLs are Deferred

City of Mount Vernon
 Mount Vernon, New York

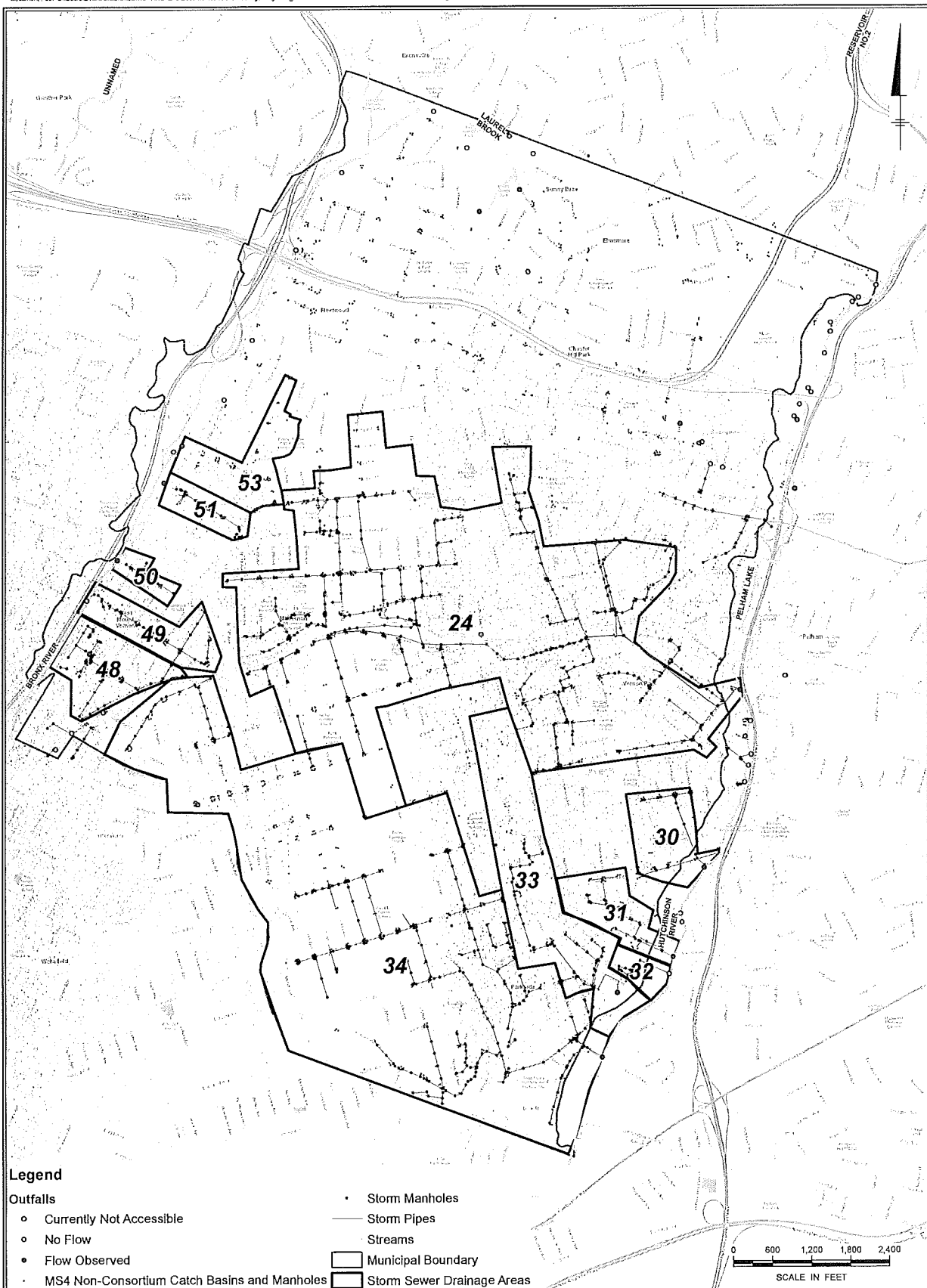
Outfall Locations and Water Quality



FIGURE

2

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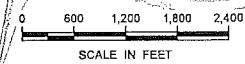


Legend

Outfalls

- Currently Not Accessible
- No Flow
- Flow Observed
- MS4 Non-Consortium Catch Basins and Manholes

- Storm Manholes
- Storm Pipes
- Streams
- ▭ Municipal Boundary
- ▭ Storm Sewer Drainage Areas

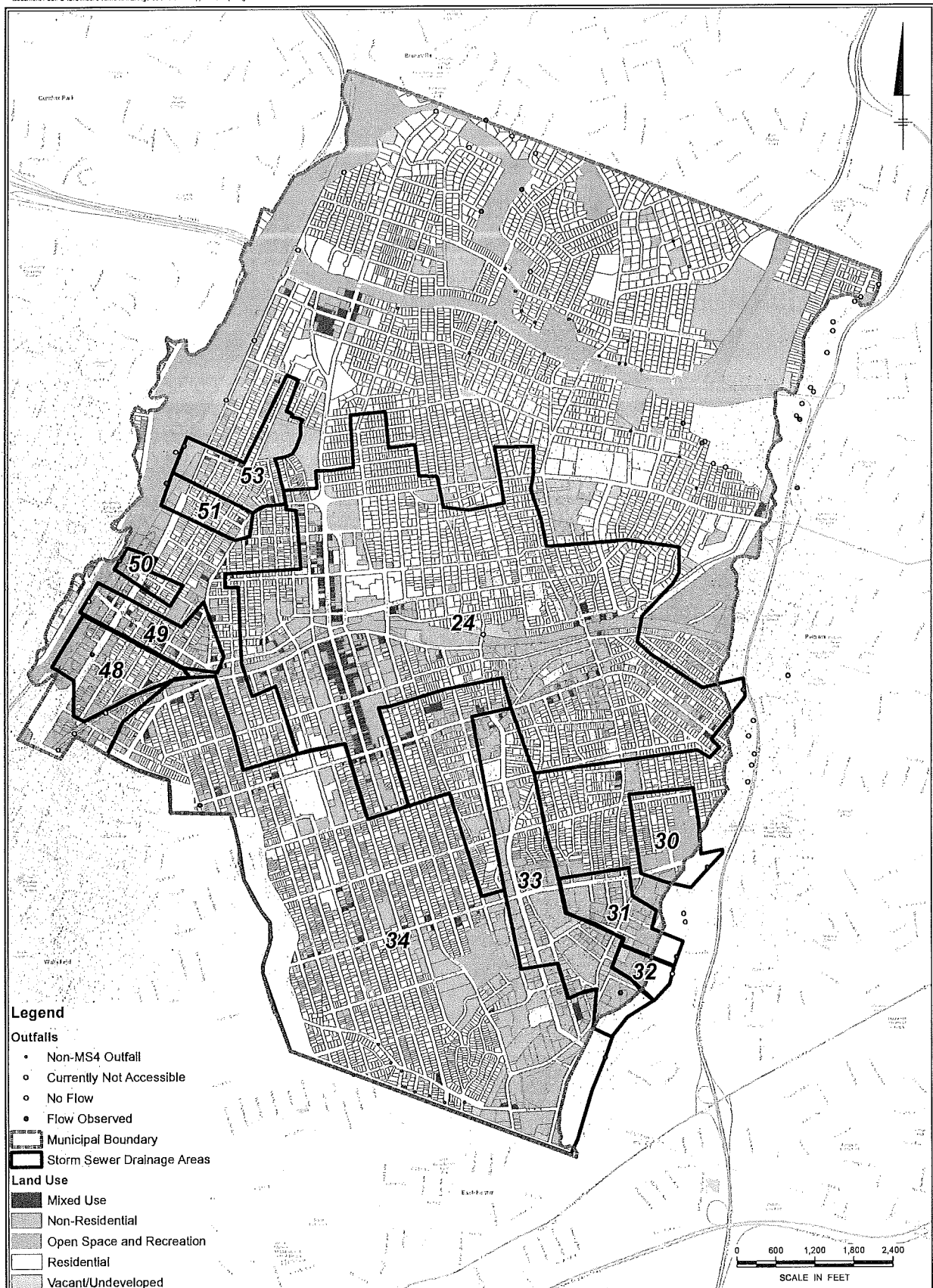


City of Mount Vernon
Mount Vernon, New York

Storm Sewer Mapping

FIGURE 3

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City of Mount Vernon
Mount Vernon, New York

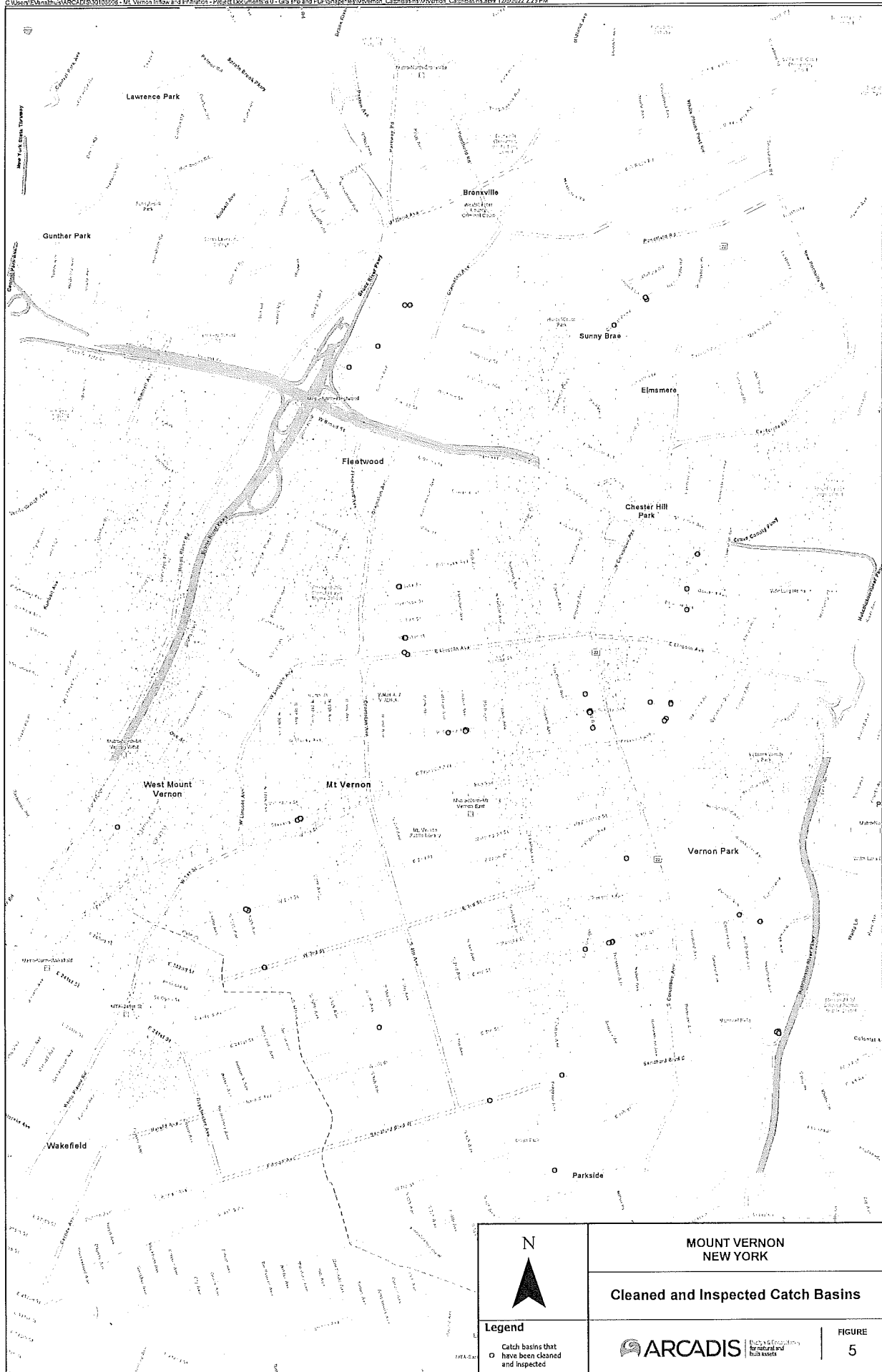
Land Use

ARCADIS

FIGURE

4

City: Clinton Park Last Saved By: EVAnsthuik
 Project (Project #): 30106200
 C:\Users\EVAnsthuik\Documents\30106200 - Mt. Vernon Inflow and Infiltration - Project Documents\9.0 - GIS the and PDF\Shapefiles\MtVernon_CatchBasins\MtVernon_CatchBasins.aprx 12/5/2022 2:25 PM



Appendix A

Training Documentation

(Templates provided in Appendix B.)

- **Stormwater Coordinator Training Log**
- **Staff Trained for Illicit Discharge Procedures**
- **Staff Trained for Construction Oversight, Construction Site Inspections, SWPPP Reviews, and SMP Inspections**
- **Staff Trained for Municipal Facilities and Operations**

**Stormwater Coordinator
Training**

**City of Mount Vernon, New York
Stormwater Management Plan**

Name	Date of Four Hour Training in Stormwater Management
Jason Miller	9/13/2022
Ramone Bennett	6/29/2021

Appendix B

Templates

(These templates were developed to manage the information that is required in the MS4 permit. Blank PDF templates and thumb drive with electronic versions)

- Stormwater Coordinator Training
- Annual SWMP Updates Checklist
- Educations Messages Tracking
- Cleaning Events Tracking
- Public Comments on SWMP Plan and Draft Annual Report
- Public Reports of Illicit Discharges
- Staff Trained for Illicit Discharge Procedures
- Public Reporting of Construction Site Complaints
- Staff Trained for Construction Oversight, Construction Site Inspections, SWPPP reviews, and SMP Inspections
- Construction Site Inventory
- Construction Site Information Template
- SWPPP Construction Site Inspection Form
- SMP Inspection Checklist (Included on thumb drive only due to size)
- Post-Construction SMP Inventory
- No Exposure Certification Form
- Staff trained for Municipal Facilities and Operation
- Municipal Facilities Inventory
- Municipal Facility Detailed Information
- Catch Basin Inspection Form

Annual SWMP Updates Checklist

City of Mount Vernon, New York
Stormwater Management Plan

Part	Reference	Requirement	Frequency	Notes	Location in the Mt Vernon SWMP	Current Status	Completed this Permit Term?	Current Status
V.	V.B.3.a.	Submit an Interim Progress Certification to the Department	Twice a year	Due December 1 (for March 1-September 1 period) and June 1 (for September 2-February 28, February 29 if on a leap year, period)	3.2, Add Certification in Appendix C Supporting Documents			
NCM 6	V.F.3.c.(i.a.1)	Sweep streets in business districts and commercially zoned areas	Twice a year	From April 1 through October 31, (within six months of EDP)	Annual schedule in Appendix C Supporting Documents			
IV.	IV.A.1.a.	Review and update any alternative implementation agreements in the SWMP Plan, as necessary	Annually		2.4.1			
IV.	IV.B.	Update SWMP Plan	Annually	Due June 1 (for Reporting Year)	2.4.1			
IV.	IV.D.	Update the comprehensive system map	Annually	4th and 5th years, After Phase 1 Mapping complete (3 years from the EDP)	2.5			
IV.	V.B.2.a.	Submit an Annual Report to the Department	Annually	Due June 1 (for Reporting Year)	1.1, Add Annual Report to Appendix C Supporting Documents			
IV.	V.C.1.	Evaluate the SWMP	Annually		2.4.1			
NCM 1	V.I.A.2.c.7	Update/modify the focus areas, target audiences, and/or education and outreach topics	Annually	4th and 5th years, After focus areas, target audiences, and education and outreach topics are developed, within thirty (30) days of SWMP Evaluation	4.1.1.1			
NCM 2	V.I.B.1.a.	Provide an opportunity for public involvement/participation in the development and implementation of the SWMP	Annually		4.2.1.1			
NCM 2	V.I.B.1.b.	Inform the public of the opportunity for their involvement in the development and implementation of the SWMP and how they can become involved	Annually		4.2.1.1			
NCM 2	V.I.B.2.a.	Provide an opportunity for the public to review and comment on the publicly available SWMP Plan	Annually	No later than May 1	4.2.2.1			
NCM 2	V.I.B.2.b.i.	Provide an opportunity for the public to review and comment on the draft annual report	Annually	No later than May 1	4.2.2.1			
NCM 2	V.I.B.2.c.a.	Summarize comments received on SWMP Plan and draft annual report	Annually		Spreadsheet in Appendix E, Public Input			
NCM 3	V.I.C.1.d.RI.	Update the monitoring location prioritization	Annually	4th and 5th years; After the initial prioritization (3 years from the EDP)	Spreadsheet in Appendix F, Inventories			
NCM 3	V.I.C.1.e.II.	Update names, titles, and contact information for the individuals who have received monitoring location inspection and sampling procedures training	Annually	Once the monitoring locations inspection and sampling program is developed (2 years from the EDP)	Spreadsheet in Appendix A Training Documentation			
NCM 3	V.I.C.1.e.IV.	Analyze monitoring location inspection results	Annually	Once the monitoring locations inspection and sampling program is developed (2 years from the EDP)	4.3.1.1			
NCM 3	V.I.C.1.e.V.	Update/Modify the monitoring location inspection and sampling procedures	Annually	3rd, 4th, and 5th years, After monitoring locations inspection and sampling program is developed, within thirty (30) days of SWMP Evaluation	4.3.1.1			
NCM 3	V.I.C.2.c.	Update names, titles, and contact information for the individuals who have received illicit discharge track down procedures training	Annually	Once the illicit discharge track down program is developed (2 years from the EDP)	Spreadsheet in Appendix A Training Documentation			
NCM 3	V.I.C.2.d.	Update/Modify the illicit discharge track down procedures	Annually	3rd, 4th, and 5th years, After illicit discharge track down program is developed, within thirty (30) days of SWMP Evaluation	4.3.2.1			
NCM 3	V.I.C.3.c.	Update names, titles, and contact information for the individuals who have received illicit discharge elimination procedures training	Annually	Once the illicit discharge elimination program is developed (2 years from the EDP)	Spreadsheet in Appendix A Training Documentation			
NCM 3	V.I.C.3.d.	Update/Modify the illicit discharge elimination procedures	Annually	3rd, 4th, and 5th years, After illicit discharge elimination program is developed, within thirty (30) days of SWMP Evaluation	4.3.3.1			
NCM 4	V.I.D.3.c.	Update names, titles, and contact information for the individuals who have received construction oversight procedures training	Annually	Once the construction oversight program is established (within 1 year of the EDP)	Spreadsheet in Appendix A Training Documentation			
NCM 4	V.I.D.3.d.	Update names, titles, and contact information for all those involved in the construction activity itself who have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity	Annually	Once the construction oversight program is established (within 1 year of the EDP)	Spreadsheet in Appendix A Training Documentation			
NCM 4	V.I.D.3.e.	Update/Modify the construction oversight procedures	Annually	2nd, 3rd, 4th, and 5th years; After construction oversight program is developed, within thirty (30) days of SWMP Evaluation	4.4.3.1			
NCM 4	V.I.D.5.d.	Update the construction site prioritization	Annually	After the initial prioritization (6 months from the EDP)	Spreadsheet in Appendix F, Inventories			

Annual SWMP Updates Checklist

City of Mount Vernon, New York
Stormwater Management Plan

Part	Reference	Requirement	Frequency	Notes	Location in the Mt Vernon SWMP	Current Status	Completed this Permit Term?	Current Status
MCU 4	VLD.6.d	Update the names, titles, and contact information for the individuals who have received two (2) hours of Department endorsed SWPPP review training for individuals responsible for reviewing SWPPPs	Annually		Spreadsheet in Appendix A Training Documentation			
MCU 4	VLD.6.d	Update the names, titles, and contact information for the individuals who have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity, for individuals responsible for reviewing SWPPPs	Annually		Spreadsheet in Appendix A Training Documentation			
MCU 4	VLD.8.d	Update the names, titles, and contact information for the individuals who have received two (2) hours of Department endorsed SWPPP review training for individuals responsible for construction site inspections	Annually		Spreadsheet in Appendix A Training Documentation			
MCU 4	VLD.8.d	Update the names, titles, and contact information for the individuals who have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity, for individuals responsible for construction site inspections	Annually		Spreadsheet in Appendix A Training Documentation			
MCU 5	VI.E.4.c	Update names, titles, and contact information for the individuals who have received post-construction SWP inspection and maintenance procedures training	Annually		Spreadsheet in Appendix A Training Documentation			
MCU 5	VI.E.4.d	Update/Modify the post-construction SWP inspection and maintenance procedures	Annually	2nd, 3rd, 4th, and 5th years. After post-construction SWP inspection and maintenance program is developed, within thirty (30) days of SWMP Evaluation	4.3.3.1			
MCU 6	VLF.2.a.i	Update names, titles, and contact information for the individuals who have received municipal facility procedures training	Annually	Once the municipal facility program is developed (within 3 years to the EDP)	Spreadsheet in Appendix A Training Documentation			
MCU 6	VLF.2.a.v	Update/Modify the municipal facility procedures	Annually	4th and 5th years. After municipal facility program is developed, within thirty (30) days of SWMP Evaluation	4.6.1.1			
	VLF.2.e.i	Update the municipal facility prioritization	Annually	4th and 5th years. After the initial prioritization (2 years from the EDP)	Spreadsheet in Appendix F Inventories			
MCU 6	VLF.2.d.i.2	Complete a comprehensive site assessment for each high priority municipal facility	Annually	Once the municipal facility program is developed (within 3 years to the EDP)	4.6.1.2			
MCU 6	VLF.3.a.i	Update names, titles, and contact information for the individuals who have received municipal operations procedures training	Annually	Once the municipal facility program is developed (within 3 years to the EDP)	Spreadsheet in Appendix A Training Documentation			
MCU 6	VLF.3.a.v	Update/Modify the municipal operations procedures	Annually	4th and 5th years. After municipal operations program is developed, within thirty (30) days of SWMP Evaluation	4.6.2.1			
MCU 6	VLF.3.b	Assess each municipal operation and infrastructure maintenance	Annually	Once the municipal facility program is developed (within 3 years to the EDP)	4.6.2.1			
MCU 6	VLF.3.e.i.c	Update names, titles, and contact information for the individuals who have received catch basin inspection procedures training	Annually	Once the catch basin inspection program has been developed (within 3 years of the EDP)	Spreadsheet in Appendix A Training Documentation			
MCU 6	VLF.3.e.i.d	Update/Modify the catch basin inspection procedures	Annually	4th and 5th years. After catch basin inspection program is developed, within thirty (30) days of SWMP Evaluation	4.6.2.1			
MCU 6	VLF.3.c.e.i.v	Sweep all streets, bridges, parking lots, and right of ways	Annually	In the spring	Annual schedule in Appendix C Supporting Documents			
MCU 3	VI.C.1.e.i.v	Inspect the high priority monitoring locations	Twice a permit term, separated by a minimum of one (1) year	4th and 5th years. Once the monitoring locations inspection and sampling program is developed (within 2 years of the EDP)	4.3.1.1			
MCU 6	VLF.2.d.i.4	Conduct wet weather visual monitoring of the monitoring locations at high priority municipal facilities	Twice a permit term, separated by a minimum of one (1) year	4th and 5th years	4.6.1.2			
IV	IV.B.1.b	The Stormwater Program Coordinator completes four (4) hours of training endorsed by the Department in stormwater management and the requirements of this SPDES general permit. Identify and document the method(s) used for the distribution of educational messages	Once a permit term		Spreadsheet in Appendix F Training Documentation			
MCU 1	VI.A.2.a	Deliver one educational message to each target audience(s) for each focus area based on the education and outreach topic(s)	Once a permit term	After focus areas, target audiences, and education and outreach topics are developed	4.1.2.1			
MCU 1	VI.A.2.b	Deliver one educational message to each target audience(s) for each focus area based on the education and outreach topic(s)	Once a permit term	Once the monitoring locations inspection and sampling program is developed (2 years from the EDP)	Spreadsheet in Appendix D Public Outreach			
MCU 3	VI.C.1.e.i.v	Inspect the low priority monitoring locations	Once a permit term		4.3.1.1			


Annual SWMP Updates Checklist

City of Mount Vernon, New York
Stormwater Management Plan

Part	Reference	Requirement	Frequency	Notes	Location In the Mt Vernon SWMP	Current Status	Completed this Permit Term?	Current Status
NCM 3	VLC.1.e.f	Provide training on the MS4 Operator's monitoring location and sampling procedures prior to conducting monitoring locations and sampling	Once a permit term	Once the monitoring locations inspection and sampling program is developed (2 years from the EDP)	4.3.1.1			
NCM 3	VLC.2.h	Provide training on the MS4 Operator's illicit discharge track down procedures prior to conducting illicit discharge track down	Once a permit term	Once the illicit discharge track down program is established (2 years from the EDP)	4.3.2.1			
NCM 3	VLC.3.h	Provide training on the MS4 Operator's illicit discharge elimination procedures prior to conducting illicit discharge elimination	Once a permit term	Once the illicit discharge elimination program is established (2 years from the EDP)	4.3.3.1			
NCM 4	VLD.3.h	Provide training on the MS4 Operator's construction oversight procedures prior to conducting construction oversight	Once a permit term	Once the construction oversight program is established (within 1 year of the EDP)	4.4.3.1			
NCM 4	VLD.6.a.f	Ensure individuals responsible for reviewing SWPPPs for acceptance receive two (2) hours of Department endorsed SWPPP review training prior to conducting SWPPP reviews and/or approvals	Once a permit term		4.4.8.1			
NCM 4	VLD.6.a.l	Ensure individuals responsible for construction site inspections receive two (2) hours of Department endorsed training on MS4 oversight inspections	Once a permit term		4.4.8.1			
NCM 5	VLE.4.h	Provide training on the MS4 Operator's post-construction SWP inspection and maintenance procedures prior to conducting post-construction SWP inspection and maintenance	Once a permit term		4.5.3.1			
NCM 6	VLF.2.a.d	Provide training on the MS4 Operator's municipal facility procedures prior to conducting municipal facility procedures	Once a permit term		4.6.1.2			
NCM 6	VLF.2.e.i.c	Complete a comprehensive site assessment for each low priority municipal facility	Once a permit term		4.6.1.2			
NCM 6	VLF.3.a.f	Provide training on the MS4 Operator's municipal operations procedures prior to conducting municipal operations	Once a permit term		4.6.2.1			
NCM 6	VLF.3.c.l.b	Provide training on the MS4 Operator's catch basin inspection procedures prior to conducting catch basin inspection	Once a permit term		4.6.2.1			
VIII	VIII.A.2.b	Provide educational messages with information specific to phosphorus	Twice a year	4th and 5th years, After completion of Part VIII.A.1; Once from March to August and once from September to February			NA	
VIII	VIII.A.7.a	Sweep all streets located in sewersheds discharging to phosphorus impaired segments	Twice a year	4th and 5th years, from April 1 to October 31; After completion of Part VIII.A.1			NA	
VIII	VIII.A.4.a	Inspect the areas identified in Part VIII.A.1 for potential illicit discharges	Once a permit term	4th and 5th years, After completion of Part VIII.A.1			NA	
VIII	VIII.B.7.a	Sweep all streets located in sewersheds discharging to silt/sediment impaired segments	Twice a year	4th and 5th years, After completion of Part VIII.B.1			NA	
VIII	VIII.B.2.b	Educate all individuals involved in construction activity within the sewerhead boundary on the use of post-construction SVPs that are intended to collect and separate silt and sediment debris from stormwater before discharging to waters of the State	Annually	4th and 5th years, After completion of Part VIII.B.1; each year of active construction			NA	
VIII	VIII.B.4.a	Inspect the areas identified in Part VIII.B.1, for potential illicit discharges	Once a permit term	4th and 5th years, After completion of Part VIII.B.1			NA	
VIII	VIII.C.2.b	Provide educational messages with information specific to pathogens	Twice a year	4th and 5th years, After completion of Part VIII.C.1; Once from March to August and once from September to February	Spreadsheet in Appendix D Public Outreach			
VIII	VIII.C.7.a.l	Sweep all streets located in sewersheds discharging to pathogens impaired segments	Twice a year	4th and 5th years, After completion of Part VIII.C.1	Annual schedule in Appendix C Supporting Documents			
VIII	VIII.C.4.a	Inspect the areas identified in Part VIII.C.1, for potential illicit discharges	Once a permit term	4th and 5th years, After completion of Part VIII.C.1	4.3.4.1			
VIII	VIII.D.2.b	Provide educational messages with information specific to nitrogen	Twice a year	4th and 5th years, After completion of Part VIII.D.1; Once from March to August and once from September to February			NA	
VIII	VIII.D.7.a	Sweep all streets located in sewersheds discharging to nitrogen impaired segments	Twice a year	4th and 5th years, After completion of Part VIII.D.1			NA	
VIII	VIII.D.4.a	Inspect the areas identified in Part VIII.D.1, for potential illicit discharges	Once a permit term	4th and 5th years, After completion of Part VIII.D.1			NA	
VIII	VIII.E.2.b	Provide educational messages with information specific to floatables	Twice a year	4th and 5th years, After completion of Part VIII.E.1; Once from March to August and once from September to February	Spreadsheet in Appendix D Public Outreach			
VIII	VIII.E.7.a	Sweep all streets located in sewersheds discharging to floatables impaired segments	Twice a year	4th and 5th years, After completion of Part VIII.E.1	Annual schedule in Appendix C Supporting Documents			

Staff Trained for Illicit Discharge Procedures

**City of Mount Vernon, New York
Stormwater Management Plan**

 Department of Environmental Conservation New York State Department of Environmental Conservation Construction Site Inspection Report for SPDES MS4 General Permit GP-0-22-002			
Project Name:		Date:	
Project Location:		Weather:	
Permit # (if any): NYR	Contacted: <input type="checkbox"/> Yes <input type="checkbox"/> No	Entry Time:	Exit Time:
Name of SPDES Permittee:	Inspection Type: <input type="checkbox"/> NOT <input type="checkbox"/> Complaint <input type="checkbox"/> Compliance <input type="checkbox"/> Referral	MS4 Operator Name:	
Phone Number(s):			
On-site Representative(s) and Company(s):		MS4 Permit ID: NYR20A	

SPDES General Permit for Stormwater Discharges from Construction Activity - GP-0-20-001					
#	Yes	No	N/A	General Permit Requirements	Permit Citation
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Does the project have permit coverage (if required)?	I.E. & II. B.1
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is a copy of the General Permit available on site?	II.C.2.
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is a copy of the MS4 SWPPP Acceptance Form available on site?	II.C.2.
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is a current copy of the signed SWPPP retained at the construction site?	II.C.2.
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is a copy of the NOI & Acknowledgment Letter retained at the construction site?	II.C.2.
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Was written authorization issued for any disturbance greater than 5 acres?	II.C.3.

#	Yes	No	N/A	SWPPP General Requirements	Permit Citation
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is the SWPPP current (accurate Permittee information, reflect current project)?	II.E. & III.A.4
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SWPPP identifies potential sources of pollutants in runoff	III.A.2
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SWPPP identifies Trained Contractor.	III.A.6.
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contractor/Subcontractor certification statements have been signed.	III.A.6.
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	SWPPP is signed by responsible corporate officer, general partner, proprietor, principal executive officer, ranking elected official, or duly authorized representative.	VII.H.2.

#	Yes	No	N/A	Recordkeeping	Permit Citation
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Does Trained Contractor have current certification card?	VII.O.
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are self-inspections performed at permit-required frequency?	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Daily during periods of soil disturbance by Trained Contractor	IV.B.1.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weekly during soil disturbance by Owner/Operator for excepted projects	IV.C.1.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Weekly for soil disturbances <= 5 acres by Qualified Inspector	IV.C.2.a.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Twice weekly for soil disturbances >5acres or if water segment listed in App. C or E	IV.C.2.b.&e.

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Monthly during periods of temporary stabilization by Qualified Inspector	IV.C.2.c
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do the qualified inspector's reports include the minimum reporting requirements?	IV.C.4.
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are the qualified inspector's reports signed and retained onsite?	IV.C.6.
16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do the inspection reports identify deficiencies that are recurring &/or corrective measures that have not been implemented, & include date-stamped color photos?	IV.C.4.

#	Yes	No	N/A	Visual Observations	Permit Citation
17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are all erosion and sediment control measures installed properly?	IV.C.4.g
18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are all erosion and sediment control measures being maintained properly?	IV.C.4.f.
19	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have stabilization measures been implemented in inactive areas per Permit?	I.B.1.b.
20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are post-construction SMPs constructed/installed correctly?	IV.C.4.i.
21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has final site stabilization been achieved and temporary E&SC measures removed prior to NOT submittal?	V.A.2.
22	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Was there a discharge from the site on the day of inspection?	I.B.1.e. & f.
23	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there evidence that a discharge caused or contributed to a violation of water quality standards?	ECL 17-0501, and 6 NYCRR 703.2 and I.B.

Water Quality Observations

Describe the discharge(s): location, source(s), impact on receiving water(s), etc.

Describe the quality of the receiving water(s) both upstream and downstream of the discharge:

Describe any other water quality standards or permit violations:

Additional Comments

Photographs attached

Overall Inspection Rating: Satisfactory Marginal Unsatisfactory


Name/Agency of Inspector:	Name of Lead Inspector:
Names/Agencies of Other Inspectors:	

Bioretention Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance		System Type		Type of Site
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other		<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other		<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				




BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt)</p>	<p><input type="checkbox"/> Seed and mulch areas of bare soil to establish vegetation.</p> <p><input type="checkbox"/> Fill in erosion areas with soil, compact, and seed and straw to establish vegetation.</p> <p><input type="checkbox"/> If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted.</p> <p><input type="checkbox"/> Other:</p>

BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
	<input type="checkbox"/> Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
 <input type="checkbox"/> Piles of grass clippings, mulch, dirt, salt, or other materials	<input type="checkbox"/> Remove or cover piles of grass clippings, mulch, dirt, etc. <input type="checkbox"/> Other:
 <input type="checkbox"/> Open containers of oil, grease, paint, or other substances	<input type="checkbox"/> Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. <input type="checkbox"/> Other:

BR Inlets

Stand in the Bioretention cell itself and look for all the places where water flows in. Often there will be multiple points of inflow to the practice.

Problem (Check if Present)

Follow-Up Actions



Inlets collect grit and debris or grass/weeds. Some water may not be getting into the Bioretention cell. The objective is to have a clear pathway for water to flow into the cell.

- Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots.
- Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in.
- Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets.
- For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Bioretention cell.
- Dispose of all material properly where it will not re-enter the Bioretention cell.
- Other:

Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Bioretention cell.





Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Bioretention cell.

- For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone.
- In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor.
- Other:

Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets, and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.


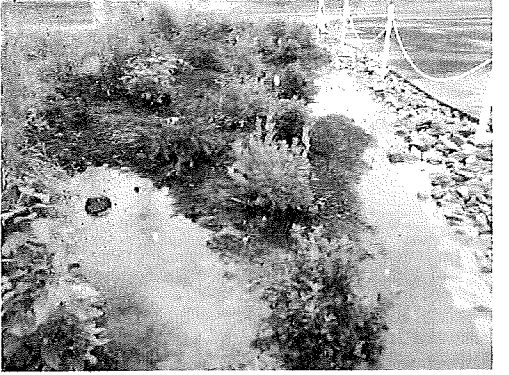
BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Mulch (if used) needs to be replaced or replenished. The mulch layer had decomposed or is less than 1-inch thick.</p>	<p><input type="checkbox"/> Add new mulch to a total depth (including any existing mulch that is left) of 2 to 3 inches. The mulch should be shredded hardwood mulch that is less likely to float away during rainstorms.</p> <p><input type="checkbox"/> Avoid adding too much mulch so that inlets are obstructed or certain areas become higher than the rest of the Bioretention surface.</p> <p><input type="checkbox"/> Other:</p>
 <p><input type="checkbox"/> Minor areas of sediment, grit, trash, or other debris are accumulating on the bottom.</p>	<p><input type="checkbox"/> Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Bioretention cell .</p> <p><input type="checkbox"/> If removing the material creates a hole or low area, fill with soil mix that matches original mix and cover with mulch so that the Bioretention surface area is as flat as possible.</p> <p><input type="checkbox"/> Remove trash, vegetative debris, and other undesirable materials.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the Bioretention surface.</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The Bioretention cell is too densely vegetated to assess sediment accumulation or ponding; see BR-4, Vegetation.</p>

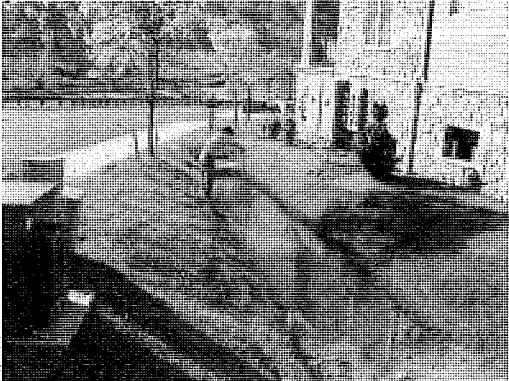
BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows across the Bioretention surface or on the slopes, or sinkholes are forming in certain areas.</p> <p><input type="checkbox"/> Source: Stormwater Maintenance, LLC.</p>	<p><input type="checkbox"/> Try filling the eroded areas with clean topsoil or sand, and cover with mulch.</p> <p><input type="checkbox"/> If the problem recurs, you may have to use stone (e.g., river cobble) to fill in problem areas.</p> <p><input type="checkbox"/> If the erosion is on a side slope, fill with clay that can be compacted and seed and mulch the area.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the Bioretention cell.</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem.</p>
 <p><input type="checkbox"/> The bottom of the Bioretention cell is not flat, and the water pools at one end, along an edge, or in certain pockets. The whole bottom is not uniformly covered with water. See design plan to verify that bioretention surface is intended to be flat. Check during or immediately after a rainstorm.</p>	<p><input type="checkbox"/> If the problem is minor (just small, isolated areas are not covered with water), try raking the surface OR adding mulch to low spots to create a more level surface. You may need to remove and replace plantings in order to properly even off the surface.</p> <p><input type="checkbox"/> Check the surface with a string and bubble level to get the surface as flat as possible.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Ponding water is isolated to less than half of the Bioretention surface area, and there seem to be elevation differences of more than a couple of inches across the surface.</p>


BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Water stands on the surface more than 72 hours after a rainstorm and /or wetland-type vegetation is present. The Bioretention cell does not appear to be draining properly.</p>	<p><input type="checkbox"/> Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.</p>

BR Vegetation

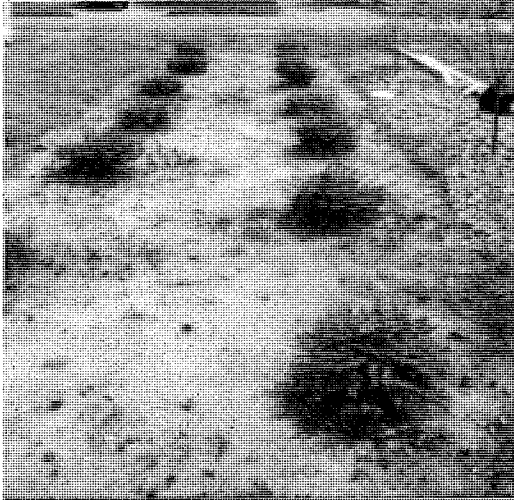
Examine all Bioretention cell vegetation.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Vegetation requires regular maintenance—pulling weeds, removing dead and diseased plants, replacing mulch around plants, adding plants to fill in areas that are not well vegetated, etc.</p>	<p><input type="checkbox"/> If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling.</p> <p><input type="checkbox"/> If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water.</p> <p><input type="checkbox"/> Even vegetation that is intended to be present can become large, overgrown, and/or crowd out surrounding plants. Prune and thin accordingly.</p> <p><input type="checkbox"/> If weeds or invasive plants have overtaken the whole Bioretention cell, bush-hog the entire area before seedheads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above.</p> <p><input type="checkbox"/> Re-plant with species that are aesthetically pleasing and seem to be doing well in the Bioretention cell.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: You are unsure of the original planting design, or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.</p>

BR Vegetation

Examine all Bioretention cell vegetation.

Problem (Check if Present)



Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.

Follow-Up Actions

The original plants are likely not suited for the actual conditions within the Bioretention cell . If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season.

Other:

Kick-Out to Level 2 Inspection: For all but small practices (e.g., rain gardens), this task will likely require a landscape design professional or horticulturalist.

BR Outlets

Examine outlets that release water out of the Bioretention cell.

Problem (Check if Present)

Erosion at outlet

Follow-Up Actions

Add stone to reduce the impact from the water flowing out of the outlet pipe or weir during storms.

Other:

Kick-Out to Level 2 Inspection: Rills have formed and erosion problem becomes more severe.

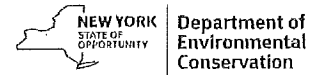


Outlet obstructed with mulch, sediment, debris, trash, etc.

Remove the debris and dispose of it where it cannot re-enter the Bioretention cell .

Other:

Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.



Additional Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____

Bioretention Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other <hr style="width: 100%;"/>	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				



Level 2 Inspection: BIORETENTION
NOTE: Key Source for this Information (CSN, 2013)

Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm	
<p><input type="checkbox"/> Condition 1: Small pockets of standing water</p> <p>Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have bad soil media, try scraping off top 3 inches of media and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas.</p> <p><input type="checkbox"/> Condition 2: Standing water is widespread or covers entire surface</p> <p>Requires diagnosis and resolution of problem:</p> <ul style="list-style-type: none"> • Clogged underdrain? • Filter fabric between soil media and underdrain stone? • Need to install underdrain if not present? • Too much sediment/grit washing in from drainage area? • Too much ponding depth? • Improper soil media? 	<ul style="list-style-type: none"> • Soil media is clogged and problem is not evident from Level 2 inspection. • Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice. <p><input type="checkbox"/> Level 3 inspection necessary</p>
Observed Condition: Vegetation is sparse or out of control	
<p><input type="checkbox"/> Condition 1: Original design planting plan seems good but has not been maintained, so there are many invasives and/or dead plants</p> <p>Will require some horticultural experience to restore vegetation to intended condition by weeding, pruning, removing plants, and adding new plants.</p> <p><input type="checkbox"/> Condition 2: Original design planting plan is unknown or cannot be actualized</p> <p>A landscape architect or horticulturalist will be needed to redo the planting plan. Will likely require analysis of soil pH, moisture, organic content, sun/shade, and other conditions to make sure plants match conditions. Plan should include invasive plant management and maintenance plan to include mulching, watering, disease intervention, periodic thinning/pruning, etc.</p>	<ul style="list-style-type: none"> • Vegetation deviates significantly from original planting plan; Bioretention has been neglected and suffered from deferred maintenance. • Owner/responsible party does not know how to maintain the practice. <p><input type="checkbox"/> Level 3 inspection necessary</p>
Observed Condition: Bioretention does not conform to original design plan in surface area or storage	
<p><input type="checkbox"/> Condition 1: Level 2 Inspection reveals that practice is too small based on design dimension, does not have adequate storage (e.g., ponding depth) based on the plan, and/or does not treat the drainage area runoff as indicated on the plan</p> <p>Small areas of deviation can be corrected by the property owner or responsible party, but it is likely that a Qualified Professional will have to revisit the design and attempt a redesign that meets original objectives or that can be resubmitted to the municipality for approval.</p>	<ul style="list-style-type: none"> • More than a 25% departure from the approved plan in surface area, storage, or drainage area; sometimes less than this threshold at the discretion of the Level 2 inspector. <p><input type="checkbox"/> Level 3 inspection necessary</p>

Level 2 Inspection: BIORETENTION
NOTE: Key Source for this Information (CSN, 2013)

Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Severe erosion of filter bed, inlets, or around outlets	
<p><input type="checkbox"/> Condition 1: Erosion at inlets</p> <p>The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a more non-erosive lining and/or to extend the lining further down to where inlet slopes meet the Bioretention surface. If problem persists, analysis by a Qualified Professional is warranted.</p> <p><input type="checkbox"/> Condition 2: Erosion of Bioretention filter bed</p> <p>This is often caused by "preferential flow paths" through and along the Bioretention surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads).</p> <p><input type="checkbox"/> Condition 3: Erosion on side slopes</p> <p>Again, the issue is likely linked with unanticipated flow paths down the side slopes (probably overland flow that concentrates as it hits the edge of the slope). For small or isolated areas, try filling, compacting, and re-establishing healthy ground cover vegetation. If the problem is more widespread, further analysis is required to determine how to redirect the flow.</p>	<ul style="list-style-type: none"> ◦ Erosion (rills, gullies) is more than 12 inches deep at inlets or the filter bed or more than 3 inches deep on side slopes. ◦ If the issue is not caused by moving water but some sort of subsurface defect. This may manifest as a sinkhole or linear depression and be associated with problems with the underdrain stone or pipe or underlying soil. <p><input type="checkbox"/> Level 3 inspection necessary</p>
Observed Condition: Significant sediment accumulation, indicating an uncontrolled source of sediment	
<p><input type="checkbox"/> Condition 1: Isolated areas of sediment accumulation, generally less than 3-inches deep</p> <p>Sediment source may be from a one-time or isolated event. Remove accumulated sediment and top 2 to 3 inches of Bioretention soil media; replace with clean material. Check drainage area for any ongoing sources of sediment.</p> <p><input type="checkbox"/> Condition 2: Majority of the surface is caked with "hard pan" (thin layer of clogging material) or accumulated sediment that is 3-inches deep or more</p> <p>This can be caused by an improper construction sequence (drainage area not fully stabilized prior to installation of Bioretention soil media) or another chronic source of sediment in the drainage area. Augering several holes down through the media can indicate how severe the problem is; often the damage is confined to the first several inches of soil media. Removing and replacing this top layer (or to the depth where sediment incursion is seen in auger holes) can be adequate, as long as the problem does not recur.</p>	<ul style="list-style-type: none"> ◦ More than 2 inches of accumulated sediment cover 25% or more of the Bioretention surface area. ◦ "Hard pan" of thin, crusty layer covers majority of Bioretention surface area and seems to be impeding flow of water down through the soil media. ◦ New sources of sediment seem to be accumulating with each significant rainfall event. <p><input type="checkbox"/> Level 3 inspection necessary</p>



Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____

Disconnection & Sheetflow Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				

Table 2.4.1 D&S Drainage Area

Visually inspect any surfaces in the drainage area.

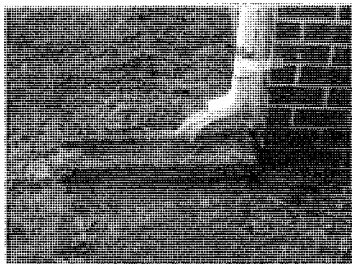
Problem (Check if Present)	Follow-Up Actions
 <div style="margin-left: 100px;"> <input type="checkbox"/> Changes in flow; more runoff; runoff bypassing the practice </div>	<input type="checkbox"/> For rooftop areas, make sure downspouts are still disconnected and conveying water into the treatment area. <input type="checkbox"/> Look for and remove any "dams" of sediment and grass clippings that prevent water from entering the treatment area as sheet flow. <input type="checkbox"/> Other:

Table 2.4.1 D&S Drainage Area

Visually inspect any surfaces in the drainage area.




Problem (Check if Present)	Follow-Up Actions
	<input type="checkbox"/> Kick-Out to Level 2 Inspection: Changes to drainage area size or amount of runoff due to construction, tillage, etc.
 <input type="checkbox"/> For parking lots in the drainage area—sediment, grass clippings, or other debris has accumulated at pavement edge.	<input type="checkbox"/> For small, isolated amounts of debris, sweep up by hand and dispose properly so that it will not be exposed to runoff. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment is widespread and cannot be removed by manual sweeping.
 <input type="checkbox"/> For parking lots in the drainage area—dips or damage at pavement edge caused flow to concentrate.	<input type="checkbox"/> Kick-Out to Level 2 Inspection; This will likely require special expertise to diagnose and fix pavement edge.

Table 2.4.2 D&S Level Spreader/Energy Dissipator

Inspect the energy dissipator closely, during a rain event if possible.


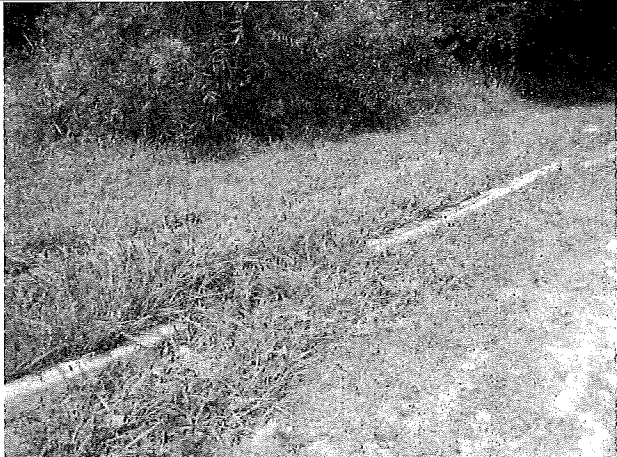
Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Debris and/or sediment accumulated behind or around the level spreader.</p>	<p><input type="checkbox"/> Remove debris and sediment by hand and ensure that the area behind the level spreader is relatively flat. Too much debris and sediment can cause runoff to bypass the level spreader structure.</p> <p><input type="checkbox"/> Other:</p>
 <p><input type="checkbox"/> Sinking, cracking, sloughing, or other structural problem makes the energy dissipator no longer level.</p>	<p><input type="checkbox"/> For stone/gravel spreaders, add new material or rake out as needed to make it even.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Structural issues that cannot be easily fixed by hand</p>

Table 2.4.3 D&S Treatment Area

Examine where flow enters the treatment area as well as the whole flow path. Look for signs of concentrated flow.



Problem (Check if Present)	Follow-Up Actions
<p><input type="checkbox"/> Trash and/or debris in the treatment area</p>	<p><input type="checkbox"/> Collect trash/debris and dispose of properly.</p>
 <p><input type="checkbox"/> Grass filter strip has grown very tall, to the point that runoff cannot easily enter or is getting concentrated.</p>	<p><input type="checkbox"/> Mow filter strip twice a year or more frequently in a residential yard.</p>

Table 2.4.3 D&S Treatment Area

Examine where flow enters the treatment area as well as the whole flow path. Look for signs of concentrated flow.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Sparse vegetation or bare spots	<input type="checkbox"/> For grassy areas, add topsoil (as needed), grass seed, mulch, and water during the growing season to re-establish consistent vegetation cover. <input type="checkbox"/> Other:
 <input type="checkbox"/> Rills or gullies are forming in treatment area where flow has become concentrated	<input type="checkbox"/> For minor rills, fill in with soil, compact, and add seed and straw to establish vegetation. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Rills are more than 2" to 3" deep and require more than just hand raking and re-seeding.

Additional Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

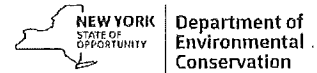
"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____

Disconnection & Sheetflow Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				



Level 2 Inspection – DISCONNECTION AND SHEETFLOW

Recommended Repairs	Triggers for Level 3 Inspection
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Observed Condition: Significant sediment on pavement that drains to disconnection area (e.g., grass strip)

Condition 1: Sediment on parking lot is widespread

Enlist a mechanical sweeper or vacuum sweeper to remove sediment across entire pavement surface. Pay special attention to downhill edges of pavement where more sediment may have accumulated.

- Sediment accumulation is so serious that it cannot be sufficiently removed with mechanical sweeper. May indicate a high sediment load from uphill in the drainage area that needs to be mitigated.

Level 3 inspection necessary

Observed Condition: Pavement edge deteriorating

Condition 1: Dips or damage at pavement edge causing runoff to concentrate

Determine whether the damaged edge is causing significant enough concentration of runoff to warrant repair or regrading of the pavement.

- Edge must be patched or re-paved to make secure and level.
- Parking lot not draining properly to the energy dissipator and treatment area.

Level 3 inspection necessary

Observed Condition: Level spreader/energy dissipator

Condition 1: Level spreader sinking or uneven

If basic equipment can be used, prop up and secure any section of level spreader that is sinking. Regrade soil all around level spreader and add stone as necessary to prevent erosion and bypassing.

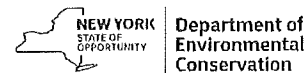
Condition 2: Level spreader is broken

These repairs can be simple for small, residential-scale practices, such as at a downspout. Ensure the level spreader is level across, keyed in to soil at the edges, and made of durable material that can withstand the flow of water running across it.

Larger or more complicated level spreaders (e.g., concrete) will likely require specialized skill and equipment.

- Level spreader requires specialized equipment, regrading, or large amount of material to make level again.
- Level spreader needs to be re-designed and replaced.

Level 3 inspection necessary



Level 2 Inspection – DISCONNECTION AND SHEETFLOW

Recommended Repairs	Triggers for Level 3 Inspection
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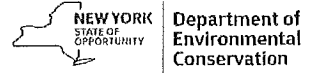
Observed Condition: Erosion in treatment area

<p><input type="checkbox"/> Condition 1: Rills from concentrated flow</p> <p>Inspect energy dissipator to see whether it needs to be improved to better spread out incoming flow. Regrade flow path to ensure that it is relatively flat (if minor). If major re-grading is needed, the treatment area may need to be redesigned and fixed with specialized equipment.</p>	<ul style="list-style-type: none"> • Major rills and gullies • Treatment area needs to be re-designed and major grading needed. <p style="text-align: center;"><input type="checkbox"/> Level 3 inspection necessary</p>
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Notes:

Inspector: _____

Date: _____



Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Green Roof Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				


GR Vegetation and Surface

Visually inspect the surface and vegetation of the practice.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Wilting or nutrient-deprived vegetation; bare areas developing on the roof	<input type="checkbox"/> Water or irrigate. <input type="checkbox"/> Prune or remove dead or dying vegetation. <input type="checkbox"/> Other:

GR Vegetation and Surface

Visually inspect the surface and vegetation of the practice.

Problem (Check if Present)	Follow-Up Actions
	<input type="checkbox"/> Kick-Out to Level 2 Inspection: Greater than 20% plant dieoff or wilting, even after rainy periods. May require new vegetation or indicate a problem with the soil medium. <input type="checkbox"/> Kick-Out to Level 2 Inspection: Yellowing vegetation may indicate a need for fertilizer, but do not fertilize unless explicitly included in the management plan or with a Level 2 Inspection. <input type="checkbox"/> Kick-Out to Level 2 Inspection: Bare areas with no vegetation growing. These may become weed problems in the future.
 <input type="checkbox"/> Weeds or moss	<input type="checkbox"/> Remove weeds by hand. <input type="checkbox"/> Apply lime to kill moss. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Weeds cover more than 25% of the surface, or the original planting plan has been compromised.
<input type="checkbox"/> Ponding between storm events	<input type="checkbox"/> Kick-Out to Level 2 Inspection: Surface ponding more than 24 hours after a storm event presents a hazard and needs to be addressed immediately.

GR Overflows and Drains

Review the specific maintenance plan for this practice to determine where inspection ports are. Remove the cover and inspect the port.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Inspection port for roof drainage (can be clogged with debris)	<input type="checkbox"/> Remove debris by hand or flush through with a hose. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Debris cannot be removed, or it appears that debris has accumulated in the underdrains.
<input type="checkbox"/> Damage to other roof drainage structures (e.g., roof scuppers)	<input type="checkbox"/> Call contractor or individual in charge of regular building maintenance. This is a building maintenance issue. <input type="checkbox"/> Other:



Additional Notes:

Inspector: _____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____



Green Roof Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private	<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)					
	Latitude		Longitude		
Party Responsible for Maintenance	System Type			Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State		
Inspection Date		Inspection Time			
Inspector					
Date of Last Inspection					

Level 2 Inspection: GREEN ROOF

Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
Observed Condition: Unhealthy or Dying Vegetation	
<input type="checkbox"/> Condition 1: Large number of plants dying from wilt If this is a one-time occurrence, review weather and landscaping records to see whether the die off seems reasonable. If so, deeply water immediately, and plant reinforcements in the spring. <input type="checkbox"/> Condition 2: Vegetation is dying and yellowing For yellowing vegetation, consider testing the media for pH, nutrient levels, and other factors that may affect growth. Problems identified would go to a Level 3 inspector (see note to right).	<ul style="list-style-type: none"> ◦ More than 25% die off ◦ Plants are unhealthy for a prolonged period of time or need to be replanted repeatedly, indicating that a new planting plan may be necessary, or the planting medium is not functioning properly. ◦ pH or other media constituents are not conducive to plant growth, and the media needs to be amended (e.g., lime, fertilizer). This should be handled by a green roof vendor or green roof plant specialist. <input type="checkbox"/> Level 3 inspection necessary
Observed Condition: Ponding Between Storm Events or Debris Accumulation	
<input type="checkbox"/> Condition 1: Further inspection shows debris is clogging the outflow drainpipe Remove debris by hand and revisit within 24 hours to see whether this action fixed the problem. <input type="checkbox"/> Condition 2: Debris has backed up to include the underdrain Attempt to remove by hand or flush out with a hose.	<ul style="list-style-type: none"> ◦ Ponding continues even after debris has been removed. This may indicate a problem with either the media or the underdrain system. <input type="checkbox"/> Level 3 inspection necessary
Observed Condition: Structural Damage to Overflows	
<input type="checkbox"/> Condition: If the damage is minor, repair damage directly, per original design drawings.	<ul style="list-style-type: none"> ◦ Most instances of structural damage will need to be referred to the designer or a qualified green roof vendor. <input type="checkbox"/> Level 3 inspection necessary
Observed Condition: Roof is Leaking or indication that the membrane has a leak	
<input type="checkbox"/> Condition: Roof is leaking	<ul style="list-style-type: none"> ◦ Any leaks in the membrane trigger a Level 3 inspection or an inspection by the original installer or designer. <input type="checkbox"/> Level 3 inspection necessary



Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____


Date: _____

Infiltration Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				


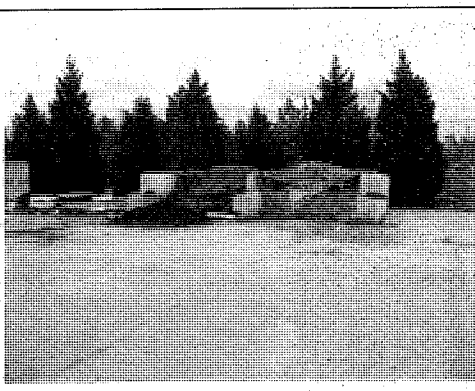

IN Drainage Area

Look for both pervious and impervious areas that are uphill from the Infiltration cell.

Problem (Check if Present)	Follow-Up Actions
 <div style="margin-top: 10px;"> <input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt) </div>	<input type="checkbox"/> Seed and straw areas of bare soil to establish vegetation. <input type="checkbox"/> Fill in erosion areas with soil, compact, and seed and straw to get vegetation established. <input type="checkbox"/> If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. <input type="checkbox"/> Other:

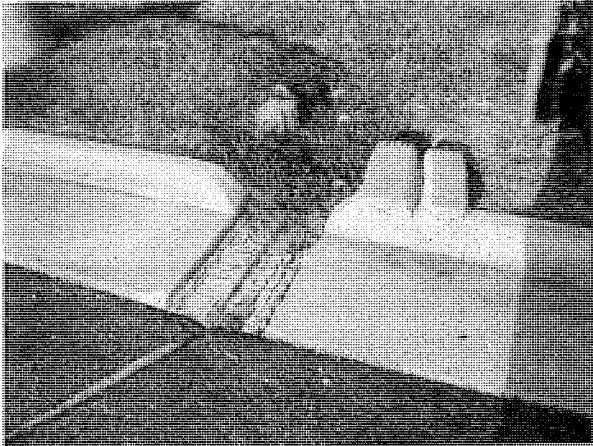
IN Drainage Area

Look for both pervious and impervious areas that are uphill from the Infiltration cell.

Problem (Check if Present)		Follow-Up Actions
		<input type="checkbox"/> Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
<input type="checkbox"/> For Dry Wells: Leaves, sticks, or other debris in gutters and downspouts		<input type="checkbox"/> Remove all debris by hand. <input type="checkbox"/> Other:
	<input type="checkbox"/> Piles of grass clippings, mulch, dirt, salt, or other materials	<input type="checkbox"/> Remove or cover piles of grass clippings, mulch, dirt, etc. <input type="checkbox"/> Other:
	<input type="checkbox"/> Open containers of oil, grease, paint, or other substances	<input type="checkbox"/> Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. <input type="checkbox"/> Other:



IN Inlets

Look for all the places where water flows into the Infiltration practice.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Inlets are collecting grit and debris or grass/weeds are growing. Some water may not be getting into the Infiltration practice.</p>	<p><input type="checkbox"/> Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots.</p> <p><input type="checkbox"/> Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in.</p> <p><input type="checkbox"/> Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets.</p> <p><input type="checkbox"/> For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Infiltration practice.</p> <p><input type="checkbox"/> Dispose of all material properly in an area where it will not re-enter the practice.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Infiltration practice.</p>
<p><input type="checkbox"/> Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Infiltration practice.</p>	<p><input type="checkbox"/> For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone.</p> <p><input type="checkbox"/> In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.</p>

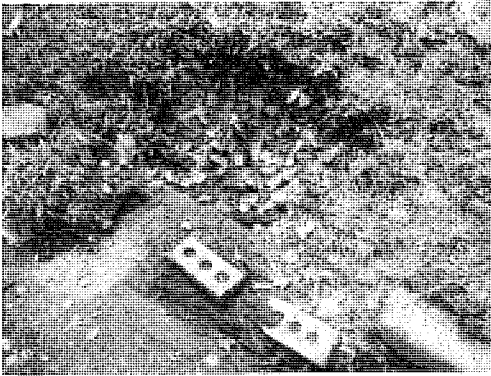
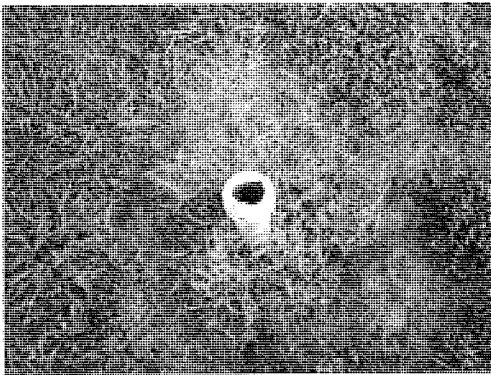
IN Infiltration Area

Examine the surface of the infiltration area and the observation well. Note: The following Problem and Follow-Up Actions apply to infiltration practice pretreatment areas also.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> For grass-covered Infiltration practices: grass has grown very tall, Photo credit: Stormwater Maintenance, LLC</p>	<p><input type="checkbox"/> Mow infiltration area at least twice per year. <input type="checkbox"/> Other:</p>
 <p><input type="checkbox"/> For grass-covered Infiltration practices: sparse vegetation cover or bare spots</p>	<p><input type="checkbox"/> Add topsoil (as needed), grass seed, straw, and water during the growing season to re-establish consistent grass coverage. <input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Sparse vegetation cover can be a sign that the infiltration area is not infiltrating at the proper rate and water is standing too long after a storm. The surface may be saturated or squishy, and the conditions do not enable grass to grow. This situation should be evaluated by a Level 2 Inspection and likely corrected by a qualified contractor.</p>
<p><input type="checkbox"/> Minor areas of sediment, grit, trash, or other debris are accumulating on the surface.</p>	<p><input type="checkbox"/> Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Infiltration practice. <input type="checkbox"/> If removing the material creates a hole or low area, rake the surface smooth and level. <input type="checkbox"/> Remove trash, debris, and other undesirable materials. <input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the surface of the Infiltration area.</p>

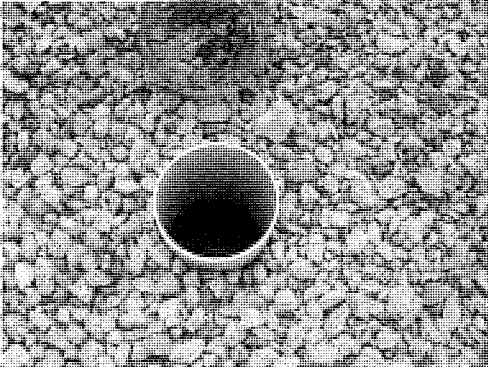
IN Infiltration Area

Examine the surface of the infiltration area and the observation well. Note: The following Problem and Follow-Up Actions apply to infiltration practice pretreatment areas also.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> There is erosion on the surface; water seems to be carving out rills as it flows across the surface of the Infiltration area or sinkholes are forming in certain areas.</p>	<p><input type="checkbox"/> For minor areas of erosion, try filling the eroded areas with clean topsoil, sand, or stone (whatever the existing cover is).</p> <p><input type="checkbox"/> If the problem recurs, you may have to use larger stone (e.g., river cobble) to fill in problem areas.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the infiltration area.</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water but a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem.</p>
 <p><input type="checkbox"/> Observation well is damaged or cap is missing</p>	<p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Requires replacing pipes or caps.</p>


IN Infiltration Area

Examine the surface of the infiltration area and the observation well. Note: The following Problem and Follow-Up Actions apply to infiltration practice pretreatment areas also.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Water still visible in the observation well more than 72 hours after a rain storm. The Infiltration practice does not appear to be draining properly.</p>	<p><input type="checkbox"/> Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.</p>

IN Outlets

Locate and inspect all outlets.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Outlet obstructed with sediment, debris, trash, etc.</p>	<p><input type="checkbox"/> Remove the debris and dispose of it where it cannot re-enter the infiltration area.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Outlet is completely obstructed; there is too much material to remove by hand or with simple hand tools.</p>
<p><input type="checkbox"/> Rills or gullies are forming at outlet.</p>	<p><input type="checkbox"/> For minor rills, fill in with soil, compact, and seed and straw to establish vegetation.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Rills are more than 2" to 3" deep and require more than just hand raking and re-seeding.</p>



Additional Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Infiltration Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other <hr style="width: 100%;"/>	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				



Level 2 Inspection: INFILTRATION

Recommended Repairs

Triggers for Level 3 Inspection

Observed Condition: Water Stands on Surface for More than 72 Hours after Storm

Condition 1: Small pockets of standing water

For infiltration basins with soil, use a soil probe or auger to examine the soil profile. For gravel infiltration trenches or basins, use a shovel to dig into the gravel layer where the problem is occurring. If isolated areas have accumulated grit, fine silt, or vegetative debris or have bad soil or clogged gravel, try removing and replacing with clean material. If the practice is supposed to have grass cover, it will likely be necessary to replant once the problem is resolved.

Condition 2: Standing water is widespread or covers entire surface

Look in the observation well (if it exists) and use a tape measure to estimate the depth of water standing in the soil or gravel. Requires diagnosis and resolution of problem:

- Too much sediment/grit washing in from drainage area?
- Too much ponding depth?
- Improper infiltration media?
- Underlying soil not suitable for infiltration?

As above, the resolution will likely require replanting and re-establishment of good grass cover if this is part of the design.

- Infiltration media is clogged and problem cannot be diagnosed from Level 2 inspection.
- Level 2 inspection identifies problem, but it cannot be resolved easily or it is associated with the original design of the practice.

Level 3 Inspection necessary

Observed Condition: Severe erosion of infiltration bed, inlets, or around outlets

Condition 1: Erosion at inlets

The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a less erosive lining and/or extending the lining further down to where inlet slopes meet the infiltration surface. If problem persists, analysis by a Qualified Professional is warranted.

Condition 2: Erosion of infiltration bed

This is often caused by "preferential flow paths" along the surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads).

- Erosion (rills, gullies) is more than 12 inches deep
- The issue is not caused by moving water but some sort of subsurface defect, which may manifest as a sinkhole or linear depression and be associated with problems with the underlying stone or soil.

Level 3 Inspection necessary



Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____


Date: _____

Permeable Pavement Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type			Type of Site
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				




PP Drainage Area

Look for areas that are uphill from the Permeable pavement.

Problem (Check if Present)		Follow-Up Actions
	<input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt)	<input type="checkbox"/> Seed and straw areas of bare soil to establish vegetation. <input type="checkbox"/> Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. <input type="checkbox"/> If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. <input type="checkbox"/> Other:

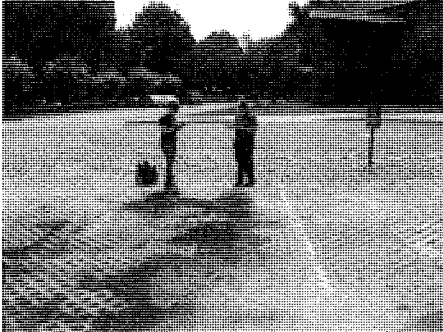

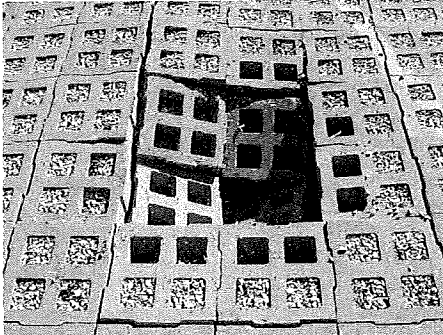
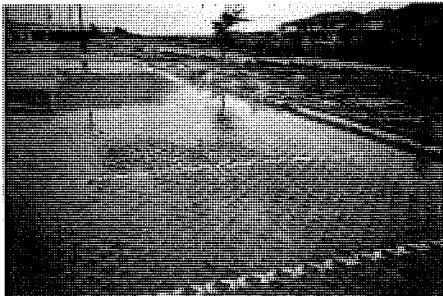
PP Drainage Area

Look for areas that are uphill from the Permeable pavement.

Problem (Check if Present)		Follow-Up Actions
		<input type="checkbox"/> Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
	<input type="checkbox"/> Piles of grass clippings, mulch, dirt, salt, or other materials	<input type="checkbox"/> Remove or cover piles of grass clippings, mulch, dirt, etc. <input type="checkbox"/> Other:
	<input type="checkbox"/> Open containers of oil, grease, paint, or other substances	<input type="checkbox"/> Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. <input type="checkbox"/> Other:

PP Surface

Examine the entire permeable pavement surface.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Dirt and grit accumulating on pavement surface</p>	<p><input type="checkbox"/> For small areas (e.g., driveways, patios), try a leaf blower or sweep the area to remove the dirt/grit from the Permeable pavement and properly dispose of the material.</p> <p><input type="checkbox"/> If dirt/grit remain in the joint areas between paver blocks, agitate with a rough brush and vacuum the surface with a wet/dry vac.</p> <p><input type="checkbox"/> Remove and replace clogged blocks in segmented pavers.</p> <p><input type="checkbox"/> For larger areas (e.g., parking lots, courtyards), hire a vacuum sweeper to restore the surface to a cleaner condition.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Grit is widespread and cannot be removed by manual sweeping.</p>
 <p><input type="checkbox"/> Grass and weeds are growing on the permeable pavement surface (applies only to pavement types that are not intended to be covered in vegetation).</p>	<p><input type="checkbox"/> If paver type is not intended to be covered in vegetation, remove the grass/weeds either mechanically (pulling, by hand or with a flame weeder) or with a herbicide approved for use in or near water (consult your local Extension Office for suggestions).</p> <p><input type="checkbox"/> Follow the actions listed above for removing dirt/grit from the pavement surface.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Grass/weeds cover more than 25% of surface area.</p>
 <p><input type="checkbox"/> Slumping, sinking, cracking, or breaking of the pavement surface <i>(Source: CSN, 2013)</i></p>	<p><input type="checkbox"/> For small areas (e.g., patios, small driveway), it may be possible to remove the damaged pavers, check and fill in the underlying gravel, and replace with new materials.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Problem affects more than a small, isolated area. Will typically require a qualified contractor to fix it.</p> <p><input type="checkbox"/> Problem recurs or occurs in multiple small locations.</p>
 <p><input type="checkbox"/> Water stands on Permeable pavement for days after a rainstorm; the Permeable pavement is clogged and doesn't let water through. <i>(Source: CSN, 2013)</i></p>	<p><input type="checkbox"/> Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.</p>



Additional Notes:

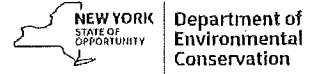
Inspector: _____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____



Permeable Pavement Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				



Level 2 Inspection: PERMEABLE PAVEMENT

Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
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Observed Condition: Bare Soil or Erosion in the Drainage Area

<p><input type="checkbox"/> Condition 1: Extensive problem spots, but no channels or rills forming</p> <p>Reseed problem areas. If problem persists or grass does not take, consider hiring a landscape contractor.</p> <p><input type="checkbox"/> Condition 2: Problem is extensive, and rills/channels are beginning to form</p> <p>May be necessary to divert or redirect water that is causing the erosion problem. If it appears that simple regrading—such as installing a berm or leveling a low spot—will fix the problem, make repairs and check to ensure that the problem is repaired after the next storm.</p>	<ul style="list-style-type: none"> • Large rills or gullies are forming in the drainage area. • An attempt to regrade the drainage area has been unsuccessful • Fixing the problem would require major regrading (i.e., redirecting more than a 100-square-foot area. • It is not clear why the problem is occurring. <p><input type="checkbox"/> Level 3 inspection necessary</p>
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Observed Condition: Dirt or Grit Accumulating, or Grass Growing on Pavement Surface

<p><input type="checkbox"/> Condition 1: Grit beginning to form but is isolated to a small area or does not fill the joints between paver blocks</p> <p>Try to agitate and sweep by hand, or hire a contractor with a vacuum sweeper. Also investigate the drainage area for potential sediment sources. If no obvious sources are found, discuss winter sanding and salting operations with the property owner to identify whether this could be the source.</p> <p><input type="checkbox"/> Condition 2: Grit is forming and cannot be removed with agitation and hand sweeping</p> <p>Hire a vendor with a regenerative air vacuum sweeper, maximum power 2,500 rpm; avoid sweepers that use water.</p>	<ul style="list-style-type: none"> • More than 2 inches of sand/dirt/grit are on some of the pavement surface. • More than 25% of the pavement surface is covered with sand/dirt/grit to the extent that joints between paver blocks are filled. • Regenerative air sweeper cannot remove grit. <p><input type="checkbox"/> Level 3 inspection necessary</p>
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Level 2 Inspection: PERMEABLE PAVEMENT

Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
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Observed Condition: Structural Damage	
<p><input type="checkbox"/> Condition 1: Portions of porous asphalt or permeable pavers are damaged, and the cause is known to be at the surface.</p> <p>If the damage is from a single event such as heavy equipment or heavy fallen objects, or the surface has been damaged by wear over time, hire a contractor experienced in permeable pavement installation to repair the damaged areas.</p> <p><input type="checkbox"/> Condition 2: Damage to other structures, such as drainage infrastructure</p> <p>If possible, repair or replace damaged items, or hire a contractor with permeable pavement experience if the damaged infrastructure is within the pavement surface.</p>	<ul style="list-style-type: none"> • More than 25% of the surface needs to be repaired or replaced. • It appears that the underlying material has "caved in," indicating an underlying water conveyance or soil stabilization issue. • Problem is repaired but recurs within less than five years. <p><input type="checkbox"/> Level 3 inspection necessary</p>

Observed Condition: Ponding on the Pavement Surface	
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<p><input type="checkbox"/> Condition 1: Underdrains (if present) may be clogged</p> <p>Check to see whether underdrains are clogged by inspecting cleanouts (if present) or catch basins and looking for debris. If underdrains appear clogged, it may be necessary to hire a router service to ream out the underdrains.</p> <p><input type="checkbox"/> Condition 2: At time of Level 2 inspection, water is not ponded, and there is no obvious clogging of the surface.</p> <p>Conduct a flood test to determine whether the ponding is an ongoing problem.</p>	<ul style="list-style-type: none"> • Water stands on the pavement surface more than 72 hours after a storm, and the problem cannot be resolved by unclogging underdrains. • More than 25% of the pavement surface is covered with sand/dirt/grit to the extent that joints between paver blocks are filled. <p><input type="checkbox"/> Level 3 inspection necessary</p>
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Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



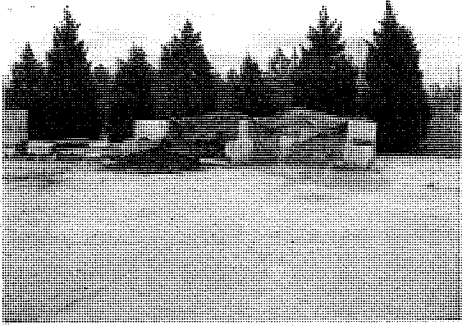

Pond and Wetland Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				

PW Drainage Area


Look for areas that are uphill from the pond.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt)	<input type="checkbox"/> Seed and straw areas of bare soil to establish vegetation. <input type="checkbox"/> Fill in eroded areas with soil, compact, seed and mulch with straw to establish vegetation. <input type="checkbox"/> Other:

<input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt)	<input type="checkbox"/> Kick-Out to Level 2 Inspection: If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. <input type="checkbox"/> If large areas of soil have been eroded or larger channels are forming, this may require rerouting of flow paths or use of an erosion-control seed mat or blanket to reestablish acceptable ground cover or anchor sod where it is practical.
 <input type="checkbox"/> Piles of grass clippings, mulch, dirt, salt, or other materials	<input type="checkbox"/> Remove or cover piles of grass clippings, mulch, dirt, etc. <input type="checkbox"/> Remove excessive vegetation or woody debris that can block drainage systems. <input type="checkbox"/> Other:
 <input type="checkbox"/> Open containers of oil, grease, paint, or other substances exposed to rain in the drainage area.	<input type="checkbox"/> Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. <input type="checkbox"/> Other:



Pond Inlets

Look for all areas where water flows into the pond during storms. Note that there may be multiple points of inflow and types of structures (e.g., pipes, open ditches, etc.).

Problem (Check if Present)	Follow-Up Actions
 <input type="checkbox"/> Inlets are buried, covered or filled with silt, debris, or trash, or blocked by excessive vegetation.	<input type="checkbox"/> If the problem can be remedied with hand tools and done in a safe manner, remove vegetation, trash, woody debris, etc. from blocking inlet structures. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 or 3 Inspection: If the amount of material is too large to handle OR there are ANY safety concerns about working in standing water, soft sediment, etc., the work will likely have to be performed by a qualified contractor.


Pond Inlets

Look for all areas where water flows into the pond during storms. Note that there may be multiple points of inflow and types of structures (e.g., pipes, open ditches, etc.).

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Inlets are buried, covered or filled with silt, debris, or trash, or blocked by excessive vegetation.</p>	<p><input type="checkbox"/> Kick-Out to Level 2 or 3 Inspection: If the amount of material is too large to handle OR there are ANY safety concerns about working in standing water, soft sediment, etc., the work will likely have to be performed by a qualified contractor.</p>
 <p><input type="checkbox"/> Inlets are broken, and, with pieces of pipe or concrete falling into the pond, there is erosion around the inlet, there is open space under the pipe, or there is erosion where the inlet meets the pond</p>	<p><input type="checkbox"/> Kick-Out to Level 2 Inspection: These types of structural or erosion problems are more serious and will require a qualified contractor to repair.</p>




PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> The pretreatment area(s) or forebay(s) are filled with sediment, trash, vegetation, or other debris.</p>	<p><input type="checkbox"/> If the problem can be remedied with hand tools and done in a safe manner, use a flat shovel or other equipment to remove small amounts of sediment.</p> <p><input type="checkbox"/> Remove trash and excessive vegetation from forebays if this can be done in a safe manner.</p> <p><input type="checkbox"/> Other:</p>

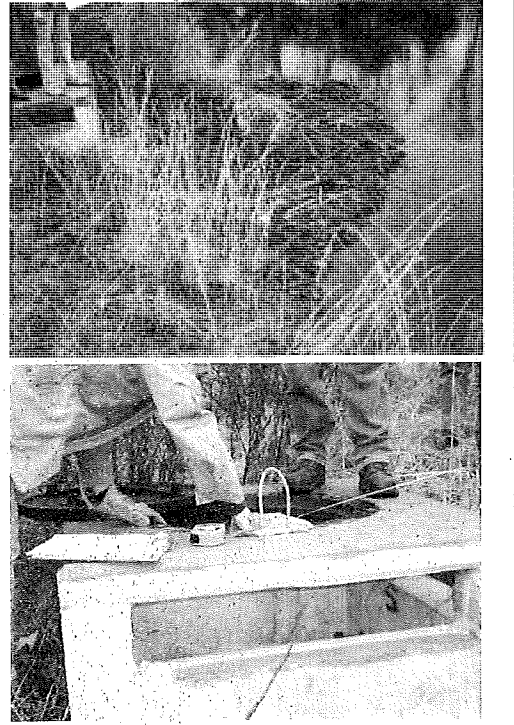

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	<input type="checkbox"/> The pretreatment area(s) or forebay(s) are filled with sediment, trash, vegetation, or other debris.	<input type="checkbox"/> Kick-Out to Level 2 Inspection: Large amounts of sediment or debris will have to be removed by a qualified contractor. ANY condition that poses a safety concern for working in standing water or soft sediments should be referred to a Level 2 Inspection or qualified contractor.
	<input type="checkbox"/> The pond area itself has accumulated sediment, trash, debris, or excessive vegetation that is choking the flow of the water, OR the pond area is covered with algae or aquatic plants.	<input type="checkbox"/> Level 1 includes handling only small amounts of material that can be removed by hand, or with rakes or other hand tools. Do not attempt any repair that poses a safety issue. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Most cases will call for a Level 2 Inspection and/or a qualified contractor. <input type="checkbox"/> You are not sure what type and amount of vegetation is supposed to be in the pond. <input type="checkbox"/> The algae or aquatic plants should be identified so that proper control techniques can be applied.
	<input type="checkbox"/> The side slopes of the pond are unstable, eroding, and have areas of bare dirt.	<input type="checkbox"/> If there are only minor areas, try filling in small rills or gullies with topsoil, compacting, and seeding and mulching all bare dirt areas with an appropriate seed. Alternatively, try using herbaceous plugs to get vegetation established in tricky areas, such as steep slopes. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Erosion and many bare dirt areas on steep side slopes will require a Level 2 Inspection and repair by a qualified contractor.

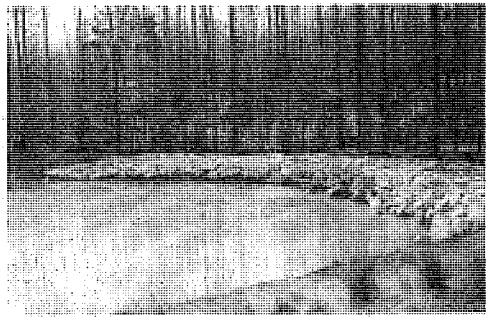
PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	<p><input type="checkbox"/> The riser structure is clogged with trash, debris, sediment, vegetation, etc., OR is open, unlocked, or has a steep drop and poses a safety concern. The pond level may have dropped below its "normal" level.</p>	<p><input type="checkbox"/> If you can safely access the riser on foot or with a small boat, clear minor amounts of debris and remove it from the pond area for safe disposal.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The riser cannot be accessed safely, the amount of debris is substantial, or the riser seems to be completely clogged and the water level has risen too high.</p> <p><input type="checkbox"/> There are safety issues with the riser and concern about access to pipes, drops, or any other life safety concern.</p> <p><input type="checkbox"/> The riser is leaning, broken, settling or slumping, corroded, eroded or any other structural problem.</p>
	<p><input type="checkbox"/> The dam/embankment is slumping, sinking, settling, eroding, or has medium or large trees growing on it.</p>	<p><input type="checkbox"/> If there are small isolated areas, try to fix them by adding clean material (clay and topsoil) and seeding and mulching.</p> <p><input type="checkbox"/> Periodically mow embankments to enable inspection of the banks and to minimize establishment of woody vegetation.</p> <p><input type="checkbox"/> Remove any woody vegetation that has already established on embankments.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Most of these situations will require a Level 2 Inspection or evaluation and repair by a qualified contractor. Seepage through the dam or problems with the pipe through the dam can be a serious issue that should be addressed to avoid possible dam failure.</p>

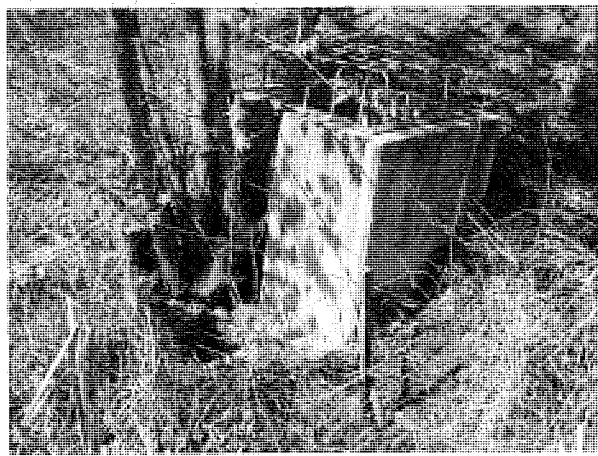
PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	<input type="checkbox"/> The emergency spillway or outfall (if it exists) has <input type="checkbox"/> Erosion, settlement, or loss of material. Rock-lined spillways have excessive debris or vegetation.	<input type="checkbox"/> Clear light debris and vegetation. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Displacement of rock lining, excessive vegetation and erosion/settlement may warrant review and decision by Level 2 Inspector to check against original plan. <input type="checkbox"/> Any uncertainty about the integrity of the emergency spillway should be referred to a Level 2 Inspector. <input type="checkbox"/> Erosion or settlement such that design has been compromised should be reviewed by an engineer.

PW Pond Outlet

Examine the outlet of the pipe on the downstream side of the dam/embankment where it empties into a stream, channel, or drainage system.

Problem (Check if Present)	Follow-Up Actions
 <input type="checkbox"/> The pond outlet is clogged with sediment, trash, debris, vegetation, or is eroding, caving in, slumping, or falling apart.	<input type="checkbox"/> If there is a minor blockage, remove the debris or vegetation to allow free flow of water. <input type="checkbox"/> Remove any accumulated trash at the outlet. <input type="checkbox"/> Outlet: <input type="checkbox"/> Kick-Out to Level 2 Inspection: <input type="checkbox"/> If the area at the outlet cannot be easily accessed or if the blockage is substantial, a Level 2 Inspection is warranted. <input type="checkbox"/> Erosion at and downstream of the outfall should be evaluated by a qualified professional. <input type="checkbox"/> Any structural problems, such as broken pipes, structures falling into the stream, or holes or tunnels around the outfall pipe, should be evaluated by a Level 2 Inspector and will require repair by a qualified contractor. <input type="checkbox"/> The pool of water at the outlet pipe is discolored, has an odor, or has excessive algae or vegetative growth.



Additional Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Pond and Wetland Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				



Level 2 Inspection: PONDS and WETLANDS

Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
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Observed Condition: Bare Soil or Erosion in the Drainage Area

<p><input type="checkbox"/> Condition 1: Extensive problem spots, but no channels or rills forming</p> <p>Reseed problem areas. If problem persists or grass does not take, consider hiring a landscape contractor.</p> <p><input type="checkbox"/> Condition 2: Problem is extensive, and rills/channels are beginning to form</p> <p>May be necessary to divert or redirect water that is causing the erosion problem. If it appears that simple regrading—such as installing a berm or leveling a low spot—will fix the problem, make repairs and ensure that the problem is repaired after the next storm.</p>	<ul style="list-style-type: none"> • Large rills or gullies are forming in the drainage area. • An attempt to regrade the drainage area has been unsuccessful. • Fixing the problem would require major regrading (i.e., redirecting more than a 100-square-foot area). • It is not clear why the problem is occurring. <p><input type="checkbox"/> Level 3 inspection necessary</p>
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Observed Condition: Manholes or Inlet Pipe Buried or Covered with Vegetation

<p><input type="checkbox"/> Condition 1: Nearest manhole and inlet pipe not found</p> <p>Consult as-built drawings to get to closest suspected location and use metal detector to search for metal manhole cover. If unsuccessful, identify nearest drain inlets and approximate pipe direction to locate next manhole.</p> <p><input type="checkbox"/> Condition 2: Manhole located and inspected</p> <p>Never enter a manhole, except by following confined-space entry protocols.</p> <p>If outlet pipe is not visible or greater than 25% full of sediment/debris or trash, it will typically require a qualified contractor to flush, clean and clear blockages.</p> <p><input type="checkbox"/> Condition 3: Inlet pipe not found at pond</p> <p>Clear vegetation and brush that may be covering the inlet pipe. Buried inlet pipes may be found through use of a metal probe.</p> <p><input type="checkbox"/> Condition 4: Inlet pipe buried in sediment or blocked by vegetation</p> <p>Once located, the pipe path can be cleared of vegetation with brush hook or other brush tools. Light digging may clear sediment from the end of the pipe.</p>	<ul style="list-style-type: none"> • To locate buried manholes and lost storm lines, it is sometimes necessary to hire a pipeline inspection contractor with televising equipment or ground-penetrating radar and enter at the closest upstream access point. • Locating a buried inlet pipe may require wading in the edge of the pond and using a metal probe and brush axe to find and expose the pipe. • If other than light digging is necessary to remove accumulated sediment, a contractor with heavy equipment may be required. <p><input type="checkbox"/> Level 3 inspection necessary</p>
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Level 2 Inspection: PONDS and WETLANDS

Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
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Observed Condition: Pipe or Headwall Settlement, Erosion, Corrosion or Failure

<p><input type="checkbox"/> Condition 1: Pipe or headwall settlement or failure</p> <p>Severe sinkholes, settlement or corrosion should be kicked out to Level 3 Inspection.</p> <p><input type="checkbox"/> Condition 2: Flow not confined to pipe and visible outside pipe wall</p> <p>With flashlight, observe the inside of the pipe and note its condition. Take photographs. Look for sinkholes developing that indicate pipe failure beneath the surface. Kick out to Level 3 inspection.</p>	<ul style="list-style-type: none"> • Where blockages are visible, a decision is needed on whether to clear them or leave in place. If a third of the pipe is full of sediment, it should be removed by a contractor with pipe-cleaning equipment. • Corrosion of inlet pipes that allows flow around the pipe exterior is a structural concern because it can lead to settlement, sinkholes and undermining pond embankment. Evidence of this type of failure may require specialized pipe-inspection equipment and investigation by an engineer. <p><input type="checkbox"/> Level 3 inspection necessary</p>
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Observed Condition: Pond Conditions

<p><input type="checkbox"/> Condition 1: Pond pre-treatment zone is full of sediment or not constructed as shown on as-built drawings.</p> <p><input type="checkbox"/> Condition 2: Excessive buildup of sediment or overgrowth</p> <p>If the pre-treatment area or pond pool is overgrown or filled with sediment so that the original design is compromised, corrective measures are required. If plants have died, then replanting is necessary. If none of the original design exists due to alteration or sediment, kick out to Level 3 inspection.</p>	<ul style="list-style-type: none"> • It may require inspection by an engineer to determine next steps for clearing, replanting or reconstruction. • Erosion or settlement such that design has been compromised should be reviewed by an engineer. Recurring erosion may require redesign and/or regrading to direct flow away from eroding area. • If sediment has filled more than 50% of the pond's capacity, dredging is likely needed and should be evaluated by a qualified contractor. • Removal or control of excessive algae or aquatic plants can be assessed by a qualified pond maintenance company. <p><input type="checkbox"/> Level 3 inspection necessary</p>
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Notes:

Inspector: _____

Date: _____

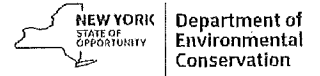
Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Rainwater Harvesting Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				

RWH Conveyance System and Filter

Inspect any gutters, downspouts, drainage pipes, and filters connected to the Rainwater Harvesting System.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Leaves, sticks, or other debris in gutters and downspouts	<input type="checkbox"/> Remove all debris by hand. <input type="checkbox"/> Other:
<input type="checkbox"/> Leaves, sticks, or other debris in filter(s)	<input type="checkbox"/> Clean out all debris and organic matter buildup by hand or by spraying with a hose. <input type="checkbox"/> Other:



RWH Conveyance System and Filter

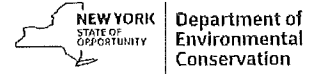
Inspect any gutters, downspouts, drainage pipes, and filters connected to the Rainwater Harvesting System.

Problem (Check if Present)	Follow-Up Actions
	<input type="checkbox"/> Kick-Out to Level 2 Inspection: Filter (first-flush diverter or vortex filter outside the tank) does not seem to be operating, is completely clogged, or does not appear to be trapping any debris.
<input type="checkbox"/> Loose or disconnected junctions between gutters, pipes, or filters	<input type="checkbox"/> Secure any loose junctions or parts and make sure they are properly sealed to prevent leaks, <input type="checkbox"/> Other:

RWH Storage Tank

Inspect for any leaks or blockages when tank is full. Drain tank to visually inspect interior without breaking the plane of the opening with any part of the body. This is a confined space that should only be entered by those with special training.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Tank is above ground and not freeze proof.	Winterize the tank by performing the following steps: <input type="checkbox"/> Drain down water level in the tank before winter to avoid damage from freezing temperatures. <input type="checkbox"/> Drain water from pipes and pumps. <input type="checkbox"/> Disconnect conveyance pipes from the tank to enable roof runoff to bypass the tank during winter.
<input type="checkbox"/> Mosquito larvae or other insects present in the water	<input type="checkbox"/> Add mosquito dunks to water. <input type="checkbox"/> Ensure that insect screens are installed on all openings and are properly sealed (inlet and outlets). <input type="checkbox"/> Other:
<input type="checkbox"/> Debris, algae, or organic matter accumulated in tank	<input type="checkbox"/> Remove as much as possible, by hand. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: For large tanks that cannot easily be accessed for inspection and/or cleaning, defer to Level 2 Inspection.
<input type="checkbox"/> Tank does not appear to fill fully even during large rains, or water level drops quickly after filling.	<input type="checkbox"/> Kick-Out to Level 2 Inspection: Water is bypassing the tank and/or there are leaks in the tank wall. This will likely require special expertise to diagnose and fix.
<input type="checkbox"/> Problems with pumps, filters, or other mechanical components	<input type="checkbox"/> Kick-Out to Level 2 Inspection: This will likely require special expertise to diagnose and fix.



RWH Outlets

Examine the outlet pipe(s) and the point at which it overflows onto the ground.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Slow flow from outlet caused by faulty or clogged valve	<input type="checkbox"/> If clogging seems to be the problem, ream out sediment from valve if this can be done from exterior. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Valve needs to be replaced or cannot be cleaned out from outside of tank.
<input type="checkbox"/> Flow from outlet is backing up toward building foundation.	<input type="checkbox"/> Add flexible pipe to end of outlet pipe to divert flow further away and downhill from building.
<input type="checkbox"/> Erosion or drainage issues at outlet	<input type="checkbox"/> Add a gravel and/or stone pad to reduce the impact from the water flowing out of the outlet pipe during storms. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Rills have formed, erosion or drainage problems are more severe or cannot be resolved, or there is discoloration or other unusual conditions around the outlet.

Additional Notes:



Inspector: _____

Date: _____

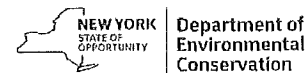
Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____

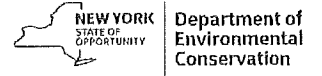


Rainwater Harvesting Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				



Level 2 Inspection – RAINWATER HARVESTING	
Recommended Repairs	Triggers for Level 3 Inspection
<p>Observed Condition: Tank is not filling properly or water level drops quickly</p>	
<p><input type="checkbox"/> Condition 1: Tank is not filling properly</p> <p>Look for signs of water bypassing the tank. Inspect the conveyance system and filters to make sure that all parts are properly connected and not leaking. Observe the system during a rainstorm to make sure that water is not backing up and spilling out of the gutters or getting excessively diverted by the filter. Adjust angles and placement of filter as needed.</p> <p><input type="checkbox"/> Condition 2: Water level drops quickly after filling</p> <p>Requires diagnosis and resolution of problem:</p> <ul style="list-style-type: none"> • Leaking valve or spigot? • Crack in tank wall? • Pump turning on unnecessarily? 	<ul style="list-style-type: none"> • Gutters, pipes, and/or filter appear to be undersized or not properly designed. • Structural or mechanical problem requires special expertise in rainwater harvesting systems. <p><input type="checkbox"/> Level 3 Inspection necessary</p>
<p>Observed Condition: Tank is sinking, leaning, or at risk of collapse</p>	
<p><input type="checkbox"/> Condition 1: Foundation is not stable</p> <p>This repair may need specialized equipment and skill, depending on the size and type of tank. For smaller tanks (like rain barrels), drain and disconnect the tank to move it aside. Compact the underlying soil and create a solid, level base for the tank with concrete blocks or gravel. Seek professional help for larger tanks.</p> <p><input type="checkbox"/> Condition 2: Other structural problem</p> <p>Seek professional help.</p>	<ul style="list-style-type: none"> • Tanks cannot be easily adjusted or fixed by hand. <p><input type="checkbox"/> Level 3 Inspection necessary</p>
<p>Observed Condition: Severe erosion at outlet</p>	
<p><input type="checkbox"/> Condition 1: Erosion gets worse even after re-seeding or adding stone</p> <p>There are several potential solutions to this continued erosion. Add geotextile fabric below the stone to protect the soil. Dig out a pit at the outfall and fill with gravel or stone to absorb the velocity of the water spilling out the tank. If the outlet flows onto a steep slope, consider extending the pipe length to a flatter area. Some of these actions may require help from a contractor.</p>	<ul style="list-style-type: none"> • Erosion control cannot easily be installed by hand. • Erosion recurs after previous repairs. • Downstream drainage concerns <p><input type="checkbox"/> Level 3 Inspection necessary</p>



Notes:

Inspector: _____

Date: _____

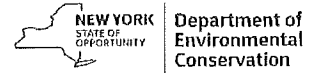
Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Sand and Organic Filter Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				




SF Drainage Area

Look for both pervious and impervious areas that are uphill from the filter.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt; reference below)	<input type="checkbox"/> Seed and straw areas of bare soil to get vegetation established. <input type="checkbox"/> Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. <input type="checkbox"/> If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. <input type="checkbox"/> Other:

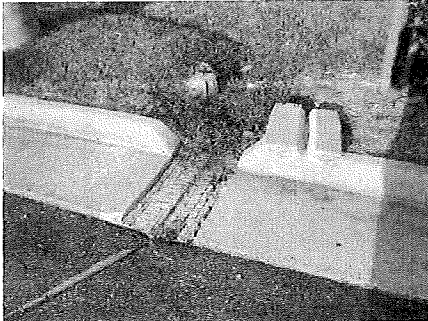


SF Drainage Area

Look for both pervious and impervious areas that are uphill from the filter.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt)</p>	<p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.</p>
 <p><input type="checkbox"/> Piles of grass clippings, mulch, dirt, salt, or other materials</p>	<p><input type="checkbox"/> Remove or cover piles of grass clippings, mulch, dirt, etc.</p> <p><input type="checkbox"/> Other:</p>
 <p><input type="checkbox"/> Open containers of oil, grease, paint, or other substances</p>	<p><input type="checkbox"/> Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous.</p> <p><input type="checkbox"/> Other:</p>


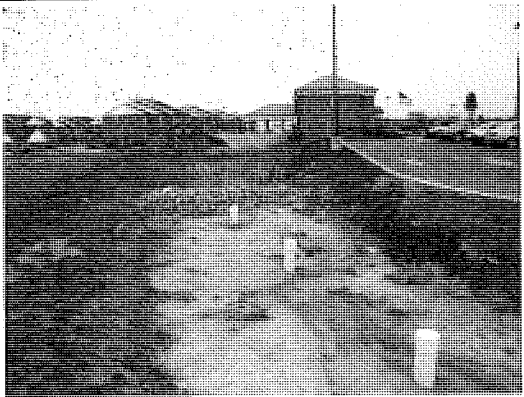
SF Inlets

Look for all the places where water flows into the filter practice.

Problem (Check if Present)		Follow-Up Actions
	<input type="checkbox"/> Inlets are collecting grit and debris or grass/weeds growing. Some water may not be getting into the filter practice.	<input type="checkbox"/> Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that accumulates at these spots. <input type="checkbox"/> Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. <input type="checkbox"/> Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. <input type="checkbox"/> For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Filter practice. <input type="checkbox"/> Dispose of all material properly in an area where it will not re-enter the practice. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the filter practice.
	<input type="checkbox"/> Some or all of the inlets are eroding so that rills, gullies, and other erosion are present, or there is dirt washing into the filter practice.	<input type="checkbox"/> For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. <input type="checkbox"/> In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. <input type="checkbox"/> Other: <input type="checkbox"/> Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets and it looks like there is too much water concentrating at these points. The inlet design may have to be modified.
	<input type="checkbox"/> For an underground filter, water is ponding and doesn't seem to be getting through the filter.	<input type="checkbox"/> Kick-Out to Level 2 Inspection: This is generally a more serious problem and should be referred for a Level 2 Inspection because it will require opening up the filter vault to check for clogging.

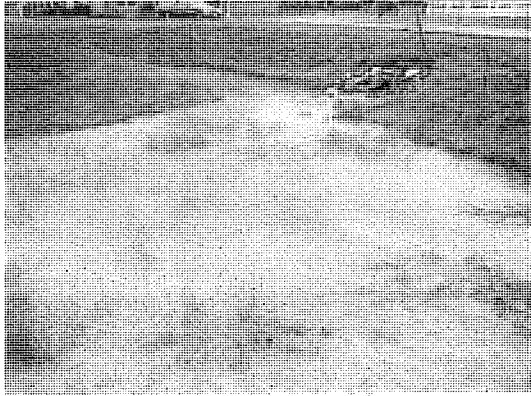
SF Filter Area (for Surface Sand Filters)

Examine the surface of the filter and the observation well, if present.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Filter has grass and vegetation growing on more than 25% of the filter bed, threatening to clog the filter.</p>	<p><input type="checkbox"/> Vegetation growing in the filter bed should be removed either manually or with a water-safe herbicide (e.g., glyphosate without surfactants).</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The filter seems clogged, or vegetation and weeds have proliferated past the point where the Level 1 person can manage it.</p>
<p><input type="checkbox"/> Minor amounts of sediment, grit, trash, or other debris are accumulating on the surface.</p>	<p><input type="checkbox"/> Use a shovel to scoop out minor amounts of sediment or grit, especially in the spring after winter sanding materials wash in and accumulate. Dispose of the material where it cannot re-enter the filter.</p> <p><input type="checkbox"/> If removing the material creates a hole or low area, rake the surface smooth and level.</p> <p><input type="checkbox"/> Remove trash, debris, and other undesirable materials.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment (other than sand) has accumulated more than 2-inches deep and covers 25% or more of the surface of the filter area.</p>
 <p><input type="checkbox"/> There is erosion on the surface; water seems to be carving out rills as it flows across the filter surface, or sinkholes are forming in certain areas.</p>	<p><input type="checkbox"/> For minor areas of erosion, try filling the eroded areas with clean, coarse construction sand.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the filter area.</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water but by a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem.</p>

SF Filter Area (for Surface Sand Filters)

Examine the surface of the filter and the observation well, if present.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Water is still visible on the surface and/or the standpipe (if present) more than 72 hours after a rainstorm. The filter practice drains very slowly or is completely clogged.</p>	<p><input type="checkbox"/> Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.</p>

Additional Notes:



Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Sand and Organic Filter Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				

Table 3.12.1 Level 2 Inspection: SAND AND ORGANIC FILTERS

Recommended Repairs

Triggers for Level 3 Inspection

Observed Condition: Water Stands on Surface for More than 72 Hours after Storm

Condition 1: Small pockets of standing water

Use a soil probe or auger to examine the sand or filter profile. If isolated areas have accumulated grit, fine silt, vegetative debris, oily sludge or bad sand media, try scraping off top 3 inches of media and replacing with clean, coarse construction sand.

Condition 2: Standing water is widespread or covers entire surface

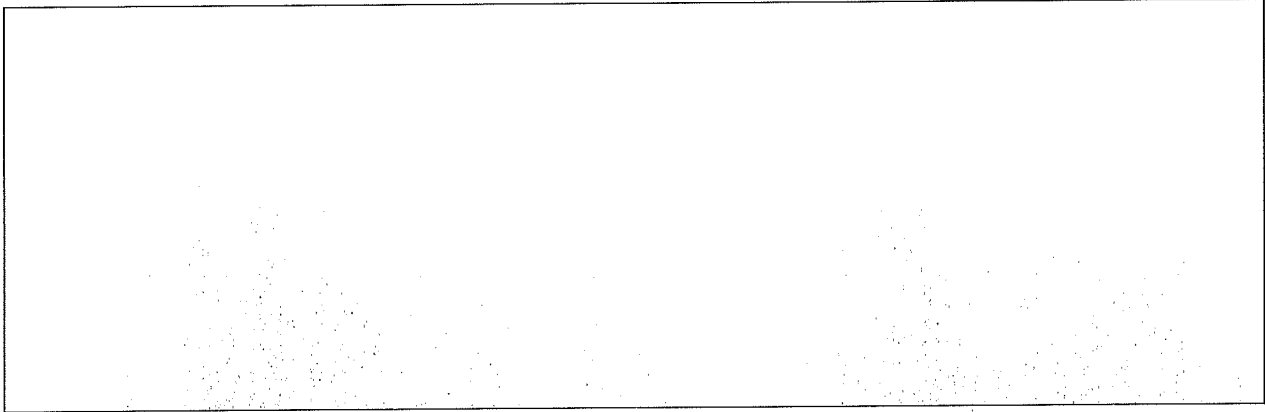
Look in the underdrain cleanout (if present) and use a tape measure to estimate the depth of water standing in the sand layer. Requires diagnosis and resolution of problem:

- Clogged underdrain
- Filter fabric between the sand layer and underdrain gravel OR on top of the sand filter layer (usually held in place by a thin layer of gravel)
- Too much sediment/grit/vegetative debris/oily sludge washing in from drainage area
- Too much ponding depth
- Improper sand media

- Sand or organic media is clogged, but problem was not evident from Level 2 inspection.
- Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice.
- The problem seems to be filter fabric placement, but this is specified in the original design.
- The entire filter media layer or filter cartridges need to be replaced.
- The problem is associated with improper configuration of underdrain pipes or outlet structures.

Level 3 Inspection necessary

Notes:



Inspector: _____

Date: _____

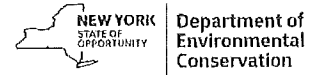
Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____


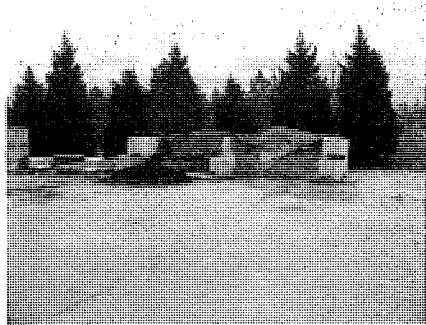



Swale Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				


SW Drainage Area

Look at areas that are uphill from the swale.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Bare soil, erosion of the ground (rills washing out the dirt)</p>	<p><input type="checkbox"/> Seed and mulch or sod areas of bare soil to establish vegetation.</p> <p><input type="checkbox"/> Fill in erosion areas with soil, compact, and add seed and straw to establish vegetation.</p> <p><input type="checkbox"/> If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths</p>
 <p><input type="checkbox"/> Piles of grass clippings, mulch, dirt, salt, or other materials</p>	<p><input type="checkbox"/> Remove or cover piles of grass clippings, mulch, dirt, etc.</p> <p><input type="checkbox"/> Other:</p>
 <p><input type="checkbox"/> Open containers of oil, grease, paint, or other substances</p>	<p><input type="checkbox"/> Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous.</p>
<p><input type="checkbox"/> Grass dying at edge of road</p>	<p><input type="checkbox"/> Seed and mulch; add topsoil or compost if needed.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Grass on edge of pavement continues to die off for unknown reasons. Swale edge may need to be replaced with other materials (e.g., stone diaphragm).</p>


SW Inlets

Stand in the swale and look for all the places where water flows in.

Problem (Check if Present)	Follow-Up Actions
<p><input type="checkbox"/> Inlets or the swale edge are collecting grit, grass clippings, or debris or have grass/weeds growing. Some water may not be getting into the swale. The objective is to have a clear pathway for water to flow into the swale.</p>	<p><input type="checkbox"/> Use a flat shovel to remove grit and debris (especially at curb inlets or opening). Parking lots will generate fine grit that will accumulate at these spots.</p> <p><input type="checkbox"/> Pull out clumps of growing grass or weeds, and scoop out the soil or grit that the plants are growing in.</p> <p><input type="checkbox"/> Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets or along the edge of the swale where water is supposed to enter.</p> <p><input type="checkbox"/> For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the swale.</p> <p><input type="checkbox"/> Dispose of all material properly in an area where it will not re-enter the swale.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the swale.</p>
 <p><input type="checkbox"/> Some or all of the inlets are eroding so that rills, gullies, and other erosion are present, or there is bare dirt that is washing into the swale.</p>	<p><input type="checkbox"/> For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone.</p> <p><input type="checkbox"/> In some cases, reseeding and applying an erosion control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Level 2 Inspection: Erosion is occurring at most of the inlets or along much of the swale edge. The inlet design may have to be modified.</p>

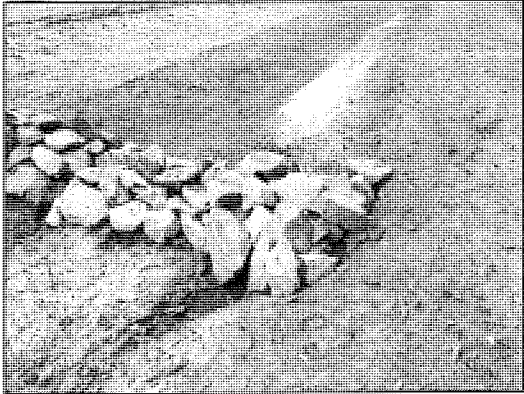
SW Surface Area

Examine the entire swale surface and side slopes.

Problem (Check if Present)	Follow-Up Actions
<p><input type="checkbox"/> Minor areas of sediment, grit, trash, or other debris are accumulating in the swale.</p>	<p><input type="checkbox"/> Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the swale.</p> <p><input type="checkbox"/> If removing the material creates a hole or low area, fill with good topsoil and add seed and straw to re-vegetate.</p> <p><input type="checkbox"/> Remove trash, vegetative debris, and other undesirable materials.</p> <p><input type="checkbox"/> If the swale is densely vegetated, it may be difficult to do the maintenance; check for excessive ponding or other issues described in this section to see if the accumulated material is causing a problem.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Sediment has accumulated more than 3 inches deep and covers 25% or more of the swale surface.</p> <p><input type="checkbox"/> The source of sediment is unknown or cannot be controlled with simple measures.</p>
 <p><input type="checkbox"/> There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows through the swale or on the slopes.</p>	<p><input type="checkbox"/> Try filling the eroded areas with clean topsoil, and then seed and mulch to establish vegetation.</p> <p><input type="checkbox"/> If the problem recurs, you may have to use some type of matting, stone (e.g., river cobble), or other material to fill in eroded areas.</p> <p><input type="checkbox"/> If the erosion is on a side-slope, fill with soil and cover with erosion-control matting or at least straw mulch after re-seeding.</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3 inches deep and seems to be an issue with how water enters and moves through the swale.</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., "sinkhole") due to some underground problem.</p>
<p><input type="checkbox"/> Water does not flow evenly down the length of the swale, but ponds in certain areas for long periods of time (e.g., 72 hours after a storm). The swale does not seem to have "positive drainage." Check during or immediately after a rain storm.</p>	<p><input type="checkbox"/> If the problem is minor (just small, isolated areas), try using a metal rake or other tools to create a more even flow path; remove excessive vegetative growth, sediment, or other debris that may be blocking the flow.</p> <p><input type="checkbox"/> Other:</p> <hr/> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Water ponds in more than 25% of the swale for three days or more after a storm. The issue may be with the underlying soil or the grade of the swale.</p> <p><input type="checkbox"/> Water ponds behind check dams for three days or more after a storm. Check dams may be clogged or not functioning properly.</p>


SW Surface Area

Examine the entire swale surface and side slopes.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Check dams (if present): water is flowing around the edges of check dams, creating erosion or sinkholes on the uphill or downhill side, or the check dams are breaking apart or breaching .</p>	<p><input type="checkbox"/> If the problem is isolated to just a few check dams, try simple repairs.</p> <p><input type="checkbox"/> It is very important for the center of each check dam (where most of the water flows) to be lower (by at least several inches) than the edges of the check dams where they meet the side slopes. Also, the check dams should be keyed into side slopes so water does not flow between the check dam and side slope.</p> <p><input type="checkbox"/> Use a level to check the right check-dam configuration, as noted above. Repair by moving around stone, filling and compacting soil, or adding new material so that water will be directed to the center of the check dam instead of the edges.</p> <p><input type="checkbox"/> Other:</p>
	<p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Many check dams are impacted and/or the problem seems to be a design issue with height, spacing, shape, or materials used to construct them.</p>


SW Vegetation

Assess the swale vegetation.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Vegetation is too overgrown to access swale for maintenance activities</p>	<p><input type="checkbox"/> Mow or bush-hog the path.</p> <p><input type="checkbox"/> Other:</p>

SW Vegetation

Assess the swale vegetation.

Problem (Check if Present)	Follow-Up Actions
 <p><input type="checkbox"/> Vegetation requires regular maintenance: pulling weeds, removing dead and diseased plants, adding plants to fill in areas that are not well vegetated, etc.</p>	<p><input type="checkbox"/> If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling.</p> <p><input type="checkbox"/> If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water.</p> <p><input type="checkbox"/> Even vegetation that is intended to be present can become large, overgrown, block flow, and/or crowd out surrounding plants. Prune and thin accordingly.</p> <p><input type="checkbox"/> If weeds or invasive plants have overtaken the whole swale, bush-hog the entire area before seed heads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above.</p> <p><input type="checkbox"/> Replant with species that are aesthetically pleasing and seem to be doing well in the swale.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: You are unsure of the original planting design or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.</p>
<p><input type="checkbox"/> Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.</p>	<p><input type="checkbox"/> The original plants are likely not suited for the actual conditions within the swale. If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: For all but small practices (e.g., in residential yards), this task will likely require a landscape design professional or horticulturalist.</p>

SW Outlets

Examine outlets that release water out of the swale.

Problem (Check if Present)	Follow-Up Actions
<p><input type="checkbox"/> Outlet is obstructed with mulch, sediment, debris, trash, etc.</p>	<p><input type="checkbox"/> Remove the debris and dispose of it where it cannot re-enter the swale.</p> <p><input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.</p>



Additional Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Swale Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date		Inspection Time		
Inspector				
Date of Last Inspection				



Level 2 Inspection: SWALE

Recommended Repairs	Triggers for Level 3 Inspection
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Observed Condition: Water Stands on Surface for More than 72 Hours after Storm

- Condition 1: Small pockets of standing water

Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have compacted soil, try scraping off top 3 to 6 inches of soil and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas.

- Condition 2: Standing water is widespread or covers entire surface

Requires diagnosis and resolution of problem:

- Bad or compacted soil
- Filter fabric on the swale bottom
- Too much sediment/grit washing in from drainage area?
- Too much ponding depth?
- Longitudinal slope is too flat?

- Soil is overly compacted or clogged and problem is not evident from Level 2 inspection.
- Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice (e.g., not enough slope down through the swale).

- Level 3 inspection necessary

Observed Condition: Vegetation is predominantly weeds and invasive species

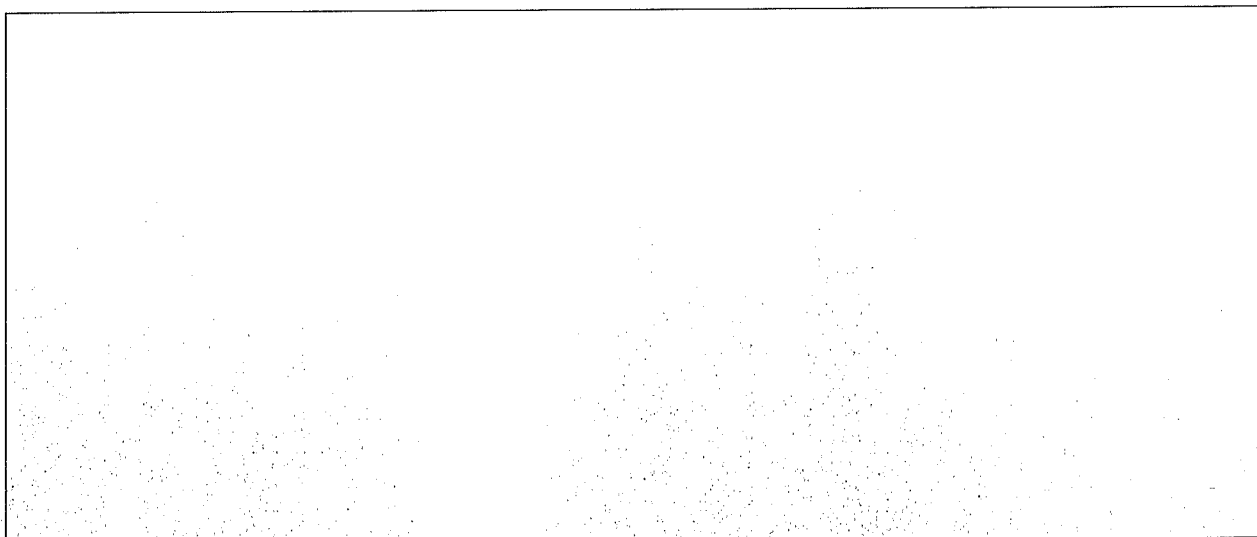
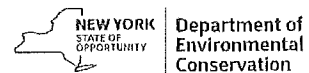
For a small area, weed and dig up invasive plants. Replant with natives or plants from original planting plan.

If longer than 100 feet, develop a new planting plan and have it professionally reviewed.

- Vegetation deviates significantly from original planting plan; swale has been neglected and suffered from deferred maintenance.
- Owner/responsible party does not know how to maintain the practice.
- For large area, hire a professional to develop a grading plan and develop a planting plan.

- Level 3 inspection necessary

Notes:



Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Tree Planting Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type		Type of Site	
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				

TP Watering

Inspect the trees to determine whether they need watering.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Soil is not moist to the touch and/or it has not rained in a week, and leaves/needles are starting to appear wilted/dry.	<input type="checkbox"/> Water trees deeply and slowly near the base. Soaker hoses and drip irrigation work best for deep watering of trees and shrubs. <input type="checkbox"/> Other:



TP Mulch

Mulch should be applied in the late spring and during leaf fall. Check the depth of mulch regularly. Rake the old mulch to break up any matted layers and to refresh the appearance.

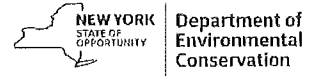
Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Mulch is too thin or thick (should be approximately 3" deep) or does not extend to tree canopy (or 5' radius if tree has a larger than 10' canopy reach).	<input type="checkbox"/> Add or remove mulch around tree canopy to maximum 5' radius but not within 3" of the bark. <input type="checkbox"/> If mulch is against the stems or tree trunks, pull it back several inches to expose the base of the trunk and root crown. <input type="checkbox"/> Other:

TP Pruning

Examine the branches and tree shape.

Problem (Check if Present)	Follow-Up Actions
<input type="checkbox"/> Presence of suckers, dead or diseased branches, branches that interfere with pedestrian traffic	<input type="checkbox"/> Selective cutting <input type="checkbox"/> Prune to make the tree more aesthetically pleasing and remove disease. <input type="checkbox"/> Other:
	<input type="checkbox"/> Kick-Out to Level 2 Inspection: Use an arborist or landscaper for more extensive pruning jobs.

Additional Notes:



Inspector: _____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____



Tree Planting Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		SMP Owner		<input type="checkbox"/> Private
				<input type="checkbox"/> Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		Longitude	
Party Responsible for Maintenance	System Type			Type of Site
<input type="checkbox"/> Same as SMP Owner <input type="checkbox"/> Other _____	<input type="checkbox"/> Seasonal <input type="checkbox"/> Continuous Use <input type="checkbox"/> Other	<input type="checkbox"/> Above Ground <input type="checkbox"/> Below Ground	<input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> State	
Inspection Date			Inspection Time	
Inspector				
Date of Last Inspection				

Level 2 Inspection: TREE PLANTING

Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Appearance of fungus or pest damage	
<input type="checkbox"/> Condition 1: Fungus, discoloration, browning leaves or holes in leaves Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection.	<input type="checkbox"/> Any concerns about how to address infestation or disease <input type="checkbox"/> Level 3 inspection necessary
<input type="checkbox"/> Condition 2: Burrowing insects, holes Check with arborist or other tree professional about the best way to proceed. This requires a Level 3 inspection.	



Notes:

Inspector: _____

Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____

Date: _____



Department of
Environmental
Conservation

NO EXPOSURE CERTIFICATION

For High Priority Municipal Facilities in SPDES
General Permit for Stormwater Discharges from
Municipal Separate Storm Sewer Systems

(GP-0-22-002) The completed No Exposure Certification must be documented in the SWMP Plan. *Please do not submit this form to the Department.*

I. Owner/Facility Information				
Owner/Operator Name:				
Mailing Address:		City/State/Zip:		
Contact Name:		Phone No.:		
Facility Name:				
Street Address:		City/State/Zip:		
County:	Latitude:	Longitude:		
II. Exposure Checklist				
Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) If you answer "Yes" to any of these questions (1) through (11), you are not eligible for no exposure.			YES	NO
1	Using, storing or cleaning machinery or equipment, and areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater			
2	Materials or residuals on the ground or in stormwater inlets from spills/leaks			
4	Material handling equipment (except adequately maintained vehicles)			
5	Materials or products during loading/unloading or transporting activities			
6	Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to stormwater does not result in the discharge of pollutants)			
7	Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers			
8	Materials or products handled/stored on roads or railways owned or maintained by the discharger			
9	Waste material (except waste in covered, non-leaking containers [e.g., dumpster])			
III. Certification				
<p>I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from SPDES stormwater permitting. I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document (except as allowed under 40 CFR 122.26(g)(2)). I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the SPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request.</p>				
Printed Name:		Title/Position:		
Signature:		Date:		

**Municipal Facility Detailed
Information**

**City of Mount Vernon, New York
Stormwater Management Plan**

Name of Municipal Facility: _____

Address: _____

**Type of Municipal Facility (e.g., DPW, Park,
Town Hall):** _____

Prioritization (High or Low): _____

Latitude/Longitude: _____

Size of Facility (acres): _____

Receiving Water Body: _____

Receiving Water Body Class: _____

Responsible Department: _____

Phone Number: _____

Email: _____

Location of SWPPP: _____

Type of Activities Present on Site: _____

BMPs Identified: _____

Date of Last Assessment: _____

Projected Date of Next Assessment: _____

**Municipal Facility Detailed
Information**

**City of Mount Vernon, New York
Stormwater Management Plan**

**CITY OF MOUNT VERNON
 PHASE II STORM WATER MANAGEMENT PROGRAM
 MINIMUM CONTROL MEASURE 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)**

CATCH BASIN INSPECTION

Inspected By:	Date:	Time:
Structure ID:	Location Sketch (Indicate address, streets, nearest intersections, etc.)	
Address:		
Nearest Intersection:		
GPS Location:		
Location: <input type="checkbox"/> Roadway <input type="checkbox"/> Curb <input type="checkbox"/> Private Property <input type="checkbox"/> Easement <input type="checkbox"/> Gutter <input type="checkbox"/> Other: _____		
Material: <input type="checkbox"/> Brick <input type="checkbox"/> Concrete Bottom Depth: _____ in.		
Size: <i>If circular,</i> <i>If square or rectangular,</i> Diameter: _____ in. Length: _____ in., Width: _____ in.		

Structure					
	Satisfactory	Unsatisfactory	Not Applicable	Not Visible	If Unsatisfactory or Not Visible, Describe:
Cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ring/Frame	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rungs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bottom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Channels/Connections					
A	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			Draw channels/connections (A, B, C, D) in catch basin and indicate direction of flow.
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)		Invert Depth: _____ in.	
B	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)		Invert Depth: _____ in.	
C	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)		Invert Depth: _____ in.	
D	<input type="checkbox"/> Inlet <input type="checkbox"/> Outlet	Material: <input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Other: _____			
	Pipe Diameter: _____ in.	Connects To/From: _____ (Structure ID)		Invert Depth: _____ in.	

Condition	<input type="checkbox"/> Clean/Dry <input type="checkbox"/> Standing Water <input type="checkbox"/> Flowing Water <input type="checkbox"/> Sediment <input type="checkbox"/> Organic Matter <input type="checkbox"/> Trash/Debris <input type="checkbox"/> Not Visible <input type="checkbox"/> Other: _____				
Flow	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial <input type="checkbox"/> None-Standing Water <input type="checkbox"/> None-Dry				
Rate	<input type="checkbox"/> Steady <input type="checkbox"/> Intermittent <input type="checkbox"/> Not Applicable		Sump Present <input type="checkbox"/> Yes <input type="checkbox"/> No		
Illicit Discharge Indications Present? (dry weather flow, odor, color, floatables, turbidity, viscosity)			<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, Complete Illicit Discharge Field Sheet (Form A).</i>		
Comments/Notes:					

Form Completed By:

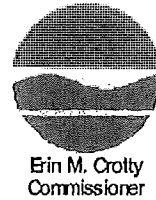
Name (print):	Date:
Signature:	

Appendix C

Supporting Documents

- Original NOI – (Included on thumb drive due to size)
- City Code - (Included on thumb drive due to size)
- Attorney Certification for City Code - (Included on thumb drive due to size)
- SWPPP Guidance Document - (Included on thumb drive due to size)
- Annual SWMP Plan Updates Checklist (Template Developed)
- SWMP Annual Evaluation (Will be saved here after 1st year of new MS4 Permit)
- SWMP Interim Evaluation (NYSDEC will provide template)

New York State Department of Environmental Conservation
Division of Water
Bureau of Water Permits, 4th Floor
625 Broadway, Albany, New York 12233-3505
Phone: (518) 402-8111 • FAX: (518) 402-9029
Website: www.dec.state.ny.us



4/11/2003

CITY OF MOUNT VERNON
1 ROOSEVELT SQUARE
MOUNT VERNON NY 10550

**Re: ACKNOWLEDGEMENT of NOTICE of INTENT for
Coverage Under General SPDES Permit No. GP-02-02**

Dear Municipal Official:

This letter is to acknowledge receipt of the completed Notice of Intent (NOI) application for the Municipal Separate Stormwater Sewer System (MS4) located at:

MS4 NAME: CITY OF MOUNT VERNON
MS4 COUNTY: WESTCHESTER
NYSDEC REGION: 3
MS4 SPDES No: NYR20A383

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8 and ECL Article 70, the MS4 NOI identified above is now authorized and covered under State Pollutant Discharge Elimination Systems General Permit GP-02-02.

As an authorized MS4, you are obligated to comply with limits, conditions, and all requirements contained in GP-02-02. In accordance with GP-02-02, please note the following for your records and all future correspondence:

- * **MS4 SPDES Registration Number:** NYR20A383
- * Your Storm Water Management Program (SWMP) must be fully implemented by: **January 8, 2008.**
- * First Municipal Compliance Certificate (MCC) and SWMP Annual Report (SWMPAR) must be submitted by: **June 1, 2004.**
- * Thereafter, subsequent MCCs and SWMPARs must be submitted by: **June 1st of each year.**

2.

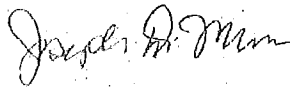
Failure to comply with these submittal dates are violations of GP-02-02 which may result in enforcement or penalties.

For all future correspondence and/or communications with the Department, be sure to include or reference the MS4 SPDES Registration Number, as this number is unique to the MS4 identified above.

Your NOI also serves as the documentation of your initial SWMP. You may be contacted by the Department's Regional Water Engineer regarding the content of the SWMP.

Should you have any questions regarding any aspect of the requirements specified in General Permit GP-02-02, please contact the undersigned at (518) 402-8117 or Kevin Malone at (518) 402-8235.

Sincerely,



Joseph DiMura, P.E.
Acting Director
Bureau of Water Permits

cc: RWE - w/copy NOI
File - w/original NOI



DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COMMISSIONER
CITY HALL
MOUNT VERNON, NEW YORK 10550
(914) 665-2300



ERNEST D. DAVIS
MAYOR

JAMES W. FINCH, JR.
COMMISSIONER
CURTIS J. WOODS, P.E.
Deputy Commissioner

March 4, 2003

Storm Water Notice of Intent
New York State Department of
Environment Conservation
625 Broadway
Albany, NY 12233

Re: Notice of Intent (NOI) Filing for
Phase II SPDES Permit Coverage

Dear Sir or Madam

Attached is a signed Notice of Intent (NOI) for coverage under the NYSDEC Phase II SPDES General Permit No. GP-02-02 for MS4s

Our completed NOI is based on the February 6, 2003 version of the form. In conjunction with the NOI, we have prepared an Initial Phase II Storm Water Management Program that, together with the NOI, will form the basis of our implementation activities.

If there are any questions, please do not hesitate to contact me.

Very truly yours,

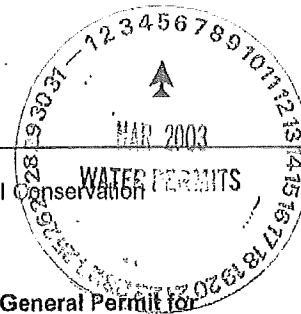
CURTIS J. WOODS, P.E.
Deputy Commissioner, D.P.W.

CJW/hc

Cc: Commissioner Finch



New York State Department of Environmental Conservation
 625 Broadway
 Albany NY 12233-3505



Notice of Intent for Coverage Under an SPDES General Permit for Storm Water Discharges From SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

Submission of this Notice of Intent (NOI) constitutes notice that the entity identified in Section A of this form intends to be authorized by DEC's Small MS4 SPDES General Permit issued for storm water discharges from the small municipal separate storm sewer system (MS4) in New York State. Submission of the NOI also constitutes notice that the party identified in Section A of this form has read, understands, and meets the eligibility conditions of Part I.B. of the Small MS4 General Permit; agrees to comply with all applicable terms and conditions of the Small MS4 General Permit; understands that continued authorization under the Small MS4 General Permit is contingent on maintaining eligibility for coverage, and that implementation of the permittee's storm water management program is required to begin within five(5) calendar days after a completed NOI is received by DEC. In order to be granted coverage, all information required on this form must be completed. Please read and make sure you comply with all permit requirements, including the requirement to prepare and implement a storm water management program.

Section A. Small MS4 Owner/Operator Information

1. Name: CITY OF MOUNT VERNON 2. Phone: (914) 665 - 2451
 3. a. Mailing Address: a. Street or P.O. Box: 1 ROOSEVELT SQUARE
 b. City: MOUNT VERNON c. State: NY d. Zip Code: 10550

Section B. Small MS4 Location Information

1. MS4 Name: CITY OF MOUNT VERNON
 2. a. City/Town/Village: CITY
 b. County(ies): WESTCHESTER
 3. a. Permit Applicant: Federal State County City Town Village
 School District Fire District Other public entity
 4. Does the MS4 discharge to receiving waters or a watershed which is/are impaired (appears on DEC's 303(d) list or for which a Total Maximum Daily Load (TMDL) has been determined)? Yes No

Section C. Initial Identification of Management Practices (attach additional sheets as necessary)	
1. Public Education and Outreach on Storm Water Impacts <i>Outreach Techniques</i>	
<input checked="" type="checkbox"/> Plan and conduct an ongoing public education and outreach program (required) <input type="checkbox"/> Classroom education/school programs <input type="checkbox"/> Outreach to commercial entities <input checked="" type="checkbox"/> Webpage <input checked="" type="checkbox"/> Printed material <input type="checkbox"/> Media campaign <input checked="" type="checkbox"/> Library of educational materials <input type="checkbox"/> Events and Programs <input type="checkbox"/> Displays <input checked="" type="checkbox"/> Posters and signs of varying sizes (magnet to billboards) <input type="checkbox"/> Speakers to community groups <input type="checkbox"/> Economic incentives <input type="checkbox"/> Promotional giveaways <input type="checkbox"/> Other	<i>Management Practices to Encourage</i> <input checked="" type="checkbox"/> Proper lawn and garden care (fertilizer and pesticide use, sweeping, etc.) <input type="checkbox"/> Low impact development <input checked="" type="checkbox"/> Pet waste management <input type="checkbox"/> Pollution prevention for businesses <input checked="" type="checkbox"/> Proper disposal of household hazardous wastes <input checked="" type="checkbox"/> Trash management <input type="checkbox"/> Water conservation practices <input type="checkbox"/> Others:
2. Public Involvement/Participation <i>Involvement Techniques</i>	
<input checked="" type="checkbox"/> Public notice and access to documents and information (required) <input checked="" type="checkbox"/> Public presentation and comments received SWMP and on annual reports (required) <input checked="" type="checkbox"/> Public involvement/participation program (required) <input checked="" type="checkbox"/> Contact person identified (required) <input type="checkbox"/> Advisory/partner committees <input type="checkbox"/> Watershed organizations <input type="checkbox"/> Attitude surveys <input type="checkbox"/> Community hot lines <input type="checkbox"/> Stakeholder meetings <input type="checkbox"/> Mailing list development and use <input type="checkbox"/> Other	<i>Participation Activities</i> <input checked="" type="checkbox"/> Adopt-a-stream <input type="checkbox"/> Reforestation program <input type="checkbox"/> Storm drain stenciling <input checked="" type="checkbox"/> Stream, beach, roadway cleanup <input type="checkbox"/> Volunteer monitoring <input type="checkbox"/> Wetland plantings <input checked="" type="checkbox"/> Others: <u>PARK CLEAN-UP</u>
3. Illicit Discharge Detection and Elimination <i>Detection and Elimination Activities</i>	
<input checked="" type="checkbox"/> Outfall mapping (required) <input checked="" type="checkbox"/> Illicit discharges prohibited (required) <input checked="" type="checkbox"/> Public, employees, businesses informed of hazards from illicit discharges (required) <input checked="" type="checkbox"/> Illicit discharges identified (required) <input checked="" type="checkbox"/> System mapping <input checked="" type="checkbox"/> Dye testing <input checked="" type="checkbox"/> Shoreline surveys <input checked="" type="checkbox"/> System inspections <input type="checkbox"/> Other	<i>Type of Discharges to Target</i> <input type="checkbox"/> Failing septic systems <input checked="" type="checkbox"/> Illegal dumping <input type="checkbox"/> Industrial/business connections <input type="checkbox"/> Recreational sewage <input checked="" type="checkbox"/> Sanitary sewer overflows <input checked="" type="checkbox"/> Wastewater connections to the storm drain system <input type="checkbox"/> Others
4. Construction Site Storm Water Runoff Control <i>Construction Program Requirements (at a minimum equivalent to GP-02-01)</i>	
<input checked="" type="checkbox"/> Require erosion and sedimentation controls through an ordinance or other regulatory mechanism (required) <input checked="" type="checkbox"/> Provide opportunity for public comment on construction plans (required) <input checked="" type="checkbox"/> Require construction site plan review (required) <input checked="" type="checkbox"/> Require overall construction site waste management (required) <input checked="" type="checkbox"/> Site inspections and enforcement (required) <input checked="" type="checkbox"/> Education and training of construction site operators (required) <input type="checkbox"/> Other	<i>Program Criteria</i> <input checked="" type="checkbox"/> New York State Standards and Specifications for Erosion and Sediment Control <input checked="" type="checkbox"/> New York State Stormwater Management Design Manual

Section C. Initial Identification of Management Practices (continued)	
5. Post-Construction Stormwater Management Post-Construction Program Requirements	Program Criteria
<input checked="" type="checkbox"/> Assess existing conditions throughout the MS4 and identify appropriate management practices to reduce pollutant discharge to the maximum extent practicable. (required) <input checked="" type="checkbox"/> Regulate post-construction runoff from development through an ordinance or other regulatory mechanism (required) <input checked="" type="checkbox"/> Develop management practice inspection and maintenance program. (required) <input type="checkbox"/> Other	<input checked="" type="checkbox"/> New York State Stormwater Management Design Manual
6. Pollution Prevention/Good Housekeeping for Municipal Operations Program Requirements	Management Practices
<input checked="" type="checkbox"/> Prevent discharge of pollutants from municipal operations (required) <input checked="" type="checkbox"/> Follow DEC NPS Management Practices Catalog, or equivalent (required) <input checked="" type="checkbox"/> Conduct employee pollution prevention training (required)	<input checked="" type="checkbox"/> Street cleaning <input checked="" type="checkbox"/> Catch basin and storm drain system cleaning <input type="checkbox"/> Alternative discharge options for chlorinated water <input checked="" type="checkbox"/> Vehicle maintenance and washing <input checked="" type="checkbox"/> Hazardous and waste materials management <input checked="" type="checkbox"/> Landscaping and lawn care <input type="checkbox"/> Integrated Pest Management (IPM) <input type="checkbox"/> Marina Management <input checked="" type="checkbox"/> Road salt storage <input type="checkbox"/> Roadway and bridge maintenance <input type="checkbox"/> Municipally-owned septic system management <input type="checkbox"/> Spill response and prevention <input type="checkbox"/> Others:

Section D. Initial Identification of Measurable Goals (attach additional sheets as necessary)

Person(s) responsible for implementing or coordinating the storm water management program:

JAMES FINCH, COMMISSIONER OF PUBLIC WORKS Phone: (914) 665-2451
CURTIS J. WOODS, P.E., CITY ENGINEER (914) 665-2572

1. Public Education and Outreach on Storm Water Impacts		4. Construction Site Storm Water Runoff Control	
Measurable goals (with start and end dates):		Measurable goals (with start and end dates):	
	START	END	
* STORMWATER WEB-SITE SET-UP	3/03	3/04	* REVIEW SITE PLANS FOR " "
			ONGOING
* STORMWATER WEB-SITE UPDATES 1/YR	3/04	3/08	* REVIEW EXIST. ORD. FOR CONTR. CONTROLS
			3/04
* STORMWATER REPOSITORY INFO. SET-UP	3/03	3/04	* REVISE EXIST. ORD. FOR CONTR. CONTROLS
			3/05
* STORMWATER REPOSITORY INFO. UPDATE	3/04	3/08	* CONDUCT SITE INSPECTIONS & ENF. ONGOING
			3/06
* HOUSEHOLD CHEM. CLEAN-UP DAYS 3/YR	3/03	3/04	* STORMWATER REPOSITORY INFO. SET-UP
			3/03
			* STORMWATER REPOSITORY INFO. UPDATE
			3/04
			3/08

<p>2. Public Involvement/Participation</p> <p>Measurable goals (with start and end dates):</p> <table border="1"> <thead> <tr> <th></th> <th>START</th> <th>END</th> </tr> </thead> <tbody> <tr> <td>* VOLUNTEER PARK CLEAN-UP DAY</td> <td>1/YR 3/03</td> <td>3/08</td> </tr> <tr> <td>* ADOPT-A-STREAM SPONSOR</td> <td>1/YR 3/04</td> <td>3/05</td> </tr> <tr> <td>* STORM DRAIN STENCILING</td> <td>10 3/03</td> <td>3/04</td> </tr> <tr> <td>* VOLUNTEER STREAM CLEAN-UP DAY</td> <td>1/YR 3/03</td> <td>3/04</td> </tr> <tr> <td>* PUBLIC NOTICE & MEETING</td> <td>1/YR 3/03</td> <td>3/08</td> </tr> </tbody> </table>		START	END	* VOLUNTEER PARK CLEAN-UP DAY	1/YR 3/03	3/08	* ADOPT-A-STREAM SPONSOR	1/YR 3/04	3/05	* STORM DRAIN STENCILING	10 3/03	3/04	* VOLUNTEER STREAM CLEAN-UP DAY	1/YR 3/03	3/04	* PUBLIC NOTICE & MEETING	1/YR 3/03	3/08	<p>5. Post-Construction Storm Water Management in New Development and Redevelopment</p> <p>Measurable goals (with start and end dates):</p> <table border="1"> <thead> <tr> <th></th> <th>START</th> <th>END</th> </tr> </thead> <tbody> <tr> <td>* ASSESS CNDTNS & ID ACCEPTABLE BMP'S</td> <td>3/03</td> <td>3/04</td> </tr> <tr> <td>* REVIEW EXIST. ORD. TO REQR CONTROLS</td> <td>3/04</td> <td>3/05</td> </tr> <tr> <td>* REVISE ORDINANCE TO REQR CONTROLS</td> <td>3/05</td> <td>3/06</td> </tr> <tr> <td>* DVLP PROTOCOL FOR INSPEC./ENFMNT</td> <td>3/06</td> <td>3/08</td> </tr> </tbody> </table>		START	END	* ASSESS CNDTNS & ID ACCEPTABLE BMP'S	3/03	3/04	* REVIEW EXIST. ORD. TO REQR CONTROLS	3/04	3/05	* REVISE ORDINANCE TO REQR CONTROLS	3/05	3/06	* DVLP PROTOCOL FOR INSPEC./ENFMNT	3/06	3/08
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Section D. (continued)

<p>3. Illicit Discharge Detection and Elimination</p> <p>Measurable goals (with start and end dates):</p> <table border="1"> <thead> <tr> <th></th> <th>START</th> <th>END</th> </tr> </thead> <tbody> <tr> <td>* STORMWATER OUTFALL MAPPING 50%</td> <td>3/03</td> <td>3/04</td> </tr> <tr> <td>* STORMWATER OUTFALL MAPPING 50%</td> <td>3/04</td> <td>3/05</td> </tr> <tr> <td>* STORMWATER SYSTEM MAPPING 100%</td> <td>3/06</td> <td>3/08</td> </tr> <tr> <td>* ILLICIT DISCHARGE PROHIBITION</td> <td>3/04</td> <td>3/05</td> </tr> <tr> <td>* DYE TSTG OF ALLEGED/SUSP CONN. 100%</td> <td>3/04</td> <td>3/08</td> </tr> <tr> <td>* ELIMINATE/ENF CONF. ILLICIT CONN. 100%</td> <td>3/05</td> <td>3/08</td> </tr> </tbody> </table>		START	END	* STORMWATER OUTFALL MAPPING 50%	3/03	3/04	* STORMWATER OUTFALL MAPPING 50%	3/04	3/05	* STORMWATER SYSTEM MAPPING 100%	3/06	3/08	* ILLICIT DISCHARGE PROHIBITION	3/04	3/05	* DYE TSTG OF ALLEGED/SUSP CONN. 100%	3/04	3/08	* ELIMINATE/ENF CONF. ILLICIT CONN. 100%	3/05	3/08	<p>6. Pollution Prevention/Good Housekeeping for Municipal Operations</p> <p>Measurable goals (with start and end dates):</p> <table border="1"> <thead> <tr> <th></th> <th>START</th> <th>END</th> </tr> </thead> <tbody> <tr> <td>* CITY OPERATION WST OIL RECYCLE 100%</td> <td>3/03</td> <td>3/08</td> </tr> <tr> <td>* STORED ROAD SALT COVERED 100%</td> <td>3/03</td> <td>3/08</td> </tr> <tr> <td>* EMPLOYEE SPILL RESPONSE TRAINING 1/YR</td> <td>3/03</td> <td>3/04</td> </tr> <tr> <td>* STREET SWEEPING 2000 MILES/YR</td> <td>3/03</td> <td>3/04</td> </tr> <tr> <td>* CATCH BASIN CLEANED 100%</td> <td>3/03</td> <td>3/06</td> </tr> <tr> <td>* LITTER BASKET PICK-UPS 100% 2x/WK</td> <td>3/03</td> <td></td> </tr> </tbody> </table>		START	END	* CITY OPERATION WST OIL RECYCLE 100%	3/03	3/08	* STORED ROAD SALT COVERED 100%	3/03	3/08	* EMPLOYEE SPILL RESPONSE TRAINING 1/YR	3/03	3/04	* STREET SWEEPING 2000 MILES/YR	3/03	3/04	* CATCH BASIN CLEANED 100%	3/03	3/06	* LITTER BASKET PICK-UPS 100% 2x/WK	3/03	
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Section E. Cooperating MS4s

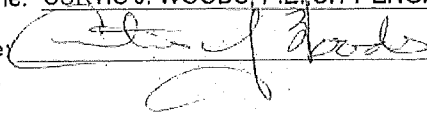
Identify any MS4 partners that will be assisting you in carrying out your Stormwater Management Program: (Attach a description of what portions of which management practices that the other MS4s will be doing for you, and similarly what practices that you are assisting them with.)

Name of Cooperating MS4	Address	Contact Person	Telephone number	Email

Section F. Certification

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, I certify that 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.

Print Name: CURTIS J. WOODS, P.E. CITY ENGINEER

Signature: 

Date: 03.04.03

February 6, 2003

AN ORDINANCE AMENDING PART II OF THE CODE OF THE CITY OF MOUNT VERNON, NEW YORK, BY ADDING A NEW CHAPTER 154 THERETO AND ENTITLED "ILLICIT DISCHARGES: STORM SEWER SYSTEM."

WHEREAS, by letter dated June 25, 2009, the Commissioner of the Department of Public Works has requested legislation amending Part II of the Code of the City of Mount Vernon, New York, by adding a new Chapter 154, entitled "Illicit Discharges: Storm Sewer System"; NOW, THEREFORE,

The City of Mount Vernon, in City Council convened, does hereby ordain and enact:

Section 1. Part II of the Code of the City of Mount Vernon, New York, is hereby amended by adding thereto a new chapter numbered 154 to be known as "Illicit Discharges: Storm Sewer System," to read as follows:

CHAPTER 154
ILLICIT DISCHARGES: STORM SEWER SYSTEM

§ 154-1. Purpose

The purpose of this chapter is to provide for the health, safety and general welfare of the residents of the City of Mount Vernon through the regulation of connections to the City's municipal separate storm sewer system (MS4) and the regulation of non-storm water discharges to the (MS4) to the maximum extent practicable as required by federal and state law. This chapter establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with requirements of the New York State Department of Environment Conservation's (NYSDEC) SPDES General Permit (GP-02-02) for Municipal Separate Storm Sewer Systems. The objectives of this chapter are:

- A. To meet the requirements of the SPDES General Permit for Storm Water Discharges from MS4s, Permit No. GP-02-02 or as amended or revised;
- B. To regulate the contribution of pollutants to the MS4 since such systems are not designed to accept, process or discharge non-storm water wastes;
- C. To prohibit unauthorized and illicit connections, activities and discharges to the MS4;
- D. To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this chapter; and
- E. To promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, grease, oil, petroleum products, cleaning products, paint products, hazardous waste, sediment and other pollutants into the MS4.

§ 154-2. Definitions

Whenever used in this chapter, unless a different meaning is stated in a definition applicable to only a portion of this chapter, the following terms will have meanings set forth below:

BEST MANAGEMENT PRACTICES (BMP) -- Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to storm water, receiving

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waters, or storm water conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

CITY -- The City of Mount Vernon, New York.

CITY ENGINEER -- The City Engineer of the City of Mount Vernon, New York.

CLEAN WATER ACT -- The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

CHAPTER -- Chapter of the City of Mount Vernon, New York.

CONNECTION PERMIT -- An authorization for connection as well as a discharge permitted under § 154-13, as well as a discharge permitted under a SPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the NYSDEC. This permit is subject to special terms and conditions by the City Engineer. The permit will expire on or before the expiration of the NYSDEC SPDES permit, waiver or order or upon change of ownership or use of the property.

CONSTRUCTION ACTIVITY -- Activities requiring authorization under a NYSDEC SPDES permit for storm water discharges from construction activity, GP-02-01, as amended or revised, or activities covered by Erosion and Sediment Control or Pollution Prevention Plan laws, ordinances or regulations of the City. These activities include construction projects resulting in land disturbance equal to or greater than the area stipulated in statutes or regulations of the State, County or the City, whichever is most restrictive. Such activities include, but are not limited to, clearing and grubbing, grading, excavating, and demolition.

COUNTY -- The County of Westchester.

DESIGN PROFESSIONAL -- New York State licensed professional engineer or licensed architect.

GENERAL PERMIT -- An authorization for the connection as well as the discharge of storm water or authorized non-storm water (per § 154-6A), from properties occupied by private dwellings.

HAZARDOUS MATERIALS -- Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

ILLCIT ACTIVITY -- Any action or condition, active or passive, that results in non-storm water entering the City's MS4.

ILLCIT CONNECTION -- Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the MS4 including, but not limited to:

- A. Any conveyances which allow any non-storm water discharge including treated or untreated sewage, process wastewater and wash water to enter the MS4, and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted or approved by an authorized enforcement agency; or
- B. Any drain or conveyance connected from a commercial or industrial land use to the MS4 which has not been documented in plans, maps or equivalent records and approved by an authorized enforcement agency;
- C. Any building or structure floor drain or trench drain; and
- D. Any unauthorized connection as defined elsewhere in this section.

ILLICIT DISCHARGE -- Any discharge through an unauthorized connection, and any direct or indirect non-storm water discharge to the MS4, except as exempted in § 154-6.

INDIVIDUAL SEWAGE TREATMENT SYSTEM -- A facility serving one or more parcels of land or residential households, or a private, commercial or institutional facility that treats sewage or other liquid wastes for discharge into the groundwaters of New York State, except where a permit for such a facility is required under the applicable provisions of Article 17 of the Environmental Conservation Law.

INDUSTRIAL ACTIVITY -- Activities requiring the SPDES permit for discharges from industrial activities except construction, GP-98-03, as amended or revised.

MS4 -- Municipal Separate Storm Sewer System owned by the City or another municipal entity.

MUNICIPAL SEPARATE STORM SEWER SYSTEM -- A conveyance or system of conveyances and retention and infiltration facilities; (including roads with drainage systems, curbs and gutters on municipal streets, manholes, catch basins, ditches, man-made channels, or storm drains, storm water basins, drainage reserve areas, drywells or any other component of a storm water system) that is:

- A. Owned or operated by the City or another municipal entity;
- B. Designed or used for collecting or conveying or storing or infiltrating or managing storm water;
- C. Which is not a combined sewer; and
- D. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

MUNICIPALITY -- A County, Town, City, Village or other unit of government.

NON-STORM WATER DISCHARGE -- Any discharge to the MS4 that is not composed entirely of storm water.

NYSDEC -- The New York State Department of Environmental Conservation

OFFICE OF THE CITY ENGINEER -- Department of Public Works of the City of Mount Vernon.

PERSON -- Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

POLLUTANT -- Anything, which causes or contributes to pollution. Pollutants may include, but are not limited to, dredged spoil, filter backwash, solid waste, incinerator residue, treated or untreated sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, hazardous materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards. Also, paints, varnishes, and solvents; oil and other automotive fluids; hazardous or nonhazardous liquid and solid wastes, yard wastes including branches, grass clippings and leaves; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations so that same may cause or contribute to pollution; and discharges of soaps, detergents, or floatables; pesticides, herbicides, and fertilizers; sewage, fecal coliforms and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building, structure or site improvements; cement, gravel, sand, silt, mud, other soils, and noxious or offensive matter of any kind.

PREMISES -- Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

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SPECIAL CONDITIONS --

- A. Discharge Compliance with Water Quality Standards. The condition that applies where an MS4 has been notified that the discharge of storm water authorized under their MS4 SPDES permit may have caused or has the reasonable potential to cause or contribute to the violation of an applicable water quality standard. Under this condition the MS4 must take all necessary actions to ensure future discharges do not cause or contribute to a violation of water quality standards.
- B. 303(d) Listed Waters. The condition in an MS4 SPDES permit that applies where the MS4 discharges to a NYSDEC 303(d) listed water. Under this condition the MS4's storm water management program must ensure no increase of the listed pollutant of concern to the 303(d) listed water.
- C. Total Maximum Daily Load (TMDL) Strategy. The condition in an MS4 SPDES permit where a TMDL including requirements for control of storm water discharges has been approved by EPA for a water body or watershed into which the MS4 discharges. If the discharge from the MS4 did not meet the TMDL storm water allocations prior to September 10, 2003, the MS4 was required to modify its storm water management program to ensure that reduction of the pollutant of concern specified in the TMDL is achieved.
- D. The condition in an MS4 permit that applies if a TMDL is approved in the future by EPA for any water body or watershed into which an MS4 discharges. Under this condition the MS4 must review the applicable TMDL to see if it includes requirements for control of storm water discharges. If an MS4 is not meeting the TMDL storm water allocations, the MS4 must, within 6 months of the TMDLs approval, modify its storm water management program to ensure that reduction of the pollutant of concern specified in the TMDL is achieved.

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SPECIAL PERMIT -- An authorization for the connection as well as the discharge of storm water or authorized non-storm water (per § 154-6A), from all properties occupied by other than private dwellings.

STATE -- State of New York.

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) STORM WATER DISCHARGE PERMIT -- A permit issued by the NYSDEC that authorizes the discharge of pollutants to waters of the State.

STORM WATER -- Rainwater, surface runoff, subsurface drainage and snowmelt.

STORM WATER MANAGEMENT OFFICER (SMO) -- The City Engineer of the City of Mount Vernon (or the person serving in the capacity of the City Engineer) or his/her authorized deputies, agents or representatives, including employees of other City Departments, as appropriate. The SMO is to enforce this chapter, review storm water pollution prevention plans, forward the plans to the applicable municipal board and inspect storm water management practices.

303(D) LIST -- A list of all surface waters in the state for which beneficial uses of the water (drinking, recreation, aquatic habitat, and industrial use) are impaired by pollutants, prepared periodically by the NYSDEC as required by Section 303(d) of the Clean Water Act. 303(d) listed waters are estuaries, lakes and streams that fall short of state surface water quality standards and are not expected to improve within the next 2 years.

TMDL -- Total Maximum Daily Load.

TOTAL MAXIMUM DAILY LOAD -- The maximum amount of a pollutant allowed to be released into a water body so as not to impair uses of the water, allocated among the sources of that pollutant.

UNAUTHORIZED CONNECTION -- A permanent or temporary unapproved direct or indirect conveyance to the City's MS4. Any connection, pipe, hose, or other

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conveyance that is not documented on plans, maps, or equivalent records signed by the City Engineer or that is not approved by a permit issued by the City Engineer, is considered unauthorized regardless of whether the discharge is otherwise allowed by this chapter.

UNCONTAMINATED -- Means "free of pollutants" (see definition of Pollutant).

WASTEWATER -- Water that is not storm water is contaminated with pollutants and is or will be discarded.

§ 154-3. Applicability

This chapter shall apply to discharged connections to the City's MS4. This includes activities that result in discharge, seepage or deposition into the City's MS4, and all water entering the MS4 generated on any developed and undeveloped lands unless explicitly exempted by an authorized enforcement agency and allowed by a discharge or connection permit or other document approved by the City Engineer. This chapter shall also apply to discharges and connections entering another MS4 that is tributary to the City's MS4.

§ 154-4. Responsibility for Administration

The City Engineer of the City of Mount Vernon, as the Storm Water Management Officer (SMO) for the City, or duly authorized deputies, agents or representatives, including employees of other City Departments, as appropriate, shall administer, implement, and enforce the provisions of this chapter.

§ 154-5. Severability

The provisions of this chapter are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this chapter or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this chapter.

§ 154-6. Discharge Prohibitions

Prohibition of Illegal Discharges. No person shall discharge or cause to be discharged into the City's MS4 any materials other than storm water except as provided in § 154-6A. The commencement, conduct or continuance of any illicit (illegal) discharge to the MS4 is prohibited except as described as follows:

- A. The following discharges are exempt from discharge prohibitions established by this chapter, unless they are subsequently determined to be substantial contributors of pollutants: water line flushing or other potable water sources, uncontaminated landscape irrigation or lawn watering, existing diverted stream flows, rising ground water, uncontaminated ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains, uncontaminated crawl space or basement sump pump discharges, air conditioning condensate, uncontaminated irrigation water, springs, water from individual residential car washing, natural riparian habitat or wetland flows, dechlorinated swimming pool discharges, residential street wash water, water from fire fighting activities, and any other water source not containing pollutants. Such exempt discharges shall be made in accordance with an appropriate plan for reducing pollutants.
- B. Discharges approved in writing by the City Engineer to protect life or property from imminent harm or damage, provided that such approval shall not be construed to constitute compliance with other applicable laws, chapters and requirements, and further provided that such discharges may be permitted for a specified time period and under such conditions as the City Engineer may

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deem appropriate to protect such life and property while reasonably maintaining the purpose and intent of this chapter.

- C. Dye testing in compliance with applicable state and local laws or chapters is an allowable discharge, but requires a verbal notification to the City Engineer prior to the time of the test.
- D. The prohibition shall not apply to any discharge permitted under a SPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the NYSDEC, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws, chapters and regulations, and provided that written approval has been granted for any discharge to the MS4 by the City Engineer.

§ 154-7. Prohibition of Unauthorized Connections

A. Connections to the City's MS4 without a permit are prohibited.

- (1) Any connection to the City's MS4 is considered to be an unauthorized connection unless it has been approved by a permit issued by the City Engineer or documented on a plan, or map that has been approved by the City Engineer. This constraint applies to all connections, permanent or temporary, regardless of whether the discharge is otherwise permitted by this chapter.
- (2) The construction, use, maintenance or continued existence of unauthorized connections to the City's MS4 is prohibited.
- (3) This prohibition expressly includes, without limitation, connections made in the past, regardless of whether the connection was permissible under law, chapter or practices applicable or prevailing at the time of connection.
- (4) A person is considered to be in violation of this chapter if the person connects a line conveying sewage or other pollutants to the City's MS4, or allows such a connection to continue.
- (5) The connection of interior floor drains and trench drains at the entrances to buildings or other structures is prohibited.

B. Remedy Unauthorized Connections. Where the City Engineer has identified an unauthorized connection as defined in § 154-2, the City Engineer may require that a proper permit be obtained or that the connection be removed at the property owner's expense.

§ 154-8. Prohibition Against Failing Individual Sewage Treatment Systems

No persons shall operate a failing individual sewage treatment system in areas tributary to the City's MS4. A failing individual sewage treatment system is one which has one or more of the following conditions:

- A. The backup of sewage into a structure.
- B. Discharges of treated or untreated sewage onto the ground surface.
- C. A connection or connections to a separate storm water sewer system.
- D. Liquid level in the septic tank above the outlet invert.
- E. Structural failure of any components of the individual sewage treatment system that could lead to any of the other failure conditions as noted in this section.

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F. Contamination of off-site groundwater.

§ 154-9. Prohibition Against Activities Contaminating Storm Water or Maintaining or Using an Unauthorized Connection to the City's MS4

A. Activities that are subject to the requirements of this section are those types of activities that:

- (1) Cause or contribute to a violation of the City's MS4 SPDES permit.
- (2) Cause or contribute to the City being subject to the Special Conditions as defined in § 154-2.
- (3) Cause or contribute to the City's MS4 receiving pollutants as defined in § 154-2.
- (4) Cause or contribute to the City's MS4 receiving discharges from an undocumented or unauthorized connection (whether permanent or temporary).

B. Such activities include failing individual sewage treatment systems as defined in § 154-8, improper management of pet waste or any other activity that causes or contributes to violations of the City's MS4 SPDES permit authorization.

C. Upon notification to a person that he or she is engaged in activities that cause or contribute to violations of the City's MS4 SPDES permit authorization or cause or contribute to pollutants being discharged to the City's MS4, that person shall take all reasonable actions to correct such activities such that he or she no longer causes or contributes to violations of the City's MS4 SPDES permit authorization, or causes or contributes to pollutants to be discharged or deposited into the City's MS4.

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§ 154-10. Requirement to Prevent, Control, and Reduce Storm Water Pollutants By the Use of Best Management Practices

A. Best Management Practices. Where the City Engineer has identified illicit discharges as defined in § 154-2 or activities contaminating storm water as defined in § 154-7, the City Engineer may require implementation of Best Management Practices (BMPs) to control those illicit discharges and activities.

- (1) The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials, pollutants or other wastes into the MS4 through the use of structural and non-structural BMPs.
- (2) Any person responsible for a property or premise, which is, or may be, the source of an illicit discharge as defined in § 154-2 or an activity contaminating storm water as defined in § 154-9, may be required to implement, at said person's expense, additional structural and non-structural BMPs to reduce or eliminate the source of pollutant(s) to the MS4.
- (3) Compliance with all terms and conditions of a valid SPDES permit authorizing the discharge of storm water associated with industrial activity, to the extent practicable, shall be deemed in compliance with the provisions of this section.

B. Individual Sewage Treatment Systems. Response to Special Conditions Requiring No Increase of Pollutants or Requiring a Reduction of Pollutants:

Where individual sewage treatment systems are contributing to the City's MS4 being subject to the Special Conditions as defined in §154-2, the owner or operator of such individual sewage treatment systems shall be required to:

- (1) Maintain and operate individual sewage treatment systems as follows:
 - (a) Inspect the septic tank annually to determine scum and sludge accumulation. Septic tanks must be pumped out whenever the bottom of

the scum layer is within 3 inches of the bottom of the outlet baffle or sanitary tee or the top of the sludge is within 10 inches of the bottom of the outlet baffle or sanitary tee.

- (b) Avoid the use of septic tank additives.
 - (c) Avoid the disposal of excessive quantities of detergents, kitchen wastes, laundry wastes and household chemicals; and
 - (d) Avoid the disposal of cigarette butts, disposable diapers, sanitary napkins, trash and other such items.
- (2) Repair or replace individual sewage treatment systems as follows:
- (a) In accordance with 10 NYCRR Appendix 75A to the maximum extent practicable.
 - (b) A design professional licensed to practice in New York State shall prepare design plans for any type of absorption field that involves:
 - (i) Relocating or extending an absorption area to a location not previously approved for such.
 - (ii) Installation of a new subsurface treatment system at the same location.
 - (iii) Use of alternate system or innovative system design or technology.
 - (c) A written certificate of compliance shall be submitted by the design professional to the City at the completion of construction of the repair or replacement system.

§ 154-11. Suspension of Access to MS4

A. The City Engineer may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge, which presents or may present imminent and substantial danger to the environment, to the health or welfare of persons, or to the MS4. The City Engineer shall notify the person of such suspension within a reasonable time thereafter in writing of the reasons for the suspension. If the violator fails to comply with a suspension order issued in an emergency, the City Engineer may take such steps as deemed necessary to prevent or minimize damage to the MS4 or to minimize danger to persons.

B. Suspension due to the detection of illicit discharge or unauthorized connection. Any person discharging to the City's MS4 in violation of this chapter may have their MS4 access terminated if such termination would abate or reduce an illicit discharge or result in the remedy of an unauthorized connection. The City Engineer will notify a violator in writing of the proposed termination of its MS4 access and the reasons therefore. The violator may petition the City Engineer for a reconsideration and hearing. Access may be granted by the City Engineer if he/she finds that the illicit discharge has ceased and the discharger has taken steps to prevent its recurrence, or that the discharger has obtained proper permission for the connection. Access may be denied if the City Engineer determines in writing that the illicit discharge has not ceased or is likely to recur or the unauthorized connection has not been remedied. A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section, without the prior approval of the City Engineer.

§ 154-12. Industrial or Construction Activity Discharges

Any person subject to an industrial or construction activity SPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the City Engineer prior to the allowing of discharges to the MS4.

§ 154-13. Connection Permits

A. General. Any connection to the City's MS4 requires a permit issued by the City Engineer. Applications for permits shall be made on forms provided by the Office of the City Engineer. Permit applications shall be supplemented by any plans,

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specifications, analyses, calculations or other information considered pertinent by the City Engineer. The City considers connection to its MS4 as a last resort to solve flooding problems. Before approving a connection, the City will require that applicants use on-site best management practices to handle storm water and other authorized non-storm water discharges to the maximum extent practicable. The Office of the City Engineer will assess the adequacy of the applicant's on-site storm water disposal management practices.

B. Permit Types.

- (1) General Permit. An authorization for the connection as well as the discharge of storm water or authorized non-storm water (per § 154-6A), from properties occupied by private dwellings.
- (2) Connection Permit. An authorization for connection as well as discharge authorized under § 154-13, as well as for a discharge permitted under a SPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the NYSDEC. This permit is subject to special terms and conditions by the City Engineer. The permit will expire on or before the expiration of the NYSDEC SPDES permit, waiver or order or upon change of ownership or use of the property.
- (3) Special Permit. An authorization for the connection as well as the discharge of storm water or authorized non-storm water (per § 154-6A), from all properties occupied by other than private dwellings.

C. Permit Fees. The following fee schedule:

(1) General Permit:	Application and Filing Fee:	\$25.00
	Inspection Fee:	None
(2) § 154-6D Permit:	Application and Filing Fee:	\$250.00
	Inspection Fee:	\$500.00
(3) Special Permit:	Application and Filing Fee:	\$250.00
	Inspection Fee:	\$500.00

D. Inspection. All connections to the City's MS4 shall be subject to the approval and inspection by the City. The applicant must notify the Office of the City Engineer at least 48 hours prior to commencing work and at least 48 hours prior to final restoration.

E. Indemnification. The property owner shall indemnify and save the City harmless from any loss, damage or expense, claims or suits arising out of and in connection with the installation and connection to the City's MS4. In addition, the City makes no guarantee that its MS4 will not become surcharged or otherwise overburdened and that water from the MS4 will not back-up through the connection onto the owner's property. By making a connection, the applicant/owner assumes all of the risk and liability that may arise from it.

F. Permit Transfers. General permits may be transferred with the sale of a residential property, provided the use does not change. The new property owner shall comply with the terms and conditions of the transferred permit. Special permits are not transferable without approval of the City Engineer.

G. Work within City Roads. Any connection made within or involving work within a City road will also comply and be subject to any and all applicable chapters and regulations pertaining to permits for work on and within City streets and roads. A permit under this chapter does not relieve the applicant from the permits under the foregoing chapters and regulations.

H. Other Permits Required. A connection permit issued pursuant to this chapter does not relieve the applicant from any and all other permits, permissions, or compliance with rules and regulations that may be required by federal, state, county, town, city government agencies or other public or private parties. This permit does not supersede any of the above.

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1. Permit Rules and Regulations. The City Engineer may promulgate rules and regulations for the permitting process within the constraints of this chapter.

§ 154-14. Access and Monitoring of Discharges

- A. Applicability. This section applies to all facilities that the City Engineer must inspect to enforce any provision of this chapter, or whenever the authorized enforcement agency has cause to believe that there exists, or potentially exists, in or upon any premises any condition that constitutes a violation of this chapter.
- B. Access to Facilities.
 - (1) The SMO shall be permitted to enter and inspect facilities public and private subject to regulation under this chapter as often as may be necessary to determine compliance with this chapter. If a discharger has security measures in force that require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to the SMO.
 - (2) Facility operators shall allow the SMO ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records as may be required to implement this chapter.
 - (3) The City shall have the right to set up on any facility subject to this chapter such devices as are necessary in the opinion of the City Engineer to conduct monitoring and/or sampling of the facility's storm water discharge.
 - (4) The City Engineer has the right to require the facilities subject to this chapter to install monitoring equipment as is reasonably necessary to determine compliance with this chapter. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure storm water flow and quality shall be calibrated to ensure their accuracy.
 - (5) Unreasonable delays in allowing the City access to a facility subject to this chapter are a violation of this chapter. A person who is the operator of a facility subject to this chapter commits an offense if the person denies the City reasonable access to the facility for the purpose of conducting any activity authorized or required by this chapter.
 - (6) If the SMO has been refused access to any part of the premises from which storm water is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this chapter, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this chapter or any order issued hereunder, then the SMO may seek issuance of a search warrant from any court of competent jurisdiction.

§ 154-15. Notification of Spills

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into the MS4, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of nonhazardous materials, said person shall notify the City Engineer in person or by telephone or facsimile no later than the next business day. Notifications in person or by telephone shall be confirmed by written notice addressed and mailed to the City Engineer within 3 business days of the telephone notice. If the discharge of prohibited materials emanates from a commercial

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or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least 3 years.

§ 154-16. Enforcement

A. Notice of Violation. When the City Engineer finds that a person has violated a prohibition or failed to meet a requirement of this chapter or a permit issued pursuant to this chapter, he/she may order compliance by written notice of violation to the responsible person. Such notice may require without limitation any or all of the actions listed below:

- (1) The elimination of illicit or unauthorized connections or discharges;
- (2) That violating discharges, practices, operations, activities, or connections shall cease and desist;
- (3) The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
- (4) The performance of monitoring, analyses, and reporting;
- (5) Payment of a fine; and
- (6) The implementation of source control or treatment BMPs. If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

B. Penalties. In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this chapter shall be guilty of a violation punishable by a fine not exceeding one-thousand dollars (\$1,000) or imprisonment for a period not to exceed 2 months, or both for conviction of a first offense; for conviction of a second offense both of which were committed within a period of 5 years, punishable by a fine not less than one-thousand dollars (\$1,000) nor more than two-thousand dollars (\$2,000) or imprisonment for a period not to exceed 2 months, or both; and upon conviction for a third or subsequent offense all of which were committed within a period of 5 years, punishable by a fine not less than two-thousand dollars (\$2,000) nor more than five thousand dollars (\$5,000) or imprisonment for a period not to exceed 2 months, or both. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this chapter shall be deemed misdemeanors and for such purpose only all provisions of law relating to misdemeanors shall apply to such violations. Each week's continued violation shall constitute a separate additional violation.

§ 154-17. Appeal of Notice of Violation

Any person receiving a Notice of Violation may appeal within 15 calendar days of its issuance. The City Engineer shall hear the appeal within 30 days after the filing of the appeal, and within 5 days of making his/her decision, issue a decision by certified mail to the discharger. The City Engineer may conduct the hearing and take evidence or may designate any officer or employee of the Office of the City Engineer to do so.

§ 154-18. Corrective Measures After Appeal

A. If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or, in the event of an appeal, within 5 business days of the

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decision of the City Engineer, then the City Engineer shall request the owner's permission for access to the subject private property to take any and all measures reasonably necessary to abate the violation and/or restore the property.

- B. If refused access to the subject private property, the City Engineer may seek a warrant in a court of competent jurisdiction to be authorized to enter upon the property to determine whether a violation has occurred. Upon determination that a violation has occurred, the City Engineer may seek a court order to take any and all measures reasonably necessary to abate the violation and/or restore the property. The cost of implementing and maintaining such measures shall be the sole responsibility of the discharger.

§ 154-19. Injunctive Relief

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this chapter. If a person has violated or continues to violate the provisions of this chapter, the City Engineer may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

§ 154-20. Alternative Remedies

- A. Where a person has violated a provision of this chapter, he/she may be eligible for alternative remedies in lieu of a civil penalty, upon recommendation of the Corporation Counsel and concurrence of the City Engineer, where:

- (1) The violation was unintentional.
- (2) The violator has no history of previous violations of this chapter.
- (3) Environmental damage was minimal.
- (4) Violator acted quickly to remedy violation.
- (5) Violator cooperated in investigation and resolution.

- B. Alternative remedies may consist of one or more of the following:

- (1) Attendance at compliance workshops.
- (2) Storm drain stenciling or storm drain marking.
- (3) River, stream or creek cleanup activities.

§ 154-21. Violations Deemed a Public Nuisance

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

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§ 154-22. Remedies not Exclusive

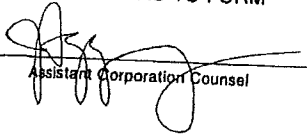
The remedies listed in this chapter and regulations are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

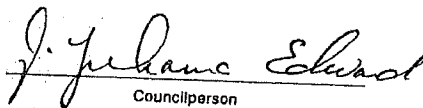
Section 2. This ordinance shall take effect immediately.

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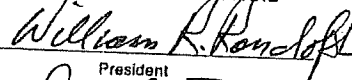
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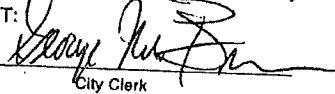
APPROVED AS TO FORM


Assistant Corporation Counsel


Councilperson

THIS ORDINANCE
ADOPTED BY CITY COUNCIL

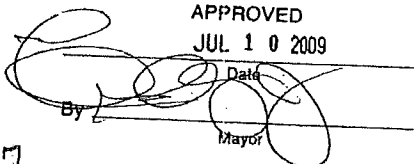

President

ATTEST: 
City Clerk

APPROVED

Dept. _____

APPROVED
JUL 10 2009


By _____
Mayor

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Chapter 226

STORMWATER MANAGEMENT

[HISTORY: Adopted by the Council of the City of Mount Vernon 7-8-2009, approved 7-10-2009. Amendments noted where applicable.]

GENERAL REFERENCES

Surfacing and paving materials — See Ch. 230.

Zoning — See Ch. 267.

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ARTICLE I
General Provisions

§ 226-1. Findings of fact.

It has been determined by the New York State Department of Environmental Conservation (NYSDEC) that:

- A. Land development activities and associated increases in site impervious cover often alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, or sediment transport and deposition;
- B. This stormwater runoff contributes to increased quantities of water-borne pollutants, including siltation of aquatic habitat for fish and other desirable species;
- C. Clearing and grading during construction tends to increase soil erosion and add to the loss of native vegetation necessary for terrestrial and aquatic habitat;
- D. Improper design and construction of stormwater management practices can increase the velocity of stormwater runoff thereby increasing streambank erosion and sedimentation;
- E. Impervious surfaces allow less water to percolate into the soil, thereby decreasing groundwater recharge and stream baseflow;
- F. Substantial economic losses can result from these adverse impacts on the waters of the state;
- G. Stormwater runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of stormwater runoff from land development activities;
- H. The regulation of stormwater runoff discharges from land development activities in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff is in the public interest and will minimize threats to public health and safety.
- I. Regulation of land development activities by means of performance standards governing stormwater management and site design will produce development compatible with the natural functions of a particular site or an entire watershed and thereby mitigate the adverse effects of erosion and sedimentation from development.

§ 226-2. Purpose.

The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing within the City and to address the state's findings of fact in § 226-1 hereof. This chapter seeks to meet those purposes by achieving the following objectives:

- A. Meet the requirements of minimum measures four and five of New York State's

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SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit No. GP-02-02, or as amended or revised;

- B. Require land development and redevelopment activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities, GP-02-01, or as amended or revised;
- C. Minimize increases in stormwater runoff from land development and redevelopment activities in order to reduce flooding, siltation, increases in stream temperature, and streambank erosion and maintain the integrity of stream channels, watercourses or waterways;
- D. Minimize increases in pollution caused by stormwater runoff from land development and redevelopment activities which would otherwise degrade local water quality;
- E. Minimize the total annual volume of stormwater runoff which flows from any specific site during and following development and redevelopment to the maximum extent practicable; and
- F. Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices, devices and/or structures, and to ensure that these management practices, devices and/or structures are properly maintained and eliminate threats to public safety.

§ 226-3. Statutory authority.

In accordance with § 10 of the Municipal Home Rule Law of the State of New York, the City Council of the City of Mount Vernon has the authority to enact local laws and amend local laws and for the purpose of promoting the health, safety or general welfare of the City of Mount Vernon and for the protection and enhancement of its physical environment. The City Council of the City of Mount Vernon may include in any such local law provisions for the appointment of any municipal officer, employees, or independent contractor to effectuate, administer and enforce such local law.

§ 226-4. Applicability.

- A. This chapter shall be applicable to all land development and redevelopment activities as defined in § 226-6 of this article.
- B. The City shall designate a Stormwater Management Officer who shall accept and review all stormwater pollution prevention plans and forward such plans to the City Council. The Stormwater Management Officer may:
 - (1) Review the plans;
 - (2) Engage the services of a licensed/certified professional to review the plans, specifications and related documents at a cost not to exceed a fee schedule established by said governing board, upon approval by the City Council of the City of Mount Vernon; or

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- (3) Accept the certification of a licensed professional that the plans conform to the requirements of this chapter.
- C. All land development or redevelopment activities subject to review and approval by the Planning Board of the City of Mount Vernon under subdivision, site plan and/or special permit regulations shall be reviewed subject to the standards contained in this article.
- D. All land development activities not subject to review as stated in § 226-4C of this article shall be required to submit a stormwater pollution prevention plan (SWPPP) to the Stormwater Management Officer who shall approve the SWPPP if it complies with the requirements of this chapter.

§ 226-5. Exemptions.

The following activities are exempt from review under this chapter:

- A. Agricultural activity as defined in this article.
- B. Silvicultural activity except that landing areas and log haul roads are subject to this chapter.
- C. Routine maintenance activities that disturb less than five acres and are performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility.
- D. Repairs to any stormwater management practice or facility deemed necessary by the Stormwater Management Officer.
- E. Any part of a subdivision if a plat for the subdivision has been approved by the City on or before the effective date of this chapter.
- F. Land development or redevelopment activities for which a building permit has been approved on or before the effective date of this chapter.
- G. Cemetery graves.
- H. Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles.
- I. Emergency activity immediately necessary to protect life, property or natural resources.
- J. Activities of an individual engaging in home gardening by growing flowers, vegetable and other plants primarily for use by that person and his or her family.
- K. Landscaping and horticultural activities in connection with an existing structure.

§ 226-6. Definitions.

The terms used in this chapter or in documents prepared or reviewed under this chapter shall have the meaning as set forth in this section:

AGRICULTURAL ACTIVITY — The activity of an active farm, including grazing and

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watering livestock, irrigating crops, harvesting crops, using land for growing agricultural products, and cutting timber for sale, but shall not include the operation of a dude ranch or similar operation, or the construction of new structures associated with agricultural activities.

APPLICANT — A property owner or agent of a property owner who has filed an application for a land development or redevelopment activity.

BUILDING — Any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal, or property, and occupying more than 100 square feet of area.

CITY — The City of Mount Vernon, New York.

CITY ENGINEER — The City Engineer of the City of Mount Vernon, New York.

CLEARING — Any activity that removes the vegetative surface cover.

DEDICATION — The deliberate appropriation of property by its owner for general public use.

DEPARTMENT — The New York State Department of Environmental Conservation.

DESIGN MANUAL — The New York State Stormwater Management Design Manual, most recent version, including applicable updates, which serves as the official guide for stormwater management principles, methods and practices.

DEVELOPER — A person who undertakes land development activities.

EPA — Environmental Protection Agency.

EROSION — The removal of soil particles by the action of water, wind, ice or other geological agents.

EROSION CONTROL MANUAL — The most recent version of the "New York Standards and Specifications for Erosion and Sediment Control" manual, commonly known as the "Blue Book."

GRADING — Excavation or fill of material, including the resulting conditions thereof.

IMPERVIOUS COVER — Those surfaces, improvements and structures that cannot effectively infiltrate rainfall, snowmelt and water (e.g., building rooftops, pavement, sidewalks, driveways, etc.).

INDUSTRIAL STORMWATER PERMIT — A State Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries which regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

INFILTRATION — The process of percolating stormwater into the subsoil.

JURISDICTIONAL WETLAND — An area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as "hydrophytic vegetation."

LAND DEVELOPMENT/REDEVELOPMENT ACTIVITY — Construction activity, including clearing, grading, excavating, soil disturbance or placement of fill that results in land disturbance of equal to or greater than one acre, or activities disturbing less than

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one acre of total land area that is part of a larger common plan of development or sale, even though multiple separate and distinct land development or redevelopment activities may take place at different times on different schedules.

LANDOWNER — The legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

LICENSED/CERTIFIED PROFESSIONAL — A person currently licensed to practice engineering in New York State or a certified professional in erosion and sediment control (CPESC).

MAINTENANCE AGREEMENT — A legally recorded document that acts as a property deed restriction and which provides for long-term maintenance of stormwater management practices.

NONPOINT SOURCE POLLUTION — Pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

NYSDEC — New York State Department of Environmental Conservation.

PHASING — Clearing a parcel of land in distinct pieces or parts, with the stabilization of each piece completed before the clearing of the next.

PLANNING BOARD — The Planning Board of the City of Mount Vernon.

POLLUTANT OF CONCERN — Sediment or a water quality measurement that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the land development activity.

PROJECT — Land development or redevelopment activity.

RECHARGE — The replenishment of underground water reserves.

SEDIMENT CONTROL — Measures that prevent eroded sediment from leaving the site.

SENSITIVE AREAS — Cold-water fisheries, shellfish beds, swimming beaches, groundwater recharge areas, water supply reservoirs, and habitats for threatened, endangered or special concern species.

SPDES GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES GP-02-01 — A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to developers of construction activities to regulate disturbance of one or more acres of land.

SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM MUNICIPAL SEPARATE STORMWATER SEWER SYSTEMS GP-02-02 — A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to municipalities to regulate discharges from municipal separate storm sewers for compliance with EPA and/or NYSDEC established water quality standards and/or to specify stormwater control standards.

STABILIZATION — The use of practices that prevent exposed soil from eroding.

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STOP-WORK ORDER — An order issued which requires that all construction activity on a site be stopped.

STORMWATER — Rainwater, surface runoff, subsurface drainage and snowmelt.

STORMWATER HOTSPOT — A land use or activity that generates higher concentrations of hydrocarbons, trace metals or toxicants than are found in typical stormwater runoff, based on monitoring studies.

STORMWATER MANAGEMENT — The use of structural or nonstructural practices that are designed to reduce stormwater runoff and mitigate its adverse impacts on property, natural resources and the environment.

STORMWATER MANAGEMENT FACILITY — One or a series of stormwater management practices installed, stabilized and operating for the purpose of controlling stormwater runoff.

STORMWATER MANAGEMENT OFFICER (SMO) — The City Engineer of the City of Mount Vernon (or the person serving in the capacity of the City Engineer) or his/her authorized deputies, agents or representatives, including employees of other City Departments, as appropriate. The SMO is designated by the City to accept and review stormwater pollution prevention plans, forward the plans to the applicable municipal board and inspect stormwater management practices.

STORMWATER MANAGEMENT PRACTICES (SWMPs) — Measures, either structural or nonstructural, that are determined to be the most effective, practical means of preventing flood damage and preventing or reducing point source or nonpoint source pollution inputs to stormwater runoff and water bodies.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) — A plan for controlling stormwater runoff and pollutants from a site during and after construction activities.

STORMWATER RUNOFF — Flow on the surface of the ground, resulting from precipitation.

STREAM CHANNEL — A natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water (see also "watercourse"; "waterway").

SURFACE WATERS OF THE STATE OF NEW YORK — Lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial seas of the State of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Storm sewers and waste treatment systems, including treatment ponds or lagoons, which also meet the criteria of this definition are not waters of the state. This exclusion applies only to man-made bodies of water which neither were originally created in waters of the state (such as a disposal area in wetlands) nor resulted from impoundment of waters of the state.

WATERCOURSE — A permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water (see also "stream channel"; "waterway").

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WATERWAY — A channel that directs surface runoff to a watercourse or to the public storm drain (see also "stream channel"; "watercourse").

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ARTICLE II
Stormwater Pollution Prevention Plans

§ 226-7. Requirement.

No application for approval of a land development or redevelopment activity shall be reviewed until the Planning Board or SMO has received a stormwater pollution prevention plan (SWPPP) prepared in accordance with the specifications in this article.

§ 226-8. Contents.

- A. All SWPPPs shall provide the following background information and erosion and sediment controls:
- (1) Background information about the scope of the project, including location, type and size of project;
 - (2) Site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharges(s). The site map should be at a scale no smaller than one inch equals 100 feet;
 - (3) Description of the soil(s) present at the site;
 - (4) Construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Standards and Specifications for Erosion and Sediment Control (Erosion Control Manual), not more than five acres shall be disturbed at any one time unless pursuant to an approved SWPPP;
 - (5) Description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in stormwater runoff;
 - (6) Description of construction and waste materials expected to be stored on site with updates as appropriate, and a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill-prevention and response;
 - (7) Temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project close-out;
 - (8) A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;
 - (9) Dimensions, material specifications and installation details for all erosion and

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sediment control practices, including the siting and sizing of any temporary sediment basins;

- (10) Temporary practices that will be converted to permanent control measures;
 - (11) Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice should remain in place;
 - (12) Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice;
 - (13) Name(s) of the receiving water(s);
 - (14) Delineation of SWPPP implementation responsibilities for each part of the site;
 - (15) Description of structural practices designed to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and
 - (16) Any existing data that describes the stormwater runoff at the site.
- B. Land development or redevelopment activities as defined in § 226-6 of this chapter and meeting Condition A, B or C below shall also include water quantity and water quality controls (post-construction stormwater runoff controls) as set forth in § 226-8C below as applicable:
- (1) Condition A: stormwater runoff from land development or redevelopment activities discharging a pollutant of concern to either an impaired water identified on the Department's 303(d) list of impaired waters or a total maximum daily load (TMDL) designated watershed for which pollutants in stormwater have been identified as a source of the impairment.
 - (2) Condition B: stormwater runoff from land development or redevelopment activities disturbing five or more acres.
 - (3) Condition C: stormwater runoff from land development or redevelopment activity disturbing between one and five acres of land during the course of the project, exclusive of the construction of single-family residences and construction activities at agricultural properties.
- C. SWPPP requirements for Condition A, B and C:
- (1) All information in § 226-8A of this chapter;
 - (2) Description of each post-construction stormwater management practice;
 - (3) Site map/construction drawing(s) showing the specific location(s) and size(s) of each post-construction stormwater management practice;
 - (4) Hydrologic and hydraulic analysis for all structural components of the stormwater management system for the applicable design storms;
 - (5) Comparison of post-development stormwater runoff conditions with

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predevelopment conditions;

- (6) Dimensions, material specifications and installation details for each post-construction stormwater management practice;
- (7) Maintenance schedule to ensure continuous and effective operation of each post-construction stormwater management practice;
- (8) Maintenance easements to ensure access to all stormwater management practices at the site for the purpose of inspection and repair. Easements shall be recorded on the plan and shall remain in effect with transfer of title to the property;
- (9) Inspection and maintenance agreement binding on all subsequent landowners served by the on-site stormwater management measures in accordance with Article IV of this chapter; and
- (10) For Condition A, the SWPPP shall be prepared by a landscape architect, certified professional or professional engineer and must be signed by the professional preparing the plan, who shall certify that the design of all stormwater management practices meet the requirements in this chapter.

§ 226-9. Other environmental permits.

The applicant shall assure that all other applicable environmental permits have been or will be acquired for the land development or redevelopment activity prior to approval of the final stormwater design plan.

§ 226-10. Contractor certification.

- A. Each contractor and subcontractor identified in the SWPPP who will be involved in soil disturbance and/or stormwater management practice installation shall sign and date a copy of the following certification statement before undertaking any land development or redevelopment activity: "I certify under penalty of law that I understand and agree to comply with the terms and conditions of the stormwater pollution prevention plan. I also understand that it is unlawful for any person to cause or contribute to a violation of water quality standards."
- B. The certification must include the name and title of the person providing the signature, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.
- C. The certification statement(s) shall become part of the SWPPP for the land development activity.
- D. A copy of the SWPPP shall be retained at the site of the land development or redevelopment activity during construction from the date of initiation of construction activities to the date of final stabilization.

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ARTICLE III

Performance and Design Criteria for Stormwater Management and Erosion and Sediment Control

§ 226-11. Standards.

All land development or redevelopment activities shall be subject to the following performance and design criteria.

- A. Technical standards. For the purpose of this chapter, the following documents shall serve as the official guides and specifications for stormwater management. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this chapter:
- (1) The New York State Stormwater Management Design Manual (New York State Department of Environmental Conservation, most current version or its successor, hereafter referred to as the "Design Manual").
 - (2) New York Standards and Specifications for Erosion and Sediment Control (Empire State Chapter of the Soil and Water Conservation Society, 2004, most current version or its successor, hereafter referred to as the "Erosion Control Manual").
- B. Equivalence to technical standards. Where stormwater management practices are not in accordance with technical standards, the applicant or developer must demonstrate equivalence to the technical standards set forth in § 226-11A of this chapter and the SWPPP shall be prepared by a licensed professional.
- C. Water quality standards. Any land development or redevelopment activity shall not cause an increase in turbidity that will result in substantial visible contrast to natural conditions in surface waters of the State of New York.

ARTICLE IV

Maintenance, Inspection and Repair of Stormwater Facilities**§ 226-12. Maintenance and inspection during construction.**

- A. The applicant or developer of the land development or redevelopment activity or their representative shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the applicant or developer to achieve compliance with the conditions of this chapter. Sediment shall be removed from sediment traps or sediment ponds whenever their design capacity has been reduced by 50%.
- B. For land development or redevelopment activities as defined in § 226-6 of this chapter and meeting Condition A, B or C in § 226-8B of this chapter, the applicant shall have a qualified professional conduct site inspections and document the effectiveness of all erosion and sediment control practices every seven days and within 24 hours of any storm event producing 0.5 inch of precipitation or more. Inspection reports shall be maintained in a site logbook.
- C. The applicant or developer or their representative shall be on site at all times when construction or grading activity takes place and shall inspect and document the effectiveness of all erosion and sediment control practices.

§ 226-13. Maintenance easement(s).

Prior to the issuance of any approval that has a stormwater management facility as one of the requirements, the applicant or developer must execute a maintenance easement agreement that shall be binding on all subsequent landowners served by the stormwater management facility. The easement shall provide for access to the facility at reasonable times for periodic inspection by the City to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this chapter. The easement shall be recorded by the grantor in the office of the City Clerk after approval by the Corporation Counsel.

§ 226-14. Maintenance after construction.

The owner or operator of permanent stormwater management practices installed in accordance with this chapter shall ensure they are operated and maintained to achieve the goals of this chapter. Proper operation and maintenance also includes, as a minimum, the following:

- A. A preventive/corrective maintenance program for all critical facilities and systems of treatment and control (or related appurtenances) which are installed or used by the owner or operator to achieve the goals of this chapter.
- B. Written procedures for operation and maintenance and training new maintenance personnel.
- C. Discharges from the SWMPs shall not exceed design criteria or cause or contribute to water quality standard violations in accordance with § 226-11C of this chapter.

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§ 226-15. Maintenance agreements.

The City shall approve a formal maintenance agreement for stormwater management facilities binding on all subsequent landowners and recorded in the office of the City Clerk as a deed restriction on the property prior to final plan approval. The maintenance agreement shall be consistent with the terms and conditions of Schedule B found at the end of this chapter entitled "Sample Stormwater Control Facility Maintenance Agreement." The City, in lieu of a maintenance agreement, at its sole discretion, may accept dedication of any existing or future stormwater management facility, provided such facility meets all the requirements of this chapter and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

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ARTICLE V
Administration and Enforcement

§ 226-16. Construction inspection.

- A. Erosion and sediment control inspection. The City's SMO may require such inspections as necessary to determine compliance with this chapter and may either approve that portion of the work completed or notify the applicant wherein the work fails to comply with the requirements of this chapter and the stormwater pollution prevention plan (SWPPP) as approved.
- (1) To obtain inspections, the applicant shall notify the City enforcement official at least 48 hours before any of the following as required by the SMO:
- (a) Start of construction.
 - (b) Installation of sediment and erosion control measures.
 - (c) Completion of site clearing.
 - (d) Completion of rough grading.
 - (e) Completion of final grading.
 - (f) Close of the construction season.
 - (g) Completion of final landscaping.
 - (h) Successful establishment of landscaping in public areas.
- (2) If any violations are found, the applicant and developer shall be notified, in writing, of the nature of the violation and the required corrective actions. No further work shall be conducted except for site stabilization until any violations are corrected and all work previously completed has received approval by the SMO.
- B. Stormwater management practice inspections. The City's SMO is responsible for conducting inspections of stormwater management practices (SWMPs). Inspections may be performed by City staff or the City's SMO may designate an inspector required to have a professional engineer's (PE) license or certified professional in erosion and sediment control (CPESC) certificate, as long as the designated inspector is required to submit a report. All applicants are required to submit as-built plans for any stormwater management practices located on site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be certified by a professional engineer.
- C. Inspection of stormwater facilities after project completion. Inspection programs shall be established on any reasonable basis, including, but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher-than-typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher-than-usual discharges of

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contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the NYSDEC SPDES General Stormwater Permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other stormwater management practices.

- D. Submission of reports. The City's SMO may require monitoring and reporting from entities subject to this chapter as are necessary to determine compliance with this chapter.
- E. Right-of-entry for inspection. When any new stormwater management facility is installed on private property or when any new connection is made between private property and the public stormwater system, the landowner shall grant to the City the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection as specified in Subsection C.

§ 226-17. Performance guarantee.

- A. Construction completion guarantee. In order to ensure the full and faithful completion of all land development activities related to compliance with all conditions set forth by the City in its approval of the stormwater pollution prevention plan, the City may require the applicant or developer to provide, prior to construction, a performance bond, cash escrow, or irrevocable letter of credit from an appropriate financial or surety institution which guarantees satisfactory completion of the project and names the City as the beneficiary. The security shall be in an amount to be determined by the City based on submission of final design plans, with reference to actual construction and landscaping costs. The performance guarantee shall remain in force until the surety is released from liability by the City, provided that such period shall not be less than one year from the date of final acceptance or such other certification that the facilities have been constructed in accordance with the approved plans and specifications and that a one-year inspection has been conducted and the facilities have been found to be acceptable to the City. Per annum interest on cash escrow deposits shall be reinvested in the account until the surety is released from liability.
- B. Maintenance guarantee. Where stormwater management and erosion and sediment control facilities are to be operated and maintained by the developer or by a corporation that owns or manages a commercial or industrial facility, the developer, prior to construction, may be required to provide the City with an irrevocable letter of credit from an approved financial institution or surety to ensure proper operation and maintenance of all stormwater management and erosion control facilities both during and after construction, and until the facilities are removed from operation. If the developer or landowner fails to properly operate and maintain stormwater management and erosion and sediment control facilities, the City may draw upon the account to cover the costs of proper operation and maintenance, including engineering and inspection costs.
- C. Recordkeeping. The City may require entities subject to this chapter to maintain

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records demonstrating compliance with this chapter.

§ 226-18. Enforcement; penalties for offenses.

- A. Notice of violation. When the City determines that a land development or redevelopment activity is not being carried out in accordance with the requirements of this chapter, it may issue a written notice of violation to the landowner. The notice of violation shall contain:
- (1) The name and address of the landowner, developer or applicant;
 - (2) The address when available or a description of the building, structure or land upon which the violation is occurring;
 - (3) A statement specifying the nature of the violation;
 - (4) A description of the remedial measures necessary to bring the land development or redevelopment activity into compliance with this chapter and a time schedule for the completion of such remedial action;
 - (5) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
 - (6) A statement that the determination of violation may be appealed to the City by filing a written notice of appeal within 15 days of service of notice of violation.
- B. Stop-work orders. The City may issue a stop-work order for violations of this chapter. Persons receiving a stop-work order shall be required to halt all land development or redevelopment activities, except those activities that address the violations leading to the stop-work order. The stop-work order shall be in effect until the City confirms that the land development or redevelopment activity is in compliance and the violation has been satisfactorily addressed. Failure to address a stop-work order in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this chapter.
- C. Violations. Any land development or redevelopment activity that is commenced or is conducted contrary to this chapter may be restrained by injunction or otherwise abated in a manner provided by law.
- D. Penalties. In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this chapter shall be guilty of a violation punishable by a fine not exceeding \$350 or imprisonment for a period not to exceed six months, or both for conviction of a first offense; for conviction of a second offense, both of which were committed within a period of five years, punishable by a fine not less than \$350 nor more than \$700 or imprisonment for a period not to exceed six months, or both; and upon conviction for a third or subsequent offense, all of which were committed within a period of five years, punishable by a fine not less than \$700 nor more than \$1,000 or imprisonment for a period not to exceed six months, or both. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this chapter shall be deemed misdemeanors and for such purpose only all provisions of law relating to misdemeanors shall apply to such violations. Each week's continued

§ 226-18

MOUNT VERNON CODE

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violation shall constitute a separate additional violation.

- E. Withholding of certificate of occupancy. If any building or land development or redevelopment activity is installed or conducted in violation of this chapter, the SMO may prevent the occupancy of said building or land.
- F. Restoration of lands. Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the City may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

§ 226-19. Fees for services.

The City may require any person undertaking land development or redevelopment activities regulated by this chapter to pay reasonable costs at prevailing rates for review of SWPPPs, inspections, or SWMP maintenance performed by the City or performed by a third party for the City.

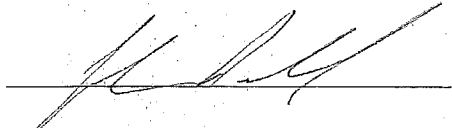
§ 226-20. Severability.

If the provisions of any article, section, subsection, paragraph, subdivision or clause of this chapter shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this chapter.

CERTIFICATION

I, Johan S. Powell, Attorney for the City of Mount Vernon, in the County of Westchester, State of New York, HEREBY CERTIFY that the local law entitled "Chapter 154, Illicit Discharges: Storm Sewer System" which was duly adopted by the City Council on June 25, 2006, is equivalent to the model local law promulgated by the New York State Department of Environmental Conservation titled, Model Local Law to Prohibit Illicit Discharges, Activities, and Connections to the Separate Storm Sewer System, 2006; and has been compared by me with the original local law as officially recorded in the minute Book of said City Council and is a true, complete and correct copy thereof and of the whole of said original local law.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 29th day of November 2022.

A handwritten signature in black ink, appearing to read 'Johan S. Powell', is written over a horizontal line.

Johan S. Powell

Attorney for the City of Mount Vernon

CERTIFICATION

I, Johan S. Powell, Attorney for the City of Mount Vernon, in the County of Westchester, State of New York, HEREBY CERTIFY that the local law entitled "Chapter 226, Stormwater Management" which was duly adopted by the City Council on July 8, 2009, is equivalent to the model local law promulgated by the New York State Department of Environmental Conservation titled, "Sample Local Law for Stormwater Management and Erosion & Sediment Control", 2006; and has been compared by me with the original local law as officially recorded in the minute Book of said City Council and is a true, complete and correct copy thereof and of the whole of said original local law.

INWITNESS WHEREOF, I have hereunto set my hand and seal this 29th day of November 2022.



Johan S. Powell

Attorney for the City of Mount Vernon

**CITY OF MOUNT VERNON
PHASE II STORM WATER MANAGEMENT PROGRAM**

**MINIMUM CONTROL MEASURES 4 AND 5
CONSTRUCTION SITE STORM WATER RUNOFF CONTROL
AND POST-CONSTRUCTION STORM WATER MANAGEMENT
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
GUIDANCE DOCUMENT
FOR
CONSTRUCTION SITE OWNERS /OPERATORS**

Prepared by:

**DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
WHITE PLAINS, NEW YORK**

JANUARY 2010

**CITY OF MOUNT VERNON
 PHASE II STORM WATER MANAGEMENT PROGRAM
 MINIMUM CONTROL MEASURES 4 AND 5
 CONSTRUCTION SITE STORM WATER RUNOFF CONTROL
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1.0 INTRODUCTION

Polluted storm water runoff from construction sites is a leading cause of water quality degradation throughout New York State and has resulted in fish and wildlife habitat degradation and limited enjoyment of the many benefits that our water resources provide. The City of Mount Vernon (the City) is committed to reducing the impacts of storm water runoff and associated pollutants. The aim of the City's construction site storm water management program is to improve the quality of surface waters by reducing and preventing the contamination of storm water at its source at the construction site, before it has an opportunity to pollute the runoff flow and affect water quality.

Pursuant to Section 402 of the Clean Water Act (CWA), storm water discharges from certain construction activities are unlawful unless they are authorized by a delegated state National Pollutant Discharge Elimination System (NPDES) permit program. The New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) is a NPDES-approved program with permits issued pursuant to Article 17, Titles 7, 8 and Article 70 of the state Environmental Conservation Law (ECL).

Under the NYSDEC SPDES General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s) the City is required to develop, implement and enforce a program that provides equivalent protection to the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities. Chapter 226 of the City Code entitled Storm Water Management addresses construction site storm water runoff to the City owned and operated MS4 and surface waters of the State. The City's MS4 is the storm water conveyance system, which includes City roads and streets with drainage systems, catch basins, curbs, gutters, ditches, man-made channels or storm drains.

An owner or operator of a construction activity that is eligible for coverage under the most recent version of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities is required to obtain the permit *prior* to the commencement of construction activity. City law requires owners or operators of regulated construction sites

within the City's jurisdiction to submit a Storm Water Pollution Prevention Plan (SWPPP) for review and approval by the City prior to submitting the Notice of Intent (NOI) to NYSDEC. Construction site owners or operators are required to include in the SWPPP and implement at the construction site the required erosion and sediment controls and post-construction storm water management practices that meet NYSDEC's most up-to-date technical standards.

The owner or operator of the construction activity is required to ensure that the provisions of the SWPPP are implemented from the commencement of construction activity until all areas of disturbance have achieved final stabilization and the Notice of Termination (NOT) has been submitted to NYSDEC. In addition, construction site operators of regulated land disturbing activities are required to control waste such as discarded building materials, concrete truck washout, chemicals, litter, sanitary waste and other materials at the construction site that may cause adverse impacts to water quality.

This SWPPP Guidance Document is intended to serve as a basic guide for all construction projects within the City's jurisdiction. It has been developed as a tool and reference for construction site owners, operators, design engineers, City staff and other individuals to whom the SPDES storm water regulations apply. Information is provided on the City's construction storm water requirements, when these requirements apply, to whom they apply, the procedures for submission of SWPPPs to the City for review, required construction site inspections, and other procedures associated with control of construction site storm water runoff.

This SWPPP Guidance Document was prepared to be consistent with the City Storm Water Management Local Law (Appendix A) and the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Appendix B). This SWPPP Guidance Document has been developed in an effort to make SWPPP preparation and submittal processes more effective and efficient. This document can assist interested individuals in providing thorough and systematic processes that will improve implementation of storm water pollution prevention control measures during project design and construction. Federal and NYSDEC approved technical standards, reference handbooks, manuals and documents should also be used in order to prepare an effective SWPPP.

2.0 APPLICABILITY

This section outlines the construction related storm water discharges covered under the SPDES program. The SWPPP Submittal Flow Chart provided at the end of this section summarizes the permitting and SWPPP preparation requirements according to project type. Refer to the most recent versions of Chapter 226 Storm Water Management of the City Code and the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities for the specific discharges that are authorized within the City's jurisdiction.

2.1 Authorized Discharges

Owners or operators of the proposed construction activities with in the City's jurisdiction outlined below are required to obtain coverage under the most recent version of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities.

- Construction activities involving soil disturbances of one or more acres. This includes disturbances of less than one acre that are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land. Not included in this definition are routine maintenance activities that are performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility. Routine maintenance activities include, but are not limited to:
 - Re-grading of gravel roads or parking lots,
 - Stream bank restoration projects (does not include the placement of spoil material),
 - Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
 - Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
 - Placement of aggregate shoulder backing that makes the transition between the road shoulder and the ditch or embankment,

- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six inches of subbase material,
 - Long-term use of equipment storage areas at or near highway maintenance facilities,
 - Removal of sediment from the edge of the highway to restore a previously existing sheet flow drainage connection from the highway surface to the highway ditch or embankment, and
 - Replacement of curbs, gutters, sidewalks and guide rail posts.
- Construction activities involving soil disturbances of less than one acre where NYSDEC has determined that a SPDES permit is required for storm water discharges based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to surface waters of the State.

2.2 Exempt Discharges

The non-storm water discharges outlined below are authorized and do not require permit coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities.

- Fire fighting activities
- Fire hydrant flushings
- Waters to which cleansers or other components have not been added that are used to wash vehicles or control dust in accordance with the SWPPP
- Routine external building washdown which does not use detergents
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used
- Air conditioning condensate
- Uncontaminated groundwater or spring water
- Uncontaminated discharges from construction site dewatering operations

- Foundation or footing drains where flows are not contaminated with process materials such as solvents

The non-storm water discharges outlined below may require permit coverage, but may be exempt from the City SWPPP review regulations and procedures as defined by City Code Chapter 226 Storm Water Management.

- Agricultural activities of an active farm including, grazing and watering livestock, irrigating crops, harvesting crops, using land for growing agricultural products, and cutting timber for sale. This definition does not include the operation of a dude ranch or similar operation, or the construction of new structures associated with the listed agricultural activities.
- Silvicultural activities. This definition does not include landing areas and log haul areas.
- Routine maintenance activities that disturb less than five acres and are performed to maintain original line and grade, hydraulic capacity, or original purpose of a facility.
- Repairs to any storm water management practice or facility deemed necessary by the City Storm Water Management Officer.
- Any part of a subdivision if a plat for the subdivision has been approved by the City on or before the effective date of Chapter 226 Storm Water Management of the City Code.
- Land development activities for which a building permit has been approved on or before the effective date of Chapter 226 Storm Water Management of the City Code.
- Cemetery graves.
- Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles.
- Emergency activity immediately necessary to protect life, property or natural resources.
- Activities of an individual engaging in home gardening by growing flowers, vegetable and other plants primarily for use by that person and his or her family.
- Landscaping and horticultural activities in connection with an existing structure.

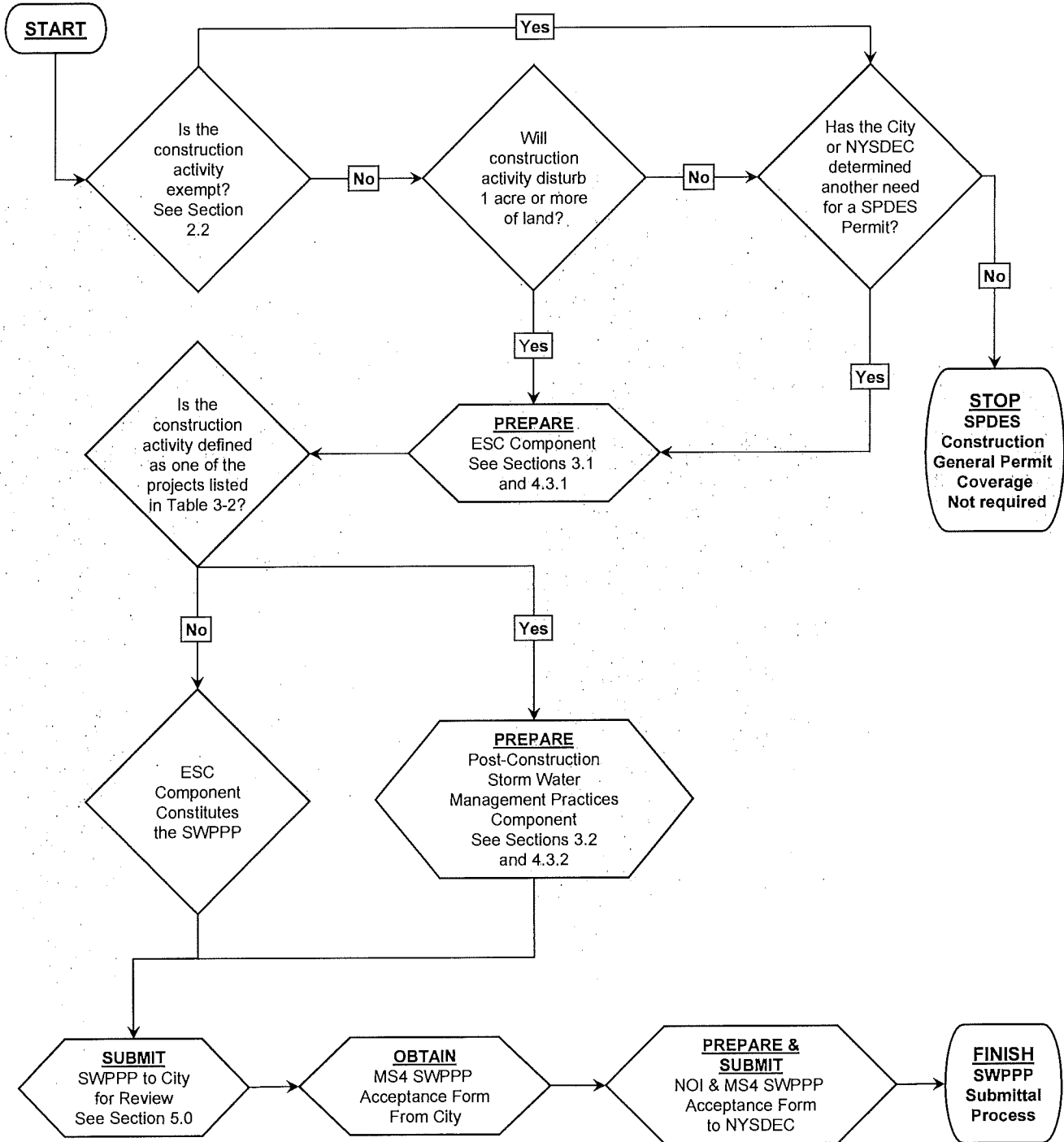
2.3 Unauthorized Activities

All of the following activities are not authorized under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities:

- Discharges after construction activities have been completed and the site has undergone final stabilization.
- Discharges that are mixed with sources of non-storm water other than those identified in the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities and identified in the SWPPP.
- Discharges that are subject to an existing individual SPDES permit or SPDES general permit or which are required to obtain an individual or general permit.
- Discharges from construction activities that adversely affect a listed, or proposed to be listed, endangered or threatened species, or its critical habitat.
- Discharges which are subject to an existing effluent (limitation) guideline addressing storm water and/or process wastewater.
- Discharges which either cause or contribute to a violation of water quality standards adopted pursuant to the ECL and its accompanying regulations.
- Construction activities that adversely affect a property that is listed or is eligible for listing on the State or National Register of Historic Places.

NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

**SWPPP SUBMITTAL PROCESS
FLOW CHART**



Notes:

- Refer to the relevant portions of the SWPPP Guidance Document for further details.
- Other environmental permits may be required under any of the above conditions.
- The City or NYSDEC may require a permit for construction activities that disturb <1 acre on case by case basis.
- The City may return the SWPPP to the applicant at any time for revision and/or modification.

3.0 REQUIRED SWPPP COMPONENTS BY PROJECT TYPE

This section outlines the required components of a SWPPP based on project type. The SWPPP Submittal Flow Chart provided at the end of Section 2.0 summarizes the SWPPP preparation requirements according to project type. Refer to the most recent versions of Chapter 226 Storm Water Management of the City Code and the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities for the specific SWPPP component categories.

3.1 Erosion and Sediment Control Component

Construction operators and/or owners of the projects identified in Tables 3-1 and 3-2 are required to prepare a SWPPP that includes erosion and sediment control practices designed in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control. Where erosion and sediment control practices are not designed in conformance with this technical standard, the City requires that the owner or operator demonstrate equivalence to the technical standard.

3.2 Post-Construction Storm Water Management Practice Component

Construction operators and/or owners of the projects identified in Table 3-2 are required to prepare a SWPPP that also includes post-construction storm water management practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual. Where post-construction storm water management practices are not designed in conformance with this technical standard, the City requires that the owner or operator demonstrate equivalence to the technical standard.

Table 3-1

**CONSTRUCTION ACTIVITIES THAT REQUIRE
THE PREPARATION OF A SWPPP
THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS**

Soil disturbances between one and five acres of land:

- Single family home.
- Single family residential subdivisions with 25% or less impervious cover at total site build-out.
- Construction of a barn or other agricultural building, silo, stock yard or pen.

Soil disturbances of one or more acres of land:

- Installation of underground, linear utilities such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains.
- Environmental enhancement projects, such as wetland mitigation projects, storm water retrofits and stream restoration projects.
- Bike paths and trails.
- Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project.
- Slope stabilization projects.
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics.
- Spoil areas that will be covered with vegetation.
- Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), excluding projects that alter hydrology from pre- to post-development conditions.
- Athletic fields (natural grass) that do not include the construction or reconstruction of impervious area and do not alter hydrology from pre- to post-development conditions.
- Demolition project where vegetation will be established and no redevelopment is planned.
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with impervious cover.
- Structural practices as identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State”, excluding projects that involve soil disturbances of less than five acres and construction activities that include the construction or reconstruction of impervious area.

Table 3-2

**CONSTRUCTION ACTIVITIES THAT REQUIRE
THE PREPARATION OF A SWPPP THAT ALSO INCLUDES
POST-CONSTRUCTION STORM WATER MANAGEMENT PRACTICES**

Soil disturbances of one or more acres of land:

- Single family residential subdivisions that involve soil disturbances of between one and five acres of land with greater than 25% impervious cover at total site build-out.
- Single family residential subdivisions that involve soil disturbances of five or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land.
- Multi-family residential developments including town homes, condominiums, senior housing complexes, and apartment complexes.
- Airports.
- Amusement parks.
- Campgrounds.
- Commercial developments.
- Churches and other places of worship.
- Construction of a barn or other agricultural building (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of impervious area, excluding projects that involve soil disturbances of less than five acres.
- Golf courses.
- Institutional, including hospitals, prisons, schools and colleges.
- Industrial facilities, includes industrial parks.
- Landfills.
- Municipal facilities including highway garages, transfer stations, office buildings, POTWs and water treatment plants.
- Office complexes.
- Sports complexes.
- Racetracks including racetracks with earthen (dirt) surface.
- Road construction or reconstruction.
- Parking lot construction or reconstruction.
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or alter the hydrology from pre- to post-development conditions.
- Athletic fields with artificial turf.

Table 3-2 (continued)

**CONSTRUCTION ACTIVITIES THAT REQUIRE
THE PREPARATION OF A SWPPP THAT ALSO INCLUDES
POST-CONSTRUCTION STORM WATER MANAGEMENT PRACTICES**

Soil disturbances of one or more acres of land:

- Permanent access roads or parking areas surfaced with impervious cover, and substations constructed as part of an over-head electric transmission line project, wind-power project or cell tower project.
- All other construction activities that include the construction or reconstruction of impervious area and alter the hydrology from pre- to post-development conditions, and are not listed in Table 3-1.

4.0 SWPPP CONTENTS

Owner(s) and/or operator(s) of construction activities that are required to obtain coverage under the SPDES General Permit for Stormwater Discharges from Construction Activities must prepare and submit a SWPPP to the City for review and acceptance.

4.1 General SWPPP Requirements

The SWPPP is to be completed before the NOI is submitted to NYSDEC and prior to the commencement of construction activity. The purpose of the SWPPP is to describe the required erosion and sediment control practices, post-construction storm water management practices and/or pollution prevention/good housekeeping practices that will be used and/or constructed to reduce pollutants in storm water discharges from the proposed construction activity. In addition, the SWPPP must identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from the construction activity.

4.2 Contractor and Subcontractor Certifications

The owner or operator of the construction activity is required to identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP prior to the commencement of construction activity. The owner or operator is required to also identify the contractor(s) and subcontractor(s) that will be responsible for the construction of all post-construction storm water management practices included in the SWPPP prior to the commencement of construction activity.

Each of these contractors and subcontractors is required to identify at least one trained individual from their company that will be responsible for implementation of their respective SWPPP components. The owner or operator of the construction activity is responsible for ensuring that these trained individuals are on site while soil disturbance activities are being performed.

The owner or operator is required to have each of these contractors and subcontractors identified above sign a copy of the Contractor/Subcontractor Certification Statement provided in Appendix D before they commence any construction activity.

The owner or operator is required to attach the completed certification statement(s) to the copy of the SWPPP that is maintained at the construction site. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement.

4.3 Required SWPPP Contents

4.3.1 Erosion and Sediment Control Component

All erosion and sediment controls are required to be designed in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control. Where erosion and sediment control practices are not designed in conformance with this technical standard, the owner or operator is required to demonstrate equivalence to the technical standard.

At a minimum, all SWPPPs prepared must include the following information:

- The scope of the project
- Project location, type and size
- Eligibility with regard to Historic Places:
 - Information on whether the storm water discharge or construction activities would have an effect on a property that is listed or eligible for listing on the State or National Register of Historic Places
 - Results of historic places screening determinations conducted
 - Measures necessary to avoid or minimize adverse impacts on places listed, or eligible for listing, on the State or National Register of Historic Places

- Where effects may occur, any written agreements that the owner or operator has made with the New York State Office of Parks Recreation and Historic Preservation (OPRHP) or other governmental agency to mitigate those effects, or local land use approvals evidencing the same
- Site map(s) and/or construction drawing(s) showing:
 - General location
 - Total site area
 - All improvements
 - Areas of disturbance
 - Areas that will not be disturbed
 - Existing vegetation
 - On-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the construction activity
 - Existing slopes
 - Final slopes
 - Soil types with boundaries
 - Material, waste, borrow or equipment storage areas located on adjacent properties
 - Location(s) of the storm water discharge(s)
 - Specific location(s), size(s), and length(s) of each erosion and sediment control practice
- Description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG)
- Construction phasing plan and sequence of operations describing the intended order of construction activities, including:
 - Clearing
 - Grubbing
 - Excavation
 - Grading

- Utility and infrastructure installation
- Any other activity at the site that results in soil disturbance
- Description of the minimum erosion and sediment control practices to be installed or implemented for each construction activity that will result in soil disturbance.
- Include the following information for each erosion and sediment control practice:
 - Dimensions
 - Material specifications
 - Installation details
 - Operation and maintenance requirements
 - Schedule that identifies timing of initial placement or implementation of each erosion and sediment control practice
 - Schedule that identifies minimum time frames that each practice should remain in place or be implemented
 - Inspection schedule and responsible parties to ensure continuous and effective operation of the erosion and sediment control practices in accordance with the requirements in the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control
- Temporary soil stabilization plan that meets the requirements of the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of final stabilization
- Permanent soil stabilization plan that meets the requirements of the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of final stabilization
- Description and location of pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in the storm water discharges
- Description and location of any storm water discharges associated with industrial activity other than construction at the site
- Identification of any elements of the design that are not in conformance with the technical standard, New York Standards and Specifications for Erosion and Sediment

Control. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards.

4.3.2 Post-Construction Storm Water Management Practice Component

All SWPPPs that require the post-construction storm water management practice component must be prepared by a qualified professional that is knowledgeable in the principles and practices of storm water management and treatment, such as a licensed Professional Engineer or licensed Landscape Architect. A qualified professional is required to have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics in order to prepare a SWPPP. All components of the SWPPP that involve the practice of engineering must be prepared by, or under the direct supervision of, a Professional Engineer licensed to practice in the State of New York.

In addition to the required information listed in Section 4.3.1, all SWPPPs that require a post-construction storm water management component must, at a minimum, include the following information:

- Identification of all post-construction storm water management practices to be constructed
- Site map(s)/construction drawing(s) showing the specific location and size of each post-construction storm water management practice
- Include the following information for each post-construction storm water management practice:
 - Dimensions
 - Material specifications
 - Installation details
 - Detailed summary (including calculations) of the sizing criteria that was used to design the practices

- Operations and maintenance plan
- Inspection and maintenance schedules
- Actions to ensure continuous and effective operation
- Responsible entities for long term operation and maintenance
- Hydrologic analysis for all structural components of the storm water management control system
- Hydraulic analysis for all structural components of the storm water management control system
- Identification of any elements of the design that are not in conformance with the New York State Stormwater Management Design Manual. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards

4.3.3 Projects That Disturb More Than Five Acres of Land

The owner or operator of a construction activity cannot disturb greater than five acres of soil at any one time without prior written authorization from NYSDEC and the City. If prior written authorization is granted to disturb greater than five acres of soil at any one time from NYSDEC and the City, the owner or operator must include the following minimum requirements in their SWPPP:

- Site inspections conducted by a qualified inspector at least twice every seven calendar days, for as long as greater than five acres of soil remain disturbed. These inspections must be separated by a minimum of two full calendar days.
- In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures must be installed and/or implemented within seven days from the date the soil disturbance activity ceased. The soil stabilization measures selected must be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.
- Phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
- Installation of any additional site specific practices needed to protect water quality.

4.4 SWPPP Recordkeeping

The owner or operator of the construction activity is required to keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction storm water management practices that will be constructed on the site.

The owner or operator is required to maintain a copy of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, NOI, NYSDEC NOI Acknowledgment Letter, up-to-date SWPPP, MS4 SWPPP Acceptance Form and inspection reports at the construction site until all disturbed areas have achieved final stabilization and the Notice of Termination has been submitted to NYSDEC. The documents are required to be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock that is accessible during normal working hours to an individual performing a compliance inspection.

5.0 SWPPP SUBMISSION

5.1 City Review

Permit coverage is accomplished by submitting a completed SWPPP to the City for review, obtaining a signed MS4 SWPPP Acceptance Form from the City, and submitting the NOI and MS4 SWPPP Acceptance Form to NYSDEC. A copy of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities is provided in Appendix B and a copy of the NOI is provided in Appendix C. The most current versions of these materials can also be obtained on the NYSDEC website, by calling (518) 402-8109 or at any NYSDEC regional office.

An application for approval of a land development activity will not be reviewed until the City has received a SWPPP prepared in accordance with the most recent versions of Chapter 226 of the City Code entitled Storm Water Management, NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, New York Standards and Specifications for Erosion and Sediment Control, New York State Stormwater Management Design Manual, and this SWPPP Guidance Document.

Any applicant proposing to conduct a land development activity subject to receipt, review and approval of a SWPPP by the City is required to submit the SWPPP and all associated materials, information, drawings, map, etc. to the City.

Upon receipt of all required materials and fees, the City will conduct the SWPPP review. The review of the SWPPP will run concurrently with the procedures for review, approval and permitting of any land development activity subject to review and approval and/or permitting by the City. If the SWPPP is found to be deficient of any of the items required by the NYSDEC or the City, the SWPPP will be immediately returned to the applicant for corrections.

At the conclusion of the review of any land development activity subject to a SWPPP, the SWPPP will be either:

- Approved;
- Returned with comments, conditions and/or modifications; or
- Denied with specific reasoning.

If the SWPPP is approved without conditions and/or modification, the City will provide the applicant with the approved SWPPP and the required MS4 SWPPP Acceptance Form. The applicant may then submit the NOI and MS4 SWPPP Acceptance Form to NYSDEC. An approved SWPPP will remain valid for one year from the date of approval.

Major modification of the terms and condition of an approved SWPPP will follow the same application, review, and approval procedures set forth in this section for the original approval.

5.2 City SWPPP Review Fees

Each application for approval of a land development activity that requires a SWPPP review must be accompanied by a filing fee to be determined by the City.

5.3 NYSDEC Review

NYSDEC does not generally review SWPPPs for construction projects within City jurisdiction. However, NYSDEC reserves the right to review any SWPPP at any time. For projects where NYSDEC requests a copy of the SWPPP, the owner or operator is required to submit the SWPPP within five business days, unless otherwise notified by NYSDEC. If the SWPPP does not meet one or more of the minimum requirements of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, NYSDEC will notify the owner or operator. The notification will be in writing and identify the provisions of the SWPPP that require modification. The owner or operator is required to make the requested changes to the SWPPP and submit written notification to NYSDEC and the City that the changes have been made within fourteen calendar days of the notification, unless otherwise indicated by

NYSDEC. If the owner or operator does not respond to these comments in the specified time frame, NYSDEC may suspend the owner's or operator's permit coverage.

6.0 OWNER OR OPERATOR CONSTRUCTION SITE INSPECTION REQUIREMENTS

The owner or operator is responsible for inspecting all erosion and sediment control practices identified in the SWPPP in accordance with the requirements in the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control, in order to ensure that the controls are maintained in effective operating condition at all times.

6.1 Qualified Inspector

The owner or operator of any of the construction activities identified in Table 3-1 and Table 3-2 of this SWPPP Guidance Document is required to have a qualified inspector conduct the site inspections, with the exception of:

- Construction of a single family residential subdivision with 25% or less impervious cover at total site build-out and the construction of a single family home that involve soil disturbances of one or more acres of land but less than five acres.
- Construction on agricultural property that involves a soil disturbance of one or more acres of land but less than five acres.

A qualified inspector is defined as a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer (PE), Certified Professional in Erosion and Sediment Control (CPESC), or licensed Landscape Architect (LA). A qualified inspector is also defined as someone working under the direct supervision of a licensed PE or licensed LA, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control is defined as four hours of endorsed training from NYSDEC, a Soil and Water Conservation District, or CPESC, Inc. no later than May 2010. After receiving the initial training, an individual working under the direct supervision of the licensed PE or licensed LA is required to receive four hours of training every three years.

The owner or operator of the construction activity is required to ensure that any inspections of any post-construction storm water management practices that include structural components, such as a dam for an impoundment, be performed by a licensed PE.

6.2 Timetable

The owner or operator of construction activity is required to ensure that a qualified inspector conducts site inspections as follows:

Construction Activity	Inspection Timetable
Ongoing Between 1 and 5 acres	At least once every 7 calendar days
Ongoing Greater than 5 acres	At least twice every 7 calendar days at least 2 calendar days apart
Temporary suspension Temporary stabilization	At least once every 30 calendar days
Partial project completion Stabilized areas	Stop conducting inspections
Soil disturbance activities are not resumed within 2 years from the date of the partial project completion shutdown	Conduct final site inspection
Final project completion	Conduct final site inspection

6.3 Inspection Requirements

The owner or operator of the construction activity is required to ensure that the qualified inspector inspect all erosion and sediment control practices to ensure integrity and effectiveness, all post-construction storm water management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved final stabilization, and all points of discharge from the construction site according to the above timetable.

6.4 Inspection Report

The owner or operator of the construction activity is required to ensure that the qualified inspector prepares an inspection report for each and every inspection. At a minimum, the inspection report should include and/or address the following:

- Date and time of inspection
- Name and title inspector
- Description of weather and soil conditions
- Description of the condition of the runoff at all points of discharge from the construction site
- Identification of all erosion and sediment control practices that need repair or maintenance
- Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced
- Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized since the last inspection
- Current phase of construction of all post-construction storm water management practices and identification of all construction that is not in conformance with the SWPPP and technical standards
- Corrective action(s) that need to be taken to install, repair, replace or maintain erosion and sediment control practices and to correct deficiencies identified with the construction of the post-construction storm water management practice

Within one business day of the completion of an inspection, the qualified inspector is required to notify the owner or operator and appropriate contractor (or subcontractor) of any corrective actions that need to be taken. The contractor (or subcontractor) is required to begin implementing the corrective actions within one business day of this notification and must complete the corrective actions in a reasonable time frame.

All inspection reports must be signed by the qualified inspector and be maintained on site with the SWPPP.

6.5 City Conducted Compliance Inspections

The owner or operator of the construction activity is required to notify the City before land disturbance activities commence but after all of the erosion and sediment controls are in place so that the City can conduct an inspection of the site. Notification must be made one business day in advance.

In addition, the City may require construction site storm water inspections as necessary to determine compliance with all applicable storm water laws and technical guidance. The City can require the owner or operator to notify the City at least 48 hours before any of the other following activities as necessary:

- Start of construction
- Completion of site clearing
- Completion of rough grading
- Completion of final grading
- Close of construction season
- Completion of final landscaping
- Successful establishment of landscaping in public areas

The City may either approve parts of the work completed or notify the owner or operator of the construction activity if the work fails to comply with all applicable laws, technical guidance or the SWPPP.

7.0 MAINTENANCE AFTER CONSTRUCTION

The owner or operator of a permanent storm water management facility or practice is required to ensure that the facility or practice is operated and maintained in accordance with the approved SWPPP. Proper operation and maintenance should also include at a minimum, the following:

- A preventive/corrective maintenance program for all critical facilities and systems of treatment and control (or related appurtenances), which are installed or used, by the owner or operator to achieve the goals of the approved SWPPP.
- Written procedures for operation and maintenance and training new maintenance personnel.
- Discharges from the facility cannot exceed design criteria or cause or contribute to water quality standard violations.

The owner or operator must prepare and submit for City approval a formal maintenance agreement for storm water management facilities binding on all subsequent landowners. The maintenance agreement is to be recorded in the office of the County Clerk as a deed restriction on the property prior to final plan approval.

8.0 ENFORCEMENT AND VIOLATION

It is a violation of the City local law and the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities for any discharge to either cause or contribute to a violation of water quality standards, including but no limited to:

- Increase in turbidity that causes a substantial visible contrast to natural conditions
- Increase in suspended, colloidal and settleable solids that causes deposition or impair the waters for their best usages
- Residue from oil and floating substances, visible oil film, or globules of grease

When the City determines that a land development activity is not being carried out in accordance with the requirements of the approved SWPPP, it may issue a written notice of violation to the landowner.

The City may issue a stop work order for the SWPPP violations. Person(s) receiving a stop work order will be required to halt all land development activities, except for remediation activities that address the violations stated in the stop work order. The stop work order will be in effect until the City confirms that the land development activity is in compliance with the SWPPP and the violation has been satisfactorily addressed. Failure to address a stop work order in a timely manner may result in City taking all necessary action, including seeking civil, criminal, or monetary penalties.

The issuance of a certificate of occupancy may be withheld until compliance with the SWPPP has been demonstrated to the reasonable satisfaction of the City.

In addition to or as an alternative to any penalty provided by law, any person who violates the provisions of Chapter 226 of the City Code entitled Storm Water Management will be guilty of a violation punishable by the following fine and imprisonment schedule:

Offense	Fine	Imprisonment
First	Not exceeding \$350	Not exceeding 6 months
Second	Not less than \$350 nor more than \$700	Not exceeding 6 months
Third	Not less than \$700 nor more than \$1,000	Not exceeding 6 months

Second and third convictions of offenses are defined as occurring within a period of 5 years. Each week's continued violation will constitute a separate additional violation.

Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the City may take necessary corrective action, the cost of which will become a lien upon the property until paid.

9.0 TERMINATION OF PERMIT COVERAGE

The owner or operator of the construction activity with a SPDES permit is required to submit a completed Notice of Termination (NOT) form to NYSDEC. A copy of the NOT form is provided in Appendix E. The construction activity is eligible to terminate coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities when one or more the following conditions have been met:

- **Change of owner or operator**
- **Planned shutdown with partial project completion** - All soil disturbance activities have ceased; all areas disturbed as of the project shutdown date have achieved final stabilization; all temporary, structural erosion and sediment control measures have been removed; and all post-construction storm water management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.
- **Total project completion** - All construction activity identified in the SWPPP has been completed; all areas of disturbance have achieved final stabilization; all temporary, structural erosion and sediment control measures have been removed; and all post-construction storm water management practices have been constructed in conformance with the SWPPP and are operational.

For construction activities with a change of owner or operator, the original owner or operator must notify the new owner or operator, in writing, of the requirement to obtain permit coverage. Once the new owner or operator obtains permit coverage, the original owner or operator will then submit a completed NOT with the name and permit identification number of the new owner or operator to the NYSDEC. If the original owner or operator maintains ownership of a portion of the construction activity and will disturb soil, they must maintain their coverage under the general permit.

For construction activities with planned shutdown with partial project completion or total project completion meeting the requirements stated above, the owner or operator is required to have the qualified inspector perform a final site inspection prior to submitting the NOT to NYSDEC. If valid, the qualified inspector will certify that all disturbed areas have achieved final stabilization; all temporary, structural erosion and sediment control measures have been

removed; and that all post-construction storm water management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT.

For construction activities with total project completion, the owner or operator must, prior to submitting the NOT, ensure one of the following for the installed post-construction storm water management practices:

- The practices and any right-of-ways have been deeded to the Village;
- Executed maintenance agreement is in place with the Village who will maintain the practices;
- For privately owned practices, the owner or operator has a deed restriction in place that requires operation and maintenance of the practice in accordance with the operation and maintenance plan; or
- For practices that are owned by a public/private institution or government agency/authority, the owner or operator has policies and procedures in place that ensure operation and maintenance of the practices in accordance with the operation and maintenance plan.

APPENDIX A

**CHAPTER 226 OF THE CITY CODE
ENTITLED
STORM WATER MANAGEMENT**

AN ORDINANCE AMENDING PART II OF THE CODE OF
THE CITY OF MOUNT VERNON, NEW YORK, BY ADDING A
NEW CHAPTER 226 THERETO AND ENTITLED
"STORMWATER MANAGEMENT."

WHEREAS, by letter dated June 25, 2009, the Commissioner of the
Department of Public Works has requested legislation amending Part II of the Code of
the City of Mount Vernon, New York, by adding a new Chapter 226, entitled
"Stormwater Management"; NOW, THEREFORE,

The City of Mount Vernon, in City Council convened, does hereby ordain and enact:

Section 1. Part II of the Code of the City of Mount Vernon, New York, is
hereby amended by adding thereto a new chapter numbered 226 to be known as
"Stormwater Management," to read as follows:

CHAPTER 226
STORMWATER MANAGEMENT

ARTICLE I
General Provisions

§ 226-1. Findings of Fact

It has been determined by the New York State Department of Environmental
Conservation (NYSDEC) that

- A. Land development activities and associated increases in site impervious cover often alter the hydrologic response of local watersheds and increase storm water runoff rates and volumes, flooding, stream channel erosion, or sediment transport and deposition;
- B. This storm water runoff contributes to increased quantities of water-borne pollutants, including siltation of aquatic habitat for fish and other desirable species;
- C. Clearing and grading during construction tends to increase soil erosion and add to the loss of native vegetation necessary for terrestrial and aquatic habitat;
- D. Improper design and construction of storm water management practices can increase the velocity of storm water runoff thereby increasing stream bank erosion and sedimentation;
- E. Impervious surfaces allow less water to percolate into the soil, thereby decreasing groundwater recharge and stream baseflow;
- F. Substantial economic losses can result from these adverse impacts on the waters of the State;
- G. Storm water runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of storm water runoff from land development activities;
- H. The regulation of storm water runoff discharges from land development activities in order to control and minimize increases in storm water runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with storm water runoff is in the public interest and will minimize threats to public health and safety.

- I. Regulation of land development activities by means of performance standards governing storm water management and site design will produce development compatible with the natural functions of a particular site or an entire watershed and thereby mitigate the adverse effects of erosion and sedimentation from development.

§ 226-2. Purpose

The purpose of this chapter is to establish minimum storm water management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing within the City and to address the State's findings of fact in §226-1 hereof. This chapter seeks to meet those purposes by achieving the following objectives:

- A. Meet the requirements of minimum measures 4 and 5 of New York State's SPDES General Permit for Storm Water Discharges from Municipal Separate Storm Water Sewer Systems (MS4s), Permit No. GP-02-02 or as amended or revised;
- B. Require land development and redevelopment activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01 or as amended or revised;
- C. Minimize increases in storm water runoff from land development and redevelopment activities in order to reduce flooding, siltation, increases in stream temperature, and streambank erosion and maintain the integrity of stream channels, watercourses or waterways;
- D. Minimize increases in pollution caused by storm water runoff from land development and redevelopment activities which would otherwise degrade local water quality;
- E. Minimize the total annual volume of storm water runoff which flows from any specific site during and following development and redevelopment to the maximum extent practicable; and
- F. Reduce storm water runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through storm water management practices, devices and/or structures, and to ensure that these management practices, devices and/or structures are properly maintained and eliminate threats to public safety.

§ 226-3. Statutory Authority

In accordance with Article 10 of the Municipal Home Rule Law of the State of New York, the City Council of the City of Mount Vernon has the authority to enact local laws and amend local laws and for the purpose of promoting the health, safety or general welfare of the City of Mount Vernon and for the protection and enhancement of its physical environment. The City Council of the City of Mount Vernon may include in any such local law provisions for the appointment of any municipal officer, employees, or independent contractor to effectuate, administer and enforce such local law.

§ 226-4. Applicability

- A. This chapter shall be applicable to all land development and redevelopment activities as defined in § 226-6 of this article.
- B. The City shall designate a Storm Water Management Officer who shall accept and

review all storm water pollution prevention plans and forward such plans to the City Council. The Storm Water Management Officer may:

- (1) Review the plans;
 - (2) Engage the services of a licensed/certified professional to review the plans, specifications and related documents at a cost not to exceed a fee schedule established by said governing board, upon approval by the City Council of the City of Mount Vernon; or
 - (3) Accept the certification of a licensed professional that the plans conform to the requirements of this chapter.
- C. All land development or redevelopment activities subject to review and approval by the Planning Board of the City of Mount Vernon under subdivision, site plan and/or special permit regulations shall be reviewed subject to the standards contained in this article.
- D. All land development activities not subject to review as stated in § 226-4C of this article shall be required to submit a Storm Water Pollution Prevention Plan (SWPPP) to the Storm Water Management Officer who shall approve the SWPPP if it complies with the requirements of this chapter.

§ 226-5. Exemptions

The following activities are exempt from review under this chapter.

- A. Agricultural activity as defined in this article.
- B. Silvicultural activity except that landing areas and log haul roads are subject to this law.
- C. Routine maintenance activities that disturb less than five acres and are performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility.
- D. Repairs to any storm water management practice or facility deemed necessary by the Storm Water Management Officer.
- E. Any part of a subdivision if a plat for the subdivision has been approved by the City on or before the effective date of this chapter.
- F. Land development or redevelopment activities for which a building permit has been approved on or before the effective date of this chapter.
- G. Cemetery graves.
- H. Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles.
- I. Emergency activity immediately necessary to protect life, property or natural resources.
- J. Activities of an individual engaging in home gardening by growing flowers, vegetable and other plants primarily for use by that person and his or her family.
- K. Landscaping and horticultural activities in connection with an existing structure.

§ 226-6. Definitions

The terms used in this chapter or in documents prepared or reviewed under this chapter shall have the meaning as set forth in this section.

AGRICULTURAL ACTIVITY -- the activity of an active farm including grazing and watering livestock, irrigating crops, harvesting crops, using land for growing agricultural products, and cutting timber for sale, but shall not include the operation of a dude ranch or similar operation, or the construction of new structures associated with agricultural activities.

APPLICANT -- a property owner or agent of a property owner who has filed an application for a land development or redevelopment activity.

BUILDING -- any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal, or property, and occupying more than 100 square feet of area.

CITY -- the City of Mount Vernon, New York.

CITY ENGINEER -- the City Engineer of the City of Mount Vernon, New York.

CLEARING -- any activity that removes the vegetative surface cover.

DEDICATION -- the deliberate appropriation of property by its owner for general public use.

DEPARTMENT -- the New York State Department of Environmental Conservation

DESIGN MANUAL -- the *New York State Storm Water Management Design Manual*, most recent version including applicable updates, which serves as the official guide for storm water management principles, methods and practices.

DEVELOPER -- a person who undertakes land development activities.

EPA -- Environmental Protection Agency.

EROSION -- The removal of soil particles by the action of water, wind, ice or other geological agents.

EROSION CONTROL MANUAL -- the most recent version of the "New York Standards and Specifications for Erosion and Sediment Control" manual, commonly known as the "Blue Book."

GRADING -- excavation or fill of material, including the resulting conditions thereof.

IMPERVIOUS COVER -- those surfaces, improvements and structures that cannot effectively infiltrate rainfall, snow melt and water (e.g., building rooftops, pavement, sidewalks, driveways, etc).

INDUSTRIAL STORM WATER PERMIT -- a State Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries which regulates the pollutant levels associated with industrial storm water discharges or specifies on-site pollution control strategies.

INFILTRATION -- the process of percolating storm water into the subsoil.

JURISDICTIONAL WETLAND -- an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

LAND DEVELOPMENT/REDEVELOPMENT ACTIVITY -- construction activity including clearing, grading, excavating, soil disturbance or placement of fill that results in land disturbance of equal to or greater than one acre, or activities disturbing less than one acre of total land area that is part of a larger common plan of development or sale, even though multiple separate and distinct land development or redevelopment activities may take place at different times on different schedules.

LANDOWNER -- the legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

LICENSED/CERTIFIED PROFESSIONAL -- a person currently licensed to practice engineering in New York State or a Certified Professional in Erosion and Sediment Control (CPESC).

MAINTENANCE AGREEMENT -- a legally recorded document that acts as a property deed restriction, and which provides for long-term maintenance of storm water management practices.

NYSDEC -- New York State Department of Environmental Conservation.

NONPOINT SOURCE POLLUTION -- pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

PHASING -- clearing a parcel of land in distinct pieces or parts, with the stabilization of each piece completed before the clearing of the next.

PLANNING BOARD -- the Planning Board of the City of Mount Vernon.

POLLUTANT OF CONCERN -- sediment or a water quality measurement that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the land development activity.

PROJECT -- land development or redevelopment activity.

RECHARGE -- the replenishment of underground water reserves.

SEDIMENT CONTROL -- measures that prevent eroded sediment from leaving the site.

SENSITIVE AREAS -- cold water fisheries, shellfish beds, swimming beaches, groundwater recharge areas, water supply reservoirs, and habitats for threatened, endangered or special concern species.

SPDES GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES GP-02-01 -- A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to developers of construction activities to regulate disturbance of one or more acres of land.

SPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM MUNICIPAL SEPARATE STORM WATER SEWER SYSTEMS GP-02-02 -- A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to municipalities to regulate discharges from municipal separate storm sewers for compliance with EPA and/or NYSDEC established water quality standards and/or to specify storm water control standards.

STABILIZATION -- the use of practices that prevent exposed soil from eroding.

STOP WORK ORDER -- an order issued which requires that all construction activity on a site be stopped.

STORM WATER -- rainwater, surface runoff, subsurface drainage and stormwater.

STORM WATER HOTSPOT -- a land use or activity that generates higher concentrations of hydrocarbons, trace metals or toxicants than are found in typical storm water runoff, based on monitoring studies.

STORM WATER MANAGEMENT -- the use of structural or non-structural practices that are designed to reduce storm water runoff and mitigate its adverse impacts on property, natural resources and the environment.

STORM WATER MANAGEMENT FACILITY -- one or a series of storm water management practices installed, stabilized and operating for the purpose of controlling storm water runoff.

STORM WATER MANAGEMENT OFFICER (SMO) -- the City Engineer of the City of Mount Vernon (or the person serving in the capacity of the City Engineer) or his/her authorized deputies, agents or representatives, including employees of other City Departments, as appropriate. The SMO is designated by the City to accept and review storm water pollution prevention plans, forward the plans to the applicable municipal board and inspect storm water management practices.

STORM WATER MANAGEMENT PRACTICES (SWMPs) -- measures, either structural or nonstructural, that are determined to be the most effective, practical means of preventing flood damage and preventing or reducing point source or nonpoint source pollution inputs to storm water runoff and water bodies.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) -- a plan for controlling storm water runoff and pollutants from a site during and after construction activities.

STORM WATER RUNOFF -- flow on the surface of the ground, resulting from precipitation.

STREAM CHANNEL -- a natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water (see also Watercourse, Waterway).

SURFACE WATERS OF THE STATE OF NEW YORK -- lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

Storm sewers and waste treatment systems, including treatment ponds or lagoons which also meet the criteria of this definition are not waters of the state. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the state (such as a disposal area in wetlands) nor resulted from impoundment of waters of the state.

WATERCOURSE -- a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water (see also Stream Channel, Waterway).

WATERWAY -- a channel that directs surface runoff to a watercourse or to the public storm drain (see also Stream Channel, Watercourse).

ARTICLE II
Storm Water Pollution Prevention Plans

§ 226-7. Storm Water Pollution Prevention Plan Requirement

No application for approval of a land development or redevelopment activity shall be reviewed until the Planning Board or SMO has received a Storm Water Pollution Prevention Plan (SWPPP) prepared in accordance with the specifications in this article.

§ 226-8. Contents of Storm Water Pollution Prevention Plans

A. All SWPPPs shall provide the following background information and erosion and sediment controls:

- (1) Background information about the scope of the project, including location, type and size of project;
- (2) Site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the storm water discharges(s). The Site map should be at a scale no smaller than 1" = 100';
- (3) Description of the soil(s) present at the site;
- (4) Construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Standards and Specifications for Erosion and Sediment Control (Erosion Control Manual), not more than five (5) acres shall be disturbed at any one time unless pursuant to an approved SWPPP;
- (5) Description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in storm water runoff;
- (6) Description of construction and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to storm water, and spill prevention and response;
- (7) Temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project close-out;
- (8) A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;
- (9) Dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;
- (10) Temporary practices that will be converted to permanent control measures;
- (11) Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice should remain in place;
- (12) Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice;
- (13) Name(s) of the receiving water(s);
- (14) Delineation of SWPPP implementation responsibilities for each part of the site;
- (15) Description of structural practices designed to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and
- (16) Any existing data that describes the storm water runoff at the site.

- B. Land development or redevelopment activities as defined in § 226-6 of this chapter and meeting Condition "A", "B" or "C" below shall also include water quantity and water quality controls (post-construction storm water runoff controls) as set forth in § 226-8C below as applicable:

Condition A - Storm water runoff from land development or redevelopment activities discharging a pollutant of concern to either an impaired water identified on the Department's 303(d) list of impaired waters or a Total Maximum Daily Load (TMDL) designated watershed for which pollutants in storm water have been identified as a source of the impairment.

Condition B - Storm water runoff from land development or redevelopment activities disturbing five (5) or more acres.

Condition C - Storm water runoff from land development or redevelopment activity disturbing between one (1) and five (5) acres of land during the course of the project, exclusive of the construction of single family residences and construction activities at agricultural properties.

- C. SWPPP Requirements for Condition A, B and C:

- (1) All information in § 226-8A of this Chapter;
- (2) Description of each post-construction storm water management practice;
- (3) Site map/construction drawing(s) showing the specific location(s) and size(s) of each post-construction storm water management practice;
- (4) Hydrologic and hydraulic analysis for all structural components of the storm water management system for the applicable design storms;
- (5) Comparison of post-development storm water runoff conditions with pre-development conditions;
- (6) Dimensions, material specifications and installation details for each post-construction storm water management practice;
- (7) Maintenance schedule to ensure continuous and effective operation of each post-construction storm water management practice;
- (8) Maintenance easements to ensure access to all storm water management practices at the site for the purpose of inspection and repair. Easements shall be recorded on the plan and shall remain in effect with transfer of title to the property;
- (9) Inspection and maintenance agreement binding on all subsequent landowners served by the on-site storm water management measures in accordance with Art. IV of this chapter; and
- (10) For Condition A, the SWPPP shall be prepared by a landscape architect, certified professional or professional engineer and must be signed by the professional preparing the plan, who shall certify that the design of all storm water management practices meet the requirements in this chapter.

§226-9. Other Environmental Permits

The applicant shall assure that all other applicable environmental permits have been or will be acquired for the land development or redevelopment activity prior to approval of the final storm water design plan.

§226-10. Contractor Certification

- A. Each contractor and subcontractor identified in the SWPPP who will be involved in soil disturbance and/or storm water management practice installation shall sign and date a copy of the following certification statement before undertaking any land development or redevelopment activity: "I certify under penalty of law that I understand and agree to comply with the terms and conditions of the Storm Water Pollution Prevention Plan. I also understand that it is unlawful for any person to cause or contribute to a violation of water quality standards."

- B. The certification must include the name and title of the person providing the signature, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.
- C. The certification statement(s) shall become part of the SWPPP for the land development activity.
- D. A copy of the SWPPP shall be retained at the site of the land development or redevelopment activity during construction from the date of initiation of construction activities to the date of final stabilization.

ARTICLE III

Performance and Design Criteria for Storm Water Management and Erosion and Sediment Control

§ 226-11. All land development or redevelopment activities shall be subject to the following performance and design criteria:

- A. Technical Standards. For the purpose of this chapter, the following documents shall serve as the official guides and specifications for storm water management. Storm water management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this chapter:
 - (1) The New York State Storm Water Management Design Manual (New York State Department of Environmental Conservation, most current version or its successor, hereafter referred to as the Design Manual)
 - (2) New York Standards and Specifications for Erosion and Sediment Control, (Empire State Chapter of the Soil and Water Conservation Society, 2004, most current version or its successor, hereafter referred to as the Erosion Control Manual).
- B. Equivalence to Technical Standards. Where storm water management practices are not in accordance with technical standards, the applicant or developer must demonstrate equivalence to the technical standards set forth in § 226-11.A of this Chapter and the SWPPP shall be prepared by a licensed professional.
- C. Water Quality Standards. Any land development or redevelopment activity shall not cause an increase in turbidity that will result in substantial visible contrast to natural conditions in surface waters of the State of New York.

ARTICLE IV

Maintenance, Inspection and Repair of Storm Water Facilities

§ 226-12. Maintenance and Inspection During Construction

- A. The applicant or developer of the land development or redevelopment activity or their representative shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the applicant or developer to achieve compliance with the conditions of this chapter. Sediment shall be removed from sediment traps or sediment ponds whenever their design capacity has been reduced by fifty (50) percent.
- B. For land development or redevelopment activities as defined in § 226-6 of this Chapter and meeting Condition A, B or C in § 226-8B of this Chapter, the applicant shall have a qualified professional conduct site inspections and document the effectiveness of all erosion and sediment control practices every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more.

Inspection reports shall be maintained in a site log book.

- C. The applicant or developer or their representative shall be on site at all times when construction or grading activity takes place and shall inspect and document the effectiveness of all erosion and sediment control practices.

§226-13 Maintenance Easement(s)

Prior to the issuance of any approval that has a storm water management facility as one of the requirements, the applicant or developer must execute a maintenance easement agreement that shall be binding on all subsequent landowners served by the storm water management facility. The easement shall provide for access to the facility at reasonable times for periodic inspection by the City to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this chapter. The easement shall be recorded by the grantor in the office of the City Clerk after approval by the Corporation Counsel.

§226-14 Maintenance after Construction

The owner or operator of permanent storm water management practices installed in accordance with this chapter shall ensure they are operated and maintained to achieve the goals of this chapter. Proper operation and maintenance also includes as a minimum, the following:

- A. A preventive/corrective maintenance program for all critical facilities and systems of treatment and control (or related appurtenances) which are installed or used by the owner or operator to achieve the goals of this chapter.
- B. Written procedures for operation and maintenance and training new maintenance personnel.
- C. Discharges from the SWMPs shall not exceed design criteria or cause or contribute to water quality standard violations in accordance with § 226-11C of this Chapter.

§226-15 Maintenance Agreements

The City shall approve a formal maintenance agreement for storm water management facilities binding on all subsequent landowners and recorded in the office of the City Clerk as a deed restriction on the property prior to final plan approval. The maintenance agreement shall be consistent with the terms and conditions of Schedule B found at the end of this chapter entitled Sample Storm Water Control Facility Maintenance Agreement. The City, in lieu of a maintenance agreement, at its sole discretion may accept dedication of any existing or future storm water management facility, provided such facility meets all the requirements of this chapter and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

ARTICLE V

Administration and Enforcement

§226-16 Construction Inspection

- A. Erosion and Sediment Control Inspection. The City's SMO may require such inspections as necessary to determine compliance with this chapter and may either approve that portion of the work completed or notify the applicant wherein the work fails to comply with the requirements of this chapter and the storm water pollution prevention plan (SWPPP) as approved. To obtain inspections, the applicant shall notify the City enforcement official at least 48 hours before any of

the following as required by the SMO:

- (1) Start of construction.
- (2) Installation of sediment and erosion control measures.
- (3) Completion of site clearing.
- (4) Completion of rough grading.
- (5) Completion of final grading.
- (6) Close of the construction season.
- (7) Completion of final landscaping.
- (8) Successful establishment of landscaping in public areas.

If any violations are found, the applicant and developer shall be notified in writing of the nature of the violation and the required corrective actions. No further work shall be conducted except for site stabilization until any violations are corrected and all work previously completed has received approval by the SMO.

- B. Storm water management practice inspections. The City's SMO is responsible for conducting inspections of storm water management practices (SWMPs). Inspections may be performed by City staff or the City's SMO may designate an inspector required to have a Professional Engineer's (PE) license or Certified Professional in Erosion and Sediment Control (CPESC) certificate, as long as the designated inspector is required to submit a report. All applicants are required to submit "as built" plans for any storm water management practices located on-site after final construction is completed. The plan must show the final design specifications for all storm water management facilities and must be certified by a professional engineer.
- C. Inspection of storm water facilities after project completion. Inspection programs shall be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the NYSDEC SPDES General Storm Water Permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other storm water management practices.
- D. Submission of reports. The City's SMO may require monitoring and reporting from entities subject to this chapter as are necessary to determine compliance with this chapter.
- E. Right-of-entry for inspection. When any new storm water management facility is installed on private property or when any new connection is made between private property and the public storm water system, the landowner shall grant to the City the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection as specified in paragraph C.

§ 226-17. Performance Guarantee

- A. Construction completion guarantee. In order to ensure the full and faithful completion of all land development activities related to compliance with all conditions set forth by the City in its approval of the Storm Water Pollution Prevention Plan, the City may require the applicant or developer to provide, prior to construction, a performance bond, cash escrow, or irrevocable letter of credit from an appropriate financial or surety institution which guarantees satisfactory completion of the project and names the City as the beneficiary. The security shall

be in an amount to be determined by the City based on submission of final design plans, with reference to actual construction and landscaping costs. The performance guarantee shall remain in force until the surety is released from liability by the City, provided that such period shall not be less than one year from the date of final acceptance or such other certification that the facility(ies) have been constructed in accordance with the approved plans and specifications and that a one year inspection has been conducted and the facilities have been found to be acceptable to the City. Per annum interest on cash escrow deposits shall be reinvested in the account until the surety is released from liability.

- B. **Maintenance guarantee.** Where storm water management and erosion and sediment control facilities are to be operated and maintained by the developer or by a corporation that owns or manages a commercial or industrial facility, the developer, prior to construction, may be required to provide the City with an irrevocable letter of credit from an approved financial institution or surety to ensure proper operation and maintenance of all storm water management and erosion control facilities both during and after construction, and until the facilities are removed from operation. If the developer or landowner fails to properly operate and maintain storm water management and erosion and sediment control facilities, the City may draw upon the account to cover the costs of proper operation and maintenance, including engineering and inspection costs.
- C. **Recordkeeping.** The City may require entities subject to this chapter to maintain records demonstrating compliance with this chapter.

§ 226-18. Enforcement and Penalties

- A. **Notice of violation.** When the City determines that a land development or redevelopment activity is not being carried out in accordance with the requirements of this chapter, it may issue a written notice of violation to the landowner. The notice of violation shall contain:
- (1) the name and address of the landowner, developer or applicant;
 - (2) the address when available or a description of the building, structure or land upon which the violation is occurring;
 - (3) a statement specifying the nature of the violation;
 - (4) a description of the remedial measures necessary to bring the land development or redevelopment activity into compliance with this chapter and a time schedule for the completion of such remedial action;
 - (5) a statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
 - (6) a statement that the determination of violation may be appealed to the City by filing a written notice of appeal within fifteen (15) days of service of notice of violation.
- B. **Stop work orders.** The City may issue a stop work order for violations of this chapter. Persons receiving a stop work order shall be required to halt all land development or redevelopment activities, except those activities that address the violations leading to the stop work order. The stop work order shall be in effect until the City confirms that the land development or redevelopment activity is in compliance and the violation has been satisfactorily addressed. Failure to address a stop work order in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this local chapter.
- C. **Violations.** Any land development or redevelopment activity that is commenced or is conducted contrary to this chapter, may be restrained by injunction or otherwise abated in a manner provided by law.
- D. **Penalties.** In addition to or as an alternative to any penalty provided herein or by

law, any person who violates the provisions of this chapter shall be guilty of a violation punishable by a fine not exceeding three hundred fifty dollars (\$350) or imprisonment for a period not to exceed six months, or both for conviction of a first offense; for conviction of a second offense both of which were committed within a period of five years, punishable by a fine not less than three hundred fifty dollars nor more than seven hundred dollars (\$700) or imprisonment for a period not to exceed six months, or both; and upon conviction for a third or subsequent offense all of which were committed within a period of five years, punishable by a fine not less than seven hundred dollars nor more than one thousand dollars (\$1000) or imprisonment for a period not to exceed six months, or both. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this chapter shall be deemed misdemeanors and for such purpose only all provisions of law relating to misdemeanors shall apply to such violations. Each week's continued violation shall constitute a separate additional violation.

- E. Withholding of certificate of occupancy. If any building or land development or redevelopment activity is installed or conducted in violation of this chapter the SMO may prevent the occupancy of said building or land.
- D. Restoration of lands. Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the City may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

§ 226-19. Fees for Services

The City may require any person undertaking land development or redevelopment activities regulated by this chapter to pay reasonable costs at prevailing rates for review of SWPPPs, inspections, or SWMP maintenance performed by the City or performed by a third party for the City.

§ 226-20. Severability

If the provisions of any article, section, subsection, paragraph, subdivision or clause of this chapter shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this chapter.

Schedule A

Micropool Extended Detention Pond (P-1)	Pond that treats the majority of the water quality volume through extended detention, and incorporates a micropool at the outlet of the pond to prevent sediment resuspension.
Wet Pond (P-2)	Pond that provides storage for the entire water quality volume in the permanent pool.
Wet Extended Detention Pond (P-3)	Pond that treats a portion of the water quality volume by detaining storm flows above a permanent pool for a specified minimum detention time.
Multiple Pond System (P-4)	A group of ponds that collectively treat the water quality volume.
Pocket Pond (P-5)	A storm water wetland design adapted for the treatment of runoff from small drainage areas that has little or no baseflow available to maintain water elevations and relies on groundwater to maintain a permanent pool.

Wetland	Shallow Wetland (W-1)	A wetland that provides water quality treatment entirely in a shallow marsh.
	Extended Detention Wetland (W-2)	A wetland system that provides some fraction of the water quality volume by detaining storm flows above the marsh surface.
	Pond/Wetland System (W-3)	A wetland system that provides a portion of the water quality volume in the permanent pool of a wet pond that precedes the marsh for a specified minimum detention time.
	Pocket Wetland (W-4)	A shallow wetland design adapted for the treatment of runoff from small drainage areas that has variable water levels and relies on groundwater for its permanent pool.
Infiltration	Infiltration Trench (I-1)	An infiltration practice that stores the water quality volume in the void spaces of a gravel trench before it is infiltrated into the ground.
	Infiltration Basin (I-2)	An infiltration practice that stores the water quality volume in a shallow depression before it is infiltrated into the ground.
	Dry Well (I-3)	An infiltration practice similar in design to the infiltration trench, and best suited for treatment of rooftop runoff.
Filtering Practices	Surface Sand Filter (F-1)	A filtering practice that treats storm water by settling out larger particles in a sediment chamber, and then filtering storm water through a sand matrix.
	Underground Sand Filter (F-2)	A filtering practice that treats storm water as it flows through underground settling and filtering chambers.
	Perimeter Sand Filter (F-3)	A filter that incorporates a sediment chamber and filter bed as parallel vaults adjacent to a parking lot.
	Organic Filter (F-4)	A filtering practice that uses an organic medium such as compost in the filter in place of sand.
	Biotreatment (F-5)	A shallow depression that treats storm water as it flows through a soil matrix, and is returned to the storm drain system.
Open Channels	Dry Swale (O-1)	An open drainage channel or depression explicitly designed to detain and promote the filtration of storm water runoff into the soil media.
	Wet Swale (O-2)	An open drainage channel or depression designed to retain water or intercept groundwater for water quality treatment.

Schedule B

**SAMPLE STORM WATER CONTROL FACILITY
MAINTENANCE AGREEMENT**

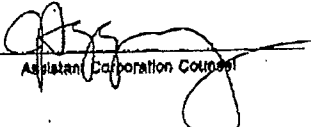
Whereas, the City of Mount Vernon ("City") and the _____ ("facility owner") want to enter into an agreement to provide for the long term maintenance and continuation of storm water control measures approved by the City for the below named project, and

Whereas, the City and the facility owner desire that the storm water control measures be built in accordance with the approved project plans and thereafter be maintained, cleaned, repaired, replaced and continued in perpetuity in order to ensure optimum performance of the components. Therefore, the City and the facility owner agree as follows:

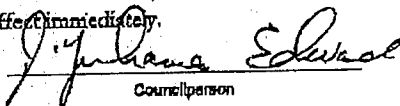
1. This agreement binds the City and the facility owner, its successors and assigns, to the maintenance provisions depicted in the approved project plans which are attached as Schedule A of this agreement.
2. The facility owner shall maintain, clean, repair, replace and continue the storm water control measures depicted in Schedule A as necessary to ensure optimum performance of the measures to design specifications. The storm water control measures shall include, but shall not be limited to, the following: drainage ditches, swales, dry wells, infiltrators, drop inlets, pipes, culverts, soil absorption devices and retention ponds.
3. The facility owner shall be responsible for all expenses related to the maintenance of the storm water control measures and shall establish a means for the collection and distribution of expenses among parties for any commonly owned facilities.
4. The facility owner shall provide for the periodic inspection of the storm water control measures, not less than once in every five year period, to determine the condition and integrity of the measures. Such inspection shall be performed by a Professional Engineer licensed by the State of New York. The inspecting engineer shall prepare and submit to the City within 30 days of the inspection, a written report of the findings including recommendations for those actions necessary for the continuation of the storm water control measures.
5. The facility owner shall not authorize, undertake or permit alteration, abandonment, modification or discontinuation of the storm water control measures except in accordance with written approval of the City.
6. The facility owner shall undertake necessary repairs and replacement of the storm water control measures at the direction of the City or in accordance with the recommendations of the inspecting engineer.
7. The facility owner shall provide to the City within 30 days of the date of this agreement, a security for the maintenance and continuation of the storm water control measures in the form of (a Bond, letter of credit or escrow account).
8. This agreement shall be recorded in the Office of the City Clerk, City of Mount Vernon together with the deed for the common property and shall be included in the offering plan and/or prospectus approved pursuant to _____.
9. If ever the City determines that the facility owner has failed to construct or maintain the storm water control measures in accordance with the project plan or has failed to undertake corrective action specified by the City or by the inspecting engineer, the City is authorized to undertake such steps as reasonably necessary for the preservation, continuation or maintenance of the storm water control measures and to affix the expenses thereof as a lien against the property.
10. This agreement is effective _____.

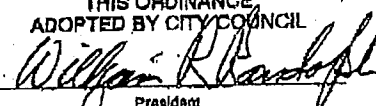
Section 2. This ordinance shall take effect immediately.

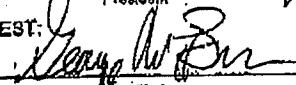
APPROVED AS TO FORM


 Assistant Corporation Counsel

THIS ORDINANCE ADOPTED BY CITY COUNCIL



 Councilperson


 President

ATTEST:

 City Clerk

APPROVED JUL 1 0 2009

APPROVED
 Dept. _____

By  Mayor

APPENDIX B

**NYSDEC SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES**



NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

from

CONSTRUCTION ACTIVITY

Permit No. GP-0-08-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: May 1, 2008

Expiration Date: April 30, 2010

William R. Adriance
Chief Permit Administrator

Address: NYS DEC
Div. Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

William R. Adriance
Authorized Signature

April 15, 2008
Date

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater discharges from certain *construction activities* are unlawful unless they are authorized by a *NPDES (National Pollutant Discharge Elimination System)* permit or by a state permit program. New York's *SPDES (State Pollutant Discharge Elimination System)* is a NPDES-approved program with permits issued in accordance with the *Environmental Conservation Law ("ECL")*.

This general permit is issued pursuant to Article 17, Titles 7, 8 and Article 70 of the ECL. An *owner or operator* may obtain coverage under this general permit by submitting a Notice of Intent ("NOI") to the Department. Copies of this General Permit and the NOI for New York are available by calling (518) 402-8109 or at any Department of Environmental Conservation ("the Department") regional office (see Appendix G). They are also available on the Department's website at:

<http://www.dec.ny.gov/>

An *owner or operator* of a *construction activity* that is eligible for coverage under this general permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x) and (15)(i), constitute construction of a point source and therefore, pursuant to Article 17-0505 of the ECL, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. They can not wait until there is an actual discharge from the construction site to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES**

FROM CONSTRUCTION ACTIVITIES

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Part I. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application - This permit authorizes stormwater discharges to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;
2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater discharges based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State*.
3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.

B. Maintaining Water Quality - It shall be a violation of this general permit and the *Environmental Conservation Law ("ECL")* for any discharge authorized by this general permit to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York including, but not limited to:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;
2. There shall be no increase in suspended, colloidal and settleable solids that will cause deposition or impair the waters for their best usages; and
3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

C. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to surface waters and *groundwaters* except for ineligible *discharges* identified under subparagraph D. of this Part.

(Part I.C.)

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater discharges from *construction activities*.

3. Notwithstanding paragraphs C.1 and C.2 above, the following non-stormwater *discharges* may be authorized by this permit: discharges from fire fighting activities; fire hydrant flushings; waters to which cleansers or other components have not been added that are used to wash vehicles or control dust in accordance with the SWPPP, routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated groundwater or spring water; uncontaminated discharges from construction site de-watering operations; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this general permit, and who discharge as noted in this paragraph, and with the exception of flows from fire fighting activities, these discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with water quality standards in Part I.B.

D. Activities Which Are Ineligible for Coverage Under This General Permit - All of the following are **not** authorized by this permit:

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection C.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are subject to an existing *individual SPDES permit* or SPDES general permit or which are required to obtain an individual or general permit pursuant to Part VII, subparagraph K of this permit;
4. *Discharges* from *construction activities* that adversely affect a listed, or proposed to be listed, endangered or threatened species, or its critical habitat;
5. *Discharges* which are subject to an existing effluent (limitation) guideline addressing stormwater and/or process wastewater unless said guidelines are contained herein; or

(Part I.D.)

6. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations.

7. *Construction activities* for residential, commercial and institutional projects that:

- a. an *owner or operator* has not made any application, prior to January 8, 2008, for any governmental approvals required for the total project; and
- b. are tributary to waters of the state classified as AA and AA-s; and
- c. disturb one or more acres of land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey for the County in which the disturbance will occur.

8. *Construction activities* for residential, commercial and institutional projects that:

- a. have not been authorized by or covered under a SPDES General Permit for Stormwater Discharges from Construction Activity by June 29, 2009; and
- b. an *owner or operator* has made any application, prior to January 8, 2008, for any governmental approvals required for the total project; and
- c. are tributary to waters of the state classified as AA or AA-s; and
- d. disturb one or more acres of land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey for the County in which the disturbance will occur.

9. *Construction activities* for public roadway and linear utility projects that:

- a. have not been authorized by or covered under a SPDES General Permit for Stormwater Discharges from Construction Activity by June 29, 2009; and
- b. are tributary to waters of the state classified as AA or AA-s; and
- c. disturb two or more acres of land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey for the County in which the disturbance will occur.

(Part I.D.)

10. *Construction activities* that adversely affect a property that is listed or is eligible for listing on the State or National Register of Historic Places.

Part II. OBTAINING PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

1. An *owner or operator* must first develop a Stormwater Pollution Prevention Plan (SWPPP) in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) form to the address below in order to be authorized to discharge under this general permit. The NOI form shall be one which is associated with this general permit, signed in accordance with Part VII.H. of this permit.

**NOTICE OF INTENT
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505**

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* shall have their SWPPP reviewed and accepted by the *MS4* prior to submitting the NOI to the Department. Beginning on September 30, 2008, the *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person, and then submit that form along with the NOI to the address referenced under "Notice of Intent (NOI) Submittal". This requirement does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.E. (Change of Owner or Operator).

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

B. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to discharge under this permit goes into effect.

(Part II.B.)

2. Authorization to discharge under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

- a. project review pursuant to the State Environmental Quality Review Act (SEQRA) have been satisfied, when SEQRA is applicable,
- b. where required, all necessary Department permits subject to the *Uniform Procedures Act (UPA)* (see 6 NYCRR Part 621) have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators of construction activities* that are required to obtain *Uniform Procedures Act (UPA)* permits must submit a preliminary SWPPP to the appropriate DEC Regional Office in Appendix F at the time all other necessary UPA permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this general permit,
- c. the final SWPPP has been prepared, and
- d. an NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.B.2 above will be authorized to discharge stormwater from their *construction activity* in accordance with the following schedule:

- a. For construction activities that are not subject to the requirements of a *regulated, traditional land use control MS4* :
 - i. Five (5) business days from the date the Department receives a complete NOI for construction activities with a SWPPP that has been prepared in conformance with the technical standards referenced in Parts III.B.1, 2 and/or 3, or
 - ii. Sixty (60) business days from the date the Department receives a complete NOI for construction activities with a SWPPP that has not been prepared in conformance with the technical standards referenced in Parts III.B.1, 2 or 3.

(Part II.B.3.)

b. For construction activities that are subject to the requirements of a *regulated, traditional land use control MS4* :

i. Five (5) business days from the date the Department receives a complete NOI and signed “MS4 SWPPP Acceptance” form.

4. The Department may suspend or deny an *owner's or operator's* coverage under this permit if the Department determines that the SWPPP does not meet the permit requirements.

5. Coverage under this permit authorizes stormwater discharges from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater discharges from future areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department.

C. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination (NOT) has been submitted to the address referenced in Part II.A.1.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-08-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form and inspection reports at the construction site until all disturbed areas have achieved *final stabilization* and the Notice of Termination has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock; that is accessible during normal working hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the MS4 (provided the MS4 is not the *owner or operator* of the construction activity). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.B. every seven (7) calendar days, for as long as greater than five (5) acres of soil remain

(Part II.C.3.a.)

disturbed. When performing just two (2) inspections every seven (7) calendar days, the inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. The Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements.

D. Permit Coverage for Discharges Authorized Under GP-02-01

1. Upon renewal of SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-02-01), an *owner or operator* of a *construction activity* with coverage under GP-02-01, as of the effective date of GP-0-08-001, shall be permitted to discharge in accordance with GP-0-08-001 unless otherwise notified by the Department.

E. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed Notice of Termination (NOT) with the name and permit identification number of the new *owner or operator* to the Department at the

(Part II.E.1.)

address in Part II.A.1.. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the general permit. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or operator* was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site.
5. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for the construction of all post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of these contractors and subcontractors identify at least one *trained individual* from their company that will be responsible for implementation of the SWPPP. The *owner or operator* shall ensure that at least one *trained individual* is on site on a daily basis when soil disturbance activities are being performed.

(Part III.A.5.)

The *owner or operator* shall have each of these contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained individual(s)* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the construction site. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

6. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, (or as otherwise indicated by the Department) the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit.

7. For projects where the Department requests a copy of the SWPPP, the *owner or operator* shall submit the SWPPP in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

(Part III.A.)

8. The SWPPP must include documentation supporting the determination of permit eligibility with regard to Part I.D.10. (Historic Places). At a minimum, the supporting documentation shall include the following:

- a. Information on whether the stormwater discharge or *construction activities* would have an effect on a property that is listed or eligible for listing on the State or National Register of Historic Places;
- b. Results of historic places screening determinations conducted. Information regarding the location of places listed, or eligible for listing, on the State or National Register of Historic Places should be obtained by consulting with the New York State Historic Preservation Office, NYS Office of Parks, Recreation and Historic Preservation (OPRHP), Peebles Island Resources Center, P.O. Box 189, Waterford, NY 12188-0189, phone: (518) 237-8643, or using the GIS online resources available at: <http://nysparks.state.ny.us/shpo/> ;
- c. A description of measures necessary to avoid or minimize adverse impacts on places listed, or eligible for listing, on the State or National Register of Historic Places. If the *owner or operator* fails to describe and implement such measures, the stormwater discharge is ineligible for coverage under this permit; and
- d. Where effects may occur, any written agreements that the *owner or operator* has made with the OPRHP or other governmental agency to mitigate those effects, or local land use approvals evidencing the same.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this general permit shall include erosion and sediment control practices designed in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control. Where erosion and sediment control practices are not designed in conformance with this technical standard, the *owner or operator* must demonstrate equivalence to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

- a. Background information about the scope of the project, including the location, type and size of project;

(Part III.B.1.)

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater discharge(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each construction activity that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of final stabilization;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. An inspection schedule for the *owner or operator*, or the contractor(s) or subcontractor(s) identified in Part III.A.5., to ensure continuous and effective operation of the erosion and sediment control practices. The inspection schedule shall be in accordance with the requirements in the most

(Part III.B.1.i.)

current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in the storm water discharges;

k. A description and location of any stormwater discharges associated with industrial activity other than construction at the site, including, but not limited to, stormwater discharges from asphalt plants and concrete plants located on the construction site; and

l. Identification of any elements of the design that are not in conformance with the technical standard, New York Standards and Specifications for Erosion and Sediment Control. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards.

2. Post-construction stormwater management practice component - All construction projects identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that also includes practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual"). Where post-construction stormwater management practices are not designed in conformance with this technical standard, the *owner or operator* must demonstrate equivalence to the technical standard. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include the following:

a. Identification of all post-construction stormwater management practices to be constructed as part of the project;

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. The dimensions, material specifications and installation details for each post-construction stormwater management practice;

d. Identification of any elements of the design that are not in conformance with the Design Manual. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards;

(Part III.B.2.)

e. A hydrologic and hydraulic analysis for all structural components of the stormwater management control system;

f. A detailed summary (including calculations) of the sizing criteria that was used to design all post-construction stormwater management practices. At a minimum, the summary shall address the required design criteria from the applicable chapter of the Design Manual; including the identification of and justification for any deviations from the Design Manual, and identification of any design criteria that are not required based on the redevelopment criteria or waiver criteria included in the Design Manual; and

g. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - Beginning on September 30, 2008, all construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the most current version of the technical standard, New York State Stormwater Management Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.g. above.

C. Required SWPPP Components by Project Type - Unless otherwise notified by the Department, *owners or operators of construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1. *Owners or operators of the construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices identified in the SWPPP are maintained in effective operating condition at all times.

(Part IV.A.)

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the Environmental Conservation Law, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York, or protect the public health and safety and/or the environment.

B. Owner or Operator Inspection Requirements

1. An *owner or operator* shall, in accordance with the requirements in the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control, inspect the erosion and sediment controls identified in the SWPPP to ensure that they are being maintained in effective operating condition at all times.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the *owner or operator* can stop conducting inspections. The *owner or operator* shall begin conducting inspections in accordance with Part IV.B.1. as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *owner or operator* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

1. An *owner or operator* of the following *construction activities* shall have a *qualified inspector* conduct site inspections in conformance with the requirements of Part IV.C. below:

a. All *construction activities* identified in Table 1 and 2 of Appendix B, with the exception of:

(i) the construction of a single family residential subdivision with 25% or less impervious cover at total site build-out and the construction of a single family home that involve soil disturbances of one (1) or more acres of land but less than five (5) acres and are not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

(Part IV.C.1.a.)

(ii) construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

(iii) construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *owner or operator* shall have a *qualified inspector* conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on going and the *owner or operator* has received authorization in accordance with Part II.C.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. When performing just two (2) inspections every seven (7) calendar days, the inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the Regional Office stormwater contact person (see contact information in Appendix F) in writing prior to reducing the frequency of inspections.

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the Regional Office stormwater contact person (see contact information in Appendix F) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector(s)* perform a final inspection and certify that all disturbed areas

(Part IV.C.2.d.)

have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the “Final Stabilization” and “Post-Construction Stormwater Management Practice” certification statements on the Notice of Termination (NOT). The *owner or operator* shall then submit the completed NOT form to the address in Part II.A.1..

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, and all points of discharge from the construction site.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- e. Identification of all erosion and sediment control practices that need repair or maintenance;
- f. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- g. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;

(Part IV.C.4.)

h. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards; and

i. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s).

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor (or subcontractor) identified in Part III.A.5. of any corrective actions that need to be taken. The contractor (or subcontractor) shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.C.2., the inspection reports shall be maintained on-site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed Notice of Termination (NOT) form to the address in Part II.A.1. The NOT form shall be one which is associated with this general permit, signed in accordance with Part VII.H.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

a. Total project completion - All construction activity identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed

(Part V.A.2.b.)

portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.E..

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall certify that all disturbed areas have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT.

4. For *construction activities* meeting subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the Notice of Termination, ensure one of the following:

a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a deed restriction in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION OF RECORDS

A. The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the site achieves *final stabilization*. This period may be extended by the Department, in its sole

(Part VI.A.)

discretion, at any time upon written notification.

B. Addresses - With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.A.1), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DEC Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply - The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any permit non-compliance constitutes a violation of the Clean Water Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator* or the *owner's or operator's* on-site representative.

B. Continuation of the Expired General Permit - This permit expires two (2) years from the effective date. However, coverage may be obtained under the expired general permit, which will continue in force and effect, until a new general permit is issued. After issuance of a new general permit, those with coverage under GP-0-08-001 will have six (6) months from the effective date of the new general permit to complete their project or obtain coverage under the new permit. Unless otherwise notified by the Department in writing, an *owner or operator* authorization under the new general permit must submit a new NOI in accordance with the terms of such new general permit.

C. Enforcement - Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a permit violation. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense - It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate - The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(Part VII.)

F. Duty to Provide Information - The *owner or operator* shall make available to the Department for inspection and copying or furnish to the Department within five (5) business days of receipt of a Department request for such information, any information requested for the purpose of determining compliance with this general permit. This can include, but is not limited to, the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form, executed maintenance agreement, and inspection reports. Failure to provide information requested by the Department shall be a violation of this permit.

G. Other Information - When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any other report, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or impervious area) which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a permit violation.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

(Part VII.H.1.)

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization is attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person.

Under Part VII. H. (Signatory Requirements), it shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights - The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

(Part VII.)

J. Severability - The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Denial of Coverage Under This Permit

1. At its sole discretion, the Department may require any *owner or operator* authorized by this permit to apply for and/or obtain either an individual SPDES permit or an alternative SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from permittee's receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Regional Water Engineer, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. Any *owner or operator* authorized by this permit may request to be excluded from the coverage under this permit by applying for an individual permit or an alternative general permit. In such cases, the *owner or operator* shall submit an individual application or an alternative general permit application in accordance with the requirements of this general permit, 40 CFR 122.26(c)(1)(ii) and 6 NYCRR Part 621, with reasons supporting the request, to the Department at the address for the appropriate Department Office (see addresses in Appendix F). The request may be granted by issuance of an individual permit or an alternative general permit at the discretion of the Department.

3. When an individual SPDES permit is issued to a discharger authorized to discharge under a general SPDES permit for the same discharge(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance - The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

(Part VII.)

M. Inspection and Entry - The *owner or operator* shall allow the Department or an authorized representative of EPA, the State, or, in the case of a construction site which discharges through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and
3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

N. Permit Actions - At the Department's sole discretion, this permit may, at any time, be modified, revoked, or renewed. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions - Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with *construction activity* covered by this permit, the *owner or operator* of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.
2. Permit modification or revocation will be conducted in accordance with 6 NYCRR Part 621 and 6 NYCRR 750-1.18.

APPENDIX A

Definitions

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both “sewage” and “stormwater”.

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for “Construction Activity(ies)” also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a construction site by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a construction site to a separate storm sewer system and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or point source.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 authorizing a category of discharges.

Groundwater - means waters in the saturated zone. The saturated zone is a subsurface zone in

which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Impervious Area (Cover) - means all impermeable surfaces that can not effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct construction activities are occurring, or will occur, under one plan. The term "plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that construction activities may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a *combined sewer*; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from construction activity.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the construction activity is occurring; and/or an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in Parts 700 et seq of this Title.

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect, or other Department endorsed individual(s). It also means someone working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that an individual performing a site inspection has received four (4) hours of training, endorsed by the Department, from a Soil and Water Conservation District, CPESC, Inc. or other Department endorsed entity in proper erosion and sediment control principles no later than two (2) years from date this general permit is issued. After receiving the initial training, an individual working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect shall receive four (4) hours of training every three (3) years. Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, licensed Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics in order to prepare a SWPPP that conforms to the Department's technical standard. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is required to gain coverage under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s).

Routine Maintenance Activity - means construction activity that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not

limited to:

- Re-grading of gravel roads or parking lots,
- Stream bank restoration projects (does not include the placement of spoil material),
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that makes the transition between the road shoulder and the ditch or embankment,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or embankment,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources, and a margin of safety (MOS).

Trained Individual - means an employee from a contracting (construction) firm that has received four (4) hours of training, which has been endorsed by the Department, from a Soil and Water Conservation District, CPESC, Inc. or other Department endorsed entity, in proper erosion and sediment control principles no later than two (2) years from the date this general permit is issued. After receiving the initial training, the trained individual shall receive four (4) hours of training every three (3) years. This individual will be responsible for implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B

Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP
THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other agricultural building, silo, stock yard or pen.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects.
- Bike paths and trails
- Sidewalk construction projects that are not part of a road/ highway construction or reconstruction project
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields), excluding projects that *alter hydrology from pre to post development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not alter hydrology from pre to post development conditions
- Demolition project where vegetation will be established and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of less than five acres and construction activities that include the construction or reconstruction of impervious area

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP
THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes townhomes, condominiums, senior housing complexes, and apartment complexes
- Airports
- Amusement parks
- Campgrounds
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other agricultural building(e.g. silo) and structural practices as identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional, includes hospitals, prisons, schools and colleges
- Industrial facilities, includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW’s and water treatment plants
- Office complexes
- Sports complexes
- Racetracks, includes racetracks with earthen (dirt) surface
- Road construction or reconstruction
- Parking lot construction or reconstruction
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development conditions*
- Athletic fields with artificial turf
- Permanent access roads or parking areas surfaced with *impervious cover*, and substations constructed as part of an over-head electric transmission line project , wind-power project or cell tower project
- All other construction activities that include the construction or reconstruction of *impervious area* and *alter the hydrology from pre to post development conditions*, and are not listed in Table 1

APPENDIX C

Watersheds Where Enhanced Phosphorus Removal Standards Are Required

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual (“Design Manual”).

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed -Figure 3

Figure 1 - New York City Watershed East of the Hudson

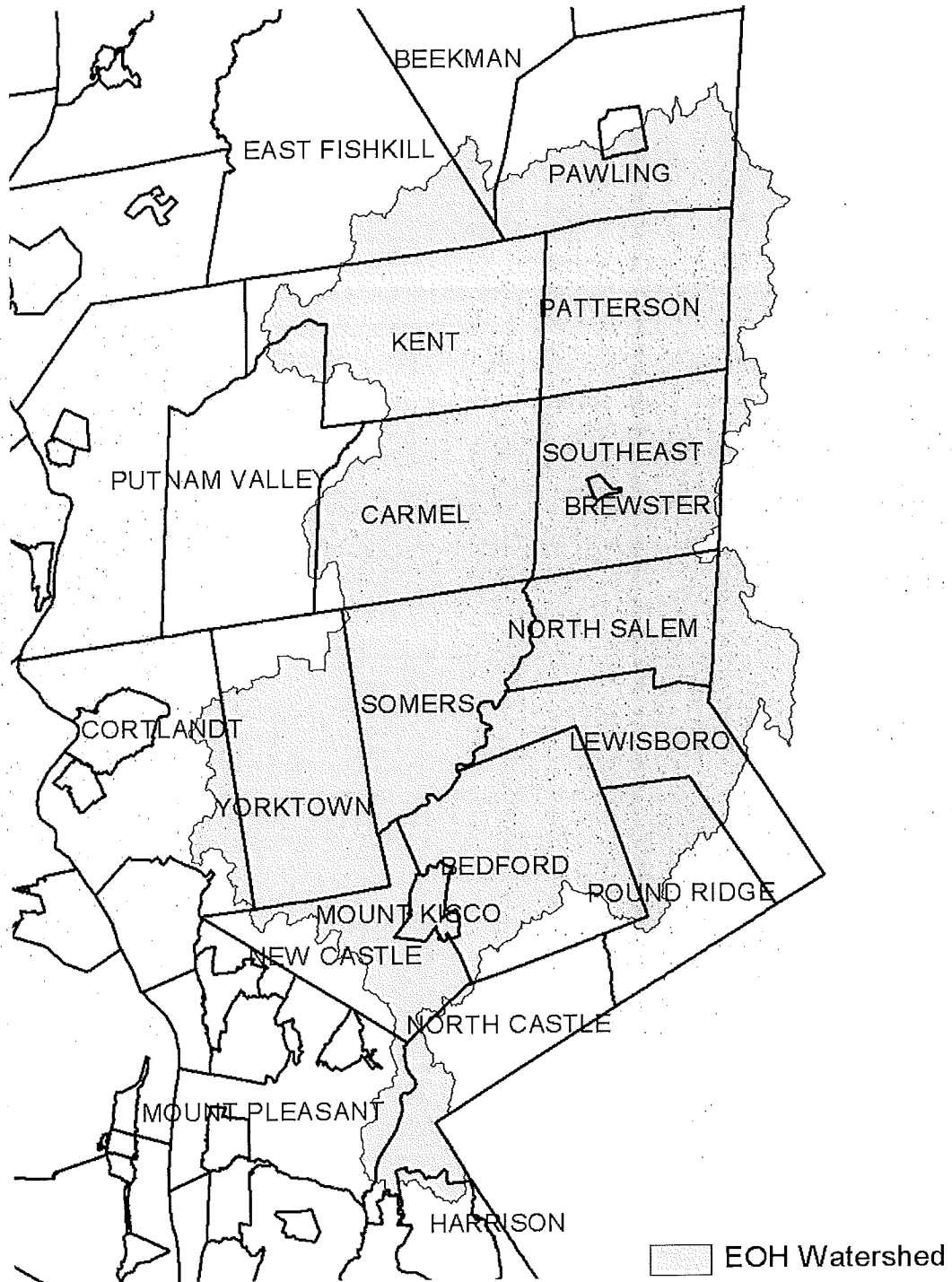


Figure 2 - Onondaga Lake Watershed

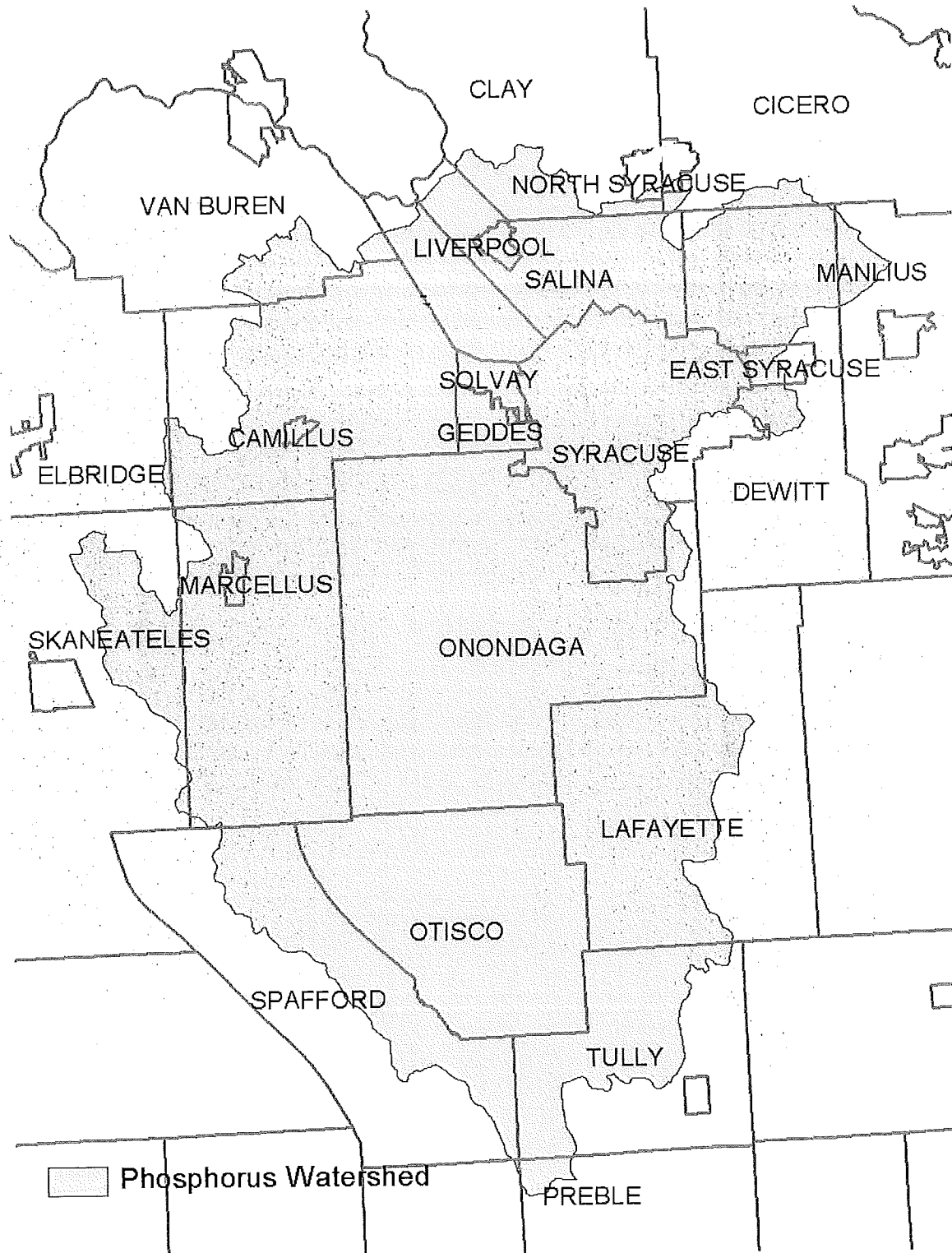
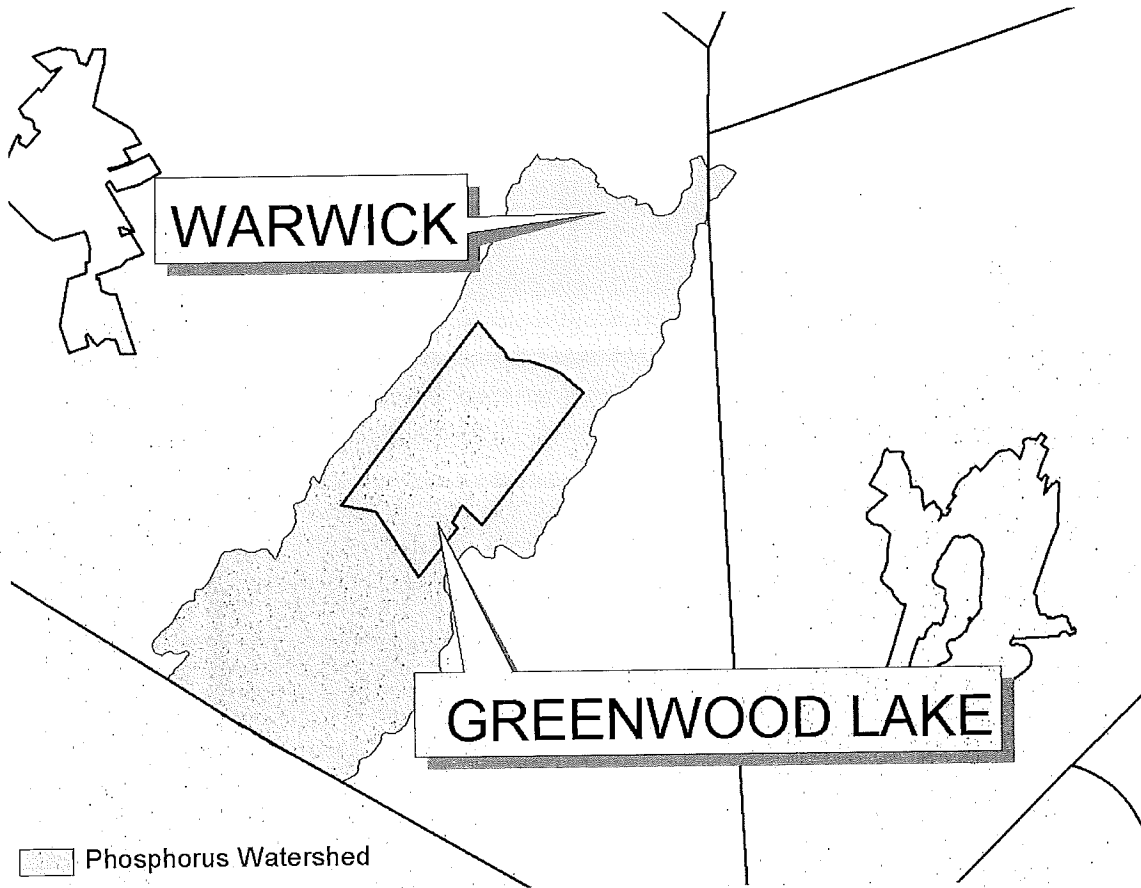


Figure 3 - Greenwood Lake Watershed



APPENDIX D

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity (e.g. silt, sediment or nutrients). *Owners or operators* of single family home and single family residential subdivision construction activities that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual (“Design Manual”).

COUNTY	WATERBODY	COUNTY	WATERBODY
Albany	Ann Lee (Shakers) Pond, Stump Pond	Madison	Chittenango Creek
Albany	Basic Creek Reservoir	Madison	DeRuyter Reservoir
Bronx	Van Cortlandt Lake	Monroe	Genesee River, Lower, Main Stem
Broome	Whitney Point Lake/Reservoir	Monroe	Genesee River, Middle, Main Stem
Broome	Beaver Lake	Monroe	Black Creek, Lower, and minor tribs
Broome	White Birch Lake	Monroe	Buck Pond
Cayuga	Little Sodus Bay	Monroe	Long Pond
Chautauqua	Chautauqua Lake, North	Monroe	Cranberry Pond
Chautauqua	Chautauqua Lake, South	Nassau	Glen Cove Creek, Lower, and tribs
Chautauqua	Bear Lake	Nassau	LI Tribs (fresh) to East Bay
Chautauqua	Lower Cassadaga Lake	Nassau	East Meadow Brook, Upper, and tribs
Chautauqua	Middle Cassadaga Lake	Nassau	Hempstead Bay
Chautauqua	Findley Lake	Nassau	Hempstead Lake
Clinton	Great Chazy River, Lower, Main Stem	Nassau	Grant Park Pond
Columbia	Kinderhook Lake	Niagara	Bergholtz Creek and tribs
Columbia	Robinson Pond	Oneida	Ballou, Nail Creeks
Dutchess	Hillside Lake	Onondaga	Ley Creek and tribs
Dutchess	Wappinger Lakes	Onondaga	Onondaga Creek, Lower
Dutchess	Fall Kill and tribs	Onondaga	Harbor Brook, Lower, and tribs
Dutchess	Rudd Pond	Onondaga	Ninemile Creek, Lower, and tribs
Erie	Rush Creek and tribs	Ontario	Honeoye Lake
Erie	Ellicott Creek, Lower, and tribs	Ontario	Hemlock Lake Outlet and minor tribs
Erie	Beeman Creek and tribs	Oswego	Lake Neatahwanta
Erie	Murder Creek, Lower, and tribs	Oswego	Oneida Lake
Erie	South Branch Smoke Cr, Lower, and tribs	Putnam	Oscawana Lake
Erie	Little Sister Creek, Lower, and tribs	Putnam	Lake Carmel
Genesee	Black Creek, Upper, and minor tribs	Queens	Jamaica Bay, Eastern, and tribs (Queens)
Genesee	Tonawanda Creek, Middle, Main Stem	Queens	Bergen Basin
Genesee	Tonawanda Creek, Upper, and minor tribs	Queens	Shellbank Basin
Genesee	Little Tonawanda Creek, Lower, and tribs	Rensselaer	Snyders Lake
Genesee	Oak Orchard Creek	Richmond	Grasmere, Arbutus and Wolfes Lakes
Genesee	Bowen Brook and tribs	Saratoga	Dwaas Kill and tribs
Genesee	Bigelow Creek and tribs	Saratoga	Tribs to Lake Lonely
Greene	Schoharie Reservoir	Saratoga	Lake Lonely
Greene	Sleepy Hollow Lake	Schenectady	Collins Lake
Herkimer	Steele Creek tribs	Schoharie	Engleville Pond
Jefferson	Moon Lake	Schoharie	Summit Lake
Kings	Hendrix Creek	St.Lawrence	Black Lake Outlet/Black Lake
Livingston	Conesus Lake	Steuben	Lake Salubria
Livingston	Jaycox Creek and tribs	Suffolk	Millers Pond
Livingston	Mill Creek and minor tribs	Suffolk	Mattituck (Marratooka) Pond

APPENDIX E

List of 303(d) segments impaired by pollutants related to construction activity, cont'd.

COUNTY	WATERBODY	COUNTY	WATERBODY
Suffolk	Tidal tribs to West Moriches Bay		
Suffolk	Canaan Lake		
Suffolk	Lake Ronkonkoma		
Tompkins	Cayuga Lake, Southern End		
Ulster	Ashokan Reservoir		
Ulster	Esopus Creek, Upper, and minor tribs		
Warren	Lake George		
Warren	Tribs to L. George, Village of L. George		
Warren	Huddle/Finkle Brooks and tribs		
Warren	Indian Brook and tribs		
Warren	Hague Brook and tribs		
Washington	Tribs to L. George, East Shore		
Washington	Cossayuna Lake		
Wayne	Blind Sodus Bay		
Wayne	Port Bay		
Wayne	Marbletown Creek and tribs		
Westchester	Peach Lake		
Westchester	Mamaroneck River, Lower		
Westchester	Mamaroneck River, Upper, and minor tribs		
Westchester	Sheldrake River		
Westchester	Blind Brook, Lower		
Westchester	Blind Brook, Upper, and tribs		
Westchester	Lake Lincoln Dale		
Westchester	Lake Meahaugh		
Wyoming	Java Lake		
Wyoming	Silver Lake		

Note: The list above identifies those waters from the final New York State "2006 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy", dated May 17, 2007, that are impaired by silt, sediment or nutrients.

APPENDIX F

LIST OF NYS DEC REGIONAL OFFICES

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 TEL. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, PO BOX 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD, PO BOX 220 WARRENSBURG, NY 12885-0220 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROAD AVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVE. BUFFALO, NY 14203-2999 TEL. (716) 851-7070

APPENDIX C

**NOTICE OF INTENT
TO OBTAIN COVERAGE UNDER THE
NYSDEC SPDES GENERAL PERMIT FOR
STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES**

3358554733

NOTICE OF INTENT

New York State Department of Environmental Conservation



**Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505**

NYR
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-08-001
All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

- IMPORTANT -
RETURN THIS FORM TO THE ADDRESS ABOVE
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State Zip -

Phone (Owner/Operator) - - Fax (Owner/Operator) - -

Email (Owner/Operator)

FED TAX ID - (not required for individuals)

9928554732

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use	Post-Development Future Land Use	Number of Lots
<input type="radio"/> FOREST	<input type="radio"/> SINGLE FAMILY HOME	
<input type="radio"/> PASTURE/OPEN LAND	<input type="radio"/> SINGLE FAMILY SUBDIVISION	
<input type="radio"/> CULTIVATED LAND	<input type="radio"/> TOWN HOME RESIDENTIAL	
<input type="radio"/> SINGLE FAMILY HOME	<input type="radio"/> MULTIFAMILY RESIDENTIAL	
<input type="radio"/> SINGLE FAMILY SUBDIVISION	<input type="radio"/> INSTITUTIONAL/SCHOOL	
<input type="radio"/> TOWN HOME RESIDENTIAL	<input type="radio"/> INDUSTRIAL	
<input type="radio"/> MULTIFAMILY RESIDENTIAL	<input type="radio"/> COMMERCIAL	
<input type="radio"/> INSTITUTIONAL/SCHOOL	<input type="radio"/> MUNICIPAL	
<input type="radio"/> INDUSTRIAL	<input type="radio"/> ROAD/HIGHWAY	
<input type="radio"/> COMMERCIAL	<input type="radio"/> RECREATIONAL/SPORTS FIELD	
<input type="radio"/> ROAD/HIGHWAY	<input type="radio"/> BIKE PATH/TRAIL	
<input type="radio"/> RECREATIONAL/SPORTS FIELD	<input type="radio"/> LINEAR UTILITY (water, sewer, gas, etc.)	
<input type="radio"/> BIKE PATH/TRAIL	<input type="radio"/> PARKING LOT	
<input type="radio"/> LINEAR UTILITY	<input type="radio"/> CLEARING/GRADING ONLY	
<input type="radio"/> PARKING LOT	<input type="radio"/> DEMOLITION, NO REDEVELOPMENT	
<input type="radio"/> OTHER	<input type="radio"/> OTHER	

4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ? Yes No

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)? Yes No

6. Is this property owned by a state authority, state agency or local government? Yes No

7. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage) within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	Acreage To Be Disturbed	Existing Impervious Area Within Disturbed	Future Impervious Area Within Disturbed

8. Do you plan to disturb more than 5 acres of soil at any one time? Yes No

9. Indicate the percentage of each Hydrologic Soil Group (HSG) at the site.

A	B	C	D
%	%	%	%

1778554737

30. Provide the total water quality volume required and the total provided for the site.

WQv Required
 [][][] . [][][] acre-feet

WQv Provided
 [][][] . [][][] acre-feet

31. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of post-developed 1 year, 24 hour storm event

CPv Required
 [][][] . [][][] acre-feet

CPv Provided
 [][][] . [][][] acre-feet

31a. The need to provide for channel protection has been waived because:

- Site discharges directly to fourth order stream or larger

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development
 [][][] . [][][] CFS

Post-development
 [][][] . [][][] CFS

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development
 [][][] . [][][] CFS

Post-development
 [][][] . [][][] CFS

31b. The need to provide for flood control has been waived because:

- Site discharges directly to fourth order stream or larger
- Downstream analysis reveals that flood control is not required

IMPORTANT: For questions 31 and 32, impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s). (Total Drainage Area = Project Site + Offsite areas)

32. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins.

[][][] %

33. Post-Construction Impervious Area - As a percent of the Total Drainage Area, enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction.

[][][] %

34. Indicate the total number of post-construction stormwater management practices to be installed/constructed.

[][]

35. Provide the total number of stormwater discharge points from the site. (include discharges to either surface waters or to separate storm sewer systems)

[][]

APPENDIX D

**CONTRACTOR / SUBCONTRACTOR
CERTIFICATION STATEMENT**

**[INSERT PROJECT NAME]
STORM WATER POLLUTION PREVENTION PLAN**

CONTRACTOR/SUBCONTRACTOR CERTIFICATION STATEMENT

As a contractor/subcontractor, you are required to comply with the Storm Water Pollution Prevention Plan (SWPPP) for any work that you perform for the [INSERT PROJECT NAME]. The project site is located [INSERT PROJECT LOCATION]. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review.

The contractor(s) and subcontractor(s) responsible for installing, constructing, repairing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for the construction of all post-construction storm water management practices included in the SWPPP must be identified and sign the following certification statement:

I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharges from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

This certification is hereby signed in reference to the above named project:

Company: _____ Telephone #: _____

Address: _____

Service to be provided: _____

Name(s) and title(s) of the trained individual(s) responsible for SWPPP implementation:

Print Name: _____ Title: _____

Signature: _____ Date: _____

APPENDIX E

NOTICE OF TERMINATION



**New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505**

**NOTICE OF TERMINATION for Storm Water Discharges Authorized
under the
SPDES General Permit for Construction Activity**

Please indicate your permit identification number: NYR _____

I. Owner or Operator Information

1. Owner/Operator Name: _____
2. Street Address: _____
3. City/State/Zip: _____
- | | |
|--------------------------|----------------------|
| 4. Contact Person: _____ | 4a. Telephone: _____ |
|--------------------------|----------------------|

II. Project Site Information

5. Project/Site Name: _____
6. Street Address: _____
7. City/Zip: _____
8. County: _____

III. Reason for Termination

- 9a. All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. Date final stabilization completed (month/year): _____
- 9b. Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _____
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under GP-0-08-001)
- 9c. Other (Explain on Page 2)

IV. Final Site Information:

- 10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? yes no (If no, go to question 10f.)
- 10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? yes no (If no, explain on Page 2)
- 10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

**NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued**

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? yes no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

- Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- For post-construction stormwater management practices that are privately owned, a deed restriction is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.
- For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued	
VI. Qualified Inspector Certification - Final Stabilization:	
I hereby certify that all disturbed areas have achieved final stabilization as defined in GP-0-08-001, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.	
Printed Name:	
Title/Position:	
Signature:	Date:
VII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):	
I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.	
Printed Name:	
Title/Position:	
Signature:	Date:
VIII. Owner or Operator Certification	
I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.	
Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - 4/10/08)

Appendix D

Public Outreach

- **Documents Currently Distributed - (Included on thumb drive due to size)**
 - Stormwater Management Program Brochure
 - Kitchen Safety (Don't flush grease, fats, and chemicals)
 - Bathroom Safety (What not to flush)
 - Commercial Kitchen Safety (What not to flush)
 - Public Works Week Flyer and Schedule
 - Trach Pick-up Schedule
 - Westchester County Recycling Information
 - Household Recycling Day Poster
- **Information Distributed to the Public About Illicit Discharges (Will be saved here after 1st year of new MS4 Permit)**
- **Public Notification of Illicit Discharges (Will be saved here after 1st year of new MS4 Permit)**

Did You Know?

Whether you are directly on the water or further inland, your daily activities can pollute our waters. Anything that goes down a Storm Drain will almost certainly end up in our waterways.

Some common sources of pollutants found in Storm Water include:

- Household chemicals
- Automotive fluids
- Garbage and litter
- Car washing
- Paint
- Detergents
- Fertilizers and pesticides
- Pet waste
- Sanitary overflow
- Sediments and soil

Small amounts of pollution can add up to a big problem! Storm water pollution can have harmful effects on water quality, beach access, recreation, fish, wildlife, and your health.

For more information, visit:
www.cmvny.com/departments/departments-of-public-works



What is the City's Role in Storm Water?

In recognition of the importance that each of us has on the quality of local water bodies like the Bronx River and Hutchinson River, the City of Mount Vernon has implemented a Storm Water Management Program (SWMP).

The City's SWMP Plan includes the following six program components:

- Public education and outreach
- Public participation and involvement
- Illicit Discharge Detection and Elimination (IDDE)
- Construction site runoff control
- Post-construction storm water management
- Municipal pollution prevention and good housekeeping

The goal of the City's SWMP is to reduce impacts of storm water runoff thereby improving water quality.



STORM WATER MANAGEMENT PROGRAM

STORM WATER PUBLIC EDUCATION

**Storm Drains:
What are they?**

WHAT YOU CAN DO TO PREVENT POLLUTION IN LOCAL WATERS

What Is Storm Water?

Storm water is the surface runoff from rainfall or snow melt

What is the Storm Water System?

What is a Storm Drain?

- The Storm Water System is a network of pipes below our city streets connected to Storm Drains
- The Storm Water System is separate from the Sanitary Sewer System and handles only clean water
- Storm drains are the metal grates or openings found along streets and curbs. Storm drains and pipes are designed to quickly carry storm water away from streets to prevent local flooding
- The Storm Water System discharges storm water directly into the Bronx and Hutchinson Rivers which ultimately flow into Long Island Sound

What are the Problems?

- During a storm, water runs over yards and down streets and parking lots into storm drains, often picking up pollutants and debris along the way
- These pollutants are quickly carried to the nearest water body through the storm sewer system
- Anything that enters a storm drain is discharged untreated directly into our waterways

What you can do to protect water quality?

With these few simple steps, you can reduce storm water pollution!

Lawn Care

- Do not overwater your lawn.
- Limit fertilizers and pesticides.
- Compost or mulch yard waste.
- Do not sweep or blow clippings into the street or storm drains.
- Choose native plant species.

Auto Care

- Repair oil or fluid leaks and drips as soon as possible.
- Recycle motor oil, oil filters & other automotive fluids at vehicle service centers or parts stores
- Never dump oil or antifreeze down a Storm Drain (Subject to fines up to \$10,000)
- Wash your car at a commercial car wash.

Dog Waste

- Clean up after your dog! (It's the law)
 - Flush it down the toilet or bag it and put it in the trash.
- (DO NOT FLUSH BAGS)**
- Never throw dog waste or bags in storm drains.

Around the House

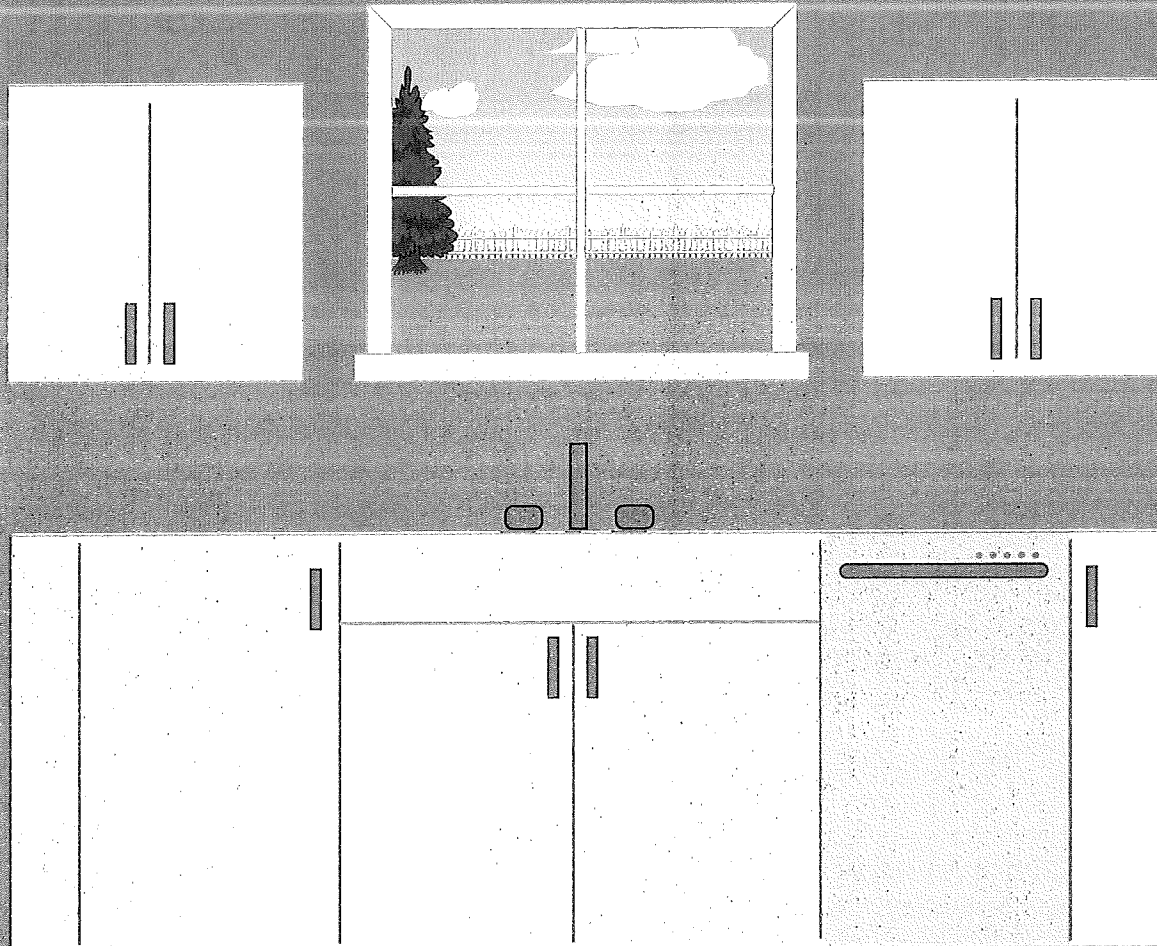
- Purchase only the chemicals and products in the amounts that you need.
- Read and follow directions for household chemical use, storage and disposal carefully.
- Keep storm drains and ditches clear of debris.

**But Most Importantly:
Never dump, sweep,
blow or hose off anything
that you would not want
to swim in or drink onto
the ground or down a
storm drain.**

**The Storm Water
System does NOT
treat storm water or
remove pollutants!**



KITCHEN SAFETY



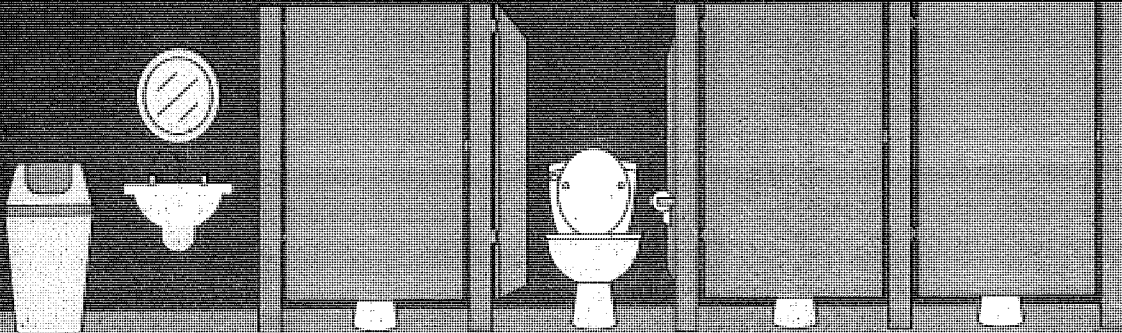
Do Your Part, Be Sewer Smart

To protect your home's plumbing,
please keep grease, fats, and harmful
chemicals out of the drain.



BATHROOM SAFETY

PROTECT YOUR PIPES



DO FLUSH

The following can be flushed down the toilet.



Toilet paper

DO NOT FLUSH

The following cannot go in the toilet as they can clog pipes and sewer systems.



Paper towels



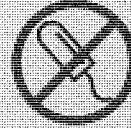
Cigarette butts



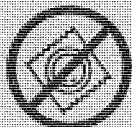
Disposable diapers



Wipes
(Baby or flushable)



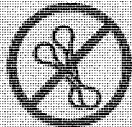
Feminine hygiene
products



Plastics



Medications



Cotton
(Cotton swabs or balls)



Dental floss



Toxic Substances

Dispose these items in the trash.



COMMERCIAL KITCHEN SAFETY

THINK AT THE SINK



OK DOWN THE DRAIN

The following can go down a commercial kitchen drain in limited quantities.



CLEANING PRODUCTS
Follow manufacturer's instructions



DISHWATER
Wipe off large food remnants/grease



WASH WATER FROM PRODUCE
Brush off dirt before rinsing fruits and vegetables

NOT OK DOWN THE DRAIN

The following cannot go down the drain as they can clog pipes and/or damage sewer systems.



FOOD WASTE
Limit food waste by disposing of any excess waste



CHEMICALS
Avoid pouring harsh chemicals down the drain



GREASE/FAT
Dispose of excess grease in a receptacle or container

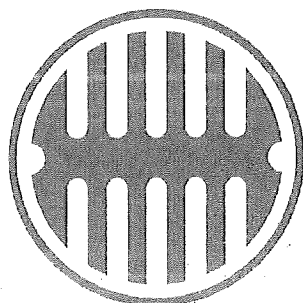


GARBAGE DISPOSAL
Properly dispose of food debris and limit using a garbage disposal

Limit what you pour down the drain.
Remember, anything other than water can impact your sewer systems.



NATIONAL PUBLIC WORKS WEEK



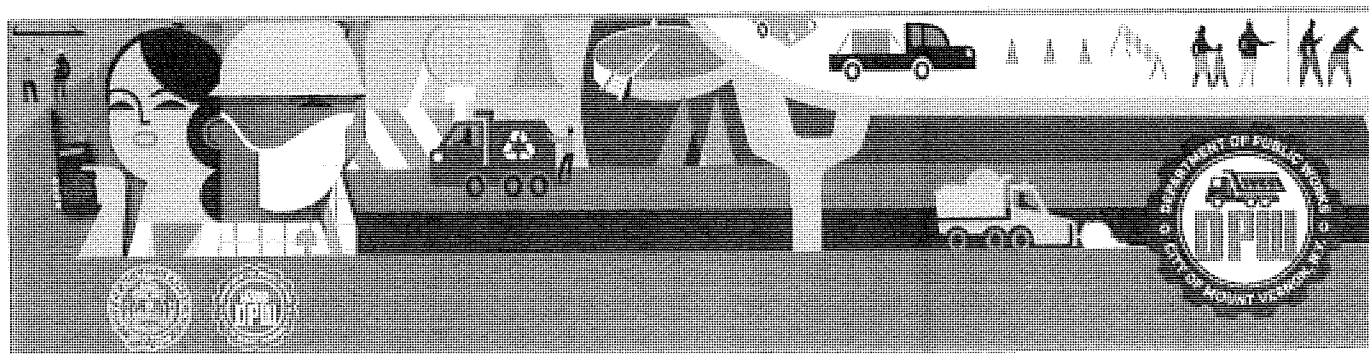
SEWER EDUCATION & DEMONSTRATION

FARRELL AVENUE








Between Hillside Ave & Brookside Ave
AND LIVE ON FACEBOOK @MOUNTVERNONDPW

TUESDAY MAY 18, 2021 - 1:00 PM

COME WITNESS A MANHOLE REHABILITATION



 **NATIONAL PUBLIC WORKS WEEK** 

SUNDAY 16-May	MONDAY 17-May	TUESDAY 18-May	WEDNESDAY 19-May	THURSDAY 20-May	FRIDAY 21-May	SATURDAY 22-May
<p>DPW ONLY PRIVATE EVENT FIELD DAY</p> 	<p>PUBLIC EDUCATION CITY HALL 2:30PM-5:00PM</p> 	<p>SEWER EDUCATION & DEMONSTRATION FARRELL AVENUE 1:00 PM</p> 	<p>DPW ONLY PRIVATE EVENT EMPLOYEE COOKOUT</p> 	<p>DPW VISITS A MOUNT VENOM ELEMENTARY SCHOOL FOR CAREER DAY</p> <p>GOODIE BAG GIVEAWAY CITY HALL FIRST 100 CHILDREN 3:00PM-4:30PM</p> 	<p>EMPLOYEE APPRECIATION CEREMONY CITY HALL 10:00 AM</p> <p>BEAUTIFICATION WITH PARKS BUREAU LOCATION: TBD 1:00 PM</p> <p>DPW ONLY PRIVATE EVENT NIGHT OUT</p> 	<p>TEAM UP TO CLEAN UP CITYWIDE 8:30AM-3:30PM</p> 

CITY OF MOUNT VERNON
2022 SANITATION PICK-UP SCHEDULE



MONDAY & THURSDAY SOUTH SIDE



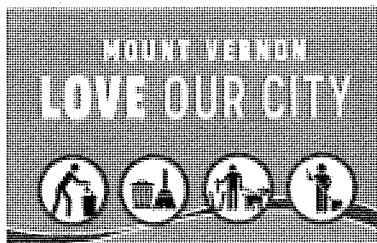
JANUARY							FEBRUARY							MARCH									
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S			
					1					2	P	G	R				2	P	G	R			
2	G			5	P	G	R	6	7	G		9	G	R	6	7	G		9	C	G	R	
8	10	G		12	C	G	R	13	14	G		16	P	G	R	13	14	G		16	P	G	R
16	17	H		18	G		19	P	G	R	20	21	H		22	G		23	C	G	R		
23	24	G		25		26	C	G	R	27	28	G						30	P	G	R		
30	31	G																					

APRIL							MAY							JUNE																			
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S													
					1	2	1	2	G		3	Y	4	C	5	G	R				1	Y	2	G	3	C	4						
3	4	G		5	Y	6	C	7	G	R	8	9	G		10	Y	11	P	12	G	R	5	6	G		7	Y	8	P	9	G	R	
10	11	G		12	Y	13	P	14	G	R	15	16	G		17	Y	18	C	19	G	R	12	13	G		14	Y	15	C	16	G	R	
17	18	G		19	Y	20	C	21	G	R	22	23	G		24	Y	25	P	26	G	R	19	20	H		21	G		22	Y	23	G	R
24	25	G		26	Y	27	P	28	G	R	29	30	H		31	G		Y				26	27	G		28	Y	29	C	30	G	R	

JULY							AUGUST							SEPTEMBER																		
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S												
					1	2	1	G		2	Y	3	P	4	G	R						1	G	R								
3	4	H		5	G		6	Y	7	G	R	8	P	4	5	H		6	G		7	Y	8	G	R							
10	11	G		12	Y	13	C	14	G	R	14	15	G		16	Y	17	P	18	G	R	11	12	G		13	Y	14	P	15	G	R
17	18	G		19	Y	20	C	21	G	R	21	22	G		23	Y	24	C	25	G	R	18	19	G		20	Y	21	C	22	G	R
24	25	G		26	Y	27	C	28	G	R	28	29	G		30	Y	31	P				25	26	G		27	Y	28	P	29	G	R

OCTOBER							NOVEMBER							DECEMBER																					
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S															
					1					1	Y	2	C	3	G	R						1	G	R											
2	3	G		4	Y	5	C	6	G	R	6	7	G		8	Y	9	G	R	4	5	G		6	Y	7	P								
9	10	H		11	G		12	Y	13	C	14	G	R	13	14	G		15	Y	16	C	17	G	R	11	12	G		13	Y	14	C	15	G	R
16	17	G		18	Y	19	C	20	G	R	20	21	G		22	Y	23	G	R	18	19	G		20	Y	21	P	22	G	R					
23	24	G		25	Y	26	P	27	G	R	27	28	G		29	Y	30	C				25	26	H		27	G		28	Y	29	G	R		

JANUARY 2023											
S	M	T	W	T	F	S					
1	2	H		3	G		4	P	5	G	R
8	9	G		10		11	C	12	G	R	
15	16	H		17	G		18	P	19	G	R
22	23	G		24		25	C	26	G	R	
29	30	G		31							



COLOR SCHEDULE	
G	MONDAY GARBAGE PICK-UP
G R	THURSDAY GARBAGE & RUBBISH PICK-UP
C	BOTTLES-CANS-PLASTIC COMMINGLED
P	NEWSPAPER & CARBOARD COMMINGLED
Y	YARD WASTE NO PICK-UP JANUARY-FEBRUARY-MARCH
H	HOLIDAY NO COLLECTION ALT. SIDE PARKING SUSPENDED

BUSINESS HOURS 7:30 AM TO 3:30 PM

CURBSIDE RECYCLING PICK-UP

PLACE ALL RECYCLABLES IN A RECYCLING BIN.
NEWSPAPERS CAN BE PLACED IN BROWN PAPER BAGS OR CORRUGATED CARDBOARD BOXES.

PLACE AT CURBSIDE BEFORE 7:30 AM ON SCHEDULED DAY OF PICKUP.

DO NOT PUT ANY RECYCLABLES IN PLASTIC BAGS. RECYCLABLE CARDBOARD MUST BE BROKEN DOWN, BUNDLED AND TIED UP.

NOTE: MATTRESSES AND BOX SPRINGS MUST BE WRAPPED IN PLASTIC FOR CURBSIDE PICK UP.

WESTCHESTER RECYCLES

Sorting your paper, cardboard and other recyclables is quick and easy. Just focus on tossing all mixed paper into one bin and plastic, glass, and metal into another. Please **EMPTY** and **RINSE** all containers and flatten and break down cardboard boxes.

Corrugated Cardboard
(Boxes, paper bags, & drink holders)

File Folders and Office Paper
(All colors)

Plastic Bottles, Jugs, Tubs, and Lids
(Empty kitchen, laundry & bath containers)

Large Rigid Plastics
(Laundry baskets & 5-gallon pails)

Newspaper
(All sections & inserts)

Mail and Greeting Cards
(Junk mail, & envelopes)

Glass Bottles and Jars
(Empty food & beverage bottles & jars)

Aluminum and Steel Cans
(Foil & empty food & beverage cans)

Cardboard Egg Cartons

Cartons
(Milk, juice & other liquids)

MIXED PAPER

MIXED CONTAINERS

TIPS FOR RECYCLING RIGHT!

- Keep it Loose! Don't bag your recyclables.
- All containers are empty, rinsed, & dry
- Place shredded paper in paper bags.
- Cardboard is flattened & broken down

Please **DO NOT** place items listed below in your recycling bin

PLASTIC BAGS	RECYCLABLES SOILED WITH FOOD	HAZARDOUS & ELECTRONIC WASTE	SHARPS WASTE
INSTEAD: Recycle your bags at a participating grocery or retail store.	INSTEAD: Dispose of soiled recyclables that can't be cleaned in the trash	INSTEAD: Bring items to the Household Hazardous Waste Facility in Valhalla	INSTEAD: Find safe & secure disposal information at environment.westchestergov.com

Westchester County Department of Environmental Facilities, Division of Solid Waste
 270 North Ave. 6th Floor, New Rochelle, NY 10801
 Westchester County Recycling HelpLine: (914) 813-5425

Q | I heard that some municipalities have been disposing of recyclables as garbage. Is Westchester throwing recyclables in the garbage?

A | No. Westchester County's Refuse Disposal District recycles all of the recyclables collected curbside. It is important that all recyclable materials are correctly sorted and cleaned.

Q | Can I recycle all plastics marked #1 - #7?

A | Yes, Visit <http://environment.westchestergov.com/residents> for more information.

Q | Can I put my recyclables in plastic bags?

A | No, keep recyclables unbagged and loose in your recycling container. Plastic bags damage recycling machinery causing facility downtime and also contaminate the recyclables. Plastic bags may be recycled at many large retail outlets.

Q | Can I recycle caps and lids from containers?

A | Yes. After rinsing, caps and lids should be reattached.

Q | Can Styrofoam be recycled?

A | Contact your local municipality to find out if they have a styrofoam recycling drop-off program. Otherwise place styrofoam in the garbage.

Q | Can I place small electronics in my recycling bin or TVs and the like at the curb?

A | Electronics cannot be placed in the garbage. Many municipalities offer a drop-off location for electronics. Some municipalities collect separated electronics curbside. Visit <http://environment.westchestergov.com/recycling/municipal-offices> for more information.

Q | Can pizza boxes be recycled?

A | Only clean pizza boxes can be recycled. If the bottom of the box is covered in grease or food, tear it off and recycle only the clean lid.

Q | Should I place my recyclables at the curb on very windy days or if a storm is forecast?

A | Recyclables that blow around the neighborhood are litter. Precipitation may reduce the value of paper and cardboard recyclables. Use your good judgment on whether to delay putting out your recyclables for collection.

Q | Where can I dispose of construction and demolition debris during or after a renovation?

A | Construction & demolition debris must be handled by your contractor or brought to a private transfer station that is licensed to handle that type of material. Visit <http://www3.westchestergov.com/swc/licensed-private-transfer-stations-and-processing-facilities> for more information.

Q | Can recyclables that are soiled with food be cleaned and placed in my recycling bin?

A | Yes, but if you are unable to clean the recyclable material please put it in the garbage.

Q | Can I place shredded paper in my curbside recycling?

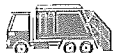
A | Yes, shredded paper can be included with your curbside recycling. Please put shredded paper in a paper bag and place the bag upright in your recycling container. Remember, recyclables that blow around the neighborhood are litter.

Q | Where can I get a new/replacement recycling container?

A | Some municipalities offer recycling containers for their residents. Containers may also be purchased at home improvement stores.

Q | Why are gable-top and aseptic cartons, like milk cartons, sorted with the commingled recycling? Aren't they made from paper?

A | Our facility is equipped to process cartons alongside commingled recyclables (glass, plastics and metals) to help keep the paper recyclables as clean and dry as possible.



RECYCLING

Newspaper, cardboard and paper cartons must be cut up and tied in bundles not larger than forty-eight (48) inches long, eighteen (18) inches wide and (18) inches high and not exceed 50 pounds, to be placed at curbside for collection

BEFORE 7:30 AM ON THE DAY SCHEDULED FOR RECYCLING

Commingled recyclables (bottles, cans, glass, milk cartons, metal, recyclable plastics) should be placed for collection in open recycle containers.



RUBBISH (BULK WASTE) – LIMIT 4 NON-METAL ITEMS PER HOUSEHOLD

Acceptable non-bulky furniture, chairs, tables, mattresses and box springs (must be in bedding bags), wood and other large non-metal items

PROHIBITED ITEMS – Tires, Batteries, Car Parts, Tubs, Sinks, Toilets, and Construction Debris.



APPLIANCES & METAL ITEMS - PICKED UP APRIL 1st THRU SEPTEMBER 30th BY APPOINTMENT ONLY

Curbside pickup of the following items will be BY APPOINTMENT ONLY - CALL 914-665-2465

Major appliances, refrigerators, stoves, air conditioners, bulky furniture, sofa beds, metal desks, bed frames and metal cabinets will be picked up April 1st through September 30th by appointment only. Refrigerators, freezers and air conditioners **MUST** bear a sticker from a licensed refrigerant extractor indicating freon has been properly removed or else they will not be picked up.

WE DO NOT PICK UP PROPANE TANKS



ELECTRONIC WASTE (BY APPOINTMENT ONLY)

Tvs, Computers, Electronic Devices and other electric or electronic items will be picked up BY APPOINTMENT ONLY - CALL 914-665-2465



YARD WASTE – MUST BE IN OPEN CONTAINER OR BROWN PAPER REFUSE BAGS

Yard waste, including garden debris, leaves and flowers, cut grass, sweepings, rakings, clippings, small branches, bushes and shrubbery, shall be placed in open garbage containers or brown paper refuse bags. Clippings and small branches must be bundled, securely tied, and not longer than four (4) feet, weighing no more than 50 lbs.

No dirt concrete or stone will be picked up.

Note: Plastic bags are NOT acceptable containers for yard waste and will NOT be picked up. Leaves piled on the streets are both dangerous and illegal. Fines will be strictly enforced.



COMMERCIAL ESTABLISHMENTS

No more than two (2) small bags or watertight receptacles of garbage not to exceed a weight of 20 pounds OR (2) small bundles of rubbish will be collected by the Department of Public Works on any regular collection day. Receptacles must be watertight, and equipped with a lid or cover, and shall have a capacity not in excess of 35 gallons.



PROHIBITED ITEMS

The following materials will NOT be picked up and their removal **MUST** be made by a private carter, contractor, or gardener. Placement of these items for collection may be subject to a summons:

Trade wastes, commercial meat waste, bundles in excess of four (4) feet in length, eighteen (18) inches width, (18) inches in height or 50 pounds in weight, construction demolition and house renovation debris, soot, sawdust, wood shavings, cleaning or dyeing establishment waste, car parts, batteries, waste oil, combustible materials and toxic materials.

It is important that the residents understand that the following items will NOT be collected: Debris from demolition, construction, alterations and house renovations such as lumber, stones, rock, masonry, plaster, sheet rock, roofing materials, kitchen cabinets, counters, etc. These items must be legally disposed of by the homeowner or contractor performing such work.



SIDEWALK MAINTENANCE / SNOW REMOVAL

Every owner or lessee of any premises abutting on any street shall keep the contiguous sidewalks free from dirt, filth, weeds or other obstructions including snow and ice. Snow and ice must be cleared within 12 hours after such snowfall has ceased or ice has formed. It is dangerous and illegal to throw or place snow onto a city street, fines are strictly enforced.



SNOW EMERGENCY ROUTES

Notification of snow emergencies declared by the City of Mount Vernon will be broadcast on local news outlets and posted on the City's website at www.cmvny.com. During such emergencies, any vehicle parked or unattended on any snow emergency route, causing obstruction to traffic, or hindering snow removal operations may be towed away at the vehicle owner's risk under the direction of the Department of Public Works.

Towing enforcements are in effect immediately upon the declaration of a snow emergency.

The following conditions automatically constitute a Snow Emergency:
Whenever snow falls in the City to a depth of three (3) inches or more during any 24 hr period, impairing the transportation of people, food, medical care, fire, health and police protection or other vital services or facilities.

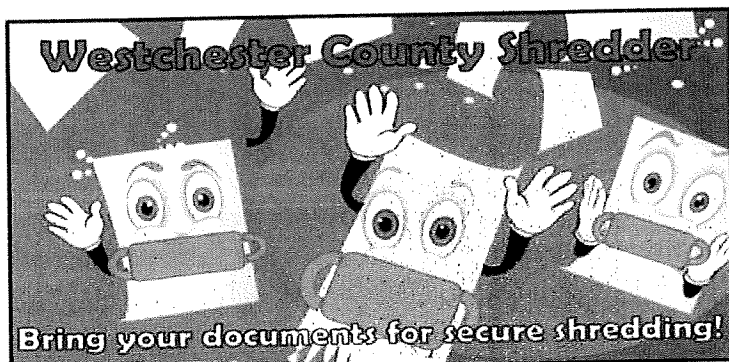
<p>THESE RULES AND REGULATIONS ARE IN ACCORDANCE WITH THE MOUNT VERNON CITY CODE PART II General Legislation Chapter 140 – Article I: Garbage and Rubbish Collection. Failure to comply may result in fines of up to \$1,000.</p>	<p>140-2 RECEPTACLES</p> <ul style="list-style-type: none"> • Made of suitable plastic or metal • Have adequate handles • Watertight plastic or metal cover • Capacity not in excess of 35 gallons or 2-yards • Rubbish shall not contribute to the creation of a nuisance • If rubbish cannot be placed in a container, it must be compactly bundled, covered, and secured. • 149-38-Property Grounds Shall be Maintained Free of Rodent Harborage and Infestation
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HOUSEHOLD RECYCLING DAY

5th Ave Parking Lot, Mt. Vernon
(across from Grace Baptist Church)

October 30, 2021, 9AM to 3PM



COVID-19 SAFETY RULES

- ⊖ Place all items in your trunk or backseat
- ⊖ Stay in your vehicle at all times
- ⊖ Wear a mask while in the drop-off area

WASTES WE DO NOT ACCEPT

- ⊖ Oil & latex paint: let dry and dispose of in the trash, or return to a paint store
- ⊖ Motor oil: return to a service station or other retailer
- ⊖ Smoke & fire detectors: dispose of as trash
- ⊖ Compressed gas, helium, and oxygen tanks
- ⊖ Explosives, fireworks, ammunition, flares
- ⊖ Cell phones
- ⊖ Standard batteries: dispose of as trash
- ⊖ Plastic bags: return to a grocery store
- ⊖ Needles, syringes, and lancets: return to a medical provider or hospital, or place in an empty laundry detergent bottle, securely tape the lid and dispose of in trash
- ⊖ Non-Residential wastes
- ⊖ Construction debris
- ⊖ Yard waste: let leaves breakdown in your yard, or contact your municipality about our Organic Yard Waste Program!
- ⊖ Food waste: see if your municipality has a Food Scrap Program!

WASTES WE ACCEPT

- ⊖ Automotive fluids, except motor oil
- ⊖ Pesticides, insecticides, and herbicides
- ⊖ Kerosene, turpentine, and other flammable liquids
- ⊖ Wood preservatives and stains
- ⊖ Metal, jewelry, and furniture polish
- ⊖ Photo and swimming pool chemicals
- ⊖ Fluorescent light bulbs, CFLs and tube-shaped bulbs
- ⊖ Fire Extinguishers
- ⊖ Propane tanks up to 20 lbs. in size
- ⊖ Mercury thermometers and thermostats
- ⊖ Electronic waste, e.g. computers, TVs, radios
- ⊖ Freon-containing household appliances, e.g. air conditioners, refrigerators, and dehumidifiers
- ⊖ Scrap metal
- ⊖ Car tires with or without rims, up to four
- ⊖ Vehicle and rechargeable batteries
- ⊖ Expired, unused prescription and over-the-counter medications in original containers

UNABLE TO ATTEND?

Visit the H-MRF in Valhalla! Make a convenient appointment on our website or with the Recycling HelpLine at 914-813-5425.

HAVE A QUESTION? INTERESTED IN RECYCLING INFORMATION?

Ask the Recycling HelpLine at 914-813-5425

Follow us on Facebook: <https://www.facebook.com/WestchesterCountyDEF>



George Latimer, County Executive
Vincent F. Kopicki, P.E., Commissioner
Department of Environmental Facilities

Partial funding from NYSDEC

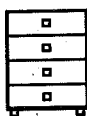


LIMIT OF 6 ITEMS PER HOUSEHOLD



RECYCLING

Newspaper, cardboard and paper cartons must be securely tied in bundles and not exceed 50 pounds, to be placed at curbside for collection. Commingled recyclables, (bottles, cans, glass, milk cartons, metal, recyclable plastics), should be placed for collection in open recycle containers or acceptable Clear or Blue Recycling Bags



RUBBISH (BULK WASTE)

Non-bulky furniture, chairs, tables, mattresses & box springs (must be in bedding bags), wood & other large non-metal items



APPLIANCES & METAL ITEMS

Washers, Dryers, Dishwashers



ELECTRONIC WASTE (BY APPOINTMENT ONLY)

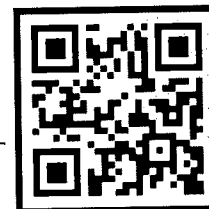
TVs, Computers, Electronic Devices and other electric or electronic items will be picked up BY APPOINTMENT ONLY - Call 914-665-2465 To Schedule

We will focus on these locations.

7th Street
9th & 2nd
E. 5th Street
Western Beef
146 S. Fulton
71 Sheridan Ave
Hartley Park
All Entryways into Mount Vernon

These supplies will be available for all volunteers.

Rakes
Shovels
Brooms
Gloves
Masks
Hand sanitizer
T-shirts



Please register using this QR code by **9/16/20** →

POLICE DEPARTMENT VOLUNTEER LOCATIONS



Commissioner Glenn Scott

Residential Block: Millington Street between Columbus and Nuber Avenues
Commercial Block: Columbus Avenue between Elliot and Millington Streets

To Volunteer, contact Deputy Commissioner Lackard at
914-665-2521 or reform@pd.cmvny.com

Appendix E

Public Input

(Templates provided in Appendix B. This Appendix is intentionally empty currently. MS4 is required to maintain records of public comment and update in the Plan annually).

- Public Comments on the SWMP Plan and Draft Annual Report
- Public Reports of Illicit Discharges
- Public Reporting of Construction Site Complaints

Appendix F

Inventories

- **Documents Currently Existing**
 - **Construction Site Inventory**
 - **Post-Construction SMP Inventory**
 - **Catch Basin Inventory**
- **Documents that will be developed and inventories recorded here according to the timelines established in the 2022 MS4 Permit.**
 - **Illicit Discharge Monitoring Locations Inventory**
 - **Municipal Sites Inventory**
 - **Bank Stability Inventory and Repair**

Construction Site Inventory

City of Mount Vernon, New York
Stormwater Management Plan

SPDES Number	Project Name	Status
	Ebony Gardens	
NYR11J541	Berkemeier Assisted Living	In progress

Catch Basin Inventory

City of Mount Vernon, New York
Stormwater Management Plan

ID	Street No.	Street Name	Intersection	Date	Time	Status	Basin Inlet	Brick Work	Rainy Grate	Basin Head	Basin	Illegal Tap	Underdrain Present	Inspected By	GRID	Comments
3454		East Prospect Avenue		6/9/2022	12:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		
3452		East Prospect Avenue		6/9/2022	12:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		
3456		North Fulton Ave		6/7/2022	1:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
428		Roslyn Pl		6/7/2022	2:45:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
3435		Roslyn Pl		6/7/2022	3:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
646		Washington ST		6/7/2022	3:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
7133		Deal Ave	Crest Ave and Oak Ave	6/7/2022	8:45:00 AM	Cleaned	Flowing	Needed	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall	F4	Need Brick work
8103		E Devonia Ave		6/7/2022	9:40:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
965		Sherman Ave		6/7/2022	2:15:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Grate Cleaned of Debris
1051		Sherman Ave		6/7/2022	2:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Grate Cleaned of Debris
1187		Marion Ave		6/7/2022	2:30:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
1297		Marion Ave		6/7/2022	2:30:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
13121		Washington ST		6/9/2022	1:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Broken	Good Condition	No	No	Ryan Rodgers	1B	Catch Basin head broken CB Compromised by vehicle
14143		Urban St		6/9/2022	1:30:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		
15254		North Terrace Avenue		6/6/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		cb
16102		West 1st Street		6/2/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		
1725		West Lincoln Ave		6/6/2022	9:30:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
1883		Sheridan Ave		6/8/2022	10:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		
19370		Summit Ave		6/30/2022	11:00:00 PM	Not Clean	Not Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Flushing
2046		Washington Blvd		6/30/2022	9:00:00 AM	Cleaned	Flowing	Needed	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
2132		Elwood Ave		6/30/2022	9:30:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
222		Darwood Pl		6/27/2022	9:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
2358		South High St	High St and Grove St	6/29/2022	8:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Right Basin
2481		Vernon Pl	Vernon Pl and Parkway South	6/30/2022	10:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
25			Parkway South and Vernon Pl	6/30/2022	1:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Basin Needs Flush Some Basins were not Accessible; some were covered by plates Com ED
24		Fleetwood	Fleetwood Trk (Underpass)	6/29/2022	12:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
27454		East Prospect Avenue		7/11/2022	2:30:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
281		Saint Pauls Place		7/5/2022	10:30:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Highway Working on Brick Work
30348-350		Summit Ave		7/5/2022	6:00:00 AM	Cleaned	Not Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Flushing
3070		MacQuistan Ave		7/5/2022	1:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Grate Pressure Washed
3160		MacQuistan Ave		7/5/2022	1:45:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
3365		MacQuistan Ave		7/6/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
33			MacQuistan Ave and Grove St	7/6/2022	10:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
34211		West 3RD St		7/11/2022	8:00:00 AM	Not Clean	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Flushing
35			West Sidney Ave & 6th Ave	7/11/2022	9:30:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
3662		Dixbar Ave		8/24/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Cleaning
37103		Chester St		8/25/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
3845		Westchester Ave		8/25/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
39105		Waltham Ave		8/25/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
40209		Westchester Ave	Westchester Ave and East Lincoln Ave	8/25/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
4145		East Lincoln Ave		8/25/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		

Catch Basin Inventory

City of Mount Vernon, New York
Stormwater Management Plan

ID	Street No.	Street Name	Intersection	Date	Time	Status	Basin Inlet	Brick Work	Basin Grate	Basin Head Broken	Illegal Tree In	Underline Present	Inspected By	GRBID	Comments
42	502	South Second Ave	E Sanford Ave and South Second Ave	8/9/2022		Cleaned	Not Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Flushing
43			South Fulton Ave and East Starbford Blvd	8/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		
44			MacPherson Ave and Grove St	8/15/2022		Not Clean	Not Flowing	Needed	Good Condition	Good Condition	No	No	Tyree Kendall		Brickwork needed
45	303	Tecumseh Ave	Tecumseh Ave and 4th St	8/31/2022		Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Kenny Butler		Brickwork needed
46	303	Tecumseh Ave	Tecumseh Ave and 4th St (middle Basin)	8/31/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kenny Butler		
47	303	Tecumseh Ave	Tecumseh Ave and 4th St	8/31/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kenny Butler		
48			Del Ave and Darling Ave	8/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kenny Butler		
49	2	Mansfield Ave		8/31/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kenny Butler		Needs Cleaning
50	30	Homesdale RD		8/10/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No			
51			Local Lane and Central Flay (fire hydrant)	8/31/2022		Not Clean	N/A	Good Condition	N/A	Good Condition	No	No			
52			Chesler Pl & E 3rd St	8/15/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
53	411	Collins Ave		9/7/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
54	412	Collins Ave		9/7/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Need Concrete Work
55			Del Ave and East Sidney Ave	6/18/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		All 5 Basins in the Intersection was cleaned- Need GPS coordinates of each Catch Basin
56			Del Ave and East Sidney Ave	6/18/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		All 5 Basins in the Intersection was cleaned- Need GPS coordinates of each Catch Basin
57			Del Ave and East Sidney Ave	6/18/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		All 5 Basins in the Intersection was cleaned- Need GPS coordinates of each Catch Basin
58			Del Ave and East Sidney Ave	6/18/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		All 5 Basins in the Intersection was cleaned- Need GPS coordinates of each Catch Basin
59			Del Ave and East Sidney Ave	6/18/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		All 5 Basins in the Intersection was cleaned- Need GPS coordinates of each Catch Basin
60	55	West Devonia Ave	West Devonia Ave and Packman Ave	9/7/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Garment Work Needed
61	101-117	Esplanade	Esplanade and East Sidney Ave	8/19/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
62	64	Gramatan Ave				Not Clean							Danasta Stevenson		Needs Cleaning
63	67	Gramatan Ave		7/18/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Danasta Stevenson		
64	69	Gramatan Ave		7/18/2022	3:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Danasta Stevenson		
65	73	Gramatan Ave		7/18/2022		Not Clean	Flowing	Good Condition	Good Condition	Good Condition	No	No	Danasta Stevenson		Needs Cleaning
66	5	Gramatan Ave		7/18/2022		Not Clean	Flowing	Good Condition	Good Condition	Good Condition	No	No	Danasta Stevenson		Needs Cleaning
67			Highland Ave & E Sanford Blvd	8/19/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
68			Highland Ave & E Sanford Blvd (Sanford S)	9/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
69			Highland Ave & E Sanford Blvd	9/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Vacuum/ Needs Flushing
70			E Sanford Ave and Highland Ave	9/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
71	19	Hill St (North Macquhan Pkwy Side)		9/7/2022	10:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
72	41	Eber Ave		9/15/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
73	117	Vernon Ave		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
74	163	W 2nd St (11th Ave side)		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
75	163	W 2nd St		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
76	163	W 2nd St		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		40°54'27"N 73°50'37"W 43°NE
77	66	S 12th Ave		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
78	66	S 12th Ave		9/14/2022		Not Clean	N/A	N/A	N/A	N/A	N/A		Tyree Kendall		Plate Covering Basin
79	66	S 12th Ave (2nd St Side)		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		40°54'27"N 73°50'38"W 35°N
80	164	W Second St		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
81	164	W Second St		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		

Catch Basin Inventory

City of Mount Vernon, New York
Stormwater Management Plan

ID	Street No.	Street Name	Intersection	Date	Time	Status	Basin Inlet	Brick Work	Basin Grate	Basin Head Broken	Illegal Top In	Undermined Present	Inspected By	GRB	Comments
82	110	Hartford Ave		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
83	111	Hartford Ave		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
84	110	Hartford Ave		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
85	320	Hartford Ave		9/14/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
86	118	Hillsdale Ave (Drainage Side)		8/29/2022		Not Clean	N/A	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Basin Filled with Backstop (Needs Jack Hammering) to resolve
87	20	Hornetsville RD (Locust Lane Side)		8/20/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
88	302	Langdon Ave		8/23/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
89			Lincoln Ave and Westchester Ave	8/16/2022	10:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
90	23	Locust Lane		8/26/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
91			McCallan Ave & E 4th St (Vacant lot)	8/25/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Burned Down House
92	2	Marsena Ave (on Corner of Sydney Ave)	E Sidney Ave and Marsena Ave	8/29/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
93	30	N Park Ave		8/29/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
94	53	Rich Ave		6/28/2022		Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Ryan Rodgers		
95			Rich Ave and East Prospect Ave	6/28/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		3 Catch Basin Cleaned in Intersection
96			Rich Ave and East Prospect Ave	6/28/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		3 Catch Basin Cleaned in Intersection
97			Rich Ave and East Prospect Ave	6/28/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		3 Catch Basin Cleaned in Intersection
98	101	Roosevelt Sq		7/28/2022	11:35:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Danada Stevenson		
99	101	Roosevelt Sq		7/28/2022	11:35:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Danada Stevenson		
100	125	South 7th Ave		8/8/2022		Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Tyree Kendall		Brick Work Needed
101	163	South 7th Ave	7th and 5th St	8/8/2022		Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Tyree Kendall		Brick Work Needed
102			Sheridan Ave and Elwood Ave	8/21/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
103			Sheridan Ave and Elwood Ave	8/21/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
104			Sheridan Ave and Elwood Ave	8/18/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
105			Sheridan Ave and Oakland Ave	8/21/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
106			Sheridan Ave and Elwood Ave	8/23/2022		Cleaned	Not Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Flushing
107	31	Sheridan Ave		8/16/2022	12:30:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
108		East Sidney Ave and Rich Ave		6/28/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		3 Basin are Cleaned
109		East Sidney Ave and Rich Ave		6/28/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		
110	121	Stevens Ave		7/28/2022	11:17:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Broken	No	No	Danada Stevenson		Catch Basin Head broken
111	9	Stevens Ave		7/29/2022	11:00:00 AM	Not Clean	N/A	Needed	Good Condition	Good Condition	No	No	Danada Stevenson		Brick Work Needed
112	139	Stevens Ave		7/25/2022	11:15:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Danada Stevenson		
113	101	Stevens Ave		7/28/2022	11:35:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Danada Stevenson		
114	100	Stevens Ave		7/28/2022	11:35:00 AM	Not Clean	N/A	Needed	Good Condition	Good Condition	No	No	Danada Stevenson		Brick Work Needed
115	139	Stevens Ave	Stevens Ave and North 8th Ave	7/28/2022	11:15:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Danada Stevenson		
116	3	Stevens Ave	Stevens Ave and Gramatan Ave	7/28/2022	11:00:00 AM	Not Clean	N/A	Good Condition	Good Condition	Good Condition	No	No	Danada Stevenson		Needs Cleaning
117	126	East Sydney Ave		7/28/2022	1:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Flushed
118		East Sydney Ave and Archer Ave		7/28/2022	10:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		3 Catch Basin Cleaned in Intersection
119		East Sydney Ave and Archer Ave		7/28/2022	10:15:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		3 Catch Basin Cleaned in Intersection
120		East Sydney Ave and Archer Ave		7/28/2022	10:30:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		3 Catch Basin Cleaned in Intersection
121		Teasdale Ave and 4th Street (Teasdale St)		8/25/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		

Catch Basin Inventory

City of Mount Vernon, New York
Stormwater Management Plan

No.	Street No.	Street Name	Intersection	Date	Time	Status	Bashlet	Brick Work	Bash Grate	Basin Head Broken	Illegal Tap In	Undermine Present	Inspected By	GRID	Comments
123			12th Ave and 3rd St	8/23/2022		Cleaned	Flowing	Needed	Good Condition	Broken	No	No	Tyree Kendall		
123	72	Leighton Ave. (Traphagen School)		8/22/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	Yes	Tyree Kendall		
124			Westchester Ave and Wallace Ave	8/16/2022	12:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		40° 55' 13.3" N 73° 59' 16" W
335			Westchester Ave and Chester St	8/15/2022	11:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
126	58	Burkewood Rd		8/10/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
127	303	North Ninth Ave	North St and North Ninth Ave	4/5/2022	9:30:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Need Flush
128	330	W. Lincoln Ave	W. Lincoln Ave / North St.	4/5/2022	10:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Need Flush
128	44	Hughson Blvd		4/5/2022	12:00:00 PM	Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Tyree Kendall		
130	43	Hughson Blvd		4/5/2022	12:30:00 PM	Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Tyree Kendall		
131	52	Hughson Blvd		4/5/2022	12:50:00 PM	Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Tyree Kendall		
132	41	Beach St		4/7/2022	8:30:00 AM	Cleaned	Flowing	Needed	Good Condition	Broken	No	No	Tyree Kendall		Needs work ASAP
133	41	Beach St		4/7/2022	8:30:00 AM	Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Tyree Kendall		
134	510	S. 6th Ave		4/11/2022	9:10:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
330	546	E. 4th St		4/12/2022	8:30:00 AM	Cleaned	Not Flowing	Good Condition	Good Condition	Broken	No	No	Tyree Kendall		Need Flush
136			E. Sidney Ave and Cottage Ave	4/12/2022	9:10:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
137			South Columbia Ave and South Fulton Ave	4/14/2022	10:00:00 AM	Cleaned	Flowing	Needed	Broken	Broken	No	No	Tyree Kendall		Adjacent Dryn Corner Road
138			1 St. and Union Ave (left side of street)	4/18/2022	11:50:00 AM	Cleaned	N/A	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
139			Edison Ave and Leona Lane	4/19/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
140	435	S. 6th Ave		4/19/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Flush
141	425	S. 8th Ave		4/19/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
142	70	Rich Ave	North Terrace Ave and West Grand St	4/20/2022		Cleaned	Flowing	Needed	Broken	Broken	No	No	Tyree Kendall		
143	319	Rich Ave		4/21/2022	10:30:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
146	217	W 3rd St		4/21/2022	9:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Basin Flushed- 3 Basin Cleaned
146	217	W 3rd St		4/21/2022	9:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
147	217	W 3rd St		4/21/2022	9:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
148	215	W 3rd St		4/25/2022	12:15:00 PM	Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Kerry Butler		Basin Flushed. Cleaned 5 basin
148	215	W 3rd St		4/25/2022	12:15:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
149	215	W 3rd St		4/25/2022	12:15:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
151	215	W 3rd St		4/25/2022	11:15:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Basin Flushed- 4 Basin Cleaned
151	215	W 3rd St		4/25/2022	11:15:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
151	215	W 3rd St		4/25/2022	11:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
151	215	W 3rd St		4/25/2022	11:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
151	215	W 3rd St		4/25/2022	11:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
152	566	E. Sanford Blvd		28-Apr	12:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
154			3rd St. and Warwick Ave	5/7/2022		Not Clean	Not Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Needs Cleaning. Vehicle too close for cleaning
155			South Fulton Ave and East Stamford Blvd	5/4/2022	9:50:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Need flushing truck.
160			Hudson St and South Fulton Ave	5/4/2022	10:00:00 AM	Cleaned	Not Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
161			South Fulton Ave and Monroe St	5/4/2022	12:15:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
162			South Fulton Ave and East Fourth St	5/4/2022	11:45:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
163			South 6th and West 5th St. (B&E Club)	5/9/2022		Cleaned	Not Flowing	Needed	Broken	Broken	No	No	Tyree Kendall		
164	521	E. 3rd St		5/9/2022	10:30:00 AM	Cleaned	Flowing	Needed	Broken	Broken	No	No	Tyree Kendall		
165			West Sanford Blvd and 11th Ave	5/16/2022	7:50:00 AM	Cleaned	Not Flowing	Needed	Broken	Broken	No	No	Tyree Kendall		Need Flush
166			Oak St and North Terrace	5/16/2022	9:00:00 AM	Cleaned	Not Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Need Flush
167			South 6th Ave and West Kingsbridge Rd	5/17/2022	8:30:00 AM	Not Clean	N/A	N/A	N/A	N/A	N/A	N/A	Tyree Kendall		Grate is part of Frame. Will not stand on its own
168			Franklin Ave and Madison St	5/18/2022	9:00:00 AM	Not Clean	N/A	N/A	N/A	N/A	N/A	N/A	Tyree Kendall		The Grate is a Block Long?
170			3rd St. and Warwick Ave	5/18/2022	12:00:00 PM	Cleaned	Not Flowing	Good Condition	Good Condition	Broken	No	No	Tyree Kendall		
171	433	Rich Ave		5/24/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		
172			South 11th Ave and W Sanford Blvd	5/24/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		Broken Grate
173	334	North 7th St		5/25/2022	12:25:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyree Kendall		The whole situation down there is just Weird All Day.
174	102	Wiss I St.		5/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Ryan Rodgers		
175			North Terrace and Grand St W	3/31/2022		Cleaned	N/A	Needed	Good Condition	Good Condition	No	No	Ryan Rodgers		
176	295	Summit Ave		4/1/2022	10:30:00 AM	Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Tyree Kendall		2 Basin Cleaned at this address
177	295	Summit Ave		4/1/2022	10:30:00 AM	Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Tyree Kendall		
178	19	Pratt St		3/15/2022	12:30:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Running Good
179			South Fulton Ave and Monroe St	3/15/2022	1:45:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Basin Flushed moving good
180			East 4th St. and South Fulton Ave	3/15/2022	1:47:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Flowing Good
181			East 4th St. and South Fulton Ave	3/15/2022	1:49:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Running and Flowing Good, Basin Flushed
181			Clemmont Pl and Audrey Ave	3/15/2022	9:00:00 AM	Cleaned	Flowing	Needed	Good Condition	Good Condition	No	No	Kerry Butler		Brick Work Needed, (if only see 1 basin)
181				3/15/2022	9:45:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Basin Flushed
181	454	East Prospect Avenue		3/16/2022	12:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
181	22 & 33	Elwood Ave		3/17/2022	8:45:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
181	60	Hannover Pl		3/17/2022	9:13:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Basin Flushed
187			East Prospect Ave and Archer Ave	3/17/2022	10:10:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Basin Flushed
188	29	Nto Dr / Alta Place		3/17/2022	1:00:00 PM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
189	402	South 9th Ave	South 9th Ave and 5th St (L&E)	3/21/2022	8:40:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		
190	359	South 10th Ave		3/21/2022	9:22:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kerry Butler		Need Flushing

Catch Basin Inventory

City of Mount Vernon, New York
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NO.	Street No.	Street Name	Intersection	Date	Time	Status	Basin Inlet	Block Work	Basin Grates	Basin Head	Illegal Tap	Underflow Present	Inspected By	GRID	Comments
181	52	Mount Vernon Ave		3/21/2022	10:35:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kenny Butler		
181	4	Bleeker Ave		3/21/2022	11:50:00 AM	Not Clean	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kenny Butler		
181	4	Bleeker Ave	Mount Vernon Ave and Bleeker St (at Main)	3/22/2022	9:20:00 AM	Cleaned	Not Flowing	Needed	Broken	Good Condition	No	No	Kenny Butler		
181	1	North Terrace Avenue		3/23/2022	10:45:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Bobby Lewis		
181	11	Burkewood Rd		3/23/2022	10:55:00 AM	Not Clean	N/A	N/A	N/A	N/A	N/A	N/A	Kenny Butler		Car over Driveway in Catch Basins in the way
181	16	Burkewood Rd		3/23/2022	11:00:00 AM	Not Clean	N/A	N/A	N/A	N/A	N/A	N/A	Kenny Butler		Nasty
181	305	Parkway South		3/23/2022	11:02:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Kenny Butler		
181	303	South 5th Ave		3/23/2022	12:15:00 PM	Cleaned	Not Flowing	Needed	Broken	Good Condition	No	No	Kenny Butler		Depression around catch basin grate, looks like it might fall in.
181	11	Burkewood Rd		3/24/2022	11:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
181	16	Burkewood Rd		3/24/2022	11:45:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		dirty
201	4	Lorraine Ave		3/24/2022	12:30:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
201	2	West Bedford Blvd		3/23/2022	9:00:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
201	22	South 5th Ave		3/23/2022	10:15:00 AM	Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
201	469	South 5th Ave		3/23/2022	11:20:00 AM	Not Clean	N/A	N/A	N/A	N/A	N/A	N/A	Tyres Kendall		
204	478	South 5th Ave	9th Ave and 5th St	3/21/2022	8:37:00 AM	Cleaned	Not Flowing	Good Condition	Good Condition	Good Condition	No	No	Kenny Butler		
205	158	South 5th Ave		3/23/2022	11:20:00 AM	Not Clean	N/A	N/A	N/A	N/A	N/A	N/A	Tyres Kendall		
206	478-484	East Prospect Avenue	East Prospect Ave and Durwood Pl	5/9/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°54'25"N 73°48'59"W 175°S
207	121	Vernon Ave		9/19/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°54'44"N 73°50'15"W 31° NE
208	566	South 5th Ave		9/19/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°53'54"N 73°48'24"W 28°W
210	414	Hancock Ave		9/20/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°54'11"N 73°49'35"W 275°W
211	411	Hancock Ave		9/20/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°54'11"N 73°49'34"W 111°E. Needs more Catch Basins
211	413	Hancock Ave		9/21/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°54'11"N 73°49'34"W 109° E
211	43	(Rich Ave (at corner of E. Prospect Ave))		9/23/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°54'13"N 73°50'13"W 153°SE. Needs Flush
211	46	West 5th St		9/23/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°52'0754 - 78.8347409
215	10	Hill St		9/23/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°52'464 - 78.830517 - 3 Basins Cleaned in Intersection
215	467	Bedford Ave		9/27/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°52'464 - 78.830517 - 3 Basins Cleaned in Intersection
217	467	Bedford Ave		9/27/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°52'464 - 78.830517 - 3 Basins Cleaned in Intersection
217	467	Bedford Ave		9/27/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°52'464 - 78.830517 - 3 Basins Cleaned in Intersection
217	467	Bedford Ave		9/27/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°52'464 - 78.830517 - 3 Basins Cleaned in Intersection
218			Gramatan Ave and E. Prospect Ave (Drug St)	9/26/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°51'2765 - 78.8373119
220			Gramatan Ave and E. Prospect Ave (McDow)	9/26/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°51'2648 - 78.837452
221			Gramatan Ave and E. Prospect Ave (McDow)	9/26/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°51'2733 - 78.8373119
222			Gramatan Ave and E. Prospect Ave (Drug St)	9/26/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°51'2648 - 78.837452
223			Gramatan Ave and E. Prospect Ave (Drug St)	9/26/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°51'2733 - 78.8373119
224			Gramatan Ave (Dunkin Donuts)	9/26/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°51'2733 - 78.8373119
225			Gramatan Ave and E. Prospect Ave (Drug St)	9/26/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°51'2733 - 78.8373119
225	116	Orary Ave (RBA Church Parking lot)		9/26/2022		Cleaned	Not Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°51'48320 - 78.8333500- Needs Flush
225	116	Orary Ave (RBA Church Parking lot)		9/26/2022		Cleaned	Not Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°51'48302 - 78.8351216- Needs Flush
227			Locust Lane and Central Pkwy	10/1/2022		Not Clean	Not Flowing	N/A	N/A	N/A	N/A	N/A	Tyres Kendall		40°53'1858 - 78.822495 - Basin is a pipe cannot be flushed/clean
228			Locust Lane and Central Pkwy	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°53'19483 - 78.8224861- Basin Grates Cleaned
229			South Fulton Ave and East Eight St	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°565616 - 78.826264 - Basin Grates Cleaned
230			South Columbia Ave and South Third Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°531944 - 78.8274404 - Basin Grates Cleaned
231			South Columbia Ave and South Third Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°531974 - 78.8274245
232			South Columbia Ave and South Third Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°531974 - 78.8274245
233			South Columbia Ave and South Third Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°531974 - 78.8274245
234			South Columbia Ave and South Third Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°531974 - 78.8274245
235	455	Bedford Ave		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°502489 - 78.8191881
236	455	Bedford Ave		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°502489 - 78.8191881
237	455	Bedford Ave		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°502489 - 78.8191881
238	289	Bedford Ave		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°502489 - 78.8191881
239	289	Bedford Ave		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°502489 - 78.8191881
240	40	Lorraine Ave		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°5126765 - 78.814372
241	40	Lorraine Ave		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°5127352 - 78.811482
242	15	Euphrate		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°5127352 - 78.811482
243	15	Euphrate	Euphrate and Lorraine Ave (Behind)	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°5127352 - 78.811482
244	2	Euphrate		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°5127352 - 78.811482
245	484	E. Prospect Ave		10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°5127352 - 78.811482
246			East Prospect Ave and Rich Ave (Parking Lot)	9/29/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°5127352 - 78.811482
247			East Lincoln Ave and Sheridan Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		8 Catch Basins have been cleaned
248			East Lincoln Ave and Sheridan Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
249			East Lincoln Ave and Sheridan Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
250			East Lincoln Ave and Sheridan Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
251			East Lincoln Ave and Sheridan Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
252			East Lincoln Ave and Sheridan Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
253			East Lincoln Ave and Sheridan Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
254			East Lincoln Ave and Sheridan Ave	10/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
255	21	Rich Ave (at corner of E. Prospect Ave)		10/1/2022		Cleaned	Not Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°5133750 - 78.8306478- Needs Flush
256			Del Ave and East Prospect Ave	11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
257			Del Ave and East Prospect Ave	11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
258			Del Ave and East Prospect Ave	11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
259			Del Ave and East Prospect Ave	11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
260			Del Ave and East Prospect Ave	11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
261			Del Ave and East Prospect Ave	11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
262			Del Ave and East Prospect Ave	11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
263	133	South Terrace Ave		11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Grid Davis		Cleaned Basin With E-4 and Viscered and Flushed With E-7, Basin Frame and Brick work in Good no other work needed
264	11	Audrey Ave		11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		40°512496 - 78.8249105
263	36	Grandview Ave		11/1/2022		Cleaned	Flowing	Good Condition	Good Condition	Good Condition	No	No	Tyres Kendall		
264	154	Fairfax Ave	Del Ave & Fairfax Ave	11/1/2022		Cleaned	Not Flowing	Needed	Good Condition	Good Condition	No	No	Tyres Kendall		Pipe and Collapsed - Backstop Needed

Appendix G

SWPPP Project Information

- Berkemeier Assisted Living
- Ebony Gardens



Construction Site Information

City of Mount Vernon, New York
Stormwater Management Plan

Project SPDES ID Number: NYRA20A383

Project Name: Berkemeier Assisted Living

Project Location: One Wartburg Place, Mt Vernon NY

Project Priority: Low

Owner/Operator: The Wartburg

Owner/Operator Phone Number: _____

Owner/Operator Email: szaskey@mgmclaren.com

Name of Owner/Operator Trained Individual: Zaskey, PE Stephen

Receiving Water Body: Hutchinson River

Receiving Water Body Class: SB

SWPPP Approval Date: 3/28/2022

Pre-Construction Meeting Date: _____

Close-Out Inspection Date: _____

Project Status: In Progress



Department of
Environmental
Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

**MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance
Form**

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information

1. Owner/Operator Name: THE WARTBURG
2. Contact Person: DAVID GENTNER
3. Street Address: ONE WARTBURG PLACE
4. City/State/Zip: MT VERNON, NY 10552

II. Project Site Information

5. Project/Site Name: BERKEMEIER ASSISTED LIVING
6. Street Address: ONE WARTBURG PLACE
7. City/State/Zip: MT VERNON, NY 10552

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by: Curtis J. Woods, P.E.
9. Title/Position: City Engineer
10. Date Final SWPPP Reviewed and Accepted: 03/28/2022

IV. Regulated MS4 Information

11. Name of MS4: City of Mount Vernon
12. MS4 SPDES Permit Identification Number: NYR20A NYR20A383
13. Contact Person: Curtis J. Woods, P.E.
14. Street Address: 1 Roosevelt Square Room 108
15. City/State/Zip: Mount Vernon, NY 10550
16. Telephone Number: 914 665-2343

MS4 SWPPP Acceptance Form - continued

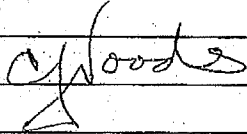
V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).
Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name: Curtis J. Woods, P.E.

Title/Position: City Engineer

Signature:



Date: 03/28/2022

VI. Additional Information

(This section is currently blank.)

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

Construction Site Information

City of Mount Vernon, New York
Stormwater Management Plan

Project SPDES ID Number: _____

Project Name: Ebony Gardens

156 South 8th Ave, 118 South 7th Ave, and 132 South 6th Ave,

Project Location: Mount Vernon NY

Project Priority: _____

Owner/Operator: Ebony Gardens/Michael Antonik

Owner/Operator Phone Number: _____

Owner/Operator Email: _____

Name of Owner/Operator Trained Individual: _____

Receiving Water Body: _____

Receiving Water Body Class: _____

SWPPP Approval Date: 6/7/2021

Pre-Construction Meeting Date: _____

Close-Out Inspection Date: _____

Project Status: _____



Department of
Environmental
Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

**MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance
Form**

for

Construction Activities Seeking Authorization Under SPDES General Permit
*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information

1. Owner/Operator Name: **Ebony Gardens Preservation, LP**
2. Contact Person: **Michael Antonik**
3. Street Address: **30 Hudson Yards**
4. City/State/Zip: **New York, NY 10001**

II. Project Site Information

5. Project/Site Name: **Ebony Gardens**
6. Street Address: **156 South 8th Ave, 118 South 7th Ave, 132 South 6th Ave**
7. City/State/Zip: **Mount Vernon, NY 10550**

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by: **Curtis J. Woods, P.E.**
9. Title/Position: **City Engineer**
10. Date Final SWPPP Reviewed and Accepted: **06/07/2021**

IV. Regulated MS4 Information

11. Name of MS4: **City of Mount Vernon.**
12. MS4 SPDES Permit Identification Number: **NYR20A**
13. Contact Person: **Curtis J. Woods**
14. Street Address: **1 Roosevelt Square Room 108**
15. City/State/Zip: **Mount Vernon New York 10550**
16. Telephone Number: **914 665-2334**

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