RECEIVED
SEP 09 2016
BUREAU OF MATERIALS MANAGEMENT
& COMPLIANCE ASSURANCE

2015 - 2016
MS4 ANNUAL REPORT

NPDES PERMIT #CT0030279

FOR

CONNECTICUT DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION

PREPARED FOR

CITY OF STAMFORD
888 WASHINGTON BOULEVARD
STAMFORD, CONNECTICUT 06901

September 2016

Prepared By:

ANCHOR
ENGINEERING SERVICES, INC.

41 Sequin Drive
Glastonbury, CT 06033
T: 860.633.8770
F: 860.633.5971

ANCHOR
ENGINEERING SERVICES, INC.

RECEIVED
SEP 29 2016
BUREAU OF MATERIALS MANAGEMENT
& COMPLIANCE ASSURANCE

LETTER OF TRANSMITTAL

Date: 9/28/2016

Project No.: 105-26

To: Bureau of Materials Management/Compliance
CT DEEP
79 Elm St.
Hartford, CT 06106

Attn.: Chris Stone

Subject: 2015-16 Stamford Annual Report

TRANSMITTING

☐ Plans ☒ Reports ☐ Correspondence ☐ Other: _____

Copies	Date	Description
1	9/28/2016	2015-16 City of Stamford MS4 Annual Report
		NPDES Permit #CT0030279

Remarks: _____

CC: Tyler Theder

Signed: T.J. Therriault

41 Sequin Drive • Glastonbury, CT 06033 • Phone: (860) 633-8770 • Fax: (860) 633-5971 • www.anchorengr.com

TABLE OF CONTENTS

APPENDICES

INTRODUCTION

The City of Stamford (the City) was issued its current NPDES Permit (No. CT0030279) for discharge of stormwater from its municipal separate storm sewer system (MS4) on June 4, 2013. This permit requires many actions in order to reduce pollution from stormwater runoff.

This Annual Report (Report) covers the period from July 1, 2015 through June 30, 2016 (Reporting Period). It summarizes the activities conducted and measures taken to comply with the previous and current NPDES Permit during this Reporting Period. This Annual Report was prepared in accordance with the terms and conditions of the NPDES Permit, as well as the *Stormwater Management Plan, City of Stamford, Stamford, Connecticut, September 2, 2014* (the SMP).

The 2014–15 MS4 final Annual Report was submitted to the Connecticut Department of Energy and Environmental Protection (CTDEEP) on September 30, 2015.

The City submitted an application for modification of the current NPDES Permit. The application was submitted on January 4, 2016 and is included in ***Appendix B***. The DEEP is currently in the process of reviewing the application.

1.0 CONTACTS LIST

The following individuals are members of the City's Stormwater Pollution Prevention Team and have a role in the implementation of the City's stormwater management program and are in positions that have the potential to impact and improve stormwater quality. All of these individuals are involved in the development of the Stormwater Management Plan (SMP) and/or this Annual Report.

- Thomas Turk, Traffic and Road Maintenance Supervisor, Team Coordinator
  City of Stamford, Traffic and Road Maintenance
  90 Magee Ave, Stamford, CT 06902
  Phone: (203) 977-5919 Email: TTurk@StamfordCT.gov

- Tyler Theder, Regulatory Compliance and Administrative Officer
  City of Stamford, Traffic and Road Maintenance
  90 Magee Ave, Stamford, CT 06902
  Phone: (203) 977-5281 Email: TTheder@StamfordCT.gov

- Norman Cole, Land Use Bureau Chief
  City of Stamford, Land Use Bureau
  888 Washington Blvd, Stamford, CT 06901
  Phone: (203) 977-4714 Email: NCole@StamfordCT.gov

- James Lunney, Zoning Enforcement Officer
  City of Stamford, Land Use Bureau – Zoning Office
  888 Washington Blvd, Stamford, CT 06901
  Phone: (203) 977-5944 Email: JLunney@StamfordCT.gov

- Rick Talamelli, Environmental Planner
  City of Stamford, Land Use Bureau – Environmental Planning Board (EPB)
  888 Washington Blvd, Stamford, CT 06901
  Phone: (203) 977-4965 Email: RTalamelli@StamfordCT.gov

- Louis Casolo, City Engineer
  City of Stamford, Engineering
  888 Washington Blvd, Stamford, CT 06901
  Phone: (203) 977-5796 Email: LCasolo@StamfordCT.gov

- Natasha Townsned, Clerk of Works II
  City of Stamford, Traffic and Road Maintenance
  90 Magee Ave, Stamford, CT 06902
  Phone: (203) 977-4599 Email: NTownsend@StamfordCT.gov

- Cindy Barber, GIS Coordinator
  City of Stamford, Land Use Bureau – Information Technology
  888 Washington Blvd, Stamford, CT 06901
  Phone: (203) 977-5360 Email: CBarber@StamfordCT.gov

- D. Scott Atkin, Principal
  Anchor Engineering Services, Inc.
  41 Sequin Drive, Glastonbury, CT 06033
  Phone: (860) 633.8770 Email: SAtkin@Anchorengr.com

- T.J. Therriault, Environmental Project Engineer
  Anchor Engineering Services, Inc.
  41 Sequin Drive, Glastonbury, CT 06033
  Phone: (860) 633.8770 Email: TJTherriault@Anchorengr.com

2.0 PROGRAM EVALUATION

2.1 Stormwater Management Plan (SMP) Objectives

The City of Stamford (the City) was issued a NPDES Permit for discharge of stormwater from its municipal separate storm sewer system (MS4) on June 4, 2013. The City developed and is implementing a Stormwater Management Plan (SMP) based on the requirements of the NPDES Permit.

The SMP provides the framework for compliance with the terms and conditions of the NPDES Permit with the overall objective of improving the quality of stormwater runoff and protecting the surface waters of the State. The SMP seeks to achieve this objective through:

- Establishment of a Pollution Prevention Team
- Development of Stormwater Mapping
- Establishment and Implementation of Control Measures, including:
    - Public Education and Involvement
    - Source Controls for Pollution Prevention
    - Future Land Disturbance and Development Management
    - Infrastructure Operations and Maintenance
- Establishment and Implementation of an Illicit Discharge Detection and Elimination (IDDE) Program
- Establishment and Implementation of a Water Quality Monitoring Program
- Establishment and Implementation of Legal Authority to Control Discharges
- Establishment and Implementation of Procedures to Coordinate Stormwater Activities between various Departments and Agencies
- Maintaining Consistency with Other Plans and Permits

Additional details on each of these of these methods to achieve the objectives of the SMP are presented in the Summary Table of SMP Components (***Section 3.0***) and the Narrative Report (***Section 4.0***).

2.2 Major Findings

The objective of the SMP is to improve stormwater runoff quality and protect the surface waters of the State. This discussion of major findings should provide an overall evaluation as to whether stormwater and surface water quality in the City and from the City's MS4 is improving or degrading in the City.

The major findings during this Reporting Period of the new NPDES Permit are the steps that the City has taken to implement the permit requirements, including but not limited to:

- Continued development of an understanding of the permit requirements and the resources necessary to achieve compliance
- Continued allocation of additional resources (personnel, equipment, and budget) to/within the Traffic and Road Maintenance Division to specifically address stormwater management and stormwater runoff quality improvement issues

- Continued coordination of the Stormwater Pollution Prevention Team with City Departments for stormwater-related issues
- Implementation of the SMP and associated public outreach activities
- Continuation of city-wide geographic information system (GIS) mapping related to stormwater infrastructure and management
- Continued development of legal authority and zoning regulations to address stormwater discharges and quality
- Continued coordination of public outreach with local environmental and business groups
- Continued coordination with consultants to assist in the implementation of the SMP and to perform surface water, stormwater, and outfall monitoring

2.3 SMP Strengths and Weaknesses

2.3.1 EPA Review of the Status of the NPDES Permit

Representatives from the US Environmental Protection Agency (EPA) and the CTDEEP visited with members of the City's Stormwater Pollution Prevention Team on June 15 and 16, 2015 to conduct a compliance audit of the City's NPDES Permit. The compliance audit included a "five-year look-back" period. After the compliance audit, the EPA indicated that several areas of the permit needed improvement which are outlined in Section 2.3.1 of the 2014 & 2015 Annual Report.

The EPA issued an Administrative Order and Request for Information, regarding the compliance audit, to the City of Stamford on October 1, 2015. The City of Stamford has been working with the EPA of this Reporting Period to address items identified during the compliance audit.

2.4 Future Direction of the SMP

The SMP will continue to be evaluated in greater detail as part of the 2016–17 Reporting Period. A component of that evaluation will be a review of goals, schedules, and procedures referenced in the SMP as "to be established" and a detailed analysis of the status of these items.

The City considers the SMP to be a dynamic document and will continue to work towards updating and revising it as conditions and regulations change in an effort to maximize its ability to be utilized as a tool to manage and improve stormwater runoff quality. Because this SMP was recently established, the City's focus will be on implementing it to the best of their ability over the course of the next several years. For this reason, no significant changes to the SMP are anticipated at this time.

Now that the Traffic and Road Maintenance Division has had time to become acclimated to the permit requirements and develop and begin implementing the SMP, the City will continue to focus more of its resources in the coming years to achieving compliance with the SMP, particularly in the areas of:

- Public education and involvement
- Stormwater mapping
- Illicit discharge detection and elimination
- Control measures

- Infrastructure operations and maintenance
- Legal authority and regulatory changes
- Water quality monitoring

Specific goals or requirements are discussed in the Narrative Report, ***Section 4.0***, of this Annual Report.

The Team Coordinator and Regulatory Compliance and Administrative Officer will continue to be responsible for closely tracking individual activities and events in each of these areas.

3.0 SUMMARY TABLE OF SMP COMPONENTS

The summary table of SMP components is presented in ***Appendix C.*** This table concisely presents the stormwater management activities completed within the time period for this Annual Report and documents the City's compliance with key permit and SMP requirements.

Administrative issues, such as planning activities, program development, and pilot studies, are not discussed in the summary table of SMP components.

4.0 NARRATIVE REPORT

4.1 Pollution Prevention Team

The Pollution Prevention Team (Team), ***Section 1.0***, was established to implement the SMP, to keep it up-to-date as conditions and/or regulations change, to maintain the control measures to improve stormwater quality, and to take corrective actions, as necessary. With the issuance of the new NPDES Permit in 2013, the City decided to transfer the majority of the responsibility for compliance with the permit from the SWPCA to the Traffic and Road Maintenance Division.

Much of the first year of the new permit was utilized by the Traffic and Road Maintenance Division becoming familiar with the permit requirements and establishing the necessary schedules, procedures, personnel, equipment, financing, and other resources necessary to successfully implement the permit requirements and the SMP.

This third permit year was utilized to get the in-stream sampling up-to-date, commence discharge sampling, get the infrastructure and IDDE evaluations up-to-speed with the new tracking software and CCTV capabilities, jump-start the outfall identification and mapping process, establish the MS4 stormwater ordinance, and drafting modifications to the Zoning Regulations.

The Team that has been established under the current SMP (see Appendix B of the SMP and ***Section 1.0*** of this report) consists of personnel from many City departments whose operations may affect the current and future stormwater quality. Team members supply the City with a wide-range of experience and expertise in managing and controlling stormwater runoff quality.

Since 2013, the Team has continued improving their understanding of the new NPDES Permit requirements, communicating these requirements amongst themselves, establishing areas of responsibility and cooperation, brainstorming on public education and control measure ideas, and working with the appropriate legal counsel to establish legal authority and new regulations.

The Team's activities are coordinated by the Traffic and Road Maintenance Supervisor. Many of the day-to-day stormwater permit compliance activities are managed by the Regulatory Compliance and Administrative Officer; this position was created in early 2014 specifically as a result of the issuance of the current NPDES Permit.

The City has also created and filled five positions under the direction of the Regulatory Compliance and Administrative Officer; the positions include four equipment operators and one laborers to help operate the vacuum trucks and camera truck for IDDE screening and catch basin and manhole inspections and cleaning.

It is anticipated that the Team will continue these activities during the next year of the discharge permit as well as develop and coordinate additional specific goals with the objective of improving the overall quality of stormwater runoff in the City of Stamford.

4.2 Mapping

The City maintains a strong GIS department that can coordinate city-specific, as well as environmental data, available from the DEEP and other sources. Information that has been mapped includes: city roadways, city properties, aerial photography, topography, zoning map, surface water bodies, watershed areas, surface water quality classifications, impaired waters, mapped inland wetlands, mapped tidal wetlands, the coastal boundary, and the ten approved in-stream sampling locations.

The City has hired a consultant that is in the process of mapping sanitary sewer lines, stormwater lines, and stormwater outfalls. Mapping efforts have focused on the more developed sections of the City, closest to Long Island Sound, with the most stormwater outfalls mapped south of Interstate 95 and many more mapped between I-95 and the Merritt Parkway (Connecticut Route 15). Initially, 154 stormwater outfalls were mapped. Several of the initially mapped outfall locations were determined to be inaccurate and 90 MS4 outfalls have been confirmed/identified/mapped. Two of the previous 92 MS4 outfalls were eliminated from the list, outfalls number SON-0021 and SON-0060. These outfalls were removed from the monitoring list because one was identified as the SWPCA's Facility discharge location and the other was a structure inlet.

The City continued to identify and map new MS4 outfalls in the City throughout the Reporting Period. To date, the City is approximately 80% complete with their stormwater mapping and an updated outfall map is provided in ***Appendix D***. The City is currently in the process of confirming the accuracy of the outfall locations and if they are part of the City's MS4 stormwater system or another entity's responsibility. Several of the potential new outfalls have been identified as duplicates and others have been noted as inlets or discharges under state DOT control. The City continues communication with the DEEP to identify more specific criteria for the outfalls that will be required for monitoring as part of the IDDE program and the wet weather monitoring. See ***Section 4.4*** and ***Section 4.5.2*** for additional details on the IDDE program and the wet weather monitoring program. A new Interconnected MS4 plan was prepared in June 2016 and is further discussed in ***Section 4.3.5.10***.

This component of the SMP is to be expanded to include the following GIS mapping:

- Storm line material and size data
- Responsibility, if part of another MS4 stormwater system (such as DOT's)
- Completed and proposed cleaning and repair activities
- Outfall discharge monitoring data
- IDDE screening and investigation results
- Proposed IDDE investigations
- Completed and proposed capital projects
- Connections to any other public or private storm drainage systems
- Drainage areas for each MS4 outfall
- Areas served by on-site subsurface disposal areas
- Storm drains that do or may receive discharges form underdrain systems

For an update on the impervious cover and directly impervious cover area (DCIA) see ***Section 4.3.4.1***.

4.3 Control Measures

4.3.1 Public Education and Involvement

City residents can contribute to the pollution transported via stormwater by misapplying lawn pesticides, herbicides and fertilizers, littering, dumping pollutants into storm drains, failing to dispose of pet waste properly, and other actions which can be detrimental to the quality of stormwater discharging into water bodies. Many people are unaware that they are polluting when engaged in these activities. Therefore, public education and outreach and public involvement and participation will help minimize the amount of pollution contributed to the City's water bodies by local residents. Also, public education and outreach coupled with public involvement and participation allows city residents to have a voice with regard to stormwater.

During this Reporting Period, the following public education and involvement activities have been completed:

- The City has continued to maintain and update the stormwater section that was previously added to the City of Stamford's website at http://www.stamfordct.gov/stormwater-management. The website provides basic information about stormwater as well as key contacts within the City of Stamford. Additionally, it provides links to:
    - The NPDES Permit
    - The SMP
    - The MS4 Stormwater Ordinance
    - The 2012, 2013-2014 and 2014-2015 Annual Reports
    - The household hazardous waste collection events schedule and information on the materials managed
    - Dog waste management practices
    - Best management plans for pesticides
    - Information on preventing stormwater pollution honored
    - Fall leaf pick up schedule
    - Christmas tree pick up schedule
    - How to report a stormwater issue, violation, or complaint

  The City has also added a Frequently Asked Questions section that includes 25 questions and answers that city residents may view. To date, there have been approximately 490 hits on the website.
- In 2014, the department adjusted internal operations to receive and respond to citizen questions and complaints regarding stormwater related issues. The City's stormwater management department responded to numerous citizen inquiries regarding snow storage, sweeping, catch basin cleaning, and IDDE program during the Reporting Period.
- A public meeting was held on July 26, 2016 for the review of the SMP and the draft 2015-2016 Annual Report. The Notice of Meeting was published in the Stamford Advocate on July 18 and 22, 2016 and was posted on the City's stormwater management website. The Notice of Meeting was filed with the Town Clerk, forwarded to the Board of Representatives, and posted throughout Government Center. The leadership/directors of two local environmental groups, SoundWaters and the Mill River Collaborative, were provided with notice of the meeting.

There were no attendees at the meeting; therefore, there were no questions, comments, or concerns generated from the draft Annual Report.

- An informational pamphlet on dog waste management was / will be provided to all dog owners at license renewal time. 3,000 pamphlets were provided to the Town Clerk for distribution on June 24, 2016 and an additional 3,000 copies are in stock at the Traffic and Road Maintenance office for future distribution.
- Since 2013, the City has installed 60 dog waste dispensers and signs informing park patrons of the need to pick up after their dogs in key parks. These signs refer to the existing municipal dog waste ordinance in the City Charter (Section 111). Thirty (30) additional dispensers were purchased and will be installed by the City Parks and Recreation Department, once the locations are identified. Approximately $7,850 was spent on dog waste disposal bags during the Reporting Period and City staff have observed used bags disposed of in the trash containers throughout the areas with dispensers.
- The SWPCA provides tours of the City's wastewater treatment facilities to school children and adults. During the Reporting Period, approximately 1,510 people attended these tours. As part of the presentation, they discuss stormwater impacts and typically distribute a brochure entitled "What is Your Storm Drain IQ?"
- The Mill River Collaborative performs annual clean ups, improvements, and provides educational programming within the City. Approximately 5,367 volunteer hours were provided from over 1,200 individual volunteers during this Reporting Period. This is the equivalent of having nearly another 3 full time staff members. These hours included everything from stuffing envelopes, to removing invasive plant species from the meadows, to creating erosion barriers in the river.

  A specific list of volunteer activities includes:
  - reinforcing river banks using organic biologs
  - invasive species removal by hand (mugwort, queen anne's lace, loosestrife, wild lettuce, white clover, ailanthus, burdock, bindweed)
  - planting pollinator-attracting flowers
  - cleaning up litter in and near the river
  - building rock veins to funnel water away from banks to reduce undercutting
  - mulching
  - harvesting native seeds
  - removing silt around drainage areas
  - cutting overgrown shrubs and trees
  - weeding paths, lawns, flower beds, gardens
  - spreading organic fertilizers (sparingly)
- SoundWaters is the leading environmental education organization on Long Island Sound. Over 25,000 students learn and explore with SoundWaters, through education and action, every year.
- The City conducted an educational outreach program event at the Dolan Middle School on May 20, 2016. Four classes, including 156 students, of sixth graders were introduced to the concepts of stormwater quality management using a PowerPoint presentation, a newly acquired Enviroscape interactive model of a typical stormwater management system and were given the opportunity to see the vacuum trucks used to clean out catch basins and manholes. The City is

in the process of collaborating with other middle schools throughout the City to expand this outreach program.

- During this Reporting Period, the City ordered and received 7,000 catch basin medallions for placement on catch basins throughout the city. These medallions were ordered in both English and Spanish to help raise public awareness for stormwater quality issues. These medallions are being installed in by City staff members or by seasonal employees and volunteers. Currently, approximately 2,200 medallions (1,100 in English and 1,100 in Spanish) have been installed on curb-backed catch basins throughout three areas targeted in the southern part of the City, and in parks, and downtown areas with the most pedestrian traffic.
- Harbor Watch, a division of Earthplace, a not-for-profit organization, was retained by the City, to conduct the dry weather outfall sampling as part of the IDDE program (see ***Section 4.4***). During this Reporting Period, Harbor Watch conducted dry weather outfall screening at 25 of the known outfalls on public property and additional sampling at other outfalls (pre-permit, unknown outfalls). The 2016-17 City budget contains funds for an additional 47 dry weather outfall screenings of the known outfalls.
- The City has collaborated with a marketing and public relations firm to develop a new stormwater management mailer/pamphlet to be sent out during the 2016–17 Reporting Period to provide a guide for regulatory compliance. 7,700 pamphlets were ordered in English and Spanish. 2,250 pamphlets are anticipated to be distributed through December 2016 to commercial and industrial town business, including CTDEEP Industrial Stormwater General Permit permittees and others. A copy of the pamphlet is provided in ***Appendix E***.
- The City conducted an Earth Day training and outreach program on April 22, 2016. In attendance was the mayor of the City, along with 45 residents, who were provided with a presentation on the concepts of stormwater quality management using the Enviroscape interactive model and were given the opportunity to see a vacuum truck demonstration.
- The Friends of Mianus River Park, a volunteer group and non-profit corporation, conduct two riverbank stabilization projects in the 2015-16 Reporting Period. One of the projects was held on September 12, 2015 at the West River Trail off from Merriebrooke Lane, the project included efforts to close some unofficial trails to the river and break up heavily compacted areas close to the river to help natural recovery. On September 26 and 27, 2015, the Mianus Chapter of Trout Unlimited, in collaboration with the City of Stamford, the Friends of Mianus River Park and other organizations provided support for the construction of a hardened access and conifer revetments along the Meander Trail, which was severely eroded. The hardened access was provided to stop further erosion of the riverbank, while providing a secure way to enter the river. Another project was held on April 24, 2016 at the Meander Trail along the Mianus River to continue work on the hardened access.
- The efforts conducted by the Stormwater Management Department were recognized in the City of Stamford Annual Report – Fiscal Year 2014-15. This report is distributed annually by the office of the mayor and is available on the City's website. The report summarized the efforts that are presented in this annual report.
- On April 30, 2016, the Stamford Police Department hosted a National Rx Drug Take-Back event. Fliers for the event were handed out during the Earth Day event previously discussed. As part of the event, the police department provided services for residents to drop off their unused or expired medications. A sample flier is provided in ***Appendix F***.

- Approximately 38,000 Stormwater Management fliers were distributed throughout the City with the December 2015 tax bills. The fliers were provided to each resident receiving a tax bill, which includes all registered automobile owners in the City. A copy of the flier is provided in ***Appendix G***.
- On January 22, 2016, the City hosted a meeting with the Main Street Trash Coop regarding the impacts to the storm drains and sanitary sewer drains in the vicinity of restaurants; 20 people were in attendance. Currently, there are 11 restaurants that utilize one (1) grease disposal container. The catch basin in the area was cleaned out several times, but impacts to the basin were still noted. The WPCA has issued a fine for non-compliance. The Traffic and Road Maintenance Division is in the process of investigating a secondary containment system design to help prevent grease from entering the stormwater and sewer collection systems.
- On January 26, 2016, Governor Malloy visited the Traffic and Road Maintenance facility to talk about his drive to operate a lean state government using the backdrop of a pair of city vehicles purchased with state grants and to highlight his commitment to lean government and clean water. "The state continues to be a leader in water quality", he said, referring to the new vehicles (vacuum truck and camera truck) the City has courtesy of state grants as part of the effort to ensure that clean water is a priority. Governor Malloy stated that having the City own and operate the vehicle is more efficient instead of going to vendors.
- A neighborhood clean-up was conducted on April 23, 2016 at the East Side. A beach clean-up, titled "King Care Days" was conducted on April, 18, 2016 in conjunction with the Department of Public Works at Cummings Park where 550 pounds of debris were removed from a tidal pond. On June 30, 2016, the Department of Public Works coordinated a neighborhood clean-up project at the Harbor Drive area, along the boardwalk and estuary, at Czecik Marina Park.
  On January 19, 2016, the Regulatory Compliance and Administrative Officer provided a status report to the Harbor Management Commission on where the City stands in its program to identify (first phase) and correct (second phase) pollution entering city waterways via its storm drain system.

4.3.2 Industrial Dischargers

During the 2015 NDPES Permit compliance audit, the EPA indicated that the City is required to educate owners and operators of commercial, industrial, and institutional facilities as to their responsibility to control pollutants in stormwater discharges from their properties into the City's MS4.

The City's Stormwater Management Department has obtained a CTDEEP list of stormwater discharge General Permit sites for commercial or industrial activity and has prepare informational outreach materials to target these businesses. The City intends to distribute the materials during the 2016-17 Reporting Period. A copy of the Stormwater Management pamphlet distributed is provided in ***Appendix E.***

4.3.3 Source Controls and Pollution Prevention

4.3.3.1 Motor Oil Collection

The City collects used motor oil and cooking oil at the Katrina Mygatt Recycling Center so that residents will have a place to properly dispose of these materials and to limit the potential for them to be improperly disposed and adversely affect stormwater quality. During the Reporting Period, approximately 2,775 gallons of used motor oil and 2.060 gallons of used cooking oil were collected. The City intends to continue its used motor oil collection activities.

4.3.3.2 Household Hazardous Waste (HHW) and Electronic Waste Collection Programs

The City holds at least one HHW collection day within the City limits each year so that residents will have a place to properly dispose of these materials and to limit the potential for them to be improperly disposed of and potentially affecting stormwater quality. In 2015 and 2016, the City hosted an HHW collection day on July 19th and July 16th, respectively. In addition, Stamford residents are able to utilize HHW collection days in Darien, Greenwich, New Canaan, Norwalk, Westport, Weston, or Wilton approximately seven other days per year (throughout the spring and fall). The City intends to continue its involvement in these collection events.

The City collects used consumer electronics at the Katrina Mygatt Recycling Center during normal operating hours. Acceptable materials include computers, monitors, televisions, VCRs, DVDs, cell phones, copiers, fax machines, printers, radios, stereos, and small electronics. In addition, inks and toners, rechargeable batteries, lithium ion batteries, vehicle batteries, compact fluorescent light bulbs, and linear lamps are also accepted at the Recycling Center. From July 2015 through June 2016, approximately 270 tons of consumer electronics and universal wastes were collected. The City intends to continue its waste electronics collection activities.

4.3.3.3 Spills and Leak

In June 2015, a city-wide Spill Prevention and Response Plan (SPRP) was completed to prevent, contain and clean up spills of oils, petroleum products, and other potentially hazardous materials to minimize stormwater impacts and protect surface waters. A copy of the new SPRP being implemented is provided in ***Appendix H***.

The department responded to eight (8) spills in excess of five gallons of petroleum products on the City's roadways and coordinated with first responders (Police, Fire, DEEP) to limit impacts to the City's MS4. A list of recent spills during the Reporting Period, of five gallons or more, is presented in ***Appendix I***.

On May 26, 2016, the Traffic and Road Maintenance Division removed 75 gallons of illegally dumped oil from a catch basin in Cove Island Park.

For additional information on training for spill prevention and response see ***Section 4.3.5.1***.

4.3.3.4 Pesticide, Herbicide and Fertilizer Use Limitations

The City is required to limit the use of pesticides, herbicides and fertilizers (PHF) in city-owned or operated areas. The City has developed the Best Management Practices (BMPs), found in Appendix G of the SMP, for PHF application in city-owned or operated areas. Further development of standard operating procedures (SOPs) for the use of PHFs is ongoing. It is anticipated that they will be modeled based on the CTDEEP Integrated Pest Management (IPM) Plans. Completion of the PHF SOPs is anticipated during the 2016–17 Reporting Period.

Fertilizers and herbicides are used on the municipal athletic fields, as described in the SMP. Every year, in April, Dimension (18-0-40) is applied to the fields and contains both fertilizer and herbicides. In May, ProPendi (13-0-4) is applied to the fields and contains both herbicides and fertilizer. In September, just fertilizer (25-0-5) is applied to the fields. The City applied a total of 1,530 pounds of nitrogen to the ball parks during the 2015-16 Reporting Period. See ***Appendix J*** for a table of the total nitrogen used at the City-owned ball parks.

As required by the NPDES Permit, the City is in the process of establishing reduction goals, including consideration of alternatives, for PHFs being used at city-owned or operated areas, specifically at the municipal athletic fields.

No PHFs are used on city park green spaces.

The Mill River Park/Mill River Collaborative completely avoids the use of synthetic fertilizers. They employ a "feed the soil ecology" program where the soil is infused with sixteen or more species of bacteria and fed with a fish emulsion/kelp/yucca blend as a substitute for traditional fertilizers. Additionally, the Mill River Collaborative maintains its lawns at four inches to build deeper, more drought tolerant root systems. All grass clippings are returned to the lawns and they use organic products, such as soy bean meal, to add nitrogen to the soil. The Mill River Collaborative uses minimal herbicides on invasive plant species per DEEP guidelines. They have found that as they continue this program, they require less herbicide use each year.

With respect to the city-owned golf courses, the NPDES Permit requires that the City implement practices which achieve a ten percent (10%) reduction in total nitrogen by June 3, 2018. The reduction will be determined by the average annual usage, by weight, of the three years preceding the current NPDES Permit. The current SMP has established the application rates of fertilizers used at the golf courses, which can be found in Appendix G of the SMP.

During the Reporting Period, the Sterling Farms Golf Course used a total of 4,509pounds of nitrogen and the E. Gaynor Brennan Municipal Golf Course used a total of 3,637pounds of nitrogen. The total 8,145 pounds of nitrogen, used in 2015 represents a 1.3 percent reduction from the total nitrogen that was used in 2014 (8,255 pounds). See ***Appendix J*** for a table of the total nitrogen used at the City-owned golf courses.

The Pollution Prevention Team will work with the golf course staff to help reduce the total amount of nitrogen used at these facilities. It is the City's intention to establish goals for reducing the amount of PHFs used at all city-owned or operated areas.

4.3.3.5 Salt Storage and Usage

The City stores road salt at the Highway Department (90 Magee Avenue), the Town Yard (106 Haig Avenue), and the Scofieldtown Transfer Station (612 Scofieldtown Road). At each facility, salt is stored on an impervious pad and under a salt shed in accordance with the requirements of the DEEP's *General Permit for the Discharge of Stormwater Associated with Industrial Activities*.

The City used approximately 7,494 tons of salt during 9 storms with a combined total of 31 inches of snow during the winter of 2015-16. Salt usage quantities will continue to be tracked and the City's goal is to reduce the amount of salt and salt-sand mixture utilized on its roadways by increasing efficiencies and investigating alternate methods. However, salt usage will continue to vary based on storm frequency and intensity.

The City continues to expand its use of brine trucks for pre-treatment, which helps reduce road salt usage. More trucks are being equipped with brine and the truck drivers are now receiving tanker endorsements on their licenses in order to be able to use the brine trucks. The City of Stamford expects to have up to four trucks available to be outfitted with brine tanks for use during the 2016-17 winter. See ***Section 4.3.5.6***, Snow Removal, for additional discussion on salt usage.

4.3.4 Land Disturbance and Development

Construction site runoff and post-construction site runoff should be reduced so that water bodies are not receiving additional pollutants or sediment. Sediment causes water bodies to become physically and biologically altered. Decreases in habitat quality can result from significant amounts of sediment covering these habitat areas.

Under the terms of the NPDES Permit, the City of Stamford is required to implement and enforce a program to address construction and post-construction stormwater discharges from land disturbing activities and after site stabilization has been achieved. This program needs to be based on the *Connecticut Guidelines for Soil Erosion and Sediment Control* (latest edition) and the *Connecticut Stormwater Quality Manual* (as amended). The City is currently working towards developing this program; both of these documents will be incorporated into the draft changes to the Zoning Regulations.

The City has a well-developed process for ensuring that applicants for building permits have received all appropriate City approvals prior to issuance of a building permit. A copy of the checklist utilized by the Building Official is presented in Appendix J of the SMP. As part of this review and approval process, the Engineering Department reviews stormwater and drainage for proposed developments and site plan revisions.

The site plan review process will continue in the future, but the site-specific stormwater requirements will be better defined once the draft Zoning Regulation changes have been approved and implemented. The NPDES Permit requires the City of Stamford to develop and enforce a program to control stormwater discharges from development and redevelopment activities with one-half acre (21,780 sf) or more of soil disturbance. The one-half acre threshold applies both individually and collectively as part of a larger common plan. Modifications to the Zoning Regulations will include provisions to encourage low impact development (LID) practices to maximize infiltration and minimize stormwater runoff. The regulations will also limit barriers to LID design and construction.

The NPDES Permit requires the City to conduct site-plan review and pre-construction review meetings that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts to water quality. The City currently conducts such meetings internally as part of staff review of many projects. Meetings with developers occur when the project has significant potential for environmental impact.

As part of the application review process, the City is now providing applicant's with information on the DEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities*. Applicants are being told about stormwater management issues at the time building permits Environmental Planning Board and Planning & Zoning sign-offs are being obtained. Applicants have been made aware of their responsibility to obtain DEEP Construction Stormwater General Permits. This notification of responsibility has been met with some resistance from the builder / developer community. Therefore, the City is currently exploring alternative ways for providing notification to the builder / developer community.

The City's building permit process is facilitated electronically through a software package called "View Permit". The plan is to attach standard text to all applications notifying the applicants of their responsibility, if applicable, to obtain DEEP permits. It is anticipated that this change can be incorporated by December 2016.

The NPDES Permit also requires site inspection and enforcement to assess the adequacy of the installation, maintenance, operation, and repair of construction and post-construction control measures. The City's staff performs site visits when the project is in close proximity to a wetland or other water body. Current staffing levels limit the opportunities for site inspections to only those projects with the greatest potential for impact to stormwater quality. Site visits frequently occur prior to the issuance of a Certificate of Occupancy.

The City of Stamford's Environmental Protection Board conducted permit and technical reviews, enforcement and inspections and other land development services. A summary table of the services that they provided during the Reporting Period is included in ***Appendix K***.

The City has requested an extension for addressing the change in zoning regulations. The proposed changes will require more staff from the Engineering Department and the Environmental Protection Board and additional time is required to implement the changes.

Additional information on the proposed stormwater ordinance and changes to the Zoning Regulations are presented in ***Section 4.6***, Legal Authority.

4.3.4.1 Impervious Cover

The NPDES Permit calls for completion of DCIA (directly connected impervious area) mapping associated with each MS4 outfall within four years. The City is in the process of estimating the DCIA throughout the City. During this Reporting Period, sub-meter aerial photogrammetry of the City was generated that will be used in determining the DCIA. The initial estimate will be based on the total area of impervious cover, including roadways, drive ways, sidewalks, parking lots, and building footprints, that discharge to the MS4. Allocating the amount of the DCIA to each MS4 outfall and evaluating each drainage area to determine if the roof tops are connected to the DCIA will be performed in the next couple of years. Estimates will be revised in the future as development, re-development, or retrofit projects or new information effectively add or remove DCIA to or from the MS4.

The Mayor of the City of Stamford has requested that the Western Connecticut Council of Governments (WestCOG) complete the DCIA mapping. The City's GIS Department has conducted a pilot study for the Shippan Area, which is currently being evaluated by the WestCog.

4.3.5 Infrastructure Operations and Maintenance

Pollution prevention and good housekeeping are critical minimum control measures because they concentrate on municipal operations including the maintenance of other control measures. These activities can make an immediate difference with local water body pollutant levels. Street sweeping and other maintenance activities reduce the amount of sediment, salt and pollutants entering the drainage system thereby minimizing pollutant loads to local water bodies.

4.3.5.1 Employee Training

Employee training is essential for maintaining and increasing the awareness of water quality related issues in the management of any MS4. Training also enables facility staff to have an improved understanding of the stormwater system and how to minimize the impact the facility has on the MS4.

All employees working at city-owned facilities participate in annual training to meet the requirements of the DEEP's *General Permit for the Discharge of Stormwater Associated with Industrial Activity*. This annual training includes:

- Overview of the NPDES MS4 Permit
- Review of the goals and objectives of the SMP
- Review of facility Stormwater Pollution Prevention Plan
- Review of good housekeeping
- Identifying and reporting illicit discharges
- Review of spill prevention and response procedures

Training was conducted on June 22 and 23, 2016 for Universal Waste Management, Spill Prevention Control and Countermeasures Plan, and Stormwater Pollution Prevention Plan training. Approximately 40 employees were in attendance from City-owned facilities at this training event. Members, or departmental designees, of the Pollution Prevention Team are scheduled to attend additional MS4 SMP training by December 1, 2016. This MS4 training will highlight the importance of stormwater quality, what impacts stormwater quality and how stormwater quality can be controlled.

The City also conducted a week-long training for seven city employees affiliated with the Stormwater Management Department working with the camera (CCTV) truck. The training on the CCTV truck started on June 1, 2015 and included two days of classroom instruction and three days in the field with the software provider (Pipelogix) and the vendor who sold the truck to the City (CN Wood). The classroom training included seven men, all of whom took and passed the Pipeline Assessment Certification Program certification exam. Certificates of Completion provided to the staff that attended the training program are provided in ***Appendix L***.

The Regulatory Compliance and Administrative Officer attended the annual Nonpoint Source Pollution (NPS) Conference, sponsored by the New England Interstate Water Pollution Control Commission (NEIWPCC), on April 20, 2016. The conference is the premier forum in the region for sharing information and improving communication on NPS pollution issues and projects. The conference brings together all those in New England and New York State involved in NPS pollution management, including participants from state, federal, and municipal governments, private sector, academia, and watershed organizations.

The City is dedicated to ensuring that its employees continue to gain the necessary knowledge needed for understanding and implementing the SMP in order to increase the quality of the stormwater in the City's MS4. The City will continue to update and implement its training programs for all employees working at city-owned facilities. A copy of the sign-in sheets for each of the training events is provided in ***Appendix M***.

4.3.5.2 Infrastructure Repair and Rehabilitation

It is important that the City make timely repairs to the infrastructure of its MS4 in order to help reduce the discharge of pollutants from the MS4 to the receiving waters. The City is dedicated to giving priority to those projects discharging pollutants to impaired waters or that have other concerns related to the mapping and IDDE process. A schedule for implementation of repairs is developed and updated once the need for the repairs are established.

The SWCPA performs routine maintenance and any necessary repairs on the three stormwater pump stations on an annual basis. In excess of $350,000 per year is back charged to SWCPA from the Stormwater Management Department for this maintenance.

As of January 1, 2016, the Traffic and Road Maintenance Division is now responsible for tracking the catch basins and stormwater manholes that require repairs. Previous lists of required repairs were maintained by the Engineering Department. The Traffic and Road Maintenance Division will

maintain the list of catch basins and stormwater manholes that require repair and will assign that work internally or to independent contractors, as needed. During the Reporting Period, 115 catch basins and/or manholes were repaired. See ***Section 4.3.5.7*** for additional details on catch basin cleaning. A list of 2015-16 catch basin / manhole repairs is presented in ***Appendix N***.

During this Reporting Period, the Engineering Department conducted repairs on six stormwater pipes and headwalls and repaired one sanitary pipe that was leaking into the MS4. Pipe inspections are performed by the Traffic and Road Maintenance Division using the camera truck. An example of a pipe inspection form is provided in ***Appendix O***.

The City also understands that the refinement of the standard operating procedures and good housekeeping practices for the management of the MS4 is essential to improving stormwater quality.

In 2014, the City purchased a camera truck which is used for implementing the IDDE program and for inspecting catch basins, manholes and stormwater piping. The truck was deployed in October 2014 and again in May 2015 after employees completed the necessary one-week training on the truck and equipment. Initially, the camera truck is being used to inspect areas identified as needing maintenance within the MS4 and has proved to be a valuable asset for mapping/GIS work required by the permit.

The City conducts inspections with the camera truck approximately two days a week, covering approximately 200 feet of piping per day. During this Reporting Period, the City conducted 257 CCTV reports, which totaled approximately 24,170 linear feet of piping that was videoed, including storm mains and lateral piping. The City has prioritized the areas that it inspects with the camera truck based on flooding issues, complaints about collapsing areas and complaints about illicit discharges. See ***Section 4.4*** for further discussion on the progress of identifying illegal connections in the IDDE program.

Catch basin inspections also include inspecting the condition of catch basin "bells." Some City catch basins have bells (metal 90 degree bends covering catch basin outlets) to control floatables. Bells are hung on pins set in the side of catch basins. The City has purchased $25,000 worth of bells, most are for 12"-pipes. The City is planning to install bells on additional catch basins in parts of its MS4 where trash and floatables are a problem. The City has also procured two (2) hydraulic cranes for the installation of bells and maintenance to the catch basins. The City is anticipating on installing several of the catch basin bells during the 2016–17 Reporting Period.

The Traffic and Road Maintenance Division has acquired funding in an Environmental Compliance Capital account to make improvements to MS4 piping when property owners cannot, or will not, make repairs in the timeframe provided in the permit.

4.3.5.3 Roadway Maintenance

Roadway maintenance activities can directly affect water quality. An important task of roadway maintenance is keeping the highway drainage system functioning. The City is dedicated to ensuring

that routine road maintenance is conducted frequently and that roadside ditches are cleaned and inspected periodically to verify that flow is not being restricted.

During the Reporting Period, the City repaved approximately 7.5 miles of roadway as part of its road maintenance program.

4.3.5.4 Sweeping

Properly swept streets are a key element to limiting stormwater impacts as sediment and debris can transport other pollutants into the stormwater system and because copious quantities of these materials can inhibit the proper function of MS4 components. By June 30, 2016 the City swept 9,086 miles of roadway and collected 1,470 tons of street material during the Reporting Period. Supporting documentation regarding the street sweeping activities for the Reporting Period can be provided upon request.

Sidewalk and curbside sweeping is performed weekly in the Downtown Special Services District (DSSD), along 9.5 miles of sidewalk and curbside. This work is coordinated and paid for by the DSSD. An estimated 23 tons of materials are removed on an annual basis as a part of these sidewalk and curbside sweeping activities. The DSSD also installed six cigarette butt disposal stations on lamp poles around the Columbus Park area and have since collected five pounds of cigarette butts.

The NPDES Permit prescribes very specific sweeping schedules for main lines, arteries, main roads and sidewalks in business and commercial districts, residential streets, other streets, and municipal parking lots between March and November of each year. The City has requested relief from the sweeping requirements as per the permit modification. The permit modification language is modeled after the DEEP MS4 general permit, which allows cities the ability to focus sweeping efforts on targeted areas. One goal is to compress the spring sweeping schedule between March 1st and June 30th to maximize the quantity of material collected at the end of the winter season.

The City is currently in the process of implementing a "Post & Tow" policy where they will be posting sweeping dates and times and subsequently towing away any cars that are parked in the areas posted for sweeping events. This system will help the City to effectively sweep in the areas posted instead of having to sweep around parked cars, missing large areas of the road.

During this Reporting Period, the City also conducted post-event sweeping activities after several Wednesday and Thursday concert series. The amount of materials collected during these events is included in the total tons of street material noted above.

4.3.5.5 Leaf Collection

In 2015, the City conducted its leaf pickup program from November 12th - December 11th. A total of 12,399 tons of leaves were collected.

According to the NPDES Permit, the City shall conduct city-wide leaf pickup program annually to be completed by December 15th. The City has established a procedure that breaks the City of Stamford down into three areas (see Appendix K of the SMP for a map of the leaf collection areas):

- Area #1 - north of the Merritt Parkway
- Area #2 - between Merritt Parkway and I-95
- Area #3 - south of I-95

Leaf pick-up typically begins in mid-November and completed by December 15th. The exact completion date depends on weather conditions and competing demands (snow removal and road salting for staff and equipment). It is important to note that the City finishes leaf pick-up even after snow fall. This process takes approximately four weeks of full time work for all available road maintenance crews.

The City is in the process of compiling a door hanger notification that will be distributed to residents that put their leaves in the street. The current leaf disposal policy is that the leaves will be piled at the curb prior to pick-up. Several residences were noted with piles of leaves in the street during the 2015 leaf collection period.

4.3.5.6 Snow Removal

Timely snow removal and the appropriate application of de-icing materials is another key element to a successful SMP. The City follows the DEEP's *Best Management Practices (BMPs) for Disposal of Snow Accumulation from Roadways and Parking Lot.* A copy of this BMP is presented in Appendix L of the SMP. The purpose of the BMPs are to prevent accumulation of sand, other solids, and pollutants in the MS4 and in sensitive areas, such as streams and wetlands.

The NPDES Permit requires that the City implement and refine its SOPs, regarding its snow and ice control operations, to minimize the discharge of pollutants. Goals must be established for the optimization of chemical application rates through the use of automated equipment including zero velocity spreaders, anti-icing and pre-wetting techniques, implementation of pavement management systems and alternate chemicals.

The City is already well on its way to meeting these goals. The Highway Crew continues to use a truck for performing anti-icing using liquid calcium chloride (brine) to pre-treat bridges and elevated roadways, the most susceptible for freezing, as well as city streets with the highest traffic volume. Once the storm begins, patrols are sent throughout the City to monitor road conditions. Hills and intersections are spot-treated to minimize chemical usage. The City tracks chemical usage; however, given the variability in the amount of snow and ice that needs to be treated each year, it is difficult to set goals for chemical optimization. As noted in ***Section 4.3.3.5***, the City intends to expand its use of brine trucks for pre-treatment in the future, which will help reduce the road salt usage.

The City continues to minimize its use of de-icing materials. This goal is being pursued in part to respond to shortages of de-icing materials in recent years. Salt is applied only twice for each storm – once at the beginning to prevent ice from binding and once at the end of prevent re-freezing. City

representatives have proactively been pursuing discharges of private basement sump pumps into the right-of-way, rather than simply treating these areas with additional deicing materials.

4.3.5.7 Catch Basin Cleaning

Clogged or overloaded catch basins can lead to unwanted stormwater quality impacts. Catch basin sumps provide a first line of defense in improving stormwater quality. Maintenance and cleaning activities are important to the proper operation of each catch basin.

From July 1, 2015 through June 30, 2016, the City cleaned 2,048 of its approximately 11,000 catch basins. Approximately 3,057 tons of materials were removed from the basins during the Reporting Period. The standard catch basin inspection and cleaning procedures and a sample catch basin inspection form is presented in ***Appendix O***.

The City continues to maintain a catch basin inspection, cleaning, and repair program. This program helps to identify and map each MS4 catch basin and determine flow direction, inspect its condition, determine the amount of sediment in each, clean catch basins with less than 50% of their sump capacity available, gather information over time on sediment accumulation rates, and develop a routine maintenance and cleaning schedule as prescribed by the NPDES Permit.

To support this program, the City has obtained or purchased the following equipment:

- (3) Vactor vacuum trucks purchased between 2014 and 2015
- (2) Vac-Con vacuum trucks – purchased in 2008 – not currently in service but could be used in emergency
- (4) Elgin Pelican sweepers purchased between 2008 and 2015
- (1) Rapid View CCTV truck w/ Pipe Logix software – purchased in 2015. CCTV truck has three cameras and a manhole/ stick camera
- (2) One-ton dump trucks on with Stetco hydraulic cranes – purchased in 2016
- (1) Caterpillar mini-excavator – purchased in 2014 and used for culvert cleaning work
- (1) Caterpillar loader / backhoe – purchased around 2010 and used for culvert cleaning work
- (~10) One-ton dump trucks used for typical highway department work
- (~ 25) Large dump trucks – used as necessary for haul away of sediment per culvert cleaning work

The City also hired four new equipment operators and a laborer for this program, as well, to generally support its stormwater management and compliance activities (see ***Section 6.0***).

The City's Engineering Department has also retained the services of a contractor that cleans and videos all associated catch basins and storm drains prior to completing roadway paving projects.

Additionally, the City continues implementing a software tracking program using field tablets for tracking catch basin inspection, cleaning and repair progress. The MS4 Front software was brought on-line in October 2014.

The approximate depth of sediment is measured before each catch basin cleaning. The City does not have records of previous catch basin cleanings, but in the future will use the depth of sediment observed and the time between catch basin cleanings to optimize the cleaning schedule.

4.3.5.8 Culvert Cleaning

During the Reporting Period, the City performed maintenance activities at twelve culverts over approximately 40 days. Various maintenance activies were conducted at the culverts including, but not limited to: stabilizing inlet and outlet areas, cleaning out culvert, removing debris and vegetation from around the culvert, CCTV inspections, excavating culvert discharge area, and wetlands delineation. During the Reporting Period, over 100 cubic yards of soil was removed from the culverts and discharge areas.

4.3.5.9 Detention and Retention Ponds

Detention and retention ponds that become overloaded with sediment deposition can negatively impact stormwater quality in the City's MS4. MS4 Ponds are required to be cleaned out when solids levels reach 50% of design capacity.

A list of detention and retention basins was developed and the City is maintaining an inspection schedule for them and is included in ***Appendix P***. To date, 77 basins were identified. During this Reporting Period, 15 of the 77 basins identified were inspected. A sample of the inspection reports are provided in ***Appendix P***. The detention and retention basins were added to the GIS mapping. Stormwater Management began inspections and maintenance work on these basins during this Reporting Period and is anticipating conducting the remainder of the inspections at each pond during the next Reporting Period.

4.3.5.10 Interconnected MS4s

Connections of other MS4s to the City's MS4 can affect the performance of the City's stormwater system and the quality of its discharges. There are no known interagency agreements between any other municipalities, institutions, or agencies and the City of Stamford. However, it appears that the following municipalities and agencies may be contributing stormwater to the City of Stamford's MS4:

- State of Connecticut (ConnDOT)
- Town of New Canaan, CT
- Town of Darien, CT
- Town of Greenwich, CT
- Town of Pound Ridge, NY

The Connecticut Department of Transportation ("ConnDOT") operates several roadways within the City, including: Interstate 95; the Merritt Parkway (Route 15); Long Ridge Road (Route 137); High Ridge Road (Route 104); and Route 1. The City's MS4 flows into ConnDOT's MS4 in some locations and ConnDOT's MS4 flows into the City's MS4 at other locations. The City communicates

with ConnDOT, as needed, primarily when the City receives complaints of clogged ConnDOT storm drains. ConnDOT does not perform sweeping as frequently as the City does.

The City has mapped out most of the interconnected MS4 areas during the development of the new SPRP. A map of the interconnected MS4 areas is provided in Appendix C of the Spill Prevention Response Plan, found in ***Appendix H*** of this report. Currently, there are no interagency agreements established. The City of Stamford will be working with each of the interconnected MS4 municipalities to develop detailed responsibilities for the City of Stamford and for each of the interconnected MS4 municipalities.

4.3.5.11 Referrals

During the Reporting Period, the Stormwater Management Department provided referrals to other departments throughout the City for maintenance and repairs. These referrals are outlined below:

Sweeping Referrals Provided to Various Entities

- Seven referrals were provided for post and tow activities. The post and tow procedure is to remove all vehicles from street (towed if necessary), then sweep and pump and clean all catch basins.
- Five sweeping referrals were provided to Traffic and Road Maintenance/Highway Department sweepers as a part of City wide spill plan, where spills have occurred.
- Two sweeping referrals were provided to Traffic and Road Maintenance/Highway Department sweepers for targeted sweeping (i.e. observed large amount of debris on roadway).

Stormwater Referrals Provided to the Environmental Planning Board (EPB)

- Eighteen referrals were provided to the EPB during the Reporting Period for items including, but not limited to: stormwater runoff, illegal dumping in catch basin, erosion and sediment controls missing, improper drainage, water quality impacts, possible wetland impacts, etc.

Referrals Provided to the CTDOT

- Three sweeping referrals were provided.
- Three referrals were provided for maintenance and repairs of their catch basins.
- One referral was provided for proper disposal of spent sorbent materials after a motor vehicle accident clean-up was conducted.

Curbing Referrals

- During the Reporting Period, the Stormwater Management Department made five referral requests to add or rebuild curbing to appropriately direct stormflows on city roadways. Approximately 5,000 linear feet of curbing was installed or replaced between 7/1/16 and 6/30/16.

Other Referrals

- Referrals made to Eversource: Five referrals made regarding piles of soil along roadway after new utility pole installation

- Referrals made to WPCA: Twelve referrals made regarding sinking sanitary manholes, sinkholes in roadway, sanitary piping inspection requests
- Referrals from WPCA: Four referrals were received regarding permit exceedance spills , 14 referrals were received regarding fats, oils, and grease, and three referrals were received regarding coordination of discharge to sanitary sewer
- Referrals made to Parks Department: Four referrals made regarding tree cutting/pruning to facilitate access to catch basins, culverts, leakoffs, etc.
- Referrals made to Stamford Schools: three referrals were made regarding illegal dumping (mop water in catch basins), collapsing catch basins, etc.

4.4 Illicit Discharge Detection and Elimination (IDDE) Program

IDDE will lessen the amount of pollutants discharging to local water bodies. Some people unknowingly dump pollutants into the storm drain or have illegal connections to the drainage system. The permit requires inspection of outfalls during dry weather conditions to determine whether illicit discharges are suspected and then to conduct extensive evaluation and follow-up to eliminate the illicit discharges that are found.

Additionally, City personnel continue to follow-up on known or suspected illicit discharges as well as any complaints associated with potential illicit discharges through calls to Traffic and Road Maintenance Division or reported via the City's stormwater management website.

The City has retained the services of Harbor Watch, a division of Earthplace, a not-for-profit organization for the collection of dry weather outfall samples as part of the IDDE screening requirements. During the Reporting Period, Harbor Watch collected 25 dry weather outfall samples. A summary table of the analytical data and an updated map for the IDDE dry weather outfall screening events is presented in ***Appendix Q***. A copy of the stormwater monitoring reports (SMRs) for these samples will be provided upon request.

IDDE screening has been conducted at 46 of the original 92 known outfalls. Samples were collected and analyzed at 30 of the 46 screened locations. Sixteen of the screened locations were noted with no discharge at the time of the screening. The City was able to complete screening of the remaining first 46 outfalls (first 50%). In order to remain on schedule, the City will begin, and attempt to complete, dry weather outfall monitoring for the second set of 50% of known outfalls (44 remaining after two of the original 92 known were eliminated, see ***Section 4.2***) during the next Reporting Period.

The City has also begun conducting screening of the newly identified outfalls. During the Reporting Period, the City screened nine new outfalls, all of which were noted with no discharge at the time of the screening.

The City completed IDDE investigations on 19 (21%) of the known MS4 outfalls during the Reporting Period and are now ahead of schedule for the NPDES Permit and SMP requirements. The City also conducted IDDE investigations on nine additional outfalls during the Reporting Period that

were not part of the original known outfalls. Summary tables of the analytical data for the IDDE investigation events are presented in ***Appendix R***.

During the Reporting Period, the City enlisted the services of sewage sniffing dogs. The dogs were provided for four days for a fee of $10,000 and were utilized to help identify stormwater drains that contained sewage. A copy of the report is provided in ***Appendix S***. The results of this program aided in setting the priorities for IDDE investigations.

In June 2016, the City conducted a smoke test at 22 properties. Notifications were distributed in advance to the property owners; a letter was provided two weeks in advance and a door hanger was left at the properties two days in advance. The City Emergency Responders were also notified of the smoke test to be conducted and five manholes were "smoked" during the test. Approximately, 12 catch basins were covered with plastic and sand bags during the test. Four properties were identified as requiring additional investigation.

Through the City's efforts using the camera truck, sewage sniffing dogs, and smoke tests completed during the Reporting Period, they have identified multiple areas of concern that will receive priority for further IDDE investigations. An updated map identifying the areas of concern is presented in ***Appendix T***.

4.4.1 Illegal Connections

As a result of the inspections conducted by the camera truck crews, discussed in ***Section 4.3.5.2***, the City has identified multiple areas of concern, which will receive further investigation. The City continues to track and identify illegal connections and is currently working with its Legal Department to identify the best course of action for having any confirmed illegal connections removed from its MS4.

4.5 Monitoring Program

In addition to the screening and monitoring activities associated with the IDDE Program (see ***Section 4.4***), the NPDES Permit calls for in-stream and stormwater outfall monitoring throughout the life of the permit.

4.5.1 In-Stream Surface Water Quality Monitoring

Under the terms of the NPDES Permit, ten (10) in-stream surface water monitoring locations have been established. Each in-stream monitoring location is to be sampled three times per year during rain events in the spring, summer, and fall, and once during a dry weather event in the summer, in accordance with the permit requirements. During the past plan year, the following in-stream surface water samples were collected:

- Summer 2015 Wet Weather Event – August 11, 2015
- Summer 2015 Dry Weather Event – August 14, 2015
- Fall 2015 Wet Weather Event – November 11, 2015

The Spring 2016 Wet Weather Event has not been collected due to a lack of sampleable rain events that meet the NPDES permit requirements.

In-stream samples are to be collected during a rain event more than 0.25-inch of rain is predicted, when there has not been more than 0.1-inch of rain during the preceding 48 hours. The samples are to be collected as composites with even aliquots obtained at 15-minute intervals over a one hour period each. A predicted storm duration of at least three to four hours is necessary to collect as sample, so several of the short, intense rain storms that have occurred in the past five months have not been sampleable. In addition, the in-stream samples need to be tested for bacteria, which has a short (6 hour) hold time. In order to collect the samples and have the laboratory be able to prepare them for analysis, there are certain times of the day when the samples cannot be collected. Samples cannot be collected between 7:00 PM and 3:00 AM or on Saturdays, Sundays, or Monday holidays.

Analytical data is submitted to the DEEP via the NetDMR system as the laboratory data is received. Summary tables of the analytical data for the in-stream sampling events are presented in ***Appendix U***. A copy of the SMRs for these samples will be provided upon request.

4.5.2 Wet Weather Outfall Monitoring

The NPDES Permit requires the City to sample all known MS4 outfalls within the first two years and again during the second two years of the permit term. Sixteen (16) wet weather outfalls were sampled on December 2, 2015. To date, 63 of the wet weather outfalls that were known at the time of the NPDES permit issuance have been sampled.

Sampling did not occur at all of the known outfall locations prior to the end of the second year of the NPDES Permit because of a lack of representative sampleable rain events in 2016 and a lack of legal authority to collect outfall samples on private property until June 2016.

It is anticipated that the remaining 29 known outfall locations will be sampled during the next Reporting Period.

Analytical data is submitted to the DEEP via the NetDMR system as the laboratory data is received. Summary tables of the analytical data for the wet weather outfall monitoring are presented in ***Appendix V***. A copy of the SMRs for these samples will be provided upon request.

4.6 Legal Authority

The City has finalized an MS4 Ordinance addressing stormwater management issues that affect NPDES Permit compliance and Zoning Regulations regarding stormwater management. The legal authorities that were established include:

- The authority to administer the stormwater management program and all elements of the SMP.
- The authority to control the contribution of pollutants to the MS4 by permittees registered under the DEEP's *General Permit for the Discharge of Stormwater Associated with Industrial*

Activity; by other commercial, industrial, municipal, institutional, or other facilities; and from any site that may affect water quality to the MS4.

- The authority to establish ordinances, bylaws, regulations, or other mechanisms to require developers and construction site operators to maintain consistency with the *Guidelines for Soil Erosion and Sedimentation Control*, the *Connecticut Stormwater Quality Manual*, and all DEEP stormwater discharge permits issued with the City of Stamford.
- The authority to identify existing regulations that may represent barriers to low impact development (LID) practices to minimize the quantity of impervious cover.
- The authority to perform inspections, surveillance, and monitoring related to the MS4.
- The authority to establish ordinances, bylaws, regulations, or other mechanisms to ensure a developer's or construction site operator's proposed use of LID practices by right or exception.
- The authority to revise regulations to eliminate or reduce potential barriers to LID.
- The authority to perform adequate inspection and maintenance activities to optimize the performance and pollutant removal efficiency of privately-owned retention or detention ponds that discharge to or receive discharge from the City's MS4.
- The authority to control through interagency or inter-jurisdictional agreement, the contribution of pollutants between the City's MS4 and MS4 owned or operated by others.
- The authority to prohibit by statute, ordinance, rules and regulations, permit, easement, contract, or any other means, illicit discharges to its MS4; to require the removal of these discharges; and to assess fines, penalties or cost recoupment for violations.
- The authority to control by statute, ordinance, rules and regulations, permit, easement, contract, or any other means, the discharge of spills into its MS4; to prohibit the dumping and disposal of materials into its MS4; and to assess fines, penalties or cost recoupment for violations.

The schedule for establishment of these legal authorities is documented in the NPDES Permit. On March 20, 2015, a final MS4 Ordinance, Ordinance 1153, adding Chapter 201 to the City Charter, became effective. Draft changes to the Zoning Regulations have been prepared and are included in Appendix I of the SMP. These documents have been developed to establish the necessary legal authorities. The public must be provided adequate notice and an appropriate amount of time to participate in the establishment in this legal authority. It is the City's intention to establish these legal authorities as soon as possible.

To comply with the NPDES Permit, the City is required to have these revisions approved by the Zoning Board and formally incorporated into the Zoning Regulations. The Modifications to Sections 3 and 15 of the Zoning Regulations of the City of Stamford is underway and the modifications were sent out to referral to various agencies for comment in the spring of 2015.

The City has requested an extension for addressing the change in zoning regulations. The proposed changes will require more staff from the Engineering Department and the Environmental Protection Board and additional time is required to implement the changes.

Several citations and written and verbal warnings were issued during this Reporting Period as part of the implementation of the City's new stormwater ordinance. The citations and warnings are listed below:

4.6.1 Citations

Citations Issued:	1
Date:	7/21/2015
Violation:	Discharge of Anti-freeze into catch basin located at 36 Hanover St.
Abatement:	Tradebe Dispatched to removed Anti-freeze
Note:	Cost of abatement forwarded to the person cited

4.6.2 Written Warnings

Written Warnings Issued: 2

Notes: First written warning was issued to local construction company observed dewatering construction waters into catch basin in parking lot at West Beach. The second written warning was issued to a high-rise apartment building when it was observed that a loading dock was being washed out w/ pressure washer and commercial cleaners; soapy water was observed leaving the property and entering a nearby city maintained catch basin.

4.6.3 Verbal Warnings

Verbal Warnings Issued: 7

Notes: Verbal warnings issued for outdoor car washing, dumping mop water outside, careless disposal of grease and rendered fats, blowing leaves / grass clippings into street, washing out trash bins in roadway

The City has started submitting notifications of intent to conduct stormwater monitoring and sampling at privately-owned outfalls throughout the City. A sample letter is provided in ***Appendix W***.

5.0 SUMMARY OF PROPOSED SMP MODIFICATIONS

The SMP was updated and submitted to the DEEP on September 2, 2014. No modifications to the submitted SMP are proposed at this time.

6.0 PROGRAM RESOURCES ANALYSIS

6.1 Fiscal Analysis

During this Reporting Period of the current NPDES Permit, the City continued to make efforts to secure budget, staffing, and resources necessary to develop and implement the SMP, to comply with the NPDES Permit requirements, and to improve the overall quality of stormwater discharging from its MS4. The City is committed to identifying these details and adequately funding them to achieve compliance with the NPDES Permit as soon as possible.

Some line items in the City's Capital and Operating Budgets are obviously related to MS4 stormwater compliance, such as the "Environmental Compliance" and "Stormwater Management". However, there are other line items for infrastructure and other public improvement projects (drainage, catch basin, storm lines, etc.), special projects, and operating expenses that will result in direct improvements to stormwater runoff quality and the quality of discharge from the City's MS4. For example, the closure of the old Scofieldtown Road Landfill is being performed for specific reasons, but should have the added benefit of improving stormwater quality in these areas of the City.

There are also budget line items for vehicle, equipment, and information technology upgrades throughout the City which include Departments with responsibility for stormwater quality improvements and implementation of the SMP.

The Traffic and Road Maintenance Division has a total operating budget of $7,198,218for 2016-2017, including $1,301,298 specifically for MS4 stormwater management, $264,580 for leaf collection, $886,338 for snow removal, and $4,697,172 for traffic and road maintenance, including street sweeping, pothole repairs, debris removal and infrastructure improvements. This Traffic and Road Maintenance Division budget represents a 3% decrease compared to the budget for 2015 - 2016.

In addition, other Departments, such as Engineering (catch basin and manhole improvements and replacement program), Land Use (environmental reviews), Solid Waste (motor oil recycling and HHW events), SWPCA (stormwater pump operation), and Administration provide services through their capital and operating budgets.

The City's Annual Capital and Operating Budgets for 2016-2017 are available on the City's website at http://www.stamfordct.gov/.

It is anticipated that additional funding will be required for the following monitoring activities:

- Wet weather sampling of each identified MS4 outfall
- IDDE screening and investigations

An increase in funding associated with additional staffing discussed in the next section of this Annual Report, will also be required in coming fiscal years.

6.2 Staff and Resources

The City transferred responsibility for many of the stormwater management tasks and MS4 permit compliance from the SWPCA to the Traffic and Road Maintenance Department with the issuance of the NPDES Permit in June 2013. While evaluating the permit requirements, the Traffic and Road Maintenance Supervisor and Pollution Prevention Team Coordinator, Thomas Turk, began to assess the staff and resources necessary to achieve and maintain compliance. Since Traffic and Road Maintenance Department took over responsibilities for implementing the MS4 permit, several new staff members have been hired, including:

- Four heavy equipment operators to complete field work including catch basin identification, investigation, cleaning, and maintenance. These operators are also responsible for assisting with sweeping, snow removal, leaf pickup and other activities designed to improve the quality of stormwater runoff.
- One laborer to assist the equipment operators, as needed.

Over the course of the Reporting Period, the Stormwater Department assessed these new staffing levels as the SMP was being implemented and additional schedules and goals are continuously being generated to meet the demands of the City's MS4.

In addition to these individuals, the Traffic and Road Maintenance Division maintains a work force of skilled operators, laborers, administrative, support, and management personnel that provide many of the direct services outlined in this report, such as: catch basin maintenance, roadway sweeping, leaf pickup, snow removal, and infrastructure improvements and maintenance. They are also available to assist on other stormwater management projects, as directed.

Several other City Departments provide personnel to support compliance with the NPDES Permit and implementation of the SMP, including Engineering, Land Use, Planning, Zoning, Environmental Protection, Information Technology (GIS), SWPCA, Solid Waste, Recreation and Leisure Services, Parks, Parking & Transportation, Fleet Maintenance, Legal, and the Fire Department.

During the next year of implementation of the SMP and the new municipal stormwater ordinance and the changes to the Zoning Regulations, City Departments will be better able to assess the adequacies of their staffing levels with the added MS4 permit compliance requirements. As discussed during the compliance audit conducted by the EPA (see ***Section 2.3.1***) and the City's own assessments, it is anticipated that additional staffing may be necessary in the following areas:

- Information Technology – There is a substantial amount of stormwater mapping and information management to be set up and managed, particularly during the first several years of the permit. The City needs to finalize the outfall identification mapping, and confirmation process and begin the DCIA analysis.
- Engineering and Land Use Offices – Additional staff is required to perform technical review of land use permits due to volume and complexity of work. Performing site inspections before permit issuance, during construction, and prior to Certificate of Occupancy are a critical component for compliance.

- Stormwater Management Department – Additional staff is required (Heavy Equipment Operators) to operate vacuum trucks, the camera truck, and equipment to maintain storm drainage piping. The addition of an Office Support Specialist (OSS) is required in the Stormwater Management Department to assist with data collection, record keeping, and correspondence requirements. New types of data are being generated in the field and it must be properly managed so that it can be put into effective use.

Once the revised Zoning Regulations have been enacted, there will be a need for additional construction site inspections, retention and detention basin inspections and maintenance, stormwater infrastructure (swales, ditches, storm drain lines, etc.) inspections and maintenance, post-construction inspections and maintenance, and illicit discharge detection and elimination program implementation. Additional staffing will be necessary to complete these tasks; the City's ability to complete these activities in the past has been hampered due to limited staff resources.

The City has procured new equipment to assist in the implementation of the MS4 Permit and its SMP. Two hydraulic cranes were procured by the Traffic and Road Maintenance Division during the Reporting Period to facilitate catch basin inspection, maintenance and cleaning operations and roadway maintenance operations.

As mentioned in ***Section 4.3.5.7***, the City recently started implementing a software tracking program using field tablets for tracking catch basin inspection, cleaning and repair progress. The MS4 Front software was brought on-line in October 2014.

Additional software and equipment needs will be assessed during the coming year and requested in the City's next fiscal year budget.

APPENDIX A

DEFINITIONS

DEFINITIONS

"BMPs" or "Best Management Practices" means either structural or engineered control devices and systems (e.g. retention ponds) to treat polluted stormwater, as well as operational or procedural practices (e.g. minimizing use of chemical fertilizers and pesticides).

"Commissioner" means the commissioner as defined by section 22a-2(b) of the Connecticut General Statutes.

"CTDEEP" or "DEEP" means the Connecticut Department of Energy and Environmental Protection, whose mission is to conserve, improve and protect the air, water and other natural resources and environment of the State of Connecticut while fostering sustainable development.

"DCIA" or "Directly Connected Impervious Area" means that part of the total impervious area that is hydraulically connected to the City of Stamford's MS4. DCIA typically includes streets, sidewalks, driveways, parking lots, and roof tops. DCIA typically does not include isolated impervious areas that are not hydraulically connected to the MS4 or otherwise drain to a pervious area.

"EPA" means the United States Environmental Protection Agency, whose mission is to protect human health and the environment.

"EPB" means the City of Stamford's Environmental Protection Board.

"GIS" or "Geographic Information System" is a system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.

"HHW" or "Household Hazardous Waste" means post-consumer waste which qualifies as hazardous waste when discarded. It includes household chemicals and other substances for which the owner no longer has a use, such as consumer products sold for home care, personal care, automotive care, pest control and other purposes.

"IDDE" or "Illicit Discharge Detection and Elimination" means a program to detect and eliminate existing illicit discharges and to prevent future illicit discharges.

"IDDP" or "Illicit Discharge Detection Protocol" means a protocol established to identify, prioritize and investigate separate storm sewer catchments for suspected illicit discharges of pollutants.

"Illicit Discharge" means any discharge to the MS4 that is not composed entirely of stormwater, with the exception of discharges authorized by another NPDES Permit, or discharges described in the "Non-Stormwater Discharges" section (Section 4(A)(3)) of the permit.

"Impaired Waters" means those surface waters of the state designated by the Commissioner as impaired pursuant to Section 303(d) of the Clean Water Act and as identified in the most recent State of Connecticut Integrated Water Quality Report.

"LID" or "Low Impact Development" means land planning and engineering design approach to manage stormwater runoff. LID emphasizes conservation and use of on-site natural features to protect water quality.

"MS4"' or "Municipal Separate Storm Sewer System" means a conveyance, or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains, which is or are (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 sewer districts, flood control districts or drainage districts, or similar districts, 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 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 POTW.

"NOV" or "Notice of Violation" means a notice provided by the CTDEEP informing the permittee that a violation of law has occurred.

"NPDES Permit" or "National Pollutant Discharge Elimination System Permit" means the program authorized by the Clean Water Act which controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

"Outfall" means the discharge point of a waste stream into a body of water.

"PHFs" means pesticides, herbicides and fertilizers.

"Point Source" means any discernible, confined and discrete conveyance (including, but not limited to any pipe, ditch, channel, tunnel, conduit, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft) from which pollutants are or may be discharged.

"POTW" or *"Publicly Owned Treatment Works"* means sewage treatment plants.

"Reporting Period" refers to the period of time that the Annual Report is based on. In this report it pertains to July 1, 2015 through June 30, 2016.

"SMP" or "Stormwater Management Plan" sets forth a program to provide for the implementation of specific control measures, stormwater monitoring, illicit discharge detection and elimination, and other appropriate means to control the quality of the authorized discharge.

"SPRP", "SP&R Plan" or "Spill Prevention and Response Plan" means a plan to prevent, contain and respond to spills entering the MS4.

"Stormwater" means waters consisting of rainfall runoff, including snow or ice melt during a rain event, and drainage of such runoff.

"SWPCA" or "Stamford Water Pollution Control Authority" controls the City of Stamford Water Pollution Control Facility, which processes wastewater from the City and the neighboring Town of Darien, and discharges clean water into the East Branch of Stamford Harbor.

APPENDIX B

PROPOSED MODIFICATIONS TO THE MS4 PERMIT

DAVID R. MARTIN
MAYOR
CITY OF STAMFORD, CONNECTICUT

TEL: 203 977 4150
FAX: 203 977 5845
E-MAIL: DMARTIN@STAMFORDCT.GOV

January 4, 2016

Christopher O. Stone, P.E.
Bureau of Materials Management and Compliance Assurance
Connecticut Department of Energy and Environmental Protection
79 Elm St.
Hartford, CT 06106-5127

Mr. Stone,

RE: Proposed Modifications to City of Stamford MS4 Stormwater Permit #CT0030279

Pursuant to the regulations of Connecticut State Agencies, Section 22a-430-4, the City of Stamford respectfully requests to modify its existing stormwater permit (#CT0030279) issued by the Connecticut Department of Energy and Environmental Protection on June 4, 2013. Please accept this cover letter, along with the exhibits listed below, and the enclosed submittal fee of $3275.00, as a formal request by the City (Permittee) to begin the modification process. Please advise City staff regarding the next steps of the permit modification process, including any public comment period, hearings, and any additional documentation required by your office.

Sections of #CT0030279 requested to be modified:

Exhibit 1: Section 4(A)(3) – Authorization of additional non-stormwater discharges
Exhibit 2: Section 6(A)(3)(a)(i) – Land Disturbance and Development – Legal Authority
Exhibit 3: Section 6(A)(3)(a)(iii) – Low Impact Development ("LID") Measures
Exhibit 4: Section 6(A)(3)(a)(iv) - Stormwater Management Implementation
Exhibit 5: Section 6(A)(5)(d)(i) - Sweeping
Exhibit 6: Section 6(A)(5)(d)(ii) - Sweeping
Exhibit 7: Section 6(A)(5)(g)(i) – Catch Basin Cleaning Tributary to Impaired Waterway
Exhibit 8: Section 6(A)(5)(j) – Infrastructure Retrofit
Exhibit 9: Section 6(B)(4)(b) – SMP Mapping
Exhibit 10: Section 6(D)(4)(c) – IDDP Mapping
Exhibit 11: Section 7(D)(1) – In-Stream Dry and Wet Weather Monitoring – Location
Exhibit 12: Section 7(D)(2) – In-Stream Dry and Wet Weather Monitoring – Frequency
Exhibit 13: Section 7(E)(1-4) – Wet Weather Outfall Monitoring
Exhibit 14: Section 7(G) – Implementation Schedule
Exhibit 15: Permit Modification Clean Copy

Sincerely,

David R. Martin, Mayor

Cc: Ernie Orgera - Director of Operations, Burt Rosenberg - Asst. Corporation Counsel, Thomas Turk – TR&M Supervisor, Tyler Theder - Regulatory Compliance and Administrative Officer

Exhibit 1:

Section 4(A)(3) – Authorization of additional non-stormwater discharges

Add the following bullet point in this section:

- Discharges or flows from firefighting activities.

Exhibit 2:

Section 6(A)(3)(a)(i) – Land Disturbance and Development – Legal Authority

Original Text:

The Permittee shall, within eighteen months from the start of the Permittee's first fiscal year that begins after the effective date of this permit, ensure legal authority to:

Proposed Text Change:

The Permittee shall, on or before December 3, 2017, ~~within eighteen months from the start of the Permittee's first fiscal year that begins after the effective date of this permit,~~ ensure legal authority to:

Exhibit 3:

Section 6(A)(3)(a)(iii) – Low Impact Development ("LID") Measures

Original Text:

The Permittee shall incorporate the use of runoff reduction and low impact development ("LID") practices into their land use regulations to meet a goal of maintaining post-development runoff conditions similar to pre-development runoff conditions. These regulations shall require the following, at a minimum, of applicants for land development and redevelopment:

Proposed Text Change:

The Permittee shall, on or before December 3, 2017, incorporate the use of runoff reduction and low impact development ("LID") practices into their land use regulations to meet a goal of maintaining post-development runoff conditions similar to pre-development runoff conditions. These regulations shall require the following, at a minimum, of applicants for land development and redevelopment:

Notes:

Section 6(A)(3)(a) states:

"Upon issuance of this permit, ***unless otherwise noted***, the Permittee shall implement and enforce a program to control stormwater discharges to its MS4 associated with land disturbance or development (including re-development) activities from areas with one half acre or more of soil disturbance, whether considered individually or collectively as part of a larger common plan".

No changes are proposed to the paragraph under 6(A)(3)(a). Rather, the City of Stamford is proposing to insert an additional deadline of 12/3/2017 in 6(A)(3)(a)(iii), which is covered by the ***"unless otherwise noted"*** clause.

Exhibit 4:

Section 6(A)(3)(a)(iv) – Stormwater Management Implementation

Original Text:

Within three (3) years from the start of the Permittee's first fiscal year that begins after the effective date of this permit, the Permittee shall implement, upgrade (if necessary) and enforce a program that shall address construction and post construction stormwater discharges from land disturbance activities (construction phase) and after site stabilization has been achieved (post construction or operational phase). At a minimum, the City's land use regulations shall be consistent with the Connecticut Guidelines for Soil Erosion and Sedimentation Control (as amended) for construction activities and the Connecticut Stormwater Quality Manual (as amended) for post-construction stormwater management.

Proposed Text Change:

On or before December 3, 2017, ~~Within three (3) years from the start of the Permittee's first fiscal year that begins after the effective date of this permit,~~ the Permittee shall implement, upgrade (if necessary) and enforce a program that shall address construction and post construction stormwater discharges from land disturbance activities (construction phase) and after site stabilization has been achieved (post construction or operational phase). At a minimum, the City's land use regulations shall be consistent with the Connecticut Guidelines for Soil Erosion and Sedimentation Control (as amended) for construction activities and the Connecticut Stormwater Quality Manual (as amended) for post-construction stormwater management.

Exhibit 5:

Section 6(A)(5)(d)(i) - Sweeping

Original Text:

The Permittee shall conduct a street sweeping program to remove sand, sediment and debris from: main lines and arteries on a minimum frequency of weekly and monthly, respectively, except during winter months (December 1 – March 1); event gathering areas prior to the event and no later than 48 hours after the end of the event or within 24 hours if rain is forecast; main roads in business and commercial areas daily; city-wide residential sweeping at least quarterly, and all other streets at least twice annually. As a goal, the Permittee shall compress its spring residential sweeping schedule to maximize the quantity of material collected at the end of the winter season, but in no case later than June 30. The Permittee shall conduct street sweeping in a manner to minimize the amount of excess runoff of street sweeping water. The Permittee shall document results of its sweeping program including, at a minimum: curb miles swept, dates of cleaning, cubic yards of material collected, and method(s) of reuse or disposal.

Proposed Text Change:

The Permittee shall implement a street sweeping program to remove sand, sediment, and debris from all permittee-owned or maintained streets and parking lots. All Permittee-owned streets and parking lots shall be inspected, swept and/or cleaned with a minimum frequency of once per year in the spring following the cessation of winter maintenance activities (i.e. sanding, deicing, etc.). As a goal, the Permittee shall compress its spring residential sweeping schedule to maximize the quantity of material collected at the end of the winter season, but in no case later than June 30. In the case of special events sponsored in whole or in part by the Permittee(concerts, parades, etc.), the gathering area shall be swept prior to the event and again upon conclusion of the event and in no case later than 24 hours after the end of the event. The event gathering area shall be defined as the path of parade route, boundaries of the concert event area within Permittee-owned park and adjacent roadways, and other geographic boundaries (streets, etc.) as deemed reasonable and appropriate by the Permittee. The street sweeping program shall also include regular roadway surface inspections by the Permittee and cleaning and/or sweeping of targeted areas as determined by the

Permittee to have increased pollutant potential based on the presence of active construction activity or other potential pollutant sources. The permittee shall identify such potential pollutant sources based upon surface inspections, catch basin cleaning or inspection results, land use, winter road deicing and/or sand application, impaired or TMDL waters or other relevant factors as determined by the permittee. Additionally, the permittee shall conduct a visual assessment in the fall, each year until the conclusion of the permit term, to assess and identify areas to receive targeted sweeping. If wet dust suppression is conducted, the use of water should be minimized such that a discharge of excess water to surface waters and/ or the storm sewer system does not occur.

Exhibit 6:

Section 6(A)(5)(d)(ii) - Sweeping

Original Text:

The Permittee shall sweep all publicly owned parking lots at least monthly.

Proposed Text Change:

The Permittee ~~publicly~~ owned or operated parking lots at least ~~monthly~~ quarterly~~.~~

Exhibit 7:

Section 6(A)(5)(g)(i) – Catch Basin Cleaning Tributary to Impaired Waterway

Original Text:

For the first four years of this permit, those catch basins serving catchment areas tributary to a receiving water identified as impaired shall be inspected and cleaned, if necessary, at a minimum frequency of once a year in order to establish a cleaning frequency determined such that no sump shall become more than fifty percent (50%) full. Once this frequency has been determined, it shall be included in the SMP and noted in the Permittee's Annual Reports.

Proposed Text Change:

~~For the first four years of this permit,~~ On or before December 3, 2017, those catch basins serving catchment areas tributary to a receiving water identified as impaired shall be inspected and cleaned, if necessary, ~~at a minimum frequency of once a year~~ in order to establish a routine frequency cleaning schedule to ensure that no catch basin sump ~~cleaning frequency determined such that no sump shall~~ will be ~~become~~ more than fifty percent (50%) full. Once this frequency has been determined, it shall be included in the SMP and noted in the Permittee's Annual Reports.

Exhibit 8:

Section 6(A)(5)(j) – Infrastructure Retrofit

Original Text:

None – this is a newly added section to #CT0030279.

(j) Infrastructure Retrofit Program

The goal of the retrofit program is to "disconnect" existing Directly Connected Impervious Areas (DCIA). An area of DCIA is considered disconnected when the appropriate portion of the Water Quality Volume has been retained in accordance with the requirements of Section 6(A)(3)(a)(iii) of this Permit. This may be accomplished through retrofits or redevelopment projects (public or private) that utilize Low Impact

Development (LID) and runoff reduction measures or any other means by which stormwater is infiltrated into the ground or reused for other purposes without a surface or storm sewer discharge. A redevelopment project, as that term is used here and in Section 6(A)(3)(a)(iii), is one that modifies an existing developed site for the purpose of enhancing, expanding or otherwise modifying its function or purpose. A retrofit project is one that modifies an existing developed site for the primary purpose of disconnecting DCIA. The DCIA calculation performed pursuant to Section 6(A)(3)(a)(viii) shall serve as the baseline for the retrofit program required in this section.

(i) DCIA Disconnection Tracking

Beginning on the effective date of this Permit as modified, the Permittee shall track, on an annual basis, the total acreage of DCIA that is disconnected as a result of redevelopment or retrofit projects within the MS4. Tracking the disconnection of DCIA means documenting within a given redevelopment or retrofit project, the amount of existing DCIA that is modified such that it is disconnected. This tracking may include disconnections of DCIA from redevelopment or retrofit projects implemented as early as five (5) years prior to the effective date of this Permit. Any redevelopment or retrofit of an existing developed site, whether public (municipal, state or federal) or private (residential, commercial or industrial) shall be included in this tracking.

Tracking the disconnection of DCIA does not apply for sites that were previously undeveloped as there were no existing impervious surfaces on those sites. The total amount of DCIA that has been disconnected during a given year shall be reported in that year's Annual Report.

(ii) Retrofit Planning

On or before July 1, 2017, the Permittee shall develop a plan to implement retrofit projects to meet the goals of this section. The Permittee shall identify and prioritize sites that may be suitable for retrofit. Considerations for prioritizing retrofit projects may include outfall catchment areas that discharge to impaired waters, areas within the Urbanized Area of the MS4 or catchment areas with greater than eleven percent (11%) impervious cover. The Permittee shall select from the list of prioritized projects those that it will implement to meet the goals in subparagraph (iii) below. In the Annual Report covering the 7/1/2016 – 6/30/2017 period, the Permittee shall report on its identification and prioritization process, the selection of the projects to be implemented, the rationale for the selection of those projects, and the total DCIA to be disconnected upon implementation of the projects.

(iii) Retrofit Schedule

By the end of this Permit term, the Permittee shall commence the implementation of the retrofit projects identified in subparagraph (ii), above, with a goal of disconnecting one percent (1%) of the Permittee's DCIA beginning on 7/1/2017 through the end of the Permit term, to the maximum extent practicable. The one percent (1%) goal may be achieved by compiling the total disconnected DCIA tracked pursuant to subparagraph (i), above, or the retrofit planning projects designated in subparagraph (ii), above, or a combination of the two.

If the one percent (1%) goal will not be met, the Permittee shall include in the Annual Report a discussion of what percentage of DCIA will actually be disconnected and why the remainder of the one percent (1%) goal could not be achieved based on the maximum extent practicable defined in Section 2(B). The Permittee shall also

provide in the Annual Report, covering the period beginning 7/1/17 and extending through the end of the Permit term, a plan for continuation of the retrofit program.

Exhibit 9:

Section 6(B)(4)(b) – SMP Mapping

Original Text:

Through a geographic information system or other methods, within two years of the effective date of this permit the Permittee shall provide a general city-wide map with enough detail to identify the location of stormwater outfalls, the location of all sampling points pursuant to the Monitoring and Analyses section (Section 7), City-owned roadways, the location of city designated business, commercial, and special event areas, all receiving waters where Stamford MS4 discharges occur, and the watersheds of these receiving waters. The Permittee shall also comply with any mapping requirements pursuant the Illicit Discharge Detection and Elimination (IDDE) Program section (Section 6(D)(4)(c)). The Permittee may include any other mapping such as zoning, economic development, impervious cover, drainage areas, stormwater treatment facilities or other criteria that serve to clarify elements of the SMP or verify compliance with the permit. Where additional mapping is provided, the Permittee shall include a description of its purpose.

Proposed Text Change:

Through a geographic information system or other methods, ~~within two years of the effective date of this permit~~ on or before December 3, 2017, the Permittee shall provide a general city-wide map with enough detail to identify the location of stormwater outfalls, the location of all sampling points pursuant to the Monitoring and Analyses section (Section 7), City-owned roadways, the location of city designated business, commercial, and special event areas, all receiving waters where Stamford MS4 discharges occur, and the watersheds of these receiving waters. The Permittee shall also comply with any mapping requirements pursuant the Illicit Discharge Detection and Elimination (IDDE) Program section (Section 6(D)(4)(c)). The Permittee may include any other mapping such as zoning, economic development, impervious cover, drainage areas, stormwater treatment facilities or other criteria that serve to clarify elements of the SMP or verify compliance with the permit. Where additional mapping is provided, the Permittee shall include a description of its purpose.

Exhibit 10:

Section 6(D)(4)(c) – IDDP Mapping

Original Text:

Through a geographic information system or other methods, the Permittee shall, within three years of the effective date of this permit, prepare mapping to facilitate implementation of IDDP. Mapping shall provide a comprehensive depiction of key infrastructure and factors influencing proper system operation and the potential for illicit discharges. Mapping themes shall include: key storm sewer infrastructure, investigation and study findings, monitoring data, cleaning and repair activities, capital projects, and water resource and topographic features. The required number, scale and detail of the maps shall be appropriate to facilitate a rapid understanding of the system by the Permittee and the commissioner. In addition, the mapping shall serve as a planning tool for the implementation and phasing of the IDDP, a demonstration of the extent of complete and planned investigations and corrections, and other related capital projects. Mapping shall proceed at a rate that will not impede implementation of the IDDP. To ensure legible mapping, information shall be grouped appropriately and represented thematically (e.g. by color) with legends or schedules where possible. Mapping shall be updated as necessary to reflect new information, corrections or

modifications, and progress made. The following information and features, where currently available, shall be included in the mapping:

Proposed Text Change:

Through a geographic information system or other methods, the Permittee shall, ~~within three years of the effective date of this permit~~ by December 3, 2017, prepare mapping to facilitate implementation of IDDP. Mapping shall provide a comprehensive depiction of key infrastructure and factors influencing proper system operation and the potential for illicit discharges. Mapping themes shall include: key storm sewer infrastructure, investigation and study findings, monitoring data, cleaning and repair activities, capital projects, and water resource and topographic features. The required number, scale and detail of the maps shall be appropriate to facilitate a rapid understanding of the system by the Permittee and the commissioner. In addition, the mapping shall serve as a planning tool for the implementation and phasing of the IDDP, a demonstration of the extent of complete and planned investigations and corrections, and other related capital projects. Mapping shall proceed at a rate that will not impede implementation of the IDDP. To ensure legible mapping, information shall be grouped appropriately and represented thematically (e.g. by color) with legends or schedules where possible. Mapping shall be updated as necessary to reflect new information, corrections or modifications, and progress made. The following information and features, where currently available, shall be included in the mapping:

Exhibit 11:

Section 7(D)(1) – In-Stream Dry and Wet Weather Monitoring of Receiving Water Quality - Location

Original Text:

In-Stream dry and wet weather monitoring shall be conducted at a minimum total of ten (10) stream locations consisting of one location in the Mianus River (7407), East Mianus River (7406), Mill River (7404), and Noroton River (7403) watersheds, three locations in the Rippowam River (7405) watershed and three (3) among the Long Island Sound coastal watersheds. Specific monitoring locations shall be established by the Permittee through consideration of monitoring stations utilized by Permittee during the 2005-2010 MS4 permit term and collaboration with DEEP, and representative watershed groups such as the Mill River Collaborative. A list of these monitoring stations and a paragraph of text on why each was chosen shall be submitted within three (3) months of the issuance of this permit for approval by the commissioner. These stations, or any alternate stations approved by the commissioner, shall be included in the Permittees Stormwater Management Plan.

Proposed Text Change (Omit All):

~~In-Stream dry and wet weather monitoring shall be conducted at a minimum total of ten (10) stream locations consisting of one location in the Mianus River (7407), East Mianus River (7406), Mill River (7404), and Noroton River (7403) watersheds, three locations in the Rippowam River (7405) watershed and three (3) among the Long Island Sound coastal watersheds. Specific monitoring locations shall be established by the Permittee through consideration of monitoring stations utilized by Permittee during the 2005-2010 MS4 permit term and collaboration with DEEP, and representative watershed groups such as the Mill River Collaborative. A list of these monitoring stations and a paragraph of text on why each was chosen shall be submitted within three (3) months of the issuance of this permit for approval by the commissioner. These stations, or any alternate stations approved by the commissioner, shall be included in the Permittees Stormwater Management Plan.~~

Rationale: The In-Stream Dry and Wet Weather monitoring requirement was deleted from the Draft General Permit for Small MS4's by DEEP. It is the position of the Permittee that equity demands that this provision be removed from CT0030279.

Exhibit 12:

Section 7(D)(2) – In-Stream Dry and Wet Weather Monitoring of Receiving Water Quality – Frequency

Original Text:

The Permittee shall perform annual in-stream monitoring in a total of four rounds, performed once in the summer during dry weather conditions, and once each in the spring, summer, and fall during wet weather conditions. For the purposes of this permit, spring shall be March 1 to May 31, summer shall be June 1 to August 30, and fall shall be September 1 to November 30.

(a) Aquatic Toxicity

Wet weather monitoring for aquatic toxicity shall be conducted once annually during the summer. Samples for aquatic toxicity may be taken at the same time as the summer round of wet weather sampling for chemical criteria. No dry weather monitoring is required for aquatic toxicity.

Proposed Text Change (Omit All):

~~The Permittee shall perform annual in-stream monitoring in a total of four rounds, performed once in the summer during dry weather conditions, and once each in the spring, summer, and fall during wet weather conditions. For the purposes of this permit, spring shall be March 1 to May 31, summer shall be June 1 to August 30, and fall shall be September 1 to November 30.~~

~~(b) Aquatic Toxicity~~

~~Wet weather monitoring for aquatic toxicity shall be conducted once annually during the summer. Samples for aquatic toxicity may be taken at the same time as the summer round of wet weather sampling for chemical criteria. No dry weather monitoring is required for aquatic toxicity.~~

Rationale: With the deletion of Exhibit 11 (Location of In-Stream Dry and Wet Weather Monitoring), Exhibit 12 (Frequency of In-Stream Dry and Wet Weather Monitoring) is superfluous.

Exhibit 13:

Section 7(E)(1) – Wet Weather Outfall Monitoring

Original Text:

The Permittee shall perform stormwater monitoring at each of its MS4 outfalls delineated in the Stormwater Monitoring Plan a minimum of twice during the permit term. The first round of outfall monitoring shall be completed within the first two (2) years after the effective date of this permit. The second round of outfall monitoring shall be completed within the final two (2) years prior to the expiration of this permit.

Proposed Text Change:

The Permittee shall screen outfalls as described in the Illicit Discharge, Detection, and Elimination (IDDE) Program section (Section 6(D)) – Dry Weather Screening. When half (50%) of MS4 outfalls delineated in the SMP have been dry-weather screened, the Permittee shall prioritize and select a minimum of ten (10) outfalls to receive wet

weather monitoring. Wet weather outfall monitoring shall be conducted at the ten (10) selected outfalls two (2) times before the end of the Permit term.~~perform stormwater monitoring at each of its MS4 outfalls delineated in the Stormwater Monitoring Plan a minimum of twice during the permit term. The first round of outfall monitoring shall be completed within the first two (2) years after the effective date of this permit. The second round of outfall monitoring shall be completed within the final two (2) years prior to the expiration of this permit.~~

Exhibit 14:

Section 7(G) – Implementation Schedule

Original Text:

	Year 1	Year 2	Year 3	Year 4	Year 5
1. **In-stream Dry & Wet Weather Monitoring**	One dry and three wet weather composite samples collected annually from each of ten (10) stations located as follows: one each location in the Mianus (7407), East Mianus (7406), Mill (7404), and Noroton (7403) watersheds, three locations in the Rippowam (7405) watershed, and three (3) among the Long Island Sound coastal watersheds.				
2. **Wet Weather Outfall Monitoring**	Two rounds of single grab samples at all outfalls during permit term analyzed for a suite of water quality parameters; completed once during the first two years of the permit term and once during the final two years of the permit term. Include monitoring for pollutant(s) of concern in direct discharges into impaired waters (with or without an approved TMDL).				
3. **Dry Weather Outfall Prioritization Screening (Pre-IDDP)**	Screen new or previously unknown outfalls as needed.				
	Complete Screening of 25% of known MS4 Outfalls	Complete Screening of 50% of known MS4 Outfalls	Complete Screening of 75% of known MS4 Outfalls	Complete Screening of 100% of known MS4 Outfalls	
4. **Implementation of IDDP**		Complete IDDP in 5% of MS4	Complete IDDP in additional 5% of MS4 (total 10%)	Complete IDDP in additional 5% of MS4 (total 15%)	Complete IDDP in additional 5% of MS4 (total 20%)
5. **Dry Weather Outfall Verification Screening (Post-IDDP)**	Dry weather screening for IDDP verification as needed.				

Proposed Text Change:

	Year 1	Year 2	Year 3	Year 4	Year 5
~~1.In-stream Dry & Wet Weather Monitoring~~	~~One dry and three wet weather composite samples collected annually from each of ten (10) stations located as follows: one each location in the Mianus (7407), East Mianus (7406), Mill (7404), and Noroton (7403) watersheds, three locations in the Rippowam (7405) watershed, and three (3) among the Long Island Sound coastal watersheds.~~				
~~1~~2.Wet Weather Outfall Monitoring	~~Two rounds of single grab samples at all outfalls during permit term analyzed for a suite of water quality parameters; completed once during the first two years of the permit term and once during the final two years of the permit term. Include monitoring for pollutant(s) of concern in direct discharges into impaired waters (with or without an approved TMDL).~~ One (1) single grab sample collected at ten (10) outfalls selected by the Permittee, two (2) times before the end of the Permit term. Samples shall be analyzed for a suite of water quality parameters. Include monitoring for pollutant(s) of concern in direct discharges into impaired waters (with or without an approved TMDL).				
~~2~~3.Dry Weather Outfall Prioritization Screening (Pre-IDDP)	Screen new or previously unknown outfalls as needed.				
	Complete Screening of 25% of known MS4 Outfalls	Complete Screening of 50% of known MS4 Outfalls	Complete Screening of 75% of known MS4 Outfalls	Complete Screening of 100% of known MS4 Outfalls	
~~3~~4.Implementation of IDDP		Complete IDDP in 5% of MS4	Complete IDDP in additional 5% of MS4 (total 10%)	Complete IDDP in additional 5% of MS4 (total 15%)	Complete IDDP in additional 5% of MS4 (total 20%)
~~4~~5.Dry Weather Outfall Verification Screening (Post-IDDP)	Dry weather screening for IDDP verification as needed.				

Exhibit 15: Permit Modification – Clean Copy

Section 4(A)(3) – Authorization of additional non-stormwater discharges

Add the following bullet point in this section:

- Discharges or flows from firefighting activities.

Section 6(A)(3)(a)(i) – Land Disturbance and Development – Legal Authority

The Permittee shall, on or before December 3, 2017, ensure legal authority to:

Section 6(A)(3)(a)(iii) – Low Impact Development ("LID") Measures

The Permittee shall, on or before December 3, 2017, incorporate the use of runoff reduction and low impact development ("LID") practices into their land use regulations to meet a goal of maintaining post-development runoff conditions similar to pre-development runoff conditions. These regulations shall require the following, at a minimum, of applicants for land development and redevelopment:

Section 6(A)(3)(a)(iv) – Stormwater Management Implementation

On or before December 3, 2017, the Permittee shall implement, upgrade (if necessary) and enforce a program that shall address construction and post construction stormwater discharges from land disturbance activities (construction phase) and after site stabilization has been achieved (post construction or operational phase). At a minimum, the City's land use regulations shall be consistent with the Connecticut Guidelines for Soil Erosion and Sedimentation Control (as amended) for construction activities and the Connecticut Stormwater Quality Manual (as amended) for post-construction stormwater management.

Section 6(A)(5)(d)(i) - Sweeping

The Permittee shall implement a street sweeping program to remove sand, sediment, and debris from all permittee-owned or maintained streets and parking lots. All Permittee-owned streets and parking lots shall be inspected, swept and/or cleaned with a minimum frequency of once per year in the spring following the cessation of winter maintenance activities (i.e. sanding, deicing, etc.). As a goal, the Permittee shall compress its spring residential sweeping schedule to maximize the quantity of material collected at the end of the winter season, but in no case later than June 30. In the case of special events sponsored in whole or in part by the Permittee(concerts, parades, etc.), the gathering area shall be swept prior to the event and again upon conclusion of the event and in no case later than 24 hours after the end of the event. The event gathering area shall be defined as the path of parade route, boundaries of the concert event area within Permittee-owned park and adjacent roadways, and other geographic boundaries (streets, etc.) as deemed reasonable and appropriate by the Permittee. The street sweeping program shall also include regular roadway surface inspections by the Permittee and cleaning and/or sweeping of targeted areas as determined by the Permittee to have increased pollutant potential based on the presence of active construction activity or other potential pollutant sources. The permittee shall identify

such potential pollutant sources based upon surface inspections, catch basin cleaning or inspection results, land use, winter road deicing and/or sand application, impaired or TMDL waters or other relevant factors as determined by the permittee. Additionally, the permittee shall conduct a visual assessment in the fall, each year until the conclusion of the permit term, to assess and identify areas to receive targeted sweeping. If wet dust suppression is conducted, the use of water should be minimized such that a discharge of excess water to surface waters and/ or the storm sewer system does not occur.

Section 6(A)(5)(d)(ii) - Sweeping

The Permittee shall sweep all Permittee-owned or operated parking lots at least quarterly.

Section 6(A)(5)(g)(i) – Catch Basin Cleaning Tributary to Impaired Waterway

On or before December 3, 2017, those catch basins serving catchment areas tributary to a receiving water identified as impaired shall be inspected and cleaned, if necessary, in order to establish a routine frequency cleaning schedule to ensure that no catch basin sump will be more than fifty percent (50%) full. Once this frequency has been determined, it shall be included in the SMP and noted in the Permittee's Annual Reports.

Section 6(A)(5)(j) – Infrastructure Retrofit

Original Text:
None – this is a newly added section to #CT0030279.

(j) Infrastructure Retrofit Program

The goal of the retrofit program is to "disconnect" existing Directly Connected Impervious Areas (DCIA). An area of DCIA is considered disconnected when the appropriate portion of the Water Quality Volume has been retained in accordance with the requirements of Section 6(A)(3)(a)(iii) of this Permit. This may be accomplished through retrofits or redevelopment projects (public or private) that utilize Low Impact Development (LID) and runoff reduction measures or any other means by which stormwater is infiltrated into the ground or reused for other purposes without a surface or storm sewer discharge. A redevelopment project, as that term is used here and in Section 6(A)(3)(a)(iii), is one that modifies an existing developed site for the purpose of enhancing, expanding or otherwise modifying its function or purpose. A retrofit project is one that modifies an existing developed site for the primary purpose of disconnecting DCIA. The DCIA calculation performed pursuant to Section 6(A)(3)(a)(viii) shall serve as the baseline for the retrofit program required in this section.

(i) DCIA Disconnection Tracking
Beginning on the effective date of this Permit as modified, the Permittee shall track, on an annual basis, the total acreage of DCIA that is disconnected as a result of redevelopment or retrofit projects within the MS4. Tracking the disconnection of DCIA means documenting within a given redevelopment or retrofit project, the

amount of existing DCIA that is modified such that it is disconnected. This tracking may include disconnections of DCIA from redevelopment or retrofit projects implemented as early as five (5) years prior to the effective date of this Permit. Any redevelopment or retrofit of an existing developed site, whether public (municipal, state or federal) or private (residential, commercial or industrial) shall be included in this tracking.

Tracking the disconnection of DCIA does not apply for sites that were previously undeveloped as there were no existing impervious surfaces on those sites. The total amount of DCIA that has been disconnected during a given year shall be reported in that year's Annual Report.

(ii) Retrofit Planning

On or before July 1, 2017, the Permittee shall develop a plan to implement retrofit projects to meet the goals of this section. The Permittee shall identify and prioritize sites that may be suitable for retrofit. Considerations for prioritizing retrofit projects may include outfall catchment areas that discharge to impaired waters, areas within the Urbanized Area of the MS4 or catchment areas with greater than eleven percent (11%) impervious cover. The Permittee shall select from the list of prioritized projects those that it will implement to meet the goals in subparagraph (iii) below. In the Annual Report covering the 7/1/2016 – 6/30/2017 period, the Permittee shall report on its identification and prioritization process, the selection of the projects to be implemented, the rationale for the selection of those projects, and the total DCIA to be disconnected upon implementation of the projects.

(iii) Retrofit Schedule

By the end of this Permit term, the Permittee shall commence the implementation of the retrofit projects identified in subparagraph (ii), above, with a goal of disconnecting one percent (1%) of the Permittee's DCIA beginning on 7/1/2017 through the end of the Permit term, to the maximum extent practicable. The one percent (1%) goal may be achieved by compiling the total disconnected DCIA tracked pursuant to subparagraph (i), above, or the retrofit planning projects designated in subparagraph (ii), above, or a combination of the two.

If the one percent (1%) goal will not be met, the Permittee shall include in the Annual Report a discussion of what percentage of DCIA will actually be disconnected and why the remainder of the one percent (1%) goal could not be achieved based on the maximum extent practicable defined in Section 2(B). The Permittee shall also provide in the Annual Report, covering the period beginning 7/1/17 and extending through the end of the Permit term, a plan for continuation of the retrofit program.

Section 6(B)(4)(b) – SMP Mapping

Through a geographic information system or other methods, on or before December 3, 2017, the Permittee shall provide a general city-wide map with enough detail to identify the location of stormwater outfalls, the location of all sampling points pursuant to the Monitoring and Analyses section (Section 7), City-owned roadways, the location of city designated business, commercial, and special event areas, all receiving waters where Stamford MS4 discharges occur, and the watersheds of these receiving waters. The

Permittee shall also comply with any mapping requirements pursuant the Illicit Discharge Detection and Elimination (IDDE) Program section (Section 6(D)(4)(c)). The Permittee may include any other mapping such as zoning, economic development, impervious cover, drainage areas, stormwater treatment facilities or other criteria that serve to clarify elements of the SMP or verify compliance with the permit. Where additional mapping is provided, the Permittee shall include a description of its purpose.

Section 6(D)(4)(c) – IDDP Mapping

Through a geographic information system or other methods, the Permittee shall, by December 3, 2017, prepare mapping to facilitate implementation of IDDP. Mapping shall provide a comprehensive depiction of key infrastructure and factors influencing proper system operation and the potential for illicit discharges. Mapping themes shall include: key storm sewer infrastructure, investigation and study findings, monitoring data, cleaning and repair activities, capital projects, and water resource and topographic features. The required number, scale and detail of the maps shall be appropriate to facilitate a rapid understanding of the system by the Permittee and the commissioner. In addition, the mapping shall serve as a planning tool for the implementation and phasing of the IDDP, a demonstration of the extent of complete and planned investigations and corrections, and other related capital projects. Mapping shall proceed at a rate that will not impede implementation of the IDDP. To ensure legible mapping, information shall be grouped appropriately and represented thematically (e.g. by color) with legends or schedules where possible. Mapping shall be updated as necessary to reflect new information, corrections or modifications, and progress made. The following information and features, where currently available, shall be included in the mapping:

Section 7(D)(1) – In-Stream Dry and Wet Weather Monitoring of Receiving Water Quality - Location

(Omit All):

Section 7(D)(2) – In-Stream Dry and Wet Weather Monitoring of Receiving Water Quality – Frequency

(Omit All)

Section 7(E)(1) – Wet Weather Outfall Monitoring

The Permittee shall screen outfalls as described in the Illicit Discharge, Detection, and Elimination (IDDE) Program section (Section 6(D)) – Dry Weather Screening. When half (50%) of MS4 outfalls delineated in the SMP have been dry-weather screened, the Permittee shall prioritize and select a minimum of ten (10) outfalls to receive wet weather monitoring. Wet weather outfall monitoring shall be conducted at the ten (10) selected outfalls two (2) times before the end of the Permit term.

Section 7(G) – Implementation Schedule

	Year 1	Year 2	Year 3	Year 4	Year 5
1.Wet Weather Outfall Monitoring	One (1) single grab sample collected at ten (10) outfalls selected by the Permittee, two (2) times before the end of the Permit term. Samples shall be analyzed for a suite of water quality parameters. Include monitoring for pollutant(s) of concern in direct discharges into impaired waters (with or without an approved TMDL).				
2.Dry Weather Outfall Prioritization Screening (Pre-IDDP)	Screen new or previously unknown outfalls as needed.				
	Complete Screening of 25% of known MS4 Outfalls	Complete Screening of 50% of known MS4 Outfalls	Complete Screening of 75% of known MS4 Outfalls	Complete Screening of 100% of known MS4 Outfalls	
3.Implementation of IDDP		Complete IDDP in 5% of MS4	Complete IDDP in additional 5% of MS4 (total 10%)	Complete IDDP in additional 5% of MS4 (total 15%)	Complete IDDP in additional 5% of MS4 (total 20%)
4.Dry Weather Outfall Verification Screening (Post-IDDP)	Dry weather screening for IDDP verification as needed.				

VOUCHER NO. 106078

CODE	PURCHASE ORDER	APP. YR.	INVOICE NUMBER	NET AMOUNT	DATE
01421163601	221335	116	CT0030279	3275.00	72515

THE BACK OF THIS CHECK CONTAINS A SECURITY MARK© - DO NOT ACCEPT WITHOUT HOLDING AT AN ANGLE TO VERIFY SECURITY MARK©

City of Stamford
Stamford, CT 06904-2152

CHECK NO. 106078

51-44
119

DATE
07 /24 / 15

EXACTLY
$ *****3,275******.00

Three Thousand Two Hundred Seventy Five Dollars and 00 Cents

PAY TO THE ORDER OF

STATE OF CT/DEPT OF ENVIRONMENTAL
PROTECTION
79 ELM STREET
HARTFORD CT 06106

BANK OF AMERICA
HARTFORD, CT

⑈106078⑈ ⑆011900445⑆ 002240197378⑈

APPENDIX C

STORMWATER MANAGEMENT PLAN SUMMARY TABLE

Annual SMP Summary Table

July 1, 2015 - June 30, 2016

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
1. Education				
1.1 City and Government				
1.1.1 Training	As needed	Complete	2	Training was conducted on 6/22/16 and 6/23/16 for Universal Waste Management, Spill Prevention Control and Countermeasures Plan, and Stormwater Pollution Prevention Plan training. Training on the CCTV truck was conducted on 6/1/15-6/4/15. Certificates of Completion are included in ***Appendix L*** . Additional MS4 stormwater training is scheduled to be performed before 12/1/2016. See ***Appendix M*** for a copy of the sign-in sheets for each training event.
1.2 Public				
1.2.1 Annual Information Meeting	Annually	Complete	1	2016 meeting was held on 7/26/2016.
1.2.2 Annual SMP Review and Comments	Annually	Complete	1	SMP was submitted to DEEP on 9/2/2014. SMP was reviewed during the course of implementation in 2014-2015 and no revisions are anticipated at this time.
1.2.3 HHW Collection	At least Annually	Complete	1	HHW Collection held on 7/19/2015 & 7/16/2016 at the Rippowam Middle School. Stamford citizens may also use HHW collection days in seven neighboring towns each year.
1.2.4 Pet Waste Control	As needed	On-Going	As needed	3,000 pamphlets were provided to the Town Clerk for distribution on June 24, 2016 and an additional 3,000 copies are in stock at the Traffic and Road Maintenance office for future distribution. Since 2013, the City has installed 60 dog waste dispensers and signs. Approximately $7,850 was spent on dog waste disposal bags during the Reporting Period and City staff have observed used bags disposed of in the trash containers throughout the areas with dispensers.
1.2.5 Distribution of Educational Information	As needed	Complete	On-going	The City developed a new stormwater management mailer/pamphlet to be sent out during the 2016–17 Reporting Period to provide a guide for regulatory compliance. 7,700 pamphlets were ordered in English and Spanish. 2,250 pamphlets are anticipated to be distributed through December 2016. A copy of the pamphlet is provided in ***Appendix E*** . Approximately 38,000 Stormwater Management fliers were distributed throughout the City with the December 2015 tax bills. The fliers were provided to each resident receiving a tax bill, which includes all registered automobile owners in the City. A copy of the flier is provided in ***Appendix G*** . The City has continued to maintain and update the stormwater section of the City's website.

Annual SMP Summary Table

July 1, 2015 - June 30, 2016

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
1.2.6 Catch Basin Medallions	As needed	In-Progress	-	Currently, approximately 2,200 medallions (1,100 in English and 1,100 in Spanish) have been installed on curb-backed catch basins throughout three areas targeted in the southern part of the City, and in parks, and downtown areas with the most pedestrian traffic.
2. Public Involvement				
2.1 Mill River Collaborative (MRC)	On-going	Complete	5,367 volunteer hours	Making improvements to the Mill River Park through joint efforts the MRC.
2.2 SoundWaters in Cove Park	On-going	On-Going	-	Over 25,000 students learn and explore with SoundWaters, through education and action, every year.
2.3 Educational Outreach	On-going	On-Going	1	An educational outreach program event was conducted at the Dolan Middle School for four classes on 5/20/16, including 156 students. The City is in the process of collaborating with other middle schools throughout the City to expand this outreach program.
2.4 Harbor Watch	On-Going	On-Going	-	Harbor Watch, a division of Earthplace, a not-for-profit organization, was retained by the City, to conduct the dry weather outfall sampling as part of the IDDE program.
3. Mapping				
3.1 Initial Outfall, Sampling, Roadway, Receiving Waters, Watersheds	On-going until all are identified	On-Going	-	Stormwater mapping is approximately 80% complete. The City is currently in the process of confirming the accuracy of the outfall locations. Several of the potential new outfalls were identified as duplicates and others were noted as inlets or discharges under state DOT control.
3.2 IDDE Mapping - Infrastructure, Findings, Data, Activities, Projects	On-going until all are identified	On-Going	-	The City continues to try to identify more specific criteria for the outfalls that will be required for monitoring as part of the IDDE program and the wet weather monitoring. A new Interconnected MS4 plan was prepared in June 2016.
3.3 Establish DC IA	25% of total area per year	On-Going	-	To be completed by 06/03/2017
4. Infrastructure Operations & Maintenance				
4.1 Infrastructure Repair & Rehab	On-going	On-going	As needed	A schedule for implementation of repairs is maintained by the Engineering Dept and updated as needed / as items are completed.
4.2 Roadway Maintenance	On-going	On-going	As needed	The City is dedicated to ensuring that routine road maintenance is conducted frequently and that roadside ditches are cleaned and inspected periodically to verify that flow is not being restricted. During the Reporting Period, the City repaved approximately 8 miles of roadway as part of its road maintenance program.

Annual SMP Summary Table

July 1, 2015 - June 30, 2016

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
4.3 Street Sweeping	On-going	On-going	9,086	During 2015-2016, the City swept over 9,086 miles of streets and collected over 1,470 tons of non-leaf materials.
4.4 Sidewalk Sweeping	See Appendix K of the SMP	On-going	-	Sidewalk sweeping occurs in the downtown area, as described in the SMP and is coordinated and paid for by the DSSD (downtown special services district). An estimated 23 tons of materials are removed on an annual basis. The DSSD also installed six cigarette butt disposal stations on lamp poles around the Columbus Park area and have since collected 5 pounds of cigarette butts.
4.5 Leaf Collection	At least Annually	Complete	3 Areas	Leaf collection was completed for 2015 by December 11 and approximately 12,400 tons of leaves and debris were collected.
4.6 Snow Removal	As needed	Complete	-	Snow removal completed as necessary for 2015 and 2016.
4.7 Catch Basin Cleaning	On-going	On-going	2,048	In 2015-2016, the City cleaned 2,048 of it's ~11,000 catch basins and removed approximately 3,057 tons of material.
4.8 City Owned Detention & Retention Pond Inspections	Annually	On-going	15	During this Reporting Period, 15 of the 77 basins identified were inspected.
4.9 Interconnected MS4s	On-going	On-going	-	The City has mapped out most of the interconnected MS4 areas during the development of the new SPRP. A map of the interconnected MS4 areas is provided in Appendix C of the Spill Prevention Response Plan, found in ***Appendix H***.
4.10 Piping	On-going	On-going	257	During this Reporting Period, the City conducted 257 CCTV reports, which totaled approximately 24,170 linear feet of piping that was videoed, including storm mains and lateral piping.
4.11 Culverts	On-going	On-going	12	The City performed maintenance activities at twelve culverts over approximately 40 days.
5. Stormwater Monitoring				
5.1 Wet Weather In-Stream	3 samples per location per year	On-going	2	Wet weather in-stream surface water sampling was performed for 2 events (2015 summer & fall). Summary tables of the results are provided in ***Appendix U.***
5.2 Dry Weather In-Stream	1 sample per location per year	On-Going	1	Dry weather in-stream surface water sampling was performed for 1 event (2015 summer). Summary tables of the results are provided in ***Appendix U.***
5.3 Wet Weather Outfall	All outfalls within first two years	On-going	70% Completed	To date, approx. 2/3 of the wet weather outfalls were sampled; 63 of the 90 identified outfall locations were sampled. It is anticipated that the remaining known outfall locations will be sampled during the next Reporting Period. Summary tables of the results are provided in ***Appendix M***.
5.4 Dry Weather Known Outfalls	See IDDE Outfall Screening	On-going	-	See IDDE Outfall Screening

Annual SMP Summary Table

July 1, 2015 - June 30, 2016

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
5.5 Dry Weather New/Unknown Outfalls	As needed	-	-	The City began conducting screening of newly identified outfalls. 9 new outfalls were screened, all of which were noted with no discharge at the time of the screening.
6. IDDE				
6.1 Outfall Screening (Pre-IDDP)	25% of known MS4 outfalls per year	Incomplete	33% Completed	IDDE conducted at 46 of the original 92 known outfalls. Samples were collected and analyzed at 30 of the 46 locations. 16 locations were noted with no discharge. The City was able to complete screening of the remaining first 46 outfalls (first 50%). A summary table of the analytical data and an updated map for the IDDE dry weather outfall screening events is presented in ***Appendix Q***.
6.2 IDDP	5% of top 20%; starting year 2	Complete	19 of 92	The City completed IDDE investigations on 19 (21%) of the known MS4 outfalls during the Reporting Period.
6.3 Outfall Verification (Post-IDDP)	As needed	-	-	No post-IDDP efforts completed at this time.
7. Legal Authority				
7.1 Permits	As needed	On-Going	As needed	All permits to be signed off by each individual City department, including: Coastal Management, Environmental Protection, Flood Plain, Traffic Dept, Engineering Dept, DOT, and Zoning.
7.1.1 Zoning Department	As needed	On-Going	As needed	The City has requested an extension for addressing the change in zoning regulations. The proposed changes will require more staff from the Engineering Department and the Environmental Protection Board and additional time is required to implement the changes.
7.2 Ordinances				
7.2.1 Stormwater Management	As needed	On-going	As needed	On March 20, 2015, a final MS4 Ordinance, Ordinance 1153, adding Chapter 201 to the City Charter, became effective.
7.2.2 LID	As needed	On-going	As needed	The proposed changes to the zoning regulations will ensure that LID practices are allowable. There are no known zoning, site planning or street design regulations that would be an impediment to using LID practices.
7.3 Site Review, Inspection and Monitoring Activities	As needed	On-going	As needed	The City's staff performs site visits when the project is in close proximity to a wetland or other water body. Current staffing levels limit the opportunities for site inspections to only those projects with the greatest potential for impact to stormwater quality. Site visits frequently occur prior to the issuance of a Certificate of Occupancy (CO). ***Appendix K*** provides a table of the services provided by the EPB, including permitting reviews and site inspections.

Annual SMP Summary Table

July 1, 2015 - June 30, 2016

Activity Description	# Actions Scheduled	Status Complete / Incomplete as of June 30th	# Actions Completed	Comments on Activities
7.4 Eliminate Barriers	On-going	On-going	-	The City has well-established procedures for coordinating municipal departments review and approval of land disturbances and development projects.
7.5 Private Retention/Detention Ponds	On-going	On-going	-	Access to privately-owned detention and retention ponds is addressed in the Stormwater Ordinance.
7.6 Interconnections	On-going	On-going	-	Research by City staff has revealed that no formal interagency stormwater agreements exist at this time. If agreements are deemed necessary, they will be discussed in the next annual report. Historically, ConnDOT maintains all State roads.
8. Monitor PHFs				
8.1 City Parks	On-going	On-Going	-	In 2015-16, the City did not fertilize park green space.
8.2 PHF Use in Ball Fields	On-going	On-Going	-	In 2015-16, the City applied a total of 1,530 pounds of nitrogen to the ball parks.
8.3 Sterling Farms Golf Course Nitrogen Monitoring	On-going	On-Going	-	Total Nitrogen applied in 2015-16: 4,509 tons
8.4 E. Gaynor Brennan Municipal Golf Course Nitrogen Monitoring	On-going	On-Going	-	Total Nitrogen applied in 2015-16: 3,637 tons
9. Other Program Items				
9.1 Establish SPRPs	As needed	On-Going	-	In June 2015, a city-wide SPRP was completed. A copy of the new SPRP being implemented is provided in ***Appendix H.***
9.2 Review & Modify Current SMP	Annually	-	-	The City's SMP was submitted to the DEEP in September 2014. No modifications are proposed at this time.

HHW - Household Hazardous Waste
SMP - Stormwater Management Plan
DCIA - Directly Connected Impervious Area
BMP - Best Management Practices
LID - Low Impact Development
PHF - Pesticides, Herbicides and Fertilizers
SPRP - Spill Prevention and Response Plan

APPENDIX D

UPDATED CITY OUTFALL LOCATIONS MAP

City of Stamford Outfalls as of July 2016

Map Key

- City of Stamford Outfalls
- Hydrology
- Parks
- I-95 & Merritt Pkwy
- Major Arterials
- All Other Roads
- Railroads

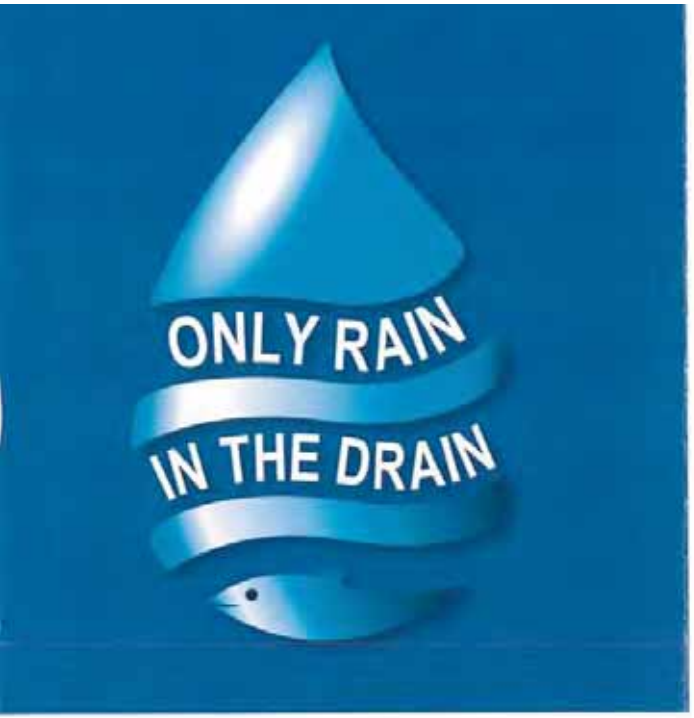
Based on GIS data as of July 2016, 1220 stormwater discharge points have been mapped. Out of these 1220 points, 846 have been determined by City of Stamford staff to be outfalls that the City of Stamford is responsible for. These 846 outfalls include all pipe diameters.

Notes: Map created by Ciy of Stamford, CT GIS staff for MS4 annual reporting. Questions regarding this map should be directed to the City of Stamford MS4 program.
map created 9/16/2016

F

APPENDIX E

STORMWATER MANAGEMENT PAMPHLETS



Help Prevent
Stormwater Pollution

- Don't dump anything into catch basins.
- Keep property clear of trash and debris.
- Keep dumpster areas clean.
- Provide trash receptacles for customers.
- Dispose of wash water properly.
- Don't wash vehicles outside on paved surfaces.

For more information, go to:
www.stamfordct.gov/stormwater-management

REGULATION OF MUNICIPAL SEPARATE STORM SEWER SYSTEM

Charter and Code of the City of Stamford:
Sec 201-2. Definitions: Pollutant:

Pollutant: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes and solvents; oil and other automotive fluids: nonhazardous liquid and solid wastes and yard wastes: refuse, rubbish, garbage, litter or other discarded or abandoned objects. Ordnances and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals: animal wastes: wastes and residues that result from constructing a building or structure; noxious or offensive matter of any kind; industrial and commercial wastes, trash, used motor vehicle fluids, food preparation waste, leaf litter and grass clippings.

Fines (Sec. 201-12 (B)):
First Violation: $100
Second Violation: $200
Third Violation: $250

Note: Each violation shall be a separate and distinct offense.

Stormwater Management
90 Magee Avenue
Stamford, CT 06901
Phone: 203.977.5281

www.stamfordct.gov/stormwater-management

STRM001-1215

Stormwater Management

A Practical Guide to Regulatory Compliance for Commercial, Industrial and Institutional Facilities

City of Stamford
Connecticut

What is Stormwater

Pollution?

As stormwater (rain or snowmelt) flows over impervious surfaces such as driveways, roofs, sidewalks and streets, it picks up and carries pollutants such as motor oil, fertilizers, pesticides, trash and other potentially environmentally harmful materials into storm drains. From there, this untreated water flows directly into local rivers and the Long Island Sound.

Report Illegal Dumping. Dumping any material into a catch basin is illegal. Penalties for dumping include fines and the costs of abatement. If you observe someone dumping, immediately report it to the Citizen Service center at 203-977-4140.

Doesn't Stamford treat water before returning it to the environment?

The City of Stamford has two separate drainage systems; sanitary and stormwater. Sanitary water, which typically comes from drains located inside buildings, is thoroughly treated before being returned to the environment. Rainwater, snowmelt, and anything else collected by — or dumped into — a storm drain flows untreated into the Long Island Sound.

What can property owners do to minimize stormwater pollution?

Property owners are responsible for all pollutants leaving their property. There are a number of simple steps that can be taken to help eliminate stormwater pollution, including:

- Annually clean and maintain all private catch basins (not located on a public street) to remove pollutants, ensure proper performance and reduce the risk of flooding. Local sewer and drain contractors can help you.
- Do not dump mop or wash water onto paved surfaces. Wash waters contain harmful chemicals and solvents that can damage waterways; instead, dispose of this water into a mop sink, floor drain or toilet so it can be treated.
- Wash garbage cans and floor mats in a mop sink, which drains to the sanitary sewer system.
- Sweep outdoor areas daily for trash and litter control and do not dispose of trash into storm drains basins.
- Provide trash and cigarette butt receptacles in highly visible locations, particularly in employee break areas.
- Keep your dumpster areas clean and lids closed. Make sure the clean-out plug is properly secured to prevent leaking.
- Do not wash vehicles outside on paved surfaces; instead use a carwash to clean cars and trucks.

How to dispose of

Hazardous Waste

Hazardous wastes — including chemicals, automotive fluids, paints, and commercial wastes — should never be dumped into catch basins. Visit **www.stamfordct.gov/recycling-sanitation** to learn how to dispose hazardous wastes properly.

Reminders for Restaurants & Food Establishments:

- Maintain all grease traps in your establishment in accordance with the City of Stamford Health Department and Water Pollution Control Authority (WPCA) regulations.
- Dispose of cooking oil and grease properly either in a receptacle designed to contain grease or by hiring a waste hauler.
- Do not pour oil and grease into sinks, floor drains, catch basins, on onto the ground.
- Dispose of all waste wash water in a janitorial sink, floor drain or toilet that is properly connected to the sewer system.
- Never pour wash water onto a parking lot, alleyway, sidewalk, or street, as these areas ultimately drain to local waterways.

Ayude a prevenir

la contaminación de las aguas pluviales

- No arroje nada en las bocas de tormenta.
- Mantenga su propiedad limpia de basura y desechos.
- Mantenga limpios los lugares donde se encuentran los contenedores de residuos.
- Provea a los usuarios recipientes para la basura.
- Elimine adecuadamente el agua de lavado.
- No lave vehículos fuera en superficies pavimentadas.

Para mayor información, vaya a:
www.stamfordct.gov/stormwater-management

REGLAMENTACIÓN DEL SISTEMA MUNICIPAL DE ALCANTARILLADO SEPARADO PARA AGUAS PLUVIALES

Carta Orgánica y Código del Municipio de Stamford: Sec. 201-2. Definiciones: Contaminante

Contaminante: Todo aquello que cause o contribuya a la contaminación. Los contaminantes pueden incluir, entre otros elementos: pinturas, barnices y solventes; aceite y otros fluidos de uso en automotores; residuos líquidos y sólidos no peligrosos y residuos de jardinería; desechos, escombros, basura, desperdicios y otros objetos desechados o abandonados, municiones y acumulaciones de suciedad, de manera que puedan causar o contribuir a la contaminación; elementos flotantes, pesticidas, herbicidas y fertilizantes; sustancias y residuos peligrosos; aguas servidas, coliformes fecales y patógenos; metales disueltos y particulados; desechos animales; desechos y residuos provenientes de la construcción de un edificio o estructura; materias nocivas o suciedad de toda clase; residuos industriales y comerciales, basura, fluidos usados de vehículos automotores, residuos de la preparación de alimentos, hojarasca y hierbas cortadas.

Multas (Sec. 201-12(B)):
Primera Infracción: $100
Segunda Infracción: $200
Tercera Infracción: $250

Nota: Cada infracción deberá constituir una contravención separada y diferente.

Manejo de las Aguas Pluviales
90 Magee Avenue
Stamford, CT 06901
Teléfono: 203.977.5281

www.stamfordct.gov/stormwater-management

STRM001-1215

Manejo de las Aguas Pluviales

Una Guía Práctica de Cumplimiento Reglamentario para Establecimientos Comerciales, Industriales e Institucionales

Municipio de Stamford

¿Qué es la contaminación de las aguas pluviales?

Dado que las aguas pluviales (lluvia o nieve derretida) escurren sobre superficies impermeables tales como entradas para automóviles, techos, aceras y calles, recogen y transportan hacia los desagües pluviales contaminantes tales como aceite de motor, fertilizantes, pesticidas, basura y otros materiales potencialmente peligrosos para el medio ambiente. Desde allí, esta agua sin tratar se descarga directamente en los ríos cercanos y en el estuario de Long Island Sound.

Informe de Vertidos Ilegales. El vertido de cualquier material en una boca de tormenta es ilegal. Las sanciones por vertido incluyen multas y los costos de eliminación. Si ve a alguien vertiendo algún elemento, infórmelo inmediatamente al centro de Servicios al Ciudadano llamando al 203-977-4140.

¿En Stamford se trata el agua antes de devolverla al medio ambiente?

El Municipio de Stamford cuenta con dos sistemas de desagüe separados: aguas residuales domésticas y aguas pluviales. Las aguas residuales domésticas, que por lo general provienen de desagües ubicados dentro de los edificios, son cuidadosamente tratadas antes de regresarlas al medio ambiente. El agua de lluvia, la nieve derretida y cualquier otra cosa recogida por un desagüe pluvial o descargada en él escurren sin tratamiento alguno hacia el estuario de Long Island Sound.

¿Qué pueden hacer los propietarios para minimizar la contaminación de las aguas pluviales?

Los propietarios son responsables de todos los contaminantes que salen de su propiedad. Existe una serie de medidas muy simples que pueden adoptarse para ayudar a eliminar la contaminación de las aguas pluviales, por ejemplo:

- Una vez al año limpie y proceda al mantenimiento de todas las bocas de tormenta privadas (no ubicadas en una calle pública) de modo de eliminar contaminantes, asegurar su adecuado funcionamiento y reducir el riesgo de inundación. Los prestadores de los servicios de alcantarillado y desagüe de su zona podrán ayudarlo.
- No vierta el agua del trapeador ni de lavado en superficies pavimentadas. Las aguas de lavado contienen sustancias químicas y solventes perjudiciales que pueden dañar los cursos de agua; descargue esta agua en un fregadero para trapeador, en un desagüe de piso o en el inodoro, de manera que pueda ser tratada.
- Lave los botes de basura y tapetes de piso en un fregadero para trapeador que desagüe en el alcantarillado sanitario.
- Barra todos los días los sectores exteriores de manera de controlar la basura y la suciedad, y no descargue la basura en las bocas de tormenta.
- Coloque recipientes para basura y colillas de cigarrillos en lugares bien visibles, en particular en los sectores de descanso de los empleados.
- Mantenga limpios los lugares donde están los contenedores de basura y sus tapas cerradas. Verifique que el tapón de limpieza esté adecuadamente fijado para evitar pérdidas.
- No lave vehículos fuera sobre superficies pavimentadas; para limpiar automóviles y camiones recurra a un servicio de auto lavado

Cómo eliminar residuos peligrosos

Residuos peligrosos — incluidos los productos químicos, fluidos de uso en automotores, pinturas y residuos comerciales — nunca deberían ser vertidos en las bocas de tormenta. Visite **www.stamfordct.gov/recycling-sanitation** y aprenderá como eliminar correctamente los residuos peligrosos.

Recordatorios para Restaurantes y Establecimientos Gastronómicos:

- Mantenga todos los colectores de grasa de su establecimiento de conformidad con las reglamentaciones del Departamento de Salud del Municipio de Stamford y de la Autoridad de Control de Contaminación del Agua (WPCA).
- Deseche adecuadamente el aceite y grasa de cocinas ya sea en un recipiente diseñado para contener grasa o contratando una empresa de transporte de residuos.
- No vierta aceite ni grasa en fregaderos, desagües de piso, bocas de tormenta o sobre el suelo.
- Descargue toda el agua de lavado residual en un fregadero, desagüe de piso o inodoro que esté correctamente conectado a la red de alcantarillado.
- Nunca vierta agua de lavado en un estacionamiento, callejuela, acera o calle, ya que en definitiva estas zonas desaguan en los cursos de agua cercanos.

SÓLO LLUVIA EN EL DESAGÜE

APPENDIX F

NATIONAL Rx DRUG TAKE BACK FLIER

National Rx Drug Take-Back

Got Drugs?

Turn in your
unused or expired
medication for safe disposal

Hosted by:
Stamford Police Department

Drop off your unused or expired medications for safe disposal!

Saturday April 30th
10am-2pm

Convenient Drive Thru Location:

STAMFORD Police Department
805 Bedford Street

Supporting Partners:

FMP

Silver Hill Hospital
Restoring Mental Health Since 1931

Stamford Youth Services Bureau

stamfordrecycles.org

City of Stamford Health Department

Connecticut Renaissance

OPTIMUS HEALTH CARE

EZ CARE

COMMUNITIES 4 ACTION

INTERFAITH COUNCIL

Child Guidance Center

PT Council of Stamford, CT

Liberation Programs Inc.

STAMFORD SENIOR CENTER
THE KEY TO AN ACTIVE LIFE AFTER 50

SilverSource

FAMILY CENTERS

of SOUTHWESTERN CONNECTICUT

Stamford EMS

STAMFORD HOSPITAL
The Regional Center for Health

This is a free anonymous service and environmentally safe way to dispose of unwanted and unused medications. No liquids or needles please. For more info. go to www.dea.gov or Ph: 203-588-0457

APPENDIX G

STORMWATER MANAGEMENT FLIER

City of Stamford

Stormwater Management Department

YOU SHOULD BE AWARE:

- The City of Stamford has **SEPARATE** stormwater and sanitary drainage systems.

- This means there are generally two (2) pipes buried in our City streets:

  One (1) for Stormwater 

  One (1) for Sanitary water 

- This means that all rainwater, snowmelt, and anything else collected by, or dumped into, a storm drain (on public or private property) is **UNTREATED** and ultimately ends up in Long Island Sound.

- **Per Chapter 201 of the City Charter, polluting stormwater is punishable by fines and the costs of abatement**.

Sec. 201-2.Definitions: Pollutant:

Anything which causes or contributes to pollution. Pollutants may include, but are not limited to : paints, varnishes and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes, refuse, rubbish, garbage, litter or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; noxious or offensive matter of any kind; industrial and commercial wastes, trash, used motor vehicle fluids, food preparation waste, leaf litter, and *grass clippings.*

Fines (Sec.201-12(B)):

First Violation: $100
Second Violation: $200
Third Violation: $250

Note: Each violation shall be a separate and distinct offense.

For More Information, Go To:
www.stamfordct.gov/stormwater-management

APPENDIX H

SPILL PREVENTION RESPONSE PLAN

Spill Prevention and Response Plan

Stamford, Connecticut

June 2016

56 Quarry Road
Trumbull, Connecticut 06611

FUSS & O'NEILL

Table of Contents

Spill Prevention and Response Plan

Table of Contents

Spill Prevention and Response Plan

Appendices

FUSS & O'NEILL

Emergency Contact List

Spill Prevention and Response Plan

Emergency Coordinators

Primary On-Site Emergency Response Coordinator:

Name: Tyler Theder
Title: Regulatory Compliance and Administrative Officer
(Work).....(203) 977-5281
(Cell).....(203) 998-1074
(Email).....ttheder@stamfordCT.gov

Alternate On-Site Emergency Response Coordinator:

Name: Doug Hoyt
Title: Operations Supervisor
(Work).....(203) 977-5024
(Cell).....(203) 223-7047
(Email).....dhoyt@stamfordCT.gov

Name: John Cornelio
Title: Operations Foreman
(Work).....(203) 977-0827
(Cell).....(203) 223-6741
(Email).....jornelio@stamfordCT.gov

Emergency Agencies

National Response Center .....(800) 424-8802
Fire Dept.....911
Police Dept.....911
Environmental Protection Agency.....Region 1 (888) 372-7341
DEEP - Oil and Chemical Spill .....CT (860) 424-3338
Fire Marshall .....Stamford (203) 977-4651
State Police .....CT (860) 566-5990
Local Emergency Planning Commission (LEPC).....Southwest CT (203) 997-5900
Hospital.....Stamford (203) 276-1000

Emergency Spill Response Contractor

Primary Contractor:
Tradebe .....(888) 276-0887
Emergency Coordinator and Alternates have Purchase Order and other payment information.

1 Introduction

The City of Stamford was issued an NPDES discharge permit for stormwater discharges to its municipal separate storm sewer system (MS4) on June 4, 2013. Among this permit's requirements is that "The Permittee shall develop and implement a Spill Prevention and Response Plan (SPRP) to prevent, contain, and respond to spills entering its MS4. The Permittee shall maintain, for a period of three years past the term of this permit, a list of spills and leaks of five gallons or more of petroleum products, or of toxic or hazardous substances which could affect stormwater, as listed in section 22a-430-4 (Appendix B Tables II, III and V, and Appendix D) of the Regulations of Connecticut State Agencies, and 40 CFR 116.4, that have been reported to the City or occurred as a result of an activity conducted by a city employee." These lists of substances can be found in *Appendix A*. This SPRP has been prepared to address those requirements. It focuses on spills that can reach an MS4.

Timeliness is critical to spill response. Response will be a collaborative effort between the Stamford Road Maintenance Department (RMD) and the Stamford Fire & Rescue Department (SFRD). Incidental spills (as defined in *Section 5.2*) of materials that the Road Maintenance Department routinely handles will be addressed by whoever encounters the spill first. Non-incidental spills including spills of any size of materials not routinely handled by the Road Maintenance Department will be addressed only by the SFRD.

1.1 Development of this SPRP

The City of Stamford has long had procedures in place to prevent and respond to spills. These are documented in a number of places and brought together in this current document.

Source material for this SPRP includes:

- Spill Prevention, Contingency and Countermeasures Plans (SPCC) for numerous City facilities;
- Hazardous Materials Dispatch Guideline;
- Operations at a Hazardous Materials Incidents
- Interviews with City Personnel from Stamford Fire & Rescue Department (SFRD), Road Maintenance Department (RMD), Stormwater Management Department (SMD) and GIS Departments.

This information has been brought together into this document to establish procedures for Spill Prevention and Response.

The Road Maintenance Department is one of the key groups responsible for activities under this SPRP. The Stormwater Management and Road Maintenance Departments both are part of the Road Maintenance Department. An organizational chart showing these relationships is attached as *Appendix B.* Throughout this document, the term Road Maintenance Department (RMD) refers to employees within those two groups.

1.2 Scope of Plan

This plan addresses spills that have the potential to reach the MS4. This includes spills on or adjacent to most roads and paved surfaces that lead to water bodies. It does not include spills on private property that are contained within that property by the owner without City of Stamford involvement.

Spills outside of Stamford also have the potential to reach the Stamford MS4 through interconnected MS4s in:

- State of Connecticut (ConnDOT);
- Town of New Canaan, CT
- Town of Darien, CT
- Town of Greenwich, CT
- Town of Pound Ridge, NY

This SPRP will be made available to these entities to view as they develop their own SPRPs. Mapping showing some of these interconnections is included in *Appendix C.*

2 Spill Prevention

Spill prevention is an important component of stormwater protection. The City has many facilities at which Spill Prevention, Control and Countermeasures (SPCC) Plans are in place. These plans focus on those sites with the greatest risk of having a relatively large (greater than 55 gallons) petroleum spills and document the secondary containment, proper liquid transfer methods, training and other measures taken to prevent releases. Some of these facilities are also covered under the General Permit for Stormwater Associated with Industrial Activities and have their own Stormwater Pollution Prevention Plans (SWPPPs).

Spill and release prevention is also addressed to community members through public education. This includes educating residents and businesses that any materials that are put on the ground, particularly on paved surfaces have the potential to reach stormwater. Public education is detailed further in the Stormwater Management Plan.

3 Recent Spill History and Spill Report Maintenance

The NPDES Permit requires that the Permittee maintain, for a period of three years past the term of this permit, a list of spills and leaks of five gallons or more of petroleum products, or of toxic or hazardous substances which could affect stormwater. The hazardous substances of concerns are those listed in Regulations of Connecticut State Agencies (RCSA) 22a-430-4 Appendix B, Tables II, III and V and Appendix D as well as 40 CFR 116.4 which can be found in *Appendix A.*

Spills are reported when the SFRD responds or when they are reported directly to the Stormwater Management Department. The SFRD shares all spill reports with the Stormwater Management Department. A list of spills that have occurred since NPDES permit issuance on June 4, 2013 is maintained in *Appendix B* and/or Stormwater Management Department files. Detailed spill records will be maintained in on-site files at

the Stormwater Management Department. Appropriate forms and documentation will be prepared and maintained if a reportable spill occurs as detailed in *Section 8.*

Written procedures to be followed in the event of a spill to ensure that the spill is promptly contained and cleaned up are discussed in *Section 5* of this Plan.

4 Mapping

The Stamford Global Information System (GIS) includes extensive mapping of the City of Stamford. The GIS department is in the process of adding MS4 features (catch basins, storm sewers, receiving water bodies, etc.) to their mapping. There is a mobile data terminal (MDT) in each SFRD and vehicle that can be used during incident response to determine which MS4 features have the potential to be impacted. The Stormwater Management Department (SMD) also has access to iPads to assist in field retrieval of GIS data. This can help enable preventative measures to be taken.

5 Spill Response Procedures – During Incident

Significant spills are handled by the SFRD. They are called in as Emergency Responders and take the lead in containing spills and preventing their release to catch basins and surface water bodies. Incidental spills are sometimes encountered by Road Maintenance crew members who encounter small spills in their daily activities. Procedures for each group are detailed below.

5.1 Spill Response by SFRD During Incident

The SFRD has two documents that address spill response at a Hazardous Materials Incident. The first, *Hazardous Materials Dispatch Guidelines*, included as *Appendix D* addresses the type of response provided by the SFRD depending on the type of incident that occurs and the level of training of the responder. Briefly,

- All SFRD line personnel are trained to a minimum of Hazardous Materials Operations level in accordance with National Fire Protection Association (NFPA) standards. If an operations level first responder is the first to arrive at the incident, they may take defensive action to control a release from a safe distance and keep it from spreading. Defensive actions includes steps such as placing dams around the release and catch basins and/or placing booms in water bodies that are meant to prevent further spread of a release.
  -If the spill is an **incidental** haz-mat release as described in *Appendix D*, the Operations level person may take offensive actions such as closing valves, righting overturned containers and other actions meant to stop a release at its source. Incidental releases include fuel or vehicle fluid releases from motor vehicles or small tanks.
- Hazardous Materials Technicians have additional training which enable them to perform additional offensive actions to control a release, within the limits of their training and available resources (protective clothing and response equipment.). These actions could include over-packing a leaking drum or plugging a leaking tank.

- Hazardous Materials Response Teams include a Technician and other personnel and specially equipped vehicles that can be used to respond to larger incidents such as a tanker truck spill or leak or a release at a manufacturing facility.
- Based on the information received in the initial call, the dispatcher (in consultation with the Hazardous Materials Officer) will determine the initial response. Once the SFRD has reached the site, an Incident Commander (IC) will be assigned and the IC makes the determination if less or more resources are needed to respond to a call.

The other document that addresses SFRD procedures for Haz-Mat incidents is titled *Operations at A Hazardous Materials Incident* and included as *Appendix E.* This document details the following:

- General Procedures
  - Set up Command Post
  - Identify hazardous material
  - Conduct hazard and risk assessment
  - Identify possible and choose best course of action
  - Constantly re-evaluate decisions to see if course of action is accomplishing goals

- Scene Command and Control – Incident Commander does the following:
  - Identify Hazard Sector Officer and Timekeeper (for breathing apparatus, etc.)
  - Contact the CTDEEP
  - Request additional manpower if needed
  - Establish control zones and decontamination corridor
  - Arrange for emergency medical services to be on stand-by

- Haz-Mat Incident Levels
  - Level I – Incidents that can be handled on scene by SFRD without breathing apparatus. Examples are: fuel leak from passenger vehicle, small oil spill in river, small propane tank leak, odor investigations, leaks from drums of less than 55 gallons, etc.
  - Level II – Incidents that require outside-agency assistance for product containment, control, and clean up. Any incident which requires Level A or B chemical protective clothing, metering, unknown product determination, evacuation other than the immediate area, IDLH atmospheres, etc. is considered a Level II incident.
  - Level III – Incidents that are beyond the capabilities of the Haz-Mat response team and local agencies to handle. Level III incidents require the implementation of the City disaster plan, large evacuations, State and Federal intervention, etc. Examples include-large explosions, evacuation beyond the City boundaries, migrating poisonous gas vapors, large numbers of deaths, etc.

- Decontamination – this includes collecting washwater for proper disposal so it does not enter storm drains

- Medical Surveillance

- Termination – this includes reporting, including reports for equipment and supplies used so they can be replaced and costs recovered.

Significant spills are handled by the SFRD. They are called in as Emergency Responders and take the lead in containing spills and preventing their release to the MS4. Actions to be taken by the SFRD to prevent pollutant entry into the MS4 include, but are not limited to:

- Stopping the source of the release by the offensive measures described above (by appropriately trained SFRD crew)
- Covering storm drains;
- Placing berms around the spill;
- Digging dikes/trenches to contain or divert a spill away from the MS4; and
- Placing sorbent booms at outfalls and securing them.

5.2 Spill Response by Road Maintenance Crew During Incident

Road Maintenance crew also clean-up to incidental releases that occur or are discovered in their routine operations. The procedures below are for releases that occur as a result of actions taken by or discovered by Road Maintenance Crew.

Incidental Releases

A release is an incidental release and does not require notification if the following is true:

1. The released hazardous substance can be safely absorbed or otherwise controlled at the time of release by employees or other trained persons present.
2. The released material is less than 5 gallons.
3. The release does not pose a significant threat to safety or human health and the environment and does not have the potential to become an emergency within a short time frame.
4. The release is of materials (such as vehicle fuel and fluids) routinely handled by the Road Maintenance crews and they are knowledgeable in the hazards of these materials.

In response to an incidental release, the following steps will be taken:

1. If an employee observes a release, the employee will immediately notify a supervisor who will assess the release. If the supervisor decides the release does not constitute a threat to human health or the environment and does not require assistance by personnel outside the immediate area of the spill, then cleanup will begin.
2. The supervisor or assigned trained persons will clean up the spill. Employees or trained persons cleaning up the spill will be attired in the necessary protective equipment (i.e., goggles, rubber gloves, etc.). If necessary, cleanup will be preceded by an attempt to stop the discharge and limit migration of the release by laying berms.
3. The supervisor or trained personnel will absorb the released material with appropriate disposable materials. Stamford has speedi-dry, sand, and oil adsorbent pads readily available.
4. The contaminated sorbant will be containerized and disposed of properly.
5. Materials contaminated as a result of the release will either be containerized and disposed or decontaminated.

6. The emergency coordinator will ensure no waste incompatible with released materials is treated, stored, or disposed of at the facility until the clean-up is complete.
7. The emergency coordinator will ensure all emergency equipment listed in the Plan is cleaned and fit for its intended use in a timely manner.
8. The emergency coordinator will monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes or other equipment before operations resume.

Previously Spilled Material Encountered During Routine Work

Road Maintenance crews may also encounter previously spilled materials in their routine work such as during street or catch basin cleaning or snow removal. The Road Maintenance crew supervisors have immediate access to a minimum of the following spill control items stored in the Road Maintenance Garage:

- Two (2) spill mats that can be used to cover catch basins
- Two (2) bags of speedi-dry
- Two (2) absorbent "socks"

The supervisor can be called by any Road Maintenance crew member and act as needed to contain or capture a release by placing absorbent material over a small oil puddle or placing booms in catch basins that have oil sheens. The SFRD will be called if more resources than the Road Maintenance supervisor has are needed. The SMD will be notified about each usage of spill control material.

5.3 Coordination with Stormwater Management Department

The SFRD efforts end with containing a release and returning the area to safe conditions. Clean-up and remediation are managed by the Stormwater Management Department (SMD). To this end, the SMD must immediately know when an incident with a potential for release to the environment occurs. The SFRD system automatically notifies the SMD electronically when the following types of incidents occur:

- Spill of hazardous material in excess of 5 gallons and
- Whenever the CTDEEP is contacted about a spill.

The Road Maintenance Supervisor and Crew members and the SFRD will also notify the Traffic and Road Maintenance Department when significant quantities of spill control material is left on the road. The SMD will then follow up by investigating whether further action is required to prevent pollutants from entering storm drains, coordinate remediation if required, confirm that reports have been filed appropriately, and work to recover costs incurred in the efforts undertaken by the SMD. These steps are detailed in sections below.

6 Spill Response Procedures – Following Incident

Once the immediate danger is over and the spill is contained, the SFRD turns responsibility to complete the spill response to a private spill contractor, the CTDEEP, or the Stormwater Management Department (SMD). The SMD will assess the incident after the SFRD has left and determine whether an outside contractor is needed. Their response will depend on the severity of the incident and the amount of effort required to complete the clean-up and minimize the risk that it could reach the MS4.

In many cases, including all spills of petroleum or toxic or hazardous materials greater than 5 gallons, the SFRD will report the spill to the CTDEEP. The CTDEEP will then notify the party responsible for the spill to contact a private spill responder for clean-up.

6.1 Spill Response by Road Maintenance Crew Following Incident

If the site conditions following an incident can be addressed with existing Road Maintenance Department resources, they will be. The types of responses that can be handled internally are those in which the contaminants are known (gasoline, diesel, and vehicle fluids) in which Road Maintenance Crews are trained in their handling and appropriate disposal. Their actions will include:

- Cleaning up speedi-dry with a street sweeper truck;
- Collecting spill absorbent socks and similar materials;
- Collecting any remaining storm drain covers, reusable berms and other similar materials and returning them to SFRD; The collected material is then disposed in the collection bin Stamford Garage at 100 McGee Avenue where it will be picked up and properly disposed by a licensed hauler.

For other materials (even small quantities), an outside contractor must be brought in to ensure proper waste management.

6.2 Spill Response by Outside Contractor Following Incident – Coordinated by SMD

For large spills and all spills of materials other than vehicle fluids and other material used by Road Maintenance crews in their routine job functions, an outside contractor will be brought in for spill clean-up and disposal. The Contractor name and contact information can be found in the front of this document under emergency contacts. The SMD has established an initial budget of $30,000. This budget will be re-evaluated as needed.

6.3 Spill Response by Outside Contractor Following Incident – coordinated by DEEP

For large spills, where the DEEP is involved, the DEEP contacts the property owner, and the owner hires spill contractor. The SMD will monitor to make sure it is cleaned adequately to prevent materials from entering the MS4.

6.4 Spill Response by Tow Truck Operators

Motor vehicle accidents often result in pollutant releases associated. It is expected that the towing company that arrives to assist with the accident and tows vehicles will clean up all vehicle related spills to the best of their ability. This includes removing speedi-dry and other absorbent materials after their use. The SMD will work with towing companies that serve Stamford to ensure that this is done. The tow list is managed by Mike Scacco. Fleet Supervisor of the Vehicle Maintenance Department. Proper spill clean-up is a requirement to remain on the tow list.

6.5 Spill Response Cost Recovery

The SMD has developed a Stormwater Ordinance to keep pollutants out of the MS4. This ordinance, included as *Appendix F,* It enables the SMD to fine dischargers and recover costs of remediation if necessary. These actions will be taken if necessary to recover spill remediation costs.

The SFRD also has mechanisms in place to recover their costs for spill response. Since these actions are taken by the SFRD and not by the SMD, they are not detailed here.

7 Spill Response Equipment

The SFRD maintains an extensive inventory of spill response equipment. It is inventoried regularly so that items can be replaced and replenished as necessary. This list can be found in *Appendix G.*

The Stormwater Management Department also maintains a small inventory of sorbent pillows, speedi dry and drain covers to enable prompt replacement of supplies maintained on Road Maintenance Crew trucks for prompt response to minor spills encountered as part of their daily operations.

8 Spill Reporting Requirements

The SMD will be responsible for completing necessary reporting to the regulatory agencies. All spills greater than five gallons of petroleum products or toxic and hazardous substances must be reported and maintained in SMD files for a period of three years past the life of this permit (June 4, 2021).

Certain releases of pollutants to the environment are reportable to the National Response Center (NRC). *Appendix H* contains the "List of Lists." The fifth column contains the reportable quantities CERCLA (RQ)s of numerous chemicals in pounds. If a spill in excess of the RQ occurs or is encountered, it must be reported to the NRC at 1-800-424-8802.

Connecticut statutes require that petroleum spills and other discharges of hazardous materials be reported to DEEP by telephone within two hours if the release poses a potential threat to human health or the environment. These include releases to the surface water, ground or groundwater. A copy of the DEEP's "Report of Petroleum or Chemical Product Discharge, Spillage or Release" contained in *Appendix I* should be completed. It must be submitted to the below DEEP division only if requested by DEEP at the time of the telephone report.

Bureau of Material Management & Compliance Assurance
Emergency Response and Spill Prevention Division
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06105-5127

(860) 424-3338 – EMERGENCY
(866) 337-7745 – TOLL FREE NUMBER
(860) 424-3333 – ALTERNATE NUMBER

If fish are found dead or distressed as a result of a spill, the DEEP should also be notified, using the following numbers, depending on the situation.

- Coastal waters, Long Island Sound: DEEP Marine Fisheries Division - 860-434-6043
- Lakes/ponds, rivers/streams: DEEP Inland Fisheries Division - 860-424-3474
- All locations and nights and weekends: DEEP Law Enforcement - 860-424-3333

9 Personnel Training

Both SFRD and Road Maintenance Crews are trained in Spill Response.

9.1 SFRD

SFRD training is performed in accordance with National Fire Protection Association (NFPA) standards. All line crew are trained to at least Hazardous Materials Operations Level. In addition, at least one member of each Haz-Mat Response team is trained to the Technician Level.

Training will include a mix of on-the-job training as well as "classroom type" training, such as reviewing this Spill Plan. Personnel will be instructed on spill response procedures as well as requirements to report to the Stormwater Management Department.

New personnel will be instructed, as appropriate, within a reasonable time after becoming employed. Spill prevention briefings will be conducted once per year to ensure that employees have an adequate understanding of this Spill Prevention and Response Plan. These briefings will focus on known spill events, malfunctioning equipment, and recently developed preventive measures. Records of all briefings and/or training will be maintained by Stamford.

9.2 Road Maintenance Department

Training for RMD includes formal classroom training in requirements of the NPDES permit. Many members of this crew are also trained in spill response for their facilities because several Road Maintenance facilities are covered under other DEEP General Permits. On the job training includes use of spill response equipment.

Appendix A

List of Toxic and Hazardous Substances

Table II
Organic Toxic Substances in Each of Four Fractions in Analysis by Gas Chromatography/Mass Spectroscopy (GS/MS)

Volatiles	
1	acrolein
2	acrylonitrile
3	benzene
5	bromoform
6	carbon tetrachloride
7	chlorobenzene
8	chlorodibromomethane
9	chloroethane
10	2-chloroethylvinyl ether
11	chloroform
12	dichlorobromomethane
14	1,1-dichloroethane
15	1,2-dichloroethane
16	1,1-dichloroethylene
17	1,2-dichloropropane
18	1,2-dichloropropylene
19	ethylbenzene
20	methylbromide
21	methylchloride
22	methylene chloride
23	1,1,2,2-tetrachloroethane
24	tetrachloroethylene
25	toluene
26	1,2-trans-dichloroethylene
27	1,1,1-trichloroethane
28	1,1,2-trichloroethane
29	trichloroethylene 31 vinyl chloride
Acid Compounds	
1	2-chlorophenol
2	2,4-dichlorophenol
3	2,4-dimethylphenol
4	4,6-dinitro-o-cresol
5	2,4-dinitrophenol
6	2-nitrophenol
7	4-nitrophenol
8	p-chloro-m-cresol
9	pentachlorophenol
10	phenol
11	2,4,6-trichlorophenol

Base/Neutral	
1	acenaphthene
2	acenaphthylene
3	anthracene
4	benzidine
5	benzo(a)anthracene
6	benzo(a)pyrene
7	3,4-benzofluoranthene
8	benzo(ghi)perylene
9	benzo(k)fluoranthene
10	bis(2-chloroethoxy)methane
11	bis(2-chloroethyl)ether
12	bis(2-chloroisopropyl)ether
13	bis(2-ethylhexyl)phthalate
14	4-bromophenylphenyl ether
15	butylbenzyl phthalate
16	2-chloronaphthalene
17	4-chlorophenyl phenyl ether
18	chrysene
19	dibenzo(a,H)anthracene
20	1,2-dichlorobenzene
21	1,3-dichlorobenzene
22	1,4-dichlorobenzene
23	3,3-dichlorobenzidine
24	diethyl phthalate
25	dimethyl phthalate
26	di-n-butyl phthalate
27	2,4-dinitrotoluene
28	2,6-dinitrotoluene
29	di-n-octyl phthalate
30	1,2-diphenylhydrazine (as azobenzene)
31	fluroranthene
32	fluorene
33	hexachlorobenzene
34	hexachlorobutadiene
35	hexachlorocyclopentadiene
36	hexachloroethane
37	indeno(1,2,3-cd)pyrene
38	isophorone
39	napthalene
40	nitrobenzene
41	N-nitrosodimethylamine
42	N-nitrosodi-n-propylamine
43	N-nitrosodiphenylamine
44	phenanthrene
45	pyrene

46	1,24-trichlorobenzene
Pesticides	
1	aldrin
2	alpha-BHC
3	beta-BHC
4	gamma-BHC
5	delta-BHC
6	chlordane
7	4,4-DDT
8	4,4-DDE
9	4,4-DDD
10	dieldrin
11	alpha-endosulfan
12	beta-endosulfan
13	endosulfan sulfate
14	endrin
15	endrin aldehyde
16	heptachlor
17	heptachlor epoxide
18	PCB-1242
19	PCB-1254
20	PCB-1221
21	PCB-1232
22	PCB-1248
23	1260
24	PCB-1016
25	toxaphene

Table III
Other Toxic Substances: Metals, Cyanide, and Total Phenols

1	Antimony, Total
2	Arsenic, Total
3	Beryllium, Total
4	Cadmium, Total
5	Chromium, Total
6	Chromium, Hexavalent
7	Copper, Total
8	Lead, Total
9	Mercury, Total
10	Nickel, Total
11	Selenium, Total
12	Silver, Total
13	Thallium, Total
14	Zinc, Total
15	Cyanide, Total
16	Cyanide, Amenable
17	Phenols, Total
	Titanium, Total

Table V
Other Toxic Substances and Hazardous Substances

Toxic Substances	
1	Asbestos
Hazardous Substances	
1	Acetaldehyde
2	Allyl alcohol
3	Allyl chloride
4	Amyl acetate
5	Aniline
6	Benzonitrile
7	Benzyl chloride
8	Benzyl chloride
9	Butyl acetate
10	Butylamine
11	Captan
12	Carbaryl
13	Carbofuran
14	Carbon disulfide
15	Chlorpyrifos
16	Coumaphos
17	Cresol
18	Crotonaldehyde
19	Cyclohexane
20	2,4-Dichlorophenoxy (acetic acid)
21	Diazinon
22	Dicamba
23	Dichlobenil
24	Dichlone
25	2,2-Dichloropropionic acid
26	Dichlorvos
27	Diethyl amine
28	Dimethyl amine
29	Dintrobenzene
30	Diquat
31	Disulfoton
32	Diuron
33	Epichlorohydrin
34	Ethanolamine
35	Ethion
36	Ethylene diamine
37	Ethylene dibromide

38	Formaldehyde
39	Furfural
40	Guthion
41	Isoprene
42	Isopropanolamine
43	Kelthane
44	Kepone
45	Malathion
46	Mercaptodimethur
47	Methoxychlor
48	Methyl mercaptan
49	Methyl methacrylate
50	Methyl parathion
51	Mevinphos
52	Mexacarbate
53	Monoethyl amine
54	Monomethyl amine
55	Naled
56	Napthenic acid
57	Nitrotoluene
58	Parathion
59	Phenolsulfanate
60	Phosgene
61	Propargite
62	Propylene oxide
63	Pyrethrins
64	Quinoline
65	Resorcinol
66	Strontium
67	Strychnine
68	Styrene
69	2,4,5-T (2,4,5-Trichlorophenoxy acetic acid)
70	TDE (Tetrachlorodiphenylethane)
71	2,4,5-TP
72	Trichlorofan
73	Triethylamine
74	Trimethylamine
75	Uranium
76	Vanadium
77	Vinyl acetate
78	Xylene
79	Xylenol
80	Zirconium

Other Toxic Substances

1	Acenaphthene
2	Acrolein
3	Acrylonitrile
4	Aldrin/Dieldrin
5	Antimony and compounds*
6	Arsenic and compounds
7	Asbestos
8	Benzene
9	Benzidine
10	Beryllium and compounds
11	Cadmium and compounds
12	Carbon tetrachloride
13	Chlordane (technical mixture and metabolites)
14	Chlorinated benzenes (other than dichlorobenzenes)
15	Chlorinated ethanes (including 1,2-dichloroethane, 1,1,1-trichloroethane, and hexachloroethane)
16	Chloroalkyl ethers (chloromethyl, chloroethyl, and mixed ethers)
17	Chlorinated naphthalene
18	Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)
19	Chloroform
20	2-chlorophenol
21	Chromium and compounds
22	Copper and compounds
23	Cyanides
24	DDT and metabolites
25	Dichlorobenzenes (1,2-1,3-, and 1,4-dichlorobenzenes)
26	Dichlorobenzidine
27	Dichloroethylenes (1,1-and 1,2-dichloroethylene)
28	2,4-dichlorophenol
29	Dichloropropane and dichloropropene
30	2,4-dimethylphenol
31	Dinitrotoluene
32	Diphenylhydrazine
33	Endosulfan and metabolites
34	Endrin and metabolites
35	Ethylbenzene
36	Fluoranthen
37	Haloethers (other than those listed elsewhere; includes chlorophenylphenyl ethers, bromophenylphenyl ether, bis(dischloroisopropyl) ether, bis-(chloroethoxy) methane and polychlorinated diphenyl ethers)

38	Halomethanes (other than those listed elsewhere; includes methylene chloride, methylchloride, methylbromide, bromoform, dichlorobromomethane, trichlorofluoromethane, dichlorodifluoromethane)
39	Heptachlor and metabolites
40	Hexachlorobutadiene
41	Hexachlorocyclohexane (all isomers)
42	Hexachlorocyclopentadiene
43	Isophorone
44	Lead and compounds
45	Mercury and compounds
46	Naphthalene
47	Nickel and compounds
48	Nitrobenzene
49	Nitrophenols (Including 2,4-dinitrophenol, dinitrocresol)
50	Nitrosamines
51	Pentachlorophenol
52	Phenol
53	Phthalate esters
54	Polychlorinated biphenyls (PCBs)
55	Polynuclear aromatic hydrocarbons (including benzanthracenes, benzopyrenes, benzofluoranthene, chrysenes, dibenzanthracenes, and indenopyrenes)
56	Selenium and compounds
57	Silver and compounds
58	2,3,7,8 - Tetrachlorodibenzo-p-dioxin (TCDD)
59	Tetrachloroethylene
60	Thallium and compounds
61	Toluene
62	Toxaphene
63	Trichloroethylene
64	Vinyl chloride
65	Zinc and compounds

*The term "compounds" shall include organic and inorganic compounds.

interstate travelers for recreational or other purposes; and

(ii) Intrastate lakes, rivers, streams, and wetlands from which fish or shellfish are or could be taken and sold in interstate commerce; and

(iii) Intrastate lakes, rivers, streams, and wetlands which are utilized for industrial purposes by industries in interstate commerce.

Navigable waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Offshore facility means any facility of any kind located in, on, or under, any of the navigable waters of the United States, and any facility of any kind which is subject to the jurisdiction of the United States and is located in, on, or under any other waters, other than a vessel or a public vessel;

Onshore facility means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under, any land within the United States other than submerged land;

Otherwise subject to the jurisdiction of the United States means subject to the jurisdiction of the United States by virtue of United States citizenship, United States vessel documentation or numbering, or as provided for by international agreement to which the United States is a party.

A discharge *in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976)*, means: (1) A discharge into any waters beyond the contiguous zone from any vessel or onshore or offshore facility, which vessel or facility is subject to or is engaged in activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, and (2) any discharge into any waters beyond the contiguous zone which contain, cover, or support any natural resource belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976).

Public vessel means a vessel owned or bareboat-chartered and operated by the United States, or a State or political subdivision thereof, or by a foreign nation, except when such vessel is engaged in commerce.

Territorial seas means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of 3 miles.

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel;

[43 FR 10474, Mar. 13, 1978; 43 FR 27533, June 26, 1978, as amended at 44 FR 10266, Feb. 16, 1979; 58 FR 45039, Aug. 25, 1993]

§ 116.4 Designation of hazardous substances.

The elements and compounds appearing in Tables 116.4 A and B are designated as hazardous substances in accordance with section 311(b)(2)(A) of the Act. This designation includes any isomers and hydrates, as well as any solutions and mixtures containing these substances. Synonyms and Chemical Abstract System (CAS) numbers have been added for convenience of the user only. In case of any disparity the common names shall be considered the designated substance.

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES

Common name	CAS No.	Synonyms	Isomers	CAS No.

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES—Continued

Common name	CAS No.	Synonyms	Isomers	CAS No.
Acetyl bromide	506967			
Acetyl chloride	79367			
Acrolein	107028	2-propenal, acrylic aldehyde, acrylaldehyde, acraldehyde.		
Acrylonitrile	107131	Cyanoethylene, Fumigrain, Ventox, propenenitrile, vinyl cyanide.		
Adipic acid	124049	Hexanedioic acid.		
Aldrin	309002	Octalene, HHDN.		
Allyl alcohol	107186	2-propen-1-ol, 1-propenol-3, vinyl carbinol.		
Allyl chloride	107051	3-chloropropene, 3-chloropropylene, Chlorallylene.		
Aluminum sulfate	10043013	Alum.		
Ammonia	7664417			
Ammonium acetate	631618	Acetic acid ammonium, salt.		
Ammonium benzoate	1863634			
Ammonium bicarbonate	1066337	Acid ammonium carbonate, ammonium hydrogen carbonate.		
Ammonium bichromate	7789095			
Ammonium bifluoride	1341497	Acid ammonium fluoride, ammonium hydrogen fluoride.		
Ammonium bisulfite	10192300			
Ammonium carbamate	1111780	Ammonium aminoformate.		
Ammonium carbonate	506876			
Ammonium chloride	12125029	Ammonium muriate, sal ammoniac, salmiac, Amchlor.		
Ammonium chromate	7788989			
Ammonium citrate dibasic	3012655	Diammonium citrate, citric acid diammonium salt.		
Ammonium fluoborate	13826830	Ammonium fluoroborate, ammonium borofluoride.		
Ammonium fluoride	12125018	Neutral ammonium fluoride.		
Ammonium hydroxide	1336216			
Ammonium oxalate	6009707			
	5972736			
	14258492			
Ammonium silicofluoride	16919190	Ammonium fluosilicate.		
Ammonium sulfamate	7773060	Ammate, AMS, ammonium amidosulfate.		
Ammonium sulfide	12135761			
Ammonium sulfite	10196040			
	10192300			
Ammonium tartrate	3164292	Tartaric acid ammonium salt.		
	14307438			
Ammonium thiocyanate	1762954	Ammonium rhodanide, ammonium sulfocyanate, ammonium sulfocyanide.		
Amyl acetate	628637	Amylacetic ester	iso-	123922
		Pear oil	sec-	626380
		Banana oil	tert-	625161
Aniline	62533	Aniline oil, phenylamine, aminobenzene, aminophen, kyanol.		
Antimony pentachloride	7647189			
Antimony potassium tartrate	28300745	Tartar emetic, tartrated antimony, tartarized antimony, potassium antimonyltartrate.		
Antimony tribromide	7789619			
Antimony trichloride	10025919	Butter of antimony.		
Antimony trifluoride	7783564	Antimony fluoride.		
Antimony trioxide	1309644	Diantimony trioxide, flowers of antimony.		
Arsenic disulfide	1303328	Red arsenic sulfide.		
Arsenic pentoxide	1303282	Arsenic acid anhydride, arsenic oxide.		
Arsenic trichloride	7784341	Arsenic chloride, arsenious chloride, arsenous chloride, butter of arsenic.		
Arsenic trioxide	1327533	Arsenious acid, arsenious oxide, white arsenic.		
Arsenic trisulfide	1303339	Arsenious sulfide, yellow arsenic sulfide.		
Barium cyanide	542621			
Benzene	71432	Cyclohexatriene, benzol.		
Benzoic acid	65850	Benzenecarboxylic acid, phenylformic acid, dracylic acid.		
Benzonitrile	100470	Phenyl cyanide, cyanobenzene.		
Benzoyl chloride	98884	Benzenecarbonyl chloride.		
Benzyl chloride	100447			
Beryllium chloride	7787475			
Beryllium fluoride	7787497			
Beryllium nitrate	7787555			

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES—Continued

Common name	CAS No.	Synonyms	Isomers	CAS No.
	13597994			
Butyl acetate	123864	Acetic acid butyl ester	iso-	110190
			sec-	105464
			tert-	540885
Butylamine	109739	1-aminobutane	iso-	78819
			sec-	513495
			sec-	13952846
			tert-	75649
n/butyl phthalate	84742	1,2-benzenedicarboxylic acid, dibutyl ester, dibutyl phthalate.		
Butyric acid	107926	Butanoic acid, ethylacetic acid	iso-	79312
Cadmium acetate	543908			
Cadmium bromide	7789426			
Cadmium chloride	10108642			
Calcium arsenate	7778441	Tricalcium orthoarsenate.		
Calcium arsenite	52740166			
Calcium carbide	75207	Carbide, acetylenogen.		
Calcium chromate	13765190	Calcium chrome yellow, gelbin, yellow ultramarine.		
Calcium cyanide	592018			
Calcium dodecylbenzenesulfonate	26264062			
Calcium hypochlorite	7778543			
Captan	133062	Orthocide-406, SR-406, Vancide-89.		
Carbaryl	63252	Sevin.		
Carbofuran	1563662	Furadan.		
Carbon disulfide	75150	Carbon bisulfide, dithiocarbonic anhydride.		
Carbon tetrachloride	56235	Tetrachloromethane Perchloromethane.		
Chlordane	57749	Toxichlor, chlordan.		
Chlorine	75003			
Chlorobenzene	108907	Monochlorobenzene, benzene chloride.		
Chloroform	67663	Trichloromethane.		
Chlorpyrifos	2921882	Dursban.		
Chlorosulfonic acid	7790945	Sulfuric chlorohydrin.		
Chromic acetate	1066304			
Chromic acid	11115745	Chromic anhydride, chromium trioxide.		
Chromic sulfate	10101538			
Chromous chloride	10049055			
Cobaltous bromide	7789437	Cobalt bromide.		
Cobaltous formate	544183	Cobalt formate.		
Cobaltous sulfamate	14017415	Cobalt sulfamate.		
Coumaphos	56724	Co-Ral.		
Cresol	1319773	Cresylic acid	m-	108394
		Hydroxytoluene	o-	95487
			p-	106445
Crotonaldehyde	4170303	2-butenal propylene aldehyde.		
Cupric acetate	142712	Copper acetate, crystallized verdigris.		
Cupric acetoarsenite	12002038	Copper acetoarsenite, copper acetate arsenite, Paris green.		
Cupric chloride	7447394	Copper chloride.		
Cupric nitrate	3251238	Copper nitrate.		
Cupric oxalate	5893663	Copper oxalate.		
Cupric sulfate	7758987	Copper sulfate.		
Cupric sulfate, ammoniated	10380297	Ammoniated copper sulfate.		
Cupric tartrate	815827	Copper tartrate.		
Cyanogen chloride	506774			
Cyclohexane	110827	Hexahydrobenzene, hexamethylene, hexanaphthene.		
2,4-D acid	94757	2,4-dichlorophenoxyacetic acid.		
2,4-D ester	94111	2,4-dichlorophenoxyacetic acid ester.		
	94791			
	94804			
	1320189			
	1928387			
	1928616			
	1929733			
	2971382			
	25168267			
	53467111			
DDT	50293	p,p'-DDT.		
Diazinon	333415	Dipofene, Diazhol, Basudin, Spectracide.		
Dicamba	1918009	2-methoxy-3,6-dichlorobenzoic acid.		
Dichlobenil	1194656	2,6-dichlorobenzonitrile, 2,6-DBN.		

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES—Continued

Common name	CAS No.	Synonyms	Isomers	CAS No.
Dichlone	117806	Phygon, dichloronaphthoquinone.		
Dichlorobenzene	25321226	Di-chloricide	Ortho	95501
		Paramoth (Para)	Para	106467
Dichloropropane	26638197	Propylene dichloride	1,1	78999
			1,2	78875
			1,3	142289
Dichloropropene	26952238		1,3	542756
			2,3	78886
Dichloropropene-dichloropropane (mixture).	8003198	D-D mixture Vidden D.		
2,2-Dichloropropionic acid	75990	Dalapon.		
Dichlorvos	62737	2,2-dichlorovinyl dimethyl phosphate, Vapona.		
Dicofol	115322	Di(p-chlorophenyl)-trichloromethylcarbinol, DTMC, dicofol.		
Dieldrin	60571	Alvit.		
Diethylamine	109897			
Dimethylamine	124403			
Dinitrobenzene (mixed)	25154545	Dinitrobenzol	m-	99650
			o-	528290
			p-	100254
Dinitrophenol	51285	Aldifen	(2,5-)	329715
			(2,4-).	
			(2,6-)	573568
Dinitrotoluene	25321146	DNT	2,4	121142
			2,6	606202
			3,4	610399
Diquat	85007	Aquacide.		
	2764729	Dextrone, Reglone, Diquat dibromide.		
Disulfoton	298044	Di-syston.		
Diuron	330541	DCMU, DMU.		
Dodecylbenzenesulfonic acid	27176870			
Endosulfan	115297	Thiodan.		
Endrin	72208	Mendrin, Compound 269.		
Epichlorohydrin	106898	-chloropropylene oxide.		
Ethion	563122	Nialate, ethyl methylene, phosphorodithioate.		
Ethylbenzene	100414	Phenylethane.		
Ethylenediamine	107153	1,2-diaminoethane.		
Ethylenediamine-tetraacetic acid (EDTA).	60004	Edetic acid, Havidote, (ethylenedinitrilo)-tetraacetic acid.		
Ethylene dibromide	106934	1,2-dibromoethane acetylene dibromide sym-dibromoethylene.		
Ethylene dichloride	107062	1,2-dichloroethane sym-bichloroethane.		
Ferric ammonium citrate	1185575	Ammonium ferric citrate.		
Ferric ammonium oxalate	2944674	Ammonium ferric oxalate.		
	55488874			
Ferric chloride	7705080	Flores martis, iron trichloride.		
Ferric fluoride	7783508			
Ferric nitrate	10421484	Iron nitrate.		
Ferric sulfate	10028225	Ferric persulfate, ferric sesquisulfate, ferric tersulfate.		
Ferrous ammonium sulfate	10045893	Mohr's salt, iron ammonium sulfate.		
Ferrous chloride	7758943	Iron chloride, iron dichloride, iron protochloride.		
Ferrous sulfate	7720787	Green vitriol.		
	7782630	Iron vitriol, iron sulfate, iron protosulfate.		
Formaldehyde	50000	Methyl aldehyde, methanal, formalin.		
Formic acid	64186	Methanoic acid.		
Fumaric acid	110178	Trans-butenedioic acid, trans-1,2-ethylenedicarboxylic acid, boletic acid, allomaleic acid.		
Furfural	98011	2-furaldehyde, pyromucic aldehyde.		
Guthion	86500	Guasthion, azinphos-methyl.		
Heptachlor	76448	Velsicol-104, Drinox, Heptagran.		
Hexachlorocyclopentadiene	77474	Perchlorocyclopentadiene.		
Hydrochloric acid	7647010	Hydrogen chloride, muriatic acid.		
Hydrofluoric acid	7664393	Fluohydric acid.		
Hydrogen cyanide	74908	Hydrocyanic acid.		
Hydrogen sulfide	7783064	Hydrosulfuric acid sulfur hydride.		
Isoprene	78795	2-methyl-1,3-butadiene.		
Isopropanolamine dodecylbenzenesulfonate.	42504461			
Kepone	143500	Chlordecone 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-1,3,4-metheno-2H-cyclobuta(cd)pentalen-2-one.		

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES—Continued

Common name	CAS No.	Synonyms	Isomers	CAS No.
Lead acetate	301042	Sugar of lead.		
Lead arsenate	7784409			
	7645252			
	10102484			
Lead chloride	7758954			
Lead fluoborate	13814965	Lead fluoroborate.		
Lead fluoride	7783462	Lead difluoride, plumbous fluoride.		
Lead iodide	10101630			
Lead nitrate	10099748			
Lead stearate	7428480	Stearic acid lead salt.		
	1072351			
	52652592			
Lead sulfate	7446142			
Lead sulfide	1314870	Galena.		
Lead thiocyanate	592870	Lead sulfocyanate.		
Lindane	58899	Gamma-BHC, gamma-benzene hexachloride.		
Lithium chromate	14307358			
Malathion	121755	Phosphothion.		
Maleic acid	110167	Cis-butenedioic acid, cis-1,2-ethylenedicarboxylic acid, toxilic acid.		
Maleic anhydride	108316	2,5-furandione, cis-butenedioic anhydride, toxilic anhydride.		
Mercaptodimethur	2036?7	Mesurol.		
Mercuric cyanide	592041	Mercury cyanide.		
Mercuric nitrate	10045940	Mercury nitrate, mercury pernitrate.		
Mercuric sulfate	7783359	Mercury sulfate, mercury persulfate.		
Mercuric thiocyanate	592858	Mercury thiocyanate, mercuric sulfocyanate, mercuric sulfocyanide.		
Mercurous nitrate	7782867			
	10415755	Mercury pronitrate.		
Methoxychlor	72435	DMDT, methoxy-DDT.		
Methyl mercaptan	74931	Methanethiol, mercaptomethane, methyl sulfhydrate, thiomethyl alcohol.		
Methyl methacrylate	80626	Methacrylic acid methyl ester, methyl-2-methyl-2-propenoate.		
Methyl parathion	298000	Nitrox-80.		
Mevinphos	7786347	Phosdrin.		
Mexacarbate	315184	Zectran.		
Monoethylamine	75047	Ethylamine, aminoethane.		
Monomethylamine	74895	Methylamine, aminomethane.		
Naled	300765	Dibrom.		
Naphthalene	91203	White tar, tar camphor, naphthalin.		
Naphthenic acid	1338245	Cyclohexanecarboxylic acid, hexahydrobenzoic acid.		
Nickel ammonium sulfate	15699180	Ammonium nickel sulfate.		
Nickel chloride	37211055	Nickelous chloride.		
	7718549			
Nickel hydroxide	12054487	Nickelous hydroxide.		
Nickel nitrate	14216752			
Nickel sulfate	7786814	Nickelous sulfate.		
Nitric acid	7697372	Aqua fortis.		
Nitrobenzene	98953	Nitrobenzol, oil of mirbane.		
Nitrogen dioxide	10102440	Nitrogen tetraoxide.		
Nitrophenol (mixed)	25154556	Mononitrophenol	m-	554847
			o-	88755
			p-	100027
Nitrotoluene	1321126		Ortho	88722
			Meta	99081
			Para	99990
Paraformaldehyde	30525894	Paraform, Formagene, Triformol, polymerized formaldehyde, polyoxymethylene.		
Parathion	56382	DNTP, Niran.		
Pentachlorophenol	87865	PCP, Penta.		
Phenol	108952	Carbolic acid, phenyl hydroxide, hydroxybenzene, oxybenzene.		
Phosgene	75445	Diphosgene, carbonyl chloride, chloroformyl chloride.		
Phosphoric acid	7664382	Orthophosphoric acid.		
Phosphorus	7723140	Black phosphorus, red phosphorus, white phosphorus, yellow phosphorus.		
Phosphorus oxychloride	10025873	Phosphoryl chloride, phosphorus chloride.		
Phosphorus pentasulfide	1314803	Phosphoric sulfide, thiophosphoric anhydride, phosphorus persulfide.		

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES—Continued

Common name	CAS No.	Synonyms	Isomers	CAS No.
Phosphorus trichloride	7719122	Phosphorous chloride.		
Polychlorinated biphenyls	1336363	PCB, Aroclor, polychlorinated diphenyls.		
Potassium arsenate	7784410			
Potassium arsenite	10124502	Potassium metaarsenite.		
Potassium bichromate	7778509	Potassium dichromate.		
Potassium chromate	7789006			
Potassium cyanide	151508			
Potassium hydroxide	1310583	Potassium hydrate, caustic potash, potasse.		
Potassium permanganate	7722647	Chameleon mineral.		
Propargite	2312358	Omite.		
Propionic acid	79094	Propanoic acid, methylacetic acid, ethylformic acid.		
Propionic anhydride	123626	Propanoic anhydride, methylacetic anhydride.		
Propylene oxide	75569	Propene oxide.		
Pyrethrins	121299	Pyrethrin I.		
	121211	Pyrethrin II.		
Quinoline	91225	1-benzazine, benzo(b)pyridine, leucoline, chinoleine, leucol.		
Resorcinol	108463	Resorcin, 1,3-benzenediol, meta-dihydroxybenzene.		
Selenium oxide	7446084	Selenium dioxide.		
Silver nitrate	7761888	Nitric acid silver (1+) salt lunar caustic.		
Sodium	7440235	Natrium.		
Sodium arsenate	7631892	Disodium arsenate.		
Sodium arsenite	7784465	Sodium metaarsenite.		
Sodium bichromate	10588019	Sodium dichromate.		
Sodium bifluoride	1333831			
Sodium bisulfite	7631905	Sodium acid sulfite, sodium hydrogen sulfite.		
Sodium chromate	7775113			
Sodium cyanide	143339			
Sodium dodecylbenzene-sulfonate	25155300			
Sodium fluoride	7681494	Villiaumite.		
Sodium hydrosulfide	16721805	Sodium hydrogen sulfide.		
Sodium hydroxide	1310732	Caustic soda, soda lye, sodium hydrate.		
Sodium hypochlorite	7681529	Bleach.		
	10022705			
Sodium methylate	124414	Sodium methoxide.		
Sodium nitrite	7632000			
Sodium phosphate, dibasic	7558794			
	10039324			
	10140655			
Sodium phosphate, tribasic	7785844			
	7601549			
	10101890			
	10361894			
	7758294			
	10124568			
Sodium selenite	10102188			
	7782823			
Strontium chromate	7789062			
Strychnine	57249			
Styrene	100425	Vinylbenzene, phenylethylene, styrol, styrolene, cinnamene, cinnamol.		
Sulfuric acid	7664939	Oil of vitriol, oleum.		
Sulfur monochloride	12771083	Sulfur chloride.		
2,4,5-T acid	93765	2,4,5-trichlorophenoxyacetic acid.		
2,4,5-T amines	6369966	Acetic acid (2,4,5-trichlorophenoxy)-compound with N,N-dimethylmethanamine (1:1).		
	6369977	Acetic acid (2,4,5-trichlorophenoxy)-compound with N-methylmethanamine (1:1).		
	1319728	Acetic acid (2,4,5-trichlorophenoxy)-compound with 1-amino-2-propanol (1:1).		
	3813147	Acetic acid (2,4,5-trichlorophenoxy)-compound with 2,2'2"-nitrilotris [ethanol] (1:1).		
2,4,5-T esters	2545597	2,4,5-trichlorophenoxyacetic esters.		
	93798			
	61792072			
	1928478			
	25168154			
2,4,5-T salts	13560981	Acetic acid (2,4,5-trichlorophenoxy)-sodium salt.		
TDE	72548	DDD.		

TABLE 116.4A—LIST OF HAZARDOUS SUBSTANCES—Continued

Common name	CAS No.	Synonyms	Isomers	CAS No.
2,4,5–TP acid	93721	Propanoic acid 2–(2,4,5–trichlorophenoxy).		
2,4,5–TP esters	32534955	Propanoic acid, 2–(2,4,5–trichlorophenoxy)–, isooctyl ester.		
Tetraethyl lead	78002	Lead tetraethyl, TEL.		
Tetraethyl pyrophosphate	107493	TEPP.		
Thallium sulfate	10031591			
	7446188			
Toluene	108883	Toluol, methylbenzene, phenylmethane, Methacide.		
Toxaphene	8001352	Camphechlor.		
Trichlorfon	52686	Dipterex		
		Dylox.		
Trichloroethylene	79016	Ethylene trichloride.		
Trichlorophenol	25167822	Collunosol, Dowicide 2 or 2S, Omal, Phenachlor.	(2,3,4–)	15950660
			(2,3,5–)	933788
			(2,3,6–)	933755
			(2,4,5–)	95954
			(2,4,6–)	88062
			(3,4,5–)	609198
Triethanolamine dodecylbenzenesulfonate.	27323417			
Triethylamine	121448			
Trimethylamine	75503	TMA.		
Uranyl acetate	541093			
Uranyl nitrate	10102064			
	36478769			
Vanadium pentoxide	1314621	Vanadic anhydride, vanadic acid anhydride.		
Vanadyl sulfate	27774136	Vanadic sulfate, vanadium sulfate.		
Vinyl acetate	108054	Acetic acid ethylene ether.		
Vinylidene chloride	75354	1,1–dichloroethylene.		
		1,1–dichloroethene.		
Xylene (mixed)	1330207	Dimethylbenzene	m–	108383
		Xylol	o–	95476
			p–	106423
Xylenol	1300716	Dimethylphenol, hydroxydimethylbenzene.		
Zinc acetate	557346			
Zinc ammonium chloride	14639975			
	14639986			
	52628258			
Zinc borate	1332076			
Zinc bromide	7699458			
Zinc carbonate	3486359			
Zinc chloride	7646857	Butter of zinc.		
Zinc cyanide	557211			
Zinc fluoride	7783495			
Zinc formate	557415			
Zinc hydrosulfite	7779864			
Zinc nitrate	7779886			
Zinc phenolsulfonate	127822	Zinc sulfocarbolate.		
Zinc phosphide	1314847			
Zinc silicofluoride	16871719	Zinc fluosilicate.		
Zinc sulfate	7733020	White vitriol, zinc vitriol, white copperas.		
Zirconium nitrate	13746899			
Zirconium potassium fluoride	16923958			
Zirconium sulfate	14644612	Disulfatozirconic acid.		
Zirconium tetrachloride	10026116			

TABLE 116.4B—LIST OF HAZARDOUS SUBSTANCES BY CAS NUMBER

CAS No.	Common name
50000	Formaldehyde
50293	DDT
51285	2,4-Dinitrophenol
52686	Trichlorfon
56382	Parathion
56724	Coumaphos
57249	Strychnine
57749	Chlordane
58899	Lindane

TABLE 116.4B—LIST OF HAZARDOUS SUBSTANCES BY CAS NUMBER—Continued

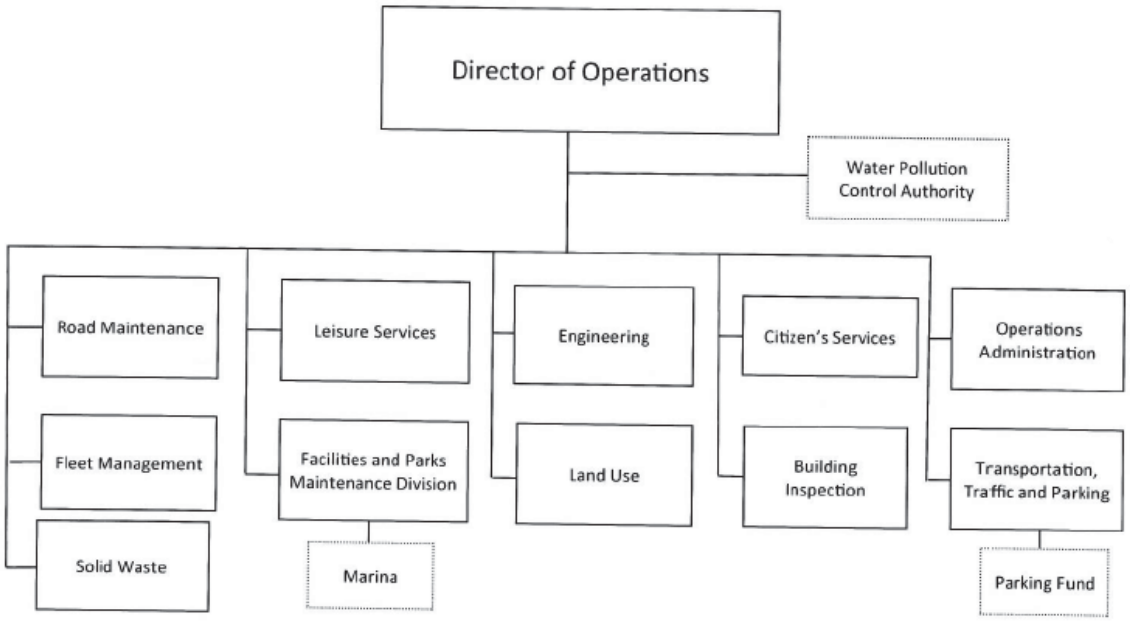
CAS No.	Common name
60004	Ethylenediaminetetraacetic acid (EDTA)
60571	Dieldrin
62533	Aniline
62737	Dichlorvos
63252	Carbaryl
64186	Formic acid
64197	Acetic acid
65850	Benzoic acid

Appendix B

Organizational Charts

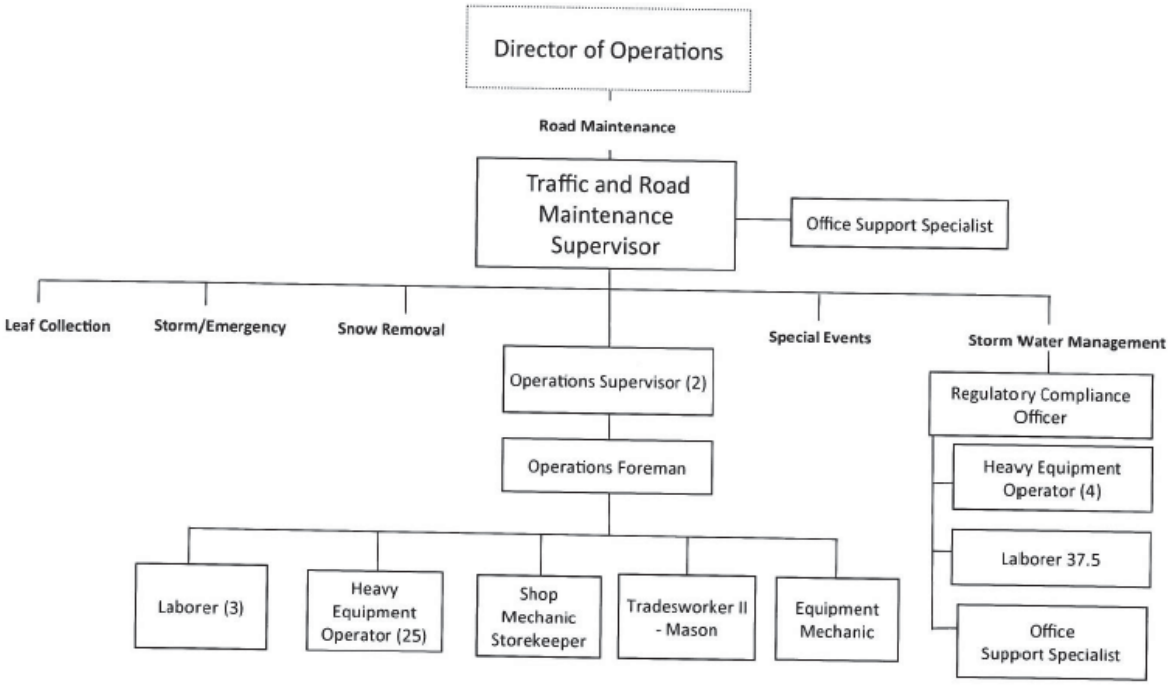
FUSS & O'NEILL

City of Stamford
Office of Operations



FUSS & O'NEILL

City of Stamford
Office of Operations
Road Maintenance



FUSS & O'NEILL

Appendix C

Interconnected MS4s as of June 2016

Interconnected MS4s as of June 2016 City of Stamford

Map Key

Interconnected MS4s as of June 2016

- Into Stamford MS4 from DOT
- Into Stamford MS4 from Greenwich
- Out of Stamford MS4 to DOT
- Out of Stamford MS4 to Greenwich
- Out of Stamford MS4 to New Canaan

- Hydrology
- Parks
- I-95 & Merritt Pkwy
- Major Arterials
- All Other Roads
- Railroads

F

FUSS & O'NEILL

Appendix D

Hazardous Materials Dispatch Guidelines

Stamford Fire & Rescue Department

Standard Operating Guideline

Hazardous Materials Dispatch Guidlines

SOG ID: COM-HMGuide

Date Updated: 13 October 2011

Scope: This guideline applies to all uniformed and investigatory personnel of the Stamford Fire & Rescue Department.

Purpose: The purpose of this guideline is to provide for an orderly system of dispatching operating personnel to releases or potential releases of Hazardous Materials, and to provide for the proper notification of appropriate support agencies.

Definitions (for the purposes of this guideline)

HAZARDOUS MATERIAL

A substance that when released from it's container is capable of creating harm to people, the environment, and property.

HAZARDOUS MATERIALS FIRST RESPONDER - OPERATIONAL

Personnel who respond to releases or potential releases of Hazardous Materials as part of the initial response to the incident for the purpose of protecting nearby persons, the environment, or property from the effects of the release. Operational level personnel are expected to respond in a defensive fashion to control the release from a safe distance and keep it from spreading. However, they may take offensive action when handling certain ***Incidental spills*** while recognizing their level of training, the nature of the hazard, limitations of personal protective equipment, and availability of specialized control equipment. Such incidental spills include gasoline/diesel spills from fuel tanks or motor vehicles, leaks of flammable gases from 20 lb. propane cylinders, or flammable gas leaks such as natural gas within a structure. All SFRD line personnel are trained to a minimum of Operational Level.

HAZARDOUS MATERIALS TECHNICIAN

Personnel who respond to releases or potential releases of Hazardous Materials for the purposes of controlling the release. Technician level personnel may take offensive action to control the release within the limitations of their individual training, available chemical protective clothing, and specialized control equipment. SFRD is the authority having jurisdiction certifying Hazardous Materials Technicians for its Hazardous Materials Response Team. The SFRD maintains personnel

at the Technician Level through appropriate training.

HAZARDOUS MATERIALS RESPONSE TEAM

An organized group of trained response personnel operating under an emergency response plan and appropriate standard operating guidelines who handle and control actual or potential leaks or spills of hazardous materials requiring possible close approach to the material. The team members respond to releases or potential releases of hazardous materials for the purpose of control or stabilization of the incident. The SFRD Hazardous Materials Response Team consists of Technician Level personnel primarily assigned to Truck 2, Engine 2 and Rescue 1, with support from Operational Level (or Technician Level) personnel from all other companies.

Guidleline

Whenever fire dispatch receives a request for SFRD assistance at a release or potential release of a hazardous material, the following guideline will be followed:

The dispatcher and/or Fire Supervisor will attempt to obtain as much information as possible about the product involved and the extent of release or potential release. This information is to be relayed to responding units upon initial dispatch and updated as warranted.

The SFRD initial response to the incident will be determined by the reported nature and extent of the release.

Incidental Haz-Mat Releases - able to be handled by a single Engine Company at the first responder-operational level. Examples: Automobile with leaking fluids; investigation of spill/slick on a waterway; fuel oil spill; Carbon Monoxide detector alarm without report of illness.

Incidental Haz-Mat Releases requiring combustible gas metering - ability to be handled by responding companies at the operational level with accessibility to combustible gas meters. Examples: Natural gas leak; leaking propane tank.

Significant Haz-Mat Releases - potential for the incident to be beyond the control of a single Company at the operational level. The need for Technician level training is most likely needed. Examples. Chemical spill at a manufacturing facility; Chemical leak from a tanker truck; etc.

Based upon the information received at fire dispatch (or in consultation with the on-duty Haz-Mat Officer) the following units will be initially dispatched:

Incidental Haz-Mat Release

- First due engine company

Incidental Haz-Mat release requiring combustible gas metering

- First due Engine and Truck company and Rescue 1
- If Rescue 1 is unavailable, dispatch Truck 2 for metering in addition to the first due engine/truck
- If Rescue 1 and Truck 2 are unavailable, dispatch Engine 2 for metering in addition to the first due engine/truck

Significant Haz-Mat Releases

- First due engine company and the Haz-Mat Team (Rescue 1; Truck 2; Engine 2)

The Incident Commander (IC) can upgrade or downgrade the response as necessary.

The SFRD Hazardous Materials Officer page group should be notified of any Haz-Mat Team responses. The on duty Hazardous Materials Officer shall be notified. The Hazardous Materials Officer(s) will respond to such incidents at their discretion or at the request of the IC.

The IC can request a response from the Fairfield County Hazardous Materials Response Team depending upon the size and scope of the incident. This Unit can be mobilized for a specific piece of equipment or a "Full Team Fan-Out". Indications to mobilize a "Full Team Fan-Out" would be a limited number of SFRD Technician Level Personnel on-scene to make a hot zone entry or response as a back-up to our level A entry. A staging area for a "Full Team Fan-Out" should be designated by the IC. The FCHMRT will operate under the SFRD Incident Command System. To mobilize this unit, refer to the FCHMRT Fan-Out Procedure Binder.

Natural or propane gas leaks inside a structure should be given an assignment of 2 Engine Companies, 1 Truck Company, 1 Rescue Company, & 1 Incident Commander.

Request for SFRD Haz-Mat Team response beyond the City borders shall be authorized by the on-duty Deputy Chief pursuant to mutual-aid agreements.

It is recommended that the Communications Supervisor contact the on-duty Haz-Mat Officer by landline or radio for assistance in determining the appropriate resources/response prior to or immediately after dispatch.

FUSS & O'NEILL

Appendix E

Operations at a Hazardous Materials Incident

Stamford Fire & Rescue Department

Standard Operating Guideline

Operations At A Hazardous Materials Incident

SOG ID: HZM-Ops

Date Updated: 16 December 2011

Scope: This guideline applies to all uniformed and investigatory personnel of the Stamford Fire & Rescue Department.

Purpose: To provide for the safety of operating personnel and to provide for an orderly system of mitigating an incident involving hazardous materials.

Definitions

For the purposes of this guideline, the United States Department of Transportation definition of hazardous materials will be adopted as follows:

"A hazardous material is one that poses a risk to the health and safety of operating or emergency personnel, the public, and/or the environment if it is not properly controlled during handling, storage, manufacture, processing, packaging, use, disposal, or transportation. "

As you can see, many routine engine calls are actually hazardous materials incidents. A leaking gas tank from a vehicle, an oil spill on the highway, etc. are all hazardous materials incidents.

General Procedures

The following course of action will be followed at all hazardous material incident scenes:

1. Determine the presence of hazardous materials. Many times this is accomplished prior to arrival through the Communications Center.
2. Set up a command post. This could be as simple as using the responding Engine or Rescue or as elaborate as an enclosed building or tent for prolonged operations.
3. Identify the product involved. This is not always easy to do. Many times the product such as oil or gasoline will be obvious, but at times identification will test your detective abilities. Use placards, shipping papers, witness information, and shipper and manufacturer information to determine the identity of the product. This is a crucial step because all other actions are dependent upon the identity of the product.
4. Conduct a hazard and risk assessment. Basically, what this means is to determine the possible and probable outcomes of the incident with and without intervention. The resulting hazard

assessment will determine the size of evacuation perimeters, scene zones, levels of chemical protective clothing required, and whether offensive or defensive operations are appropriate.
5. Determine operational alternatives. Determine two or three different methods of handling the incident e.g. offensive vs. defensive, burn off vs. extinguishment, vapor control vs. evaporation, etc.
6. Choose best course of action. From the different alternatives, choose the one that provides for the greatest safety of the public and can be readily accomplished.
7. Constantly evaluate your decision. Determine if the course of action chosen is accomplishing the objectives. If it is not meeting those objectives, consider an alternative.

Scene Command And Control

Because of the complexity of some operations, the Incident Command System(ICS) will be used at HazMat incidents. Remember that the ICS can be as simple or as complex as the incident dictates. At HazMat incidents there should always be a Hazard Sector Officer. The Hazard Sector Officer should usually be a hazardous materials technician from the Stamford Fire and Rescue Department assigned to Rescue 1, Engine 2, or Truck 2.

The Incident Commander (IC) must do the following:

- Establish a command post as previously stated. Identify the Hazard Sector Officer. Assign a timekeeper to be at the command post to keep track of times of notifications, breathing apparatus, etc. The timekeeper may also be the Safety Officer.
- Request other agencies as needed. This may include the Stamford Health Dept. if public health is involved, Police, EMS, etc. **The State of Connecticut Dept. of Environmental Protection (DEP) MUST be notified of all incidents**. They don't have to respond but they must be notified of any release to the environment by law.
- Request call back of additional manpower, as needed. Remember that operations in chemical protective clothing can cause heat exhaustion and early relief and fluid replacement is a necessity.
- Establish control zones based on information received from the Hazard Sector Officer. Physically delineate the different zones with barrier tape or by other means.
- Insure that a decontamination corridor is established prior to any entry into a hot zone. Decontamination procedures may be simple-or complex based on the product involved.
- Provide for EMS standby at the scene of any serious HazMat incident. Any contaminated victims-will be decontaminated prior to treatment by EMS personnel.
- Determine with the Hazard Sector Officer the level of the incident and relay this information to dispatch. Incident levels are as follows:

Level I

Level I incidents are minor incidents which can be handled with the resources on the scene. There is no evacuation needed and Stamford Fire Department resources can handle the incident using normal fire fighting protective clothing. Decontamination is usually very minimal and there is no immediate life threat. DEP, Coast Guard, Health Dept., may be involved on a limited basis. Examples: fuel leak from passenger vehicle, small oil spill in river, small propane tank leak, odor investigations, leaks from drums of less than 55 gallons, etc.

Level II

Level II incidents are those which are more involved than a Level I incident and which an Engine Company can not handle on it's own. Level II incidents require outside-agency assistance for product containment, control and clean up. Any incident which requires Level A or B chemical protective clothing, metering, unknown product determination, evacuation other than the immediate area, IDLH atmospheres, etc. is considered a Level II incident.

Level III

Level III incident are those that are beyond the capabilities of the HazMat response team and local agencies to handle. Level III incidents require the implementation of the City disaster plan, large evacuations, State and Federal intervention, etc. Examples include-large BLEVES, evacuation beyond the City boundaries, migrating poisonous gas vapors, large numbers of deaths, etc. A Level III incident is usually declared a disaster by the Mayor and the Governor may also be involved. Level III incidents are usually handled in a defensive manner and may require the expertise of federal or manufacturer response teams.

Protective Clothing Guidelines

Level A:

Completely encapsulated, gas tight and acid resistant clothing with internal self contained breathing apparatus. Usually used for poisonous gases or corrosives. The level of protection required should be chosen using an assortment of reference materials and manufacturers literature.

Level B:

Encapsulated chemical protective clothing with all openings secured or taped. Self contained breathing apparatus must be worn but not encapsulated within the clothing. Level B is usually used for irritant liquid or solid products which are not corrosive. Cheap disposable protective clothing can be worn over turnout clothing to protect the turnout clothing as well as the firefighters

Level C:

Level C protection uses filtering type breathing apparatus and so therefore will not be addressed here.

Level - D:

Normal fire fighting protective clothing without breathing apparatus. This would be used where there is no inhalation hazard.

Decontamination Procedures

A decontamination line must be set up prior to any site entry. Decontamination can be simple or involved depending on the product and extent of involvement. The Hazard Sector Officer will determine the extent of Decontamination.

Decontamination takes place between the hot and warm zone using hoses, buckets, soap, brushes, etc. the runoff water must be collected for disposal. Any contaminated clothing or tools must be collected and secured for cleaning or disposal.

Medical Surveillance Procedures

A Medical Sector will be established in the cold zone as soon as possible. Staffing will be by Stamford EMS agencies and possible hospital personnel based on the extent of involvement. The Medical Sector will treat all injuries or exposures of responders or victims after they have been decontaminated. The Medical Sector should also monitor and record the vital signs of all hot zone response personnel. Any personnel operating in Level A or B clothing will have vital signs recorded prior to entry and immediately after Decontamination. The Medical Sector will also supply fluid replacement.

Termination Procedures

Each incident requires certain termination procedures as follows:

1. Debriefing - all responders will be informed as to the hazards of' the product and any acute or chronic health symptoms that may occur. All should be informed as to what symptoms may show up in the next few days. Anyone exposed, should be handed a safety data sheet on the product involved.
2. Critique - A critique should be conducted within 48 hours of the incident to determine lessons learned. This is a valuable training experience, since large incidents don't happen often.
3. Reporting - All necessary reports must be completed and copies filed where required. Each HazMat incident should have a fire incident report and a hazardous materials officer report filed. If there were any exposures, an exposure report must be filed with the incident report and a copy forwarded to the HazMat officer to be filed in the employees medical file. A complete listing of equipment used, overtime required, etc. must be included on the incident report so that cost of operations may be recovered.

Dispatch Procedures

The dispatcher will attempt to receive as much information as possible about the product involved and relay this information to the responding units.

Initial response to an incident will depend on the reported size and type of incident. Refer to SOG COM-AlarmRespAssign.

The arriving officer will then determine what other resources are needed. A Signal 19 will be declared for all HazMat incidents no matter how minor they may be. The Director of Emergency Management and the Hazardous Materials Officer will be notified on all incidents and will respond at their discretion. No other notifications (DEP- Coast Guard, etc.) will be made until requested by

the IC. As each incident is different, the IC will determine which agencies are needed at the scene.

The Incident Commander will advise dispatch as soon as possible as to the level of the incident, i.e. Level I, II, III, etc. Whenever an incident is declared a Level II or higher, dispatch will, per Incident Commander, dispatch the Turn of River Fire Department Rescue and HazMat trailer to the scene.

FUSS & O'NEILL

Appendix F

Stormwater Ordinance

ORDINANCE NO. 1183, SUPPLEMENTAL
ADDING CHAPTER 201, REGULATION OF MUNICIPAL SEPARATE STORM SEWER SYSTEM ["MS4"], ARTICLE I, REGULATION OF MUNICIPAL SEPARATE STORM SEWER SYSTEM ["MS4"]

WHEREAS; the State of Connecticut Department of Environmental Protection ["DEEP"] issued a Permit to the City on June 4, 2013 for the operation of the City's Municipal Storm Sewer System, NPDES Permit No. 0030279; and,

WHEREAS; a requirement of the DEEP Permit is that the City establish legal authority to provide for the health, safety, and general welfare of the citizens of Stamford through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable, as required by federal and state law; and,

NOW, THEREFORE, BE IT ORDAINED BY THE 29th BOARD OF REPRESENTATIVES THAT:

Chapter 201, Regulation of Municipal Separate Storm Sewer System ["MS4"] shall be appended to the City of Stamford Code of Ordinances as follows:

CHAPTER 201 REGULATION OF MUNICIPAL SEPARATE STORM SEWER SYSTEM ["MS4"]

ARTICLE I. REGULATION OF MUNICIPAL SEPARATE STORM SEWER SYSTEM ["MS4"]

Sec. 201-1. Purpose/Intent

The purpose of this Ordinance is to provide for the health, safety, and general welfare of the citizens of Stamford through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable, as required by federal and state law. This Ordinance establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this Ordinance are:

(1) To regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by stormwater discharges by any user;

(2) To prohibit and eliminate Illicit Connections and Discharges to the municipal separate storm sewer system;

(3) To establish legal authority of the City to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this Ordinance;

(4) To ensure compliance with the Connecticut Department of Environmental Protection ["DEEP"] Permit for the operation of the City's Municipal Storm Sewer System ["the Permit"], NPDES Permit No. CT 0030279, issued on June 4, 2013.

Sec. 201-2. Definitions.

For the purposes of this Ordinance, the following definitions shall apply:

Authorized Enforcement Agency: The Office of Operations or designees of the Director of Operations who are designated to enforce this Ordinance, including but not limited to the Regulatory Compliance and Administrative Officer, and Operations Supervisors and Foremen in the Traffic and Road Maintenance Department.

Best Management Practices ("BMPs"): 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 stormwater, receiving waters, or stormwater 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.

Clean Water Act: The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity: Activities subject to National Pollutant Discharge Elimination ["NPDES"] Construction Permits, including but not limited to NPDES Stormwater Phase II permits required for construction projects resulting in land disturbance of 1 acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

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.

Illicit Discharge: Any direct or indirect discharge to the storm drain system that is not entirely composed of stormwater, except as exempted in Section 7 of this Ordinance.

Illicit Connections: An Illicit Connection is defined as either of the following:

(a) Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system, 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 the Authorized Enforcement Agency or,

(b) Any drain or conveyance connected to the storm drainage system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Industrial Activity: Refers to the definition of Industrial Activity in Section 2 of the General Permit for the Discharge of Stormwater Associated with Industrial Activity issued by the Connecticut DEEP, as amended.

National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit: A permit issued by the EPA (or by a State under authority delegated pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-Stormwater Discharge: Any discharge to the storm drain system that is not composed entirely of stormwater.

Permit: The Connecticut Department of Environmental Protection ["DEEP"] Permit for the operation of the City's Municipal Storm Sewer System, NPDES Permit No. CT 0030279, issued on June 4, 2013.

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: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; noxious or offensive matter of any kind; industrial and commercial wastes, trash, used motor vehicle fluids, food preparation waste, leaf litter, and grass clippings.

Premises: Any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalks and parking areas.

Storm Drainage System (also known as Municipal Separate Storm Sewer System or MS4): Publicly-owned facilities by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures. Additionally included are retention and detention basins which are privately owned where the City maintains an easement or other legal authority pursuant to Section 6(A)(3)(a)(i) of the Permit.

Stormwater: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Wastewater: Any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

Sec. 201-3. Applicability.

This Ordinance shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless explicitly exempted by the Authorized Enforcement Agency.

Sec. 201-4. Responsibility for Administration.

The Director of Operations, as he/she so delegates to the Authorized Enforcement Agency, shall administer, implement, and enforce the provisions of this Ordinance. Any powers granted or duties imposed upon the Director of Operations may be delegated in writing by the Director of Operations to the Authorized Enforcement Agency, acting in the beneficial interest of or in the employ thereof.

Sec. 201-5. Severability.

The provisions of this Ordinance are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Ordinance 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 Ordinance.

Sec. 201-6. Ultimate Responsibility.

The standards set forth herein and promulgated pursuant to this Ordinance are minimum standards; therefore this Ordinance does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

Sec. 201-7. Discharge Prohibitions.

A. Prohibition of Illicit Discharges.

No person shall discharge or cause to be discharged into the municipal storm drainage system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater.

B. Exceptions

1. The following non-stormwater discharges, provided that they do not contribute to a violation of water quality standards and are not significant contributors of pollutants to the MS4: landscape irrigation and lawn watering runoff, provided that all pesticides, herbicides, and fertilizers have been applied in accordance with approved labeling; uncontaminated ground water discharges such as pumped ground water, foundation drains, water from crawl space pumps and footing drains; discharges of uncontaminated air conditioner or refrigeration condensate; for street sweeping activities conducted by the MS4, residual street wash waters that do not contain detergents and where no non-remediated spills or leaks of toxic or hazardous materials have occurred; and naturally occurring discharges such as rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), springs, diverted stream flows and flows from riparian habitats and wetlands.

2. Discharges specified in writing by Regulatory Compliance and Administrative Officer as being necessary to protect public health and safety.

3. Dye testing is an allowable discharge, but requires a verbal notification to the Regulatory Compliance and Administrative Officer prior to the time of the test.

4. The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system by the appropriate authority.

C. Prohibition of Illicit Connections.

1. The construction, use, maintenance or continued existence of illicit Connections to the storm drainage system is prohibited.

2. This prohibition expressly includes, without limitation, Illicit Connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

3. A person is considered to be in violation of this Ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

Sec. 201-8. Suspension of MS4 Access.

A. Suspension Due to Illegal Discharges in Emergency Situations

The Regulatory Compliance and Administrative Officer 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, or to the health or welfare of persons, or to the MS4 or Waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the Regulatory Compliance and Administrative Officer may take such steps as deemed necessary to prevent or minimize damage to the MS4 or Waters of the United States, or to minimize danger to persons.

B. Suspension due to the Detection of Illegal Discharge

Any person discharging to the MS4 in violation of this Ordinance may have their MS4 access terminated if such termination would abate or reduce an illegal discharge. The Regulatory Compliance and Administrative Officer shall notify a violator of the proposed termination of its MS4 access. The violator may petition the Director of Operations for a reconsideration and hearing. Any hearing shall be conducted in accordance with the provisions of the Uniform Administrative Procedure Act, C.G.S. Sections 4-166 through 4189g.

A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this Section, without the prior written approval of the Regulatory Compliance and Administrative Officer.

Sec. 201-9. Industrial or Construction Activity Discharges.

Any person subject to an industrial or construction activity NPDES stormwater 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 Regulatory Compliance and Administrative Officer prior to the allowing of discharges to the MS4.

Sec. 201-10. Monitoring of Discharges.

A. Applicability.

This Section applies to all Premises that discharge stormwater.

B. Access to Premises.

1. The Authorized Enforcement Agency shall be permitted to enter and inspect Premises as often as may be necessary to determine compliance with this Ordinance. If a discharger has security measures in force which require proper identification and clearance before entry into its Premises, the discharger shall make the necessary arrangements to allow access to the Authorized Enforcement Agency.

2. All property owners shall allow Authorized Enforcement Agency ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge stormwater, and the performance of any additional duties as defined by state and federal law.

3. The Authorized Enforcement Agency shall have the right to set up on any Premises such devices as are necessary in the opinion of the Authorized Enforcement Agency to conduct monitoring and/or sampling of the Premises' stormwater discharge.

4. The Authorized Enforcement Agency has the right to require the discharger to install monitoring equipment as necessary. The monitoring equipment shall meet all specifications required by the Authorized Enforcement Agency. The discharger shall provide the Authorized Enforcement Agency with copies of all such monitoring reports as the Agency may reasonably require, including but not limited to laboratory reports for selected parameters. The Premises' 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 stormwater flow and quality shall be calibrated by qualified personnel to ensure their accuracy.

5. Any temporary or permanent obstruction to safe and easy access to the Premises to be inspected and/or sampled shall be promptly removed by the Owner at the written or oral request of the Authorized Enforcement Agency and shall not be replaced. The costs of clearing such access shall be borne by the Owner.

6. Unreasonable delays in allowing the Authorized Enforcement Agency access to a Premises is a violation of this Ordinance. A person who is the Owner of such Premises commits an offense if the person denies the Authorized Enforcement Agency

reasonable access to the Premises for the purpose of conducting any activity authorized or required by this Ordinance.

7. If an Authorized Enforcement Agent has been refused access to any part of the Premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this Ordinance, 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 Ordinance or any Order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the Authorized Enforcement Agency may seek issuance of a search warrant from any court of competent jurisdiction.

Sec. 201-11. Notification of Spills.

Notwithstanding other requirements of law, as soon as any person who is the Owner of or who is responsible for a Premises has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into stormwater, the storm drain system, or water of the United States, 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 non-hazardous materials, said person shall notify the Regulatory Compliance and Administrative Officer 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 Regulatory Compliance and Administrative Officer within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial 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 three years.

Sec. 201-12. Enforcement.

A. Notice of Violation.

Whenever an Authorized Enforcement Agent finds that a person has violated a prohibition or failed to meet a requirement of this Ordinance, he or she may order compliance by written notice of violation to the responsible person or persons. Such notice may require without limitation:

(1) The performance of monitoring, analyses, and reporting;

(2) The elimination of illicit connections or discharges;

(3) That violating discharges, practices, or operations shall cease and desist;

(4) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property; and

(5) Payment of a fine to cover administrative and remediation costs; 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. Fines.

The fines shall not exceed the maximum permitted under state law, and the amount shall be determined in accordance with this Subsection B.

Fine Schedule: The fine for violations involving more than one activity shall be equal to the sum of the fines for each applicable activity class.

Activity Class	Fine
First violation	$ 100.00
Second violation	$ 200.00
Third and subsequent violations	$ 250.00

Any fine collected by the City of Stamford pursuant to this article shall be deposited into the City of Stamford's general fund account.

C. Issuance of Citations

1. An Authorized Enforcement Agent may issue a citation to any person who commits a violation or a continuing violation of this Ordinance. Any such citation may be issued either by hand delivery or by certified mail to the person named in such citation. In such instances, each citation shall apply jointly and severally to the Owner of the property in question and his/her agents, contractors and subcontractors. An original or certified copy of the initial citation issued by the issuing official shall be filed and retained by the City of Stamford and shall be deemed to be business record within the scope of Section 52-180 of the Connecticut General Statutes and evidence of the facts contained therein. In addition, a copy of the initial citation shall be reported to the Connecticut Department of Energy & Environmental Protection, pursuant to Section 22a-31-14 of the Connecticut General Statutes.

2. The citation shall inform such person:

(a) Of the allegations against him or her for which the citation is issued pursuant to this Section and the amount of the fines, penalties and costs, as fees due;

(b) That the person has a period of 30 days from the date of the citation (i.e., the date of hand delivery or the date the citation was mailed) to make an uncontested payment of the fines;

(c) Payment may be made by cash, credit card, checks or money orders made payable to the City of Stamford and submitted in person or mailed to Cashiering & Permitting, City of Stamford, P.O. Box 10152, Stamford, CT 06904-2152.

(d) The citation notice shall also inform the person cited that he/she may contest his liability before a citation Hearing Officer by delivering in person or by mail written notice within ten (10) days of the date thereof. The notice shall also inform the person cited that if he/she does not demand such a hearing, an assessment and judgment shall be entered against him/her and that such judgment may issue without further notice.

3. Each violation shall be a separate and distinct offense. In the case of the continuing violation, at the discretion of the Regulatory Compliance and Administrative Officer and with the prior consent of the Director of Operations, daily citations may be issued commencing two calendar days from receipt of the notice of violation.

D. Admission of liability by payment of fine.

If any person who is sent notice pursuant to this Section wishes to admit to liability for any alleged violation, he/she may, without requesting a hearing, pay the full amount of the fines, penalties, costs or fees admitted to. Payment may be made by cash, credit card, checks or money orders made payable to the City of Stamford and submitted in person or mailed to Cashiering & Permitting, City of Stamford, P.O. Box 10152, Stamford, CT 06904-2152.

E. Hearing on Notice of Violation

Any person may demand a hearing on any Notice of Violation and/or any fine by delivering a written request for the same to the Regulatory Compliance and Administrative Officer within ten (10) calendar days of the date of the first notice provided for in this section. Any person who does not deliver such written request shall be deemed to have admitted liability, and the Regulatory Compliance and Administrative Officer shall certify such person's failure to respond to the Hearing Officer. The Hearing Officer shall thereupon enter and assess the fines, penalties, costs or fees provided for by this Section and shall follow the procedures set forth in the Uniform Administrative Procedure Act, C.G.S. Sections 4-166 through 4189a.

Any person who requests a hearing shall be given written notice by certified mail of the date, time and place for the hearing. Such hearing shall be held not less than fifteen (15) calendar days or more than thirty (30) days from the date of the mailing of notice, provided that the Hearing Officer shall grant upon good cause shown a postponement or continuance for any reasonable request by any interested party. Once a hearing has been requested, no additional citations shall be issued.

The presences of the issuing official shall be required at the hearing if such person so requests. A person wishing to contest his/her liability shall appear at the hearing and may present evidence in his/her behalf.

If the person who demanded a hearing fails to appear, the Hearing Officer may enter an assessment by default against him/her upon finding of proper notice and liability under this Section.

A designated municipal official, other than the Hearing Officer, may present evidence on behalf of the municipality.

The Hearing Officer may accept from the designated municipal official, copies of police reports, investigatory and citation reports and other official documents by mail and may determine thereby that the appearance of the municipal official not necessary.

The Hearing Officer shall conduct the hearing in the order and form and with such methods of proof as he/she deems fair and appropriate. The rules regarding the admissibility of evidence shall not be strictly applied, but all testimony shall be given under oath or affirmation.

The Hearing Officer shall announce his/her decision at the end of the hearing.

1. If the Hearing Officer determines that the person is not liable, he/she shall dismiss the matter and enter his/her determination, in writing, accordingly.

2. If the Hearing Officer determines that a violation has occurred and that the person is liable for the violation, he/she shall then enter a determination that a violation has been committed and, as applicable, assess the fines, penalties, costs or fees against such person as provided by this Section, in writing, with a copy to the violator.

Sec. 201-13. Failure to Pay Fine

If such assessment is not paid on the date of entry, the Hearing Officer shall send first class mail a notice of the assessment to the person found liable and shall file, not less than thirty (30) calendar days nor more than twelve (12) months after such mailing, a certified copy of the notice of assessment with the Clerk of the Superior Court for the Small Claims Session in Stamford, together the required entry fee . The certified copy of the notice of assessment against the same person may be accrued and filed as one record assessment. Within such twelve-month period, assessments against the same person may be accrued and filed on record of assessment. The Clerk of the Court shall enter a judgment, in the amount of the assessment plus court costs against such person in favor of the City of Stamford. Notwithstanding any other provisions of the Connecticut General Statutes, the Hearing Officer's assessment, when so entered as a judgment, shall have the effect of a civil money judgment, and a levy of execution on such judgment may be issued without further notice to such person.

Sec. 201-14. Appeals.

A person against whom a determination of violation and/or an assessment has been entered is entitled to judicial review by way of appeal. An appeal shall be instituted within 30 days of the mailed of notice of violation and/or notice of assessment by filing a petition to reopen a determination of a violation and/or an assessment, together with the required entry fee pursuant to Section 52-259 of the Connecticut General Statues, in the Superior Court, which shall entitle such person to a hearing in accordance with the rules of the Superior Court.

Sec. 201-15. Measures After Appeal.

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or in the event of a decision of a Hearing Officer or of court in the case of an appeal, within five (5) calendar days of the decision upholding the action of the Regulatory Compliance and Administrative Officer, then representatives of the Authorized Enforcement Agency shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, Owner, agent or person in possession of any Premises to refuse to allow the Authorized Enforcement Agency or designated contractor to enter upon the Premises for the purposes set forth above.

Sec. 201-16. Cost of Abatement of the Violation.

Within five (5) calendar days after abatement of the violation, the owner of the property shall be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within five (5) calendar days.If the amount due is not paid within a timely manner as determined by the decision of the Regulatory Compliance and Administrative Officer or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

Any person violating any of the provisions of this Section shall become liable to the City by reason of such violation. The liability shall be paid in not more than twelve (12) equal installments. Interest at the rate of set by the Superior Court for interest on judgments shall be assessed on the balance beginning on the first day following discovery of the violation.

Sec. 201-17. Injunctive Relief.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Ordinance. If a person has violated or continues to violate the provisions of this ordinance, the Regulatory Compliance and Administrative Officer 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.

Sec. 201-18. Compensatory Action.

In lieu of enforcement proceedings, penalties, and remedies authorized by this Ordinance, the Regulatory Compliance and Administrative Officer may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, and distribution of environmental literature.

Sec. 201-19. 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 Ordinance which is a threat to public health, safety, and welfare, and which is declared and deemed a nuisance, may be summarily abated or restored at the violator's expense, and/or a civil action may be brought to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

Sec. 201-20. Remedies Not Exclusive.

The remedies listed in this Ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the Regulatory Compliance and Administrative Officer to seek cumulative remedies.

BE IT FURTHER ORDAINED that this Ordinance shall take effect immediately on approval.

Randall M. Skigen, President, and Annie M. Summerville, Clerk, do hereby certify that the foregoing Ordinance was approved by a machine vote of 31-5-1 by the 29th Board of Representatives at the Regular Board Meeting held on March 2, 2015.

Randall M. Skigen, President
Dated this 2nd day of March, 2015

Annie M. Summerville, Clerk
Dated this 2nd day of March, 2015

David R. Martin, Mayor, City of Stamford
Dated this 4 day of March, 2015

EFFECTIVE DATE: March 20, 2015

cc: Mayor David R. Martin
Michael Handler, Director of Administration
Jim Hricay, Director of OPM
Ernie Orgera, Director of Operations
Thomas Madden, Director of Economic Development
Kathryn Emmett, Esq., Law Department
Ted Jankowski, Director of Public Safety, Health & Welfare
Donna Loglisci, Town Clerk
Thomas Turk, Traffic & Road Maintenance Supervisor
Tyler Theder, Regulatory Compliance and Administrative Officer

FUSS & O'NEILL

Appendix G

SFRD Hazardous Response Materials Inventory

FUSS & O'NEILL

INVENTORY HAZ MAT 1

UPDATED10/08/2006

LOCATION	qty.	equipment type	description	FIRST TUESDAY DATE	SECND TUESDAY DATE	THIRD TUESDAY DATE	FOURTH TUESDAY DATE
COMPARTMENT 1							
Top Shelf #1							
	6	Blue Flashing Lanterns					
	2	Chemical Sampling Kits	Paint Cans with Supplies				
	1	Biological Sampling Kit	Plastic Bucket with Supplies				
Middle Shelf #2							
	1	Plastic Caddy					
	2	UEI CO Meters					
	1	3M Heat Gun					
	1	Calibration Kit	Blue/Spare Cylinders				
	1	Triage Tags	Red box				
	1	Large	Disposable Gloves				
	1	XL	Disposable Gloves				
	1	XXL	Disposable Gloves				
Bottom Shelf #3							
	1	Dreager Kit					
	1	Dreager Kit	Chip Kit				
	1	Dreager Kit	CDS Kit				
	1	CDV 777 Kit Complete	700,717,750				
	1	CDV 777 Kit	715 only				
	1	Speaker for 700					
	1	Digital Camara in case					
	1	Radiation meter	Ludlum 14C w/ probes				
	2	Combustible Gas Indicators	TIF 8800				
	1	Mecury Spill Kit					
	1	M256 Kit w/ M8 paper					
	1	Ultrasonic Leak detector	TIF 6600				
	1	Ceramic Heater					
	1	20/20 Gene Kit					
		Bio Assay Tickets	Anthrax				
		Bio Assay Tickets	Ricin				
Floor #4							
	1	Bio sampling Bag	Orange (Assorted supplies)				
	1	Infra Red Spectometer	IRSense Kit w. Laptop				
	1	Portable Power Pack					
	1	Extension Cord w/ Strip					
	1	Refrigerator—					
		Iodine Solution, Acetone, Assorted Batteries					
		Chlorinol Kit, 20/20 Gene Kits,					

LOCATION	qty.	equipment type	description	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE
Stand up compartment							
	2	Folding tables					
	6	Folding Chairs					
	1	4' Ladder	Wood Folding				
Compartment #2							
	4 Bins	Level "A" Suits	Flash Protection &Over Boots				
	16	5 Gallon containers of AR/FFFP Foam					
Bin #1		Hazard/Risk Assessment					
	1	Clip Board					
	2	Calculators					
Bin #2		Safety Officer					
	1	Clipboard					
	1	Binoculars					
	1	Air Horn/Cylinders					
Bin #3		Weather					
	1	Weather Radio					
		Tape					
Bin #4		Command					
	1	Clip Board					
	1	Green Revolving light					
	1	Air Horn/Cylinders					
Bin #5		Site Contol					
	1	Clipboard					
		Barrier Tape					
Bin #6		Resource					
	1	Clip Board					
Bin #7		Decontamination					
	1	Clip Board					
Bin #8		Medical					
	1	Clip Board					

LOCATION	qty.	equipment type	description	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE
Comp #2 Con't							
	1 Bin	0 Cool Vests	NO Cold Packs				
	1 Bin	Modesty Garments					
		8 Drawer Cabinet					
Drawer #1							
	2pr	Goggles					
	2	Scott Envoy interface connectors					
		Garden Hose coupling pieces					
		Bag of Plastic Strawdroppers					
Drawer #2							
	1	Auomile Jumper Cables					
	2	Bonding Straps					
	2	Grounding Straps					
		M8 Paper					
		M9 Paper					
		Phenolphthalein Paper					
		Neutral Litmus Paper					
		Infectious Waste Tape					
		Chem Tape					
		Spillyter					
Drawer #3							
	4 boxes	Disposable Gloves	Assorted sizes				
		Plastic Bags					
		Wire Ties					
		Chem Tape					
Drawer #4							
	3	Folding Shovels					
	1	Foam Wrench	70mm				
	1	Bung Wrench					
	1	Hydrant Wrench					
	4	Spanner Wrenches					
	1	1.5 inch X garden hose adapter					
Drawer #5							
	3	Coils of Rope					
Drawer #6							
		Barrier Tape					
Drawer #7		Reference Books					
	1	Public Health ERG (Blue)					
	1	Janes Chem-Bio Handbook					
	1	Emergency Response to Terrorism JobAid (Yellow)					
	1	2008 Emergency Response Guide Book					
	1	2003 NIOSH Guide					
	1	LSU WMD Response Guide Book					
	2	Permeation Binders (Black and White)					

LOCATION	qty.	equipment type	description	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE
		CD-ROMs - TG230, FEMA Haz Guide, LSU Guide Book					
Drawer #8	Personal Effects						
		Key for Drawer					
		Ziplock Bags					
		Permanent Markers					
Top Shelf							
	2	Walkers					
Middle Shelf							
	1 Bin	5 Rolls of Chem Tape					
	1 Bin	Neoprene Gloves	Various Sizes				
	1 Bin	Silver Shield Gloves and Vinyl Exam Gloves					
	1 Bin	Butyl Gloves					
	1 Bin	Nitrile Gloves (Truama Gloves)					
Bottom Shelf							
	4	SCBA 1 Hour Packs	43,44,45,46				
		Radio Carry Case					
		PASS Alarm	Lifeguard II				
		Scott Envoy Earpiece and Amplifyer					
	1 Box	4 Spare Regulators w/1 Spare Radio Harness					
Stand up Compartment							
	3	Stools					
	8	SCBA 1 Hour Bottles					
Compartment #4							
Top Shelf #1							
	3	Tarps	2 Green and 1 Blue				
Middle Shelf #2	Level B						
	1 Bin	6 Large TK Suits, 1 Roll Chem Tape, 6 pr Boots, 1 Box Gloves					
	1 Bin	6 XL TK Suits, 1 Roll Chem Tape, 6 pr Boots, 1 Box Gloves					
	1 Bin	6 XXL TK Suits, 1 Roll Chem Tape, 6 pr Boots, 1 Box Gloves					
	1 Bin	3 XXXL TK Suits, 1 Roll Chem Tape, 6 pr Boots, 1 Box Gloves					
Middle Shelf #3	Level C						
	1 Bin	12 Large SL Suits, 1 Roll Chem Tape, 6 pr Boots, 1 Box Gloves					
	1 Bin	12 XL SL Suits, 1 Roll Chem Tape, 6 pr Boots, 1 Box Gloves					
	1 Bin	12 XXL SL Suits, 1 Roll Chem Tape, 6 pr Boots, 1 Box Gloves					
	1 Bin	6 XXXL SL Suits, 1 Roll Chem Tape, 6 pr Boots, 1 Box Gloves					
Middle Shelf #3							
	1 Bin	Green Beta Boots	8 pr				
	1 Bin	Orange Tingley Boots	8 pr				
	1 Bin	4 XL CPF4 Suits, 1 Roll Chem Tape					
	1 Bin	2 XL, 2XXL, CPF3 Suits, 1 Roll Chem Tape					

LOCATION	qty.	equipment type	description	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE
Compartment #5							
Top Shelf #1							
		Plastic Hoses					
	2	Bundles Absorbent Pads					
		Assortments of "Pigs"					
Middle Shelf #2							
	6	Spill Sorbent					
	1	5" Boom					
	2	Bundles of Absorbent Pads					
	1	Roll Polypropylene Cord					
Middle Shelf #3							
	2 Bins	Absorbent Pillows					
	2	5 Gallon Pails/1 Lid					
	2	6" Booms					
Middle Shelf #4							
	16	Dri-Sorb					
Compartment #6							
Top Shelf #1							
	4	Bundles of Absorbent Pads					
Middle Shelf #2							
	1	Large Vetter Air Bag System Case + 4 Patches					
	1	Small Vetter Air Bag System(Yellow Box)					
	4	Orange Cones					
Middle Shelf #3							
	1	Flat Head Axe					
	1	Haligan Bar					
	1	Sparkless Maul					
	1	Regular Maul					
	1	Crow Bar					
	1	3' Unger Grab Bar					
	2	24" Quick Grip Clamps					
	1	55 Gallon Drum Hoist					
	1	Drum Handling Tool					
	2	Large Drum Bands Patches					
	1	Acid Nuetralizer					
	1	Dense Soda Ash					

LOCATION	qty.	equipment type	description	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE
Middle Shelf #3	Con't						
Sparkless Tool Box							
		Claw Hammer					
		14" Pipe Wrench					
		Adjustable Wrench					
		Bunch Wrench					
	2	Regular Screwdrivers					
	2	Phillips Screwdrivers					
		Wire Brush					
		Channel Lock Pliers					
		Pipe Patch Kit					
	11	Patches					
	3	Box Wrenches					
	1	Ratchet					
	2	Sockets					
	1	Extension					
		Spare Bolts for Patches					
		Roll Duct Tape					
Tool Box							
	1	Hacksaw					
	6	Putty Knives					
	1	10" Adjustable Wrench					
	1	10" Pipe Wrench					
	1	Wire Brush					
	1	Ball Pien Hammer					
	1	Mallet					
	1	5 Piece Standard Wrench Set					
	1	6 Piece Metric Wrench Set					
	2	10" Vise Grips					
	1	Tubing Crimper					
		Tie Wraps					
	4	Regular Screwdrivers					
	4	Phillips Screwdrivers					
	2	Combination Screwdrivers					
	1	Electricians Pliers					
	1	Channel Lock Pliers					
	1	Utility Knife and Spare Blades					
		Emery Cloth					

LOCATION	qty.	equipment type	description	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE
Compartment #6 Con't							
Stand Up Compartment		SEALED					
	1Bin	Leak/Plug Supplies					
Leak Kit Lid		Assorted Washers					
		Toggle Bolts					
		Sheet Metal Screws					
		Assorted Stoppers/Caps					
		Type II Propane Adapter					
Leak Kit Bottom		Emery Cloth					
	2	Rolls of Duct Tape					
		Large Hose Clamps					
		Container of Plumbers Putty					
		Lead Wool					
	2	8" C-Clamps					
	2	4" C-Clamps					
Leak Kit Tray 2	2	1/8" Metal Plugs					
	2	1/8" Metal Caps					
	1	1/4" Metal Plugs					
	2	1/4" Metal Caps					
	1	3/8" Metal Plugs					
	2	3/8" Metal Caps					
	1	1/2" Metal Plugs					
	2	1/2" Metal Caps					
	1	3/4" Metal Plugs					
	2	3/4" Metal Caps					
	1	1" Metal Plugs					
	2	1" Metal Caps					
	1	1 1/4" Metal Plugs					
	2	1 1/4" Metal Caps					
	1	1 1/2" Metal Plugs					
	2	1 1/2" Metal Caps					
	1	2" Metal Plugs					
		3/8" Brass Ball Valve					
		1/2" Brass Ball Valve					
		3/4" Brass Ball Valve					
		1/2" PVC Ball Valve					
		3/4" PVC Ball Valve					
		1" PVC Ball Valve					
		1 1/2" PVC Ball Valve					
		1/2" PVC Plug					
		2 1/2" PVC Cap					
		1 3/4" PVC Plug					
		2 3/4" PVC Cap					
	2	1" PVC Caps					

LOCATION	qty.	equipment type	description	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE
Compartment #6 Con't		**SEALED**					
Leak Kit Tray 2 Con't	2	1 1/4" PVC Plug					
	2	1 1/2 PVC Plug					
		2" PVC Plug					
		3" PVC Plug					
	2	Garden Hose Caps					
	1	Tire Patch Kit					
	3	Boiler Plug					
	1	1" Boat Plug					
	3	Bailer Plugs					
Leak Kit Tray 1		Assorted Tie Wraps					
		Assorted Wood Shims					
		Wax Coated Golf Tees					
		Teflon Tape					
	1	Tube of Apoxy					
	1	Tube Silicone Gasket Maker					
		Radial Tire Patch Kit					
		3/4" Test Plug					
		1" Test Plug					
		1 1/4" Test Plug					
		1 1/2" Test Plug					
		2" Test Plug					
		3" Test Plug					
		4" Test Plug					
	1	Ball Plug					
	1	Water Key					
	1	Regular Screwdriver					
	1	Philips Screwdriver					
		3/16" Nut Driver					
		1/4" Nut Driver					
		5/16" Nut Driver					
	1	Aviation Snips					
	1	Flat-billed Vise Grips					
	1	Large Forceps					
	1	Utility Knife					
	2	Small Clamps					
	1	Bag Pipettes					
	2pr	Safety Glasses					

LOCATION	qty.	equipment type	description	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE
Compartment #7							
Top Shelf #1	2	Lengths Garden Hose					
		10" Right Angle 1 1/2" Rockwood Adapter					
Middle Shelf #2							
	6	Plastic Racks					
	1Bin	Misc. Brushes/adaptors					
	1 Bin	Soap, Sodium Bicarb, Acclaim, Green Soap, Detergent					
		Dawn, Bleach, Hand Soap					
	3	5 Gallon Buckets					
	1	Pail/Lid w/ 5 - 4lb Packets of Trisodium Phosphate (TSP)					
Middle Shelf #3							
Decon Bin #1							
		Tarp					
		Fold-A-Tank or Inflatable Pool					
	1	Wand					
	1	Garden Hose Wye					
	1	Garden Hose Nozzle					
	1	Garden Hose					
	2	Brushes					
Decon Bin #2							
		Tarp					
		Fold-A-Tank or Inflatable Pool					
	1	Wand					
	1	Garden Hose Wye					
	1	Garden Hose Nozzle					
	1	Garden Hose					
	2	Brushes					
Decon Bin #2							
		Tarp					
		Fold-A-Tank or Inflatable Pool					
	1	Wand					
	1	Garden Hose Wye					
	1	Garden Hose Nozzle					
	1	Garden Hose					
	2	Brushes					
Bottom Shelf #4							
	12	5 Gallon Pails FFFP Foam					
	1	Chlorine "A" Kit					
	1	Chlorine "B" Kit					

LOCATION	qty.	equipment type	description		TUESDAY DATE	TUESDAY DATE	TUESDAY DATE	TUESDAY DATE
Compartment #7 Cont'								
Ofiero Foam Bucket	1	Mater Stream Foam Through						
	1	Metal Spike and Cover						
	1	500 GPM Foam Nozzle and Eductor						
	1	1 1/2" Rockwood SG Fog Nozzle						
	1	1 1/2" RockwoodFoam Applicator						
	1	2 1/2" X 1/2" Gated Wye						
	1	Hydrant to Garden Hose Adapter						
	1	6 Outlet Manifold (1 1/2" X Garden Hose)						
	1	Diaphram Hand Pump						
	1	Short Garden Hose UnThreaded						
	1	Short Garden Hose Threaded						
Compartment #8								
Top Shelf #1	2	Rolls Plastic Sheeting						
	1	Bin Hazmat Garbage Bags						
	1	Box of 7 Broom Heads						
Middle Shelf #2	3	Paint Can/Lids (2 Large-1 Small)						
	3	Sprayers (2 large, 1 small)						
	1	Utility Rope						
	2	Kernmantle Ropes						
	1	Little Giant Pump						
	1	Can Regular Garbage Bags						
		Fiber over packs						
Middle Shelf #3	1	95 Gallon Platic Overpack Drum w/Lid						
	1	30 Gallon Platic Overpack Drum w/Lid						
	1	20 Gallon Cardboard OverPack Drumw/Lid						
	2	5 Gallon Plastic Pails						
	2	20# Sodium Bicarbonate Extinguishers						
	1	2 1/2 Gallon PW Extinguisher						
Middle Shelf #4	1	Drum Hand Truck						
	1	Hand Truck						
	1	Piston Hand Pump						
	2	SKED Stretchers						
		10 Gallon Cardboard Drum w/Lid						
		20 Gallon Cardboard Drum w/Lid						
	4	Plastic Shovels						
	1	Metal Shovels						
	1	Plastic Drum Pump						
	4	Broom Handles						
	3	Brooms						
	1	Grounding						
	1	Plastic Sampler Scoop	2 Piece					

Appendix H

Reportable Quantities

APPENDIX A

LIST OF LISTS
CONSOLIDATED LIST OF CHEMICALS (BY ALPHBETICAL NAME)
SUBJECT TO EPCRA, CERCLA AND CAA SECTION 112(r)

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Abamectin	71751-41-2				313		
Acenaphthene	83-32-9			100			
Acenaphthylene	208-96-8			5,000			
Acephate	30560-19-1				313		
Acetaldehyde	75-07-0			1,000	313	U001	10,000
Acetaldehyde, trichloro-	75-87-6			5,000		U034	
Acetamide	60-35-5			100	313		
Acetic acid	64-19-7			5,000			
Acetic acid, (2,4-dichlorophenoxy)-	94-75-7			100	X	U240	
Acetic acid ethenyl ester	108-05-4	1,000	5,000	5,000	X		15,000
Acetic anhydride	108-24-7			5,000			
Acetone	67-64-1			5,000		U002	
Acetone cyanohydrin	75-86-5	1,000	10	10	X	P069	
Acetone thiosemicarbazide	1752-30-3	1,000/10,000	1,000				
Acetonitrile	75-05-8			5,000	313	U003	
Acetophenone	98-86-2			5,000	313	U004	
2-Acetylaminofluorene	53-96-3			1	313	U005	
Acetyl bromide	506-96-7			5,000			
Acetyl chloride	75-36-5			5,000		U006	
Acetylene	74-86-2						10,000
Acetylphosphoramidothioic acid O,S-dimethyl ester	30560-19-1				X		
1-Acetyl-2-thiourea	591-08-2			1,000		P002	
Acifluorfen, sodium salt	62476-59-9				313		
Acrolein	107-02-8	500	1	1	313	P003	5,000
Acrylamide	79-06-1	1,000/10,000	5,000	5,000	313	U007	
Acrylic acid	79-10-7			5,000	313	U008	
Acrylonitrile	107-13-1	10,000	100	100	313	U009	20,000
Acrylyl chloride	814-68-6	100	100				5,000
Adipic acid	124-04-9			5,000			
Adiponitrile	111-69-3	1,000	1,000				
Alachlor	15972-60-8				313		
Aldicarb	116-06-3	100/10,000	1	1	313	P070	
Aldicarb sulfone	1646-88-4			100		P203	
Aldrin	309-00-2	500/10,000	1	1	313	P004	
d-trans-Allethrin	28057-48-9				313		
Allyl alcohol	107-18-6	1,000	100	100	313	P005	15,000
Allylamine	107-11-9	500	500		313		10,000
Allyl chloride	107-05-1			1,000	313		
Aluminum (fume or dust)	7429-90-5				313		
Aluminum oxide (fibrous forms)	1344-28-1				313		
Aluminum phosphide	20859-73-8	500	100	100	313	P006	
Aluminum sulfate	10043-01-3			5,000			
Ametryn	834-12-8				313		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
2-Aminoanthraquinone	117-79-3				313		
4-Aminoazobenzene	60-09-3				313		
4-Aminobiphenyl	92-67-1			1	313		
1-Amino-2,4-dibromoanthraquinone	81-49-2				313		
1-Amino-2-methylanthraquinone	82-28-0				313		
5-(Aminomethyl)-3-isoxazolol	2763-96-4	500/10,000	1,000	1,000		P007	
Aminopterin	54-62-6	500/10,000	500				
4-Aminopyridine	504-24-5	500/10,000	1,000	1,000		P008	
Amiton	78-53-5	500	500				
Amiton oxalate	3734-97-2	100/10,000	100				
Amitraz	33089-61-1				313		
Amitrole	61-82-5			10	313	U011	
Ammonia	7664-41-7	500	100	100			
Ammonia (anhydrous)	7664-41-7	500	100	100	X		10,000
Ammonia (conc 20% or greater)	7664-41-7			See ammonium hydroxide	X		20,000
Ammonia (includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources; 10 percent of total aqueous ammonia is reportable under this listing)	7664-41-7				313		
Ammonium acetate	631-61-8			5,000			
Ammonium benzoate	1863-63-4			5,000			
Ammonium bicarbonate	1066-33-7			5,000			
Ammonium bichromate	7789-09-5			10	313c		
Ammonium bifluoride	1341-49-7			100			
Ammonium bisulfite	10192-30-0			5,000			
Ammonium carbamate	1111-78-0			5,000			
Ammonium carbonate	506-87-6			5,000			
Ammonium chloride	12125-02-9			5,000			
Ammonium chromate	7788-98-9			10	313c		
Ammonium citrate, dibasic	3012-65-5			5,000			
Ammonium fluoborate	13826-83-0			5,000			
Ammonium fluoride	12125-01-8			100			
Ammonium hydroxide	1336-21-6			1,000	X		
Ammonium oxalate	5972-73-6			5,000			
Ammonium oxalate	6009-70-7			5,000			
Ammonium oxalate	14258-49-2			5,000			
Ammonium picrate	131-74-8			10		P009	
Ammonium silicofluoride	16919-19-0			1,000			
Ammonium sulfamate	7773-06-0			5,000			
Ammonium sulfide	12135-76-1			100			
Ammonium sulfite	10196-04-0			5,000			
Ammonium tartrate	3164-29-2			5,000			
Ammonium tartrate	14307-43-8			5,000			
Ammonium thiocyanate	1762-95-4			5,000			
Ammonium vanadate	7803-55-6			1,000	313c	P119	
Amphetamine	300-62-9	1,000	1,000				
Amyl acetate	628-63-7			5,000			
iso-Amyl acetate	123-92-2			5,000			
sec-Amyl acetate	626-38-0			5,000			
tert-Amyl acetate	625-16-1			5,000			

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Anilazine	101-05-3				313		
Aniline	62-53-3	1,000	5,000	5,000	313	U012	
Aniline, 2,4,6-trimethyl-	88-05-1	500	500				
o-Anisidine	90-04-0			100	313		
p-Anisidine	104-94-9				313		
o-Anisidine hydrochloride	134-29-2				313		
Anthracene	120-12-7			5,000	313		
Antimony	7440-36-0			5,000	313		
Antimony Compounds	N010			&	313		
Antimony pentachloride	7647-18-9			1,000			
Antimony pentafluoride	7783-70-2	500	500		313c		
Antimony potassium tartrate	28300-74-5			100	313c		
Antimony tribromide	7789-61-9			1,000	313c		
Antimony trichloride	10025-91-9			1,000	313c		
Antimony trifluoride	7783-56-4			1,000	313c		
Antimony trioxide	1309-64-4			1,000	313c		
Antimycin A	1397-94-0	1,000/10,000	1,000				
ANTU	86-88-4	500/10,000	100	100		P072	
Aroclor 1016	12674-11-2			1			
Aroclor 1221	11104-28-2			1			
Aroclor 1232	11141-16-5			1			
Aroclor 1242	53469-21-9			1			
Aroclor 1248	12672-29-6			1			
Aroclor 1254	11097-69-1			1			
Aroclor 1260	11096-82-5			1			
Arsenic	7440-38-2			1	313		
Arsenic acid	7778-39-4			1	313c	P010	
Arsenic Compounds	N020			&	313		
Arsenic disulfide	1303-32-8			1	313c		
Arsenic pentoxide	1303-28-2	100/10,000	1	1	313c	P011	
Arsenic trioxide	1327-53-3	100/10,000	1	1	313c	P012	
Arsenic trisulfide	1303-33-9			1	313c		
Arsenous oxide	1327-53-3	100/10,000	1	1	313c	P012	
Arsenous trichloride	7784-34-1	500	1	1	313c		15,000
Arsine	7784-42-1	100	100				1,000
Asbestos (friable)	1332-21-4			1	313		
Atrazine	1912-24-9				313		
Auramine	492-80-8			100	X	U014	
Avermectin B1	71751-41-2				X		
Azaserine	115-02-6			1		U015	
1H-Azepine-1 carbothioic acid, hexahydro-S-ethyl ester	2212-67-1				X		
Azinphos-ethyl	2642-71-9	100/10,000	100				
Azinphos-methyl	86-50-0	10/10,000	1	1			
Aziridine	151-56-4	500	1	1	X	P054	10,000
Aziridine, 2-methyl	75-55-8	10,000	1	1	X	P067	10,000
Barban	101-27-9			10		U280	
Barium	7440-39-3				313		
Barium Compounds	N040				313		
Barium cyanide	542-62-1			10	313c	P013	
Bendiocarb	22781-23-3			100	313	U278	
Bendiocarb phenol	22961-82-6			1,000		U364	

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Benezeneamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-	1582-09-8			10	X		
Benfluralin	1861-40-1				313		
Benomyl	17804-35-2			10	313	U271	
Benz[c]acridine	225-51-4			100		U016	
Benzal chloride	98-87-3	500	5,000	5,000	313	U017	
Benzamide	55-21-0				313		
Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl	23950-58-5			5,000	X	U192	
Benz[a]anthracene	56-55-3			10	313+	U018	
Benzenamine, 3-(trifluoromethyl)-	98-16-8	500	500				
Benzene	71-43-2			10	313	U019	
Benzeneacetic acid, 4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-hydroxy-, ethyl ester	510-15-6			10	X	U038	
Benzeneamine, N-hydroxy-N-nitroso, ammonium salt	135-20-6				X		
Benzenearsonic acid	98-05-5	10/10,000	10				
Benzene, 1-(chloromethyl)-4-nitro-	100-14-1	500/10,000	500				
1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-	1897-45-6				X		
Benzene, 2,4-dichloro-1-(4-nitrophenoxy)-	1836-75-5				X		
Benzene, 2,4-diisocyanato-1-methyl-	584-84-9	500	100	100	X		10,000
Benzene, 1,3-diisocyanato-2-methyl-	91-08-7	100	100	100	X		10,000
Benzene, 1,3-diisocyanatomethyl-	26471-62-5			100	X	U223	10,000
Benzene, m-dimethyl-	108-38-3			1,000	X	U239	
Benzene, o-dimethyl-	95-47-6			1,000	X	U239	
Benzene, p-dimethyl-	106-42-3			100	X	U239	
Benzeneethanamine, alpha,alpha-dimethyl-	122-09-8			5,000		P046	
Benzenemethanol, 4-chloro-.alpha.-4-chlorophenyl)-.alpha.-(trichloromethyl)-	115-32-2			10	X		
Benzenesulfonyl chloride	98-09-9			100		U020	
Benzenethiol	108-98-5	500	100	100		P014	
Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-methoxy-	72-43-5			1	X	U247	
Benzidine	92-87-5			1	313	U021	
Benzimidazole, 4,5-dichloro-2-(trifluoromethyl)-	3615-21-2	500/10,000	500				
Benzo[b]fluoranthene	205-99-2			1	313+		
Benzo(j)fluoranthene	205-82-3				313+		
Benzo(k)fluoranthene	207-08-9			5,000	313+		
Benzoic acid	65-85-0			5,000			
Benzoic acid, 3-amino-2,5-dichloro-	133-90-4			100	X		
Benzoic acid, 5-(2-chloro-4-(trifluoromethyl)phenoxy)-2-nitro-, 2-ethoxy-1-methyl-2-oxethyl ester	77501-63-4				313		
Benzoic trichloride	98-07-7	100	10	10	313	U023	
Benzonitrile	100-47-0			5,000			
Benzo(rst)pentaphene	189-55-9			10	313+	U064	

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Benzo[g,h,i]perylene	191-24-2			5,000	313		
Benzo(a)phenanthrene	218-01-9			100	313+	U050	
Benzo[a]pyrene	50-32-8			1	313+	U022	
p-Benzoquinone	106-51-4			10	X	U197	
Benzotrichloride	98-07-7	100	10	10	X	U023	
Benzoyl chloride	98-88-4			1,000	313		
Benzoyl peroxide	94-36-0				313		
Benzyl chloride	100-44-7	500	100	100	313	P028	
Benzyl cyanide	140-29-4	500	500				
Beryllium	7440-41-7			10	313	P015	
Beryllium chloride	7787-47-5			1	313c		
Beryllium Compounds	N050			&	313		
Beryllium fluoride	7787-49-7			1	313c		
Beryllium nitrate	7787-55-5			1	313c		
Beryllium nitrate	13597-99-4			1	313c		
alpha-BHC	319-84-6			10	X		
beta-BHC	319-85-7			1			
delta-BHC	319-86-8			1			
Bicyclo[2.2.1]heptane-2-carbonitrile, 5-chloro-6-((((methylamino)carbonyl)oxy)imino)-,(1-alpha,2-beta,4-alpha,5-alpha,6E))-	15271-41-7	500/10,000	500				
Bifenthrin	82657-04-3				313		
2,2'-Bioxirane	1464-53-5	500	10	10	X	U085	
Biphenyl	92-52-4			100	313		
2,2-bis(Bromomethyl)-1,3-propanediol	3296-90-0				313		
Bis(2-chloroethoxy) methane	111-91-1			1,000	313	U024	
Bis(2-chloroethyl) ether	111-44-4	10,000	10	10	313	U025	
Bis(chloromethyl) ether	542-88-1	100	10	10	313	P016	1,000
Bis(2-chloro-1-methylethyl)ether	108-60-1			1,000	313	U027	
Bis(chloromethyl) ketone	534-07-6	10/10,000	10				
Bis(2-ethylhexyl)phthalate	117-81-7			100	X	U028	
N,N'-Bis(1-methylethyl)-6-methylthio-1,3,5-triazine-2,4-diamine	7287-19-6				X		
1,4-Bis(methylisocyanate)cyclohexane	10347-54-3				313#		
1,3-Bis(methylisocyanate)cyclohexane	38661-72-2				313#		
Bis(tributyltin) oxide	56-35-9				313		
Bitoscanate	4044-65-9	500/10,000	500				
Borane, trichloro-	10294-34-5	500	500		X		5,000
Borane, trifluoro-	7637-07-2	500	500		X		5,000
Boron trichloride	10294-34-5	500	500		313		5,000
Boron trifluoride	7637-07-2	500	500		313		5,000
Boron trifluoride compound with methyl ether (1:1)	353-42-4	1,000	1,000				15,000
Boron, trifluoro[oxybis[methane]]-, (T-4)-	353-42-4	1,000	1,000				15,000
Bromacil	314-40-9				313		
Bromacil, lithium salt	53404-19-6				313		
Bromadiolone	28772-56-7	100/10,000	100				
Bromine	7726-95-6	500	500		313		10,000

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Bromoacetone	598-31-2			1,000		P017	
1-Bromo-1-(bromomethyl)-1,3-propanedicarbonitrile	35691-65-7				313		
Bromochlorodifluoromethane	353-59-3				313		
O-(4-Bromo-2-chlorophenyl)-O-ethyl-S-propylphosphorothioate	41198-08-7				X		
Bromoform	75-25-2			100	313	U225	
Bromomethane	74-83-9	1,000	1,000	1,000	313	U029	
5-Bromo-6-methyl-3-(1-methylpropyl)-2,4-(1H,3H)-pyrimidinedione	314-40-9				X		
4-Bromophenyl phenyl ether	101-55-3			100		U030	
Bromotrifluoroethylene	598-73-2						10,000
Bromotrifluoromethane	75-63-8				313		
Bromoxynil	1689-84-5				313		
Bromoxynil octanoate	1689-99-2				313		
Brucine	357-57-3			100	313	P018	
1,3-Butadiene	106-99-0			10	313		10,000
1,3-Butadiene, 2-methyl-	78-79-5			100			10,000
Butane	106-97-8						10,000
Butane, 2-methyl-	78-78-4						10,000
2-Butenal	4170-30-3	1,000	100	100	X	U053	20,000
2-Butenal, (e)-	123-73-9	1,000	100	100		U053	20,000
Butene	25167-67-3						10,000
1-Butene	106-98-9						10,000
2-Butene	107-01-7						10,000
2-Butene-cis	590-18-1						10,000
2-Butene, 1,4-dichloro-	764-41-0			1	X	U074	
2-Butene, (E)	624-64-6						10,000
2-Butene-trans	624-64-6						10,000
1-Buten-3-yne	689-97-4						10,000
2,4-D butoxyethyl ester	1929-73-3			100	313		
Butyl acetate	123-86-4			5,000			
iso-Butyl acetate	110-19-0			5,000			
sec-Butyl acetate	105-46-4			5,000			
tert-Butyl acetate	540-88-5			5,000			
Butyl acrylate	141-32-2				313		
n-Butyl alcohol	71-36-3			5,000	313	U031	
sec-Butyl alcohol	78-92-2				313		
tert-Butyl alcohol	75-65-0				313		
Butylamine	109-73-9			1,000			
iso-Butylamine	78-81-9			1,000			
sec-Butylamine	513-49-5			1,000			
sec-Butylamine	13952-84-6			1,000			
tert-Butylamine	75-64-9			1,000			
Butyl benzyl phthalate	85-68-7			100			
.alpha.-Butyl-.alpha.-(4-chlorophenyl)-1H-1,2,4-triazole-1-propanenitrile	88671-89-0				X		
1,2-Butylene oxide	106-88-7			100	313		
Butylethylcarbamothioic acid S-propyl ester	1114-71-2				X		
N-Butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl) benzenamine	1861-40-1				X		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
n-Butyl phthalate	84-74-2			10	X	U069	
1-Butyne	107-00-6						10,000
Butyraldehyde	123-72-8				313		
Butyric acid	107-92-6			5,000			
iso-Butyric acid	79-31-2			5,000			
Cacodylic acid	75-60-5			1		U136	
Cadmium	7440-43-9			10	313		
Cadmium acetate	543-90-8			10	313c		
Cadmium bromide	7789-42-6			10	313c		
Cadmium chloride	10108-64-2			10	313c		
Cadmium Compounds	N078			&	313		
Cadmium oxide	1306-19-0	100/10,000	100		313c		
Cadmium stearate	2223-93-0	1,000/10,000	1,000		313c		
Calcium arsenate	7778-44-1	500/10,000	1	1	313c		
Calcium arsenite	52740-16-6			1	313c		
Calcium carbide	75-20-7			10			
Calcium chromate	13765-19-0			10	313c	U032	
Calcium cyanamide	156-62-7			1,000	313		
Calcium cyanide	592-01-8			10	313c	P021	
Calcium dodecylbenzenesulfonate	26264-06-2			1,000			
Calcium hypochlorite	7778-54-3			10			
Camphechlor	8001-35-2	500/10,000	1	1	X	P123	
Camphene, octachloro-	8001-35-2	500/10,000	1	1	X	P123	
Cantharidin	56-25-7	100/10,000	100				
Captan	133-06-2			10	313		
Carbachol chloride	51-83-2	500/10,000	500				
Carbamic acid, diethylthio-, S-(p-chlorobenzyl)	28249-77-6				X		
Carbamic acid, ethyl ester	51-79-6			100	X	U238	
Carbamic acid, methyl-, O-(((2,4-dimethyl-1,3-dithiolan-2-yl)methylene)amino)-	26419-73-8	100/10,000	100	100		P185	
Carbamodithioic acid, 1,2-ethanediylbis-, manganese complex	12427-38-2				X		
Carbamodithioic acid, 1,2-ethanediylbis-, zinc complex	12122-67-7				X		
Carbamothioic acid, bis(1-methylethyl)-S-(2,3-dichloro-2-propenyl)ester	2303-16-4			100	X	U062	
Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester	52888-80-9			5,000		U387	
Carbaryl	63-25-2			100	313	U279	
Carbendazim	10605-21-7			10		U372	
Carbofuran	1563-66-2	10/10,000	10	10	313	P127	
Carbofuran phenol	1563-38-8			10		U367	
Carbon disulfide	75-15-0	10,000	100	100	313	P022	20,000
Carbonic difluoride	353-50-4			1,000		U033	
Carbonic dichloride	75-44-5	10	10	10	X	P095	500
Carbonochloridic acid, methylester	79-22-1	500	1,000	1,000	X	U156	5,000
Carbonochloridic acid, 1-methylethyl ester	108-23-6	1,000	1,000				15,000
Carbonochloridic acid, propylester	109-61-5	500	500				15,000

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Carbon oxide sulfide (COS)	463-58-1			100	X		10,000
Carbon tetrachloride	56-23-5			10	313	U211	
Carbonyl sulfide	463-58-1			100	313		10,000
Carbophenothion	786-19-6	500	500				
Carbosulfan	55285-14-8			1,000		P189	
Carboxin	5234-68-4				313		
Catechol	120-80-9			100	313		
CFC-11	75-69-4			5,000	X	U121	
CFC-12	75-71-8			5,000	X	U075	
CFC-114	76-14-2				X		
CFC-115	76-15-3				X		
CFC-13	75-72-9				X		
Chinomethionat	2439-01-2				313		
Chloramben	133-90-4			100	313		
Chlorambucil	305-03-3			10		U035	
Chlordane	57-74-9	1,000	1	1	313	U036	
Chlordane (Technical Mixture and Metabolites)	N.A.			&			
Chlorendic acid	115-28-6				313		
Chlorfenvinfos	470-90-6	500	500				
Chlorimuron ethyl	90982-32-4				313		
Chlorinated Benzenes	N.A.			&			
Chlorinated Ethanes	N.A.			&			
Chlorinated Naphthalene	N.A.			&			
Chlorinated Phenols	N084			&	313		
Chlorine	7782-50-5	100	10	10	313		2,500
Chlorine dioxide	10049-04-4				313		1,000
Chlorine monoxide	7791-21-1						10,000
Chlorine oxide	7791-21-1						10,000
Chlorine oxide (ClO2)	10049-04-4				X		1,000
Chlormephos	24934-91-6	500	500				
Chlormequat chloride	999-81-5	100/10,000	100				
Chlornaphazine	494-03-1			100		U026	
Chloroacetaldehyde	107-20-0			1,000		P023	
Chloroacetic acid	79-11-8	100/10,000	100	100	313		
2-Chloroacetophenone	532-27-4			100	313		
Chloroalkyl Ethers	N.A.			&			
1-(3-Chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	4080-31-3				313		
p-Chloroaniline	106-47-8			1,000	313	P024	
Chlorobenzene	108-90-7			100	313	U037	
Chlorobenzilate	510-15-6			10	313	U038	
2-(4-((6-Chloro-2-benzoxazolylen)oxy)phenoxy)propanoic acid, ethyl ester	66441-23-4				X		
2-Chloro-N-(2-chloroethyl)-N-methylethanamine	51-75-2	10	10		X		
p-Chloro-m-cresol	59-50-7			5,000		U039	
2,4-D chlorocrotyl ester	2971-38-2			100	313		
Chlorodibromomethane	124-48-1			100			
1-Chloro-1,1-difluoroethane	75-68-3				313		
Chlorodifluoromethane	75-45-6				313		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
5-Chloro-3-(1,1-dimethylethyl)-6-methyl-2,4(1H,3H)-pyrimidinedione	5902-51-2				X		
Chloroethane	75-00-3			100	313		10,000
Chloroethanol	107-07-3	500	500				
Chloroethyl chloroformate	627-11-2	1,000	1,000				
6-Chloro-N-ethyl-N'-(1-methylethyl)-1,3,5-triazine-2,4-diamine	1912-24-9				X		
2-Chloroethyl vinyl ether	110-75-8			1,000		U042	
Chloroform	67-66-3	10,000	10	10	313	U044	20,000
Chloromethane	74-87-3			100	313	U045	10,000
2-Chloro-N-(((4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl)benzenesulfonamide	64902-72-3				X		
4-Chloro-5-(methylamino)-2-[3-(trifluoromethyl)phenyl]-3(2H)-pyridazinone	27314-13-2				X		
Chloromethyl ether	542-88-1	100	10	10	X	P016	1,000
4-Chloro-alpha-(1-methylethyl)benzeneacetic acid cyano(3-phenoxyphenyl)methyl ester	51630-58-1				X		
2-Chloro-N-(1-methylethyl)-N-phenylacetamide	1918-16-7				X		
Chloromethyl methyl ether	107-30-2	100	10	10	313	U046	5,000
(4-Chloro-2-methylphenoxy) acetate sodium salt	3653-48-3				X		
(4-Chloro-2-methylphenoxy) acetic acid	94-74-6				X		
3-Chloro-2-methyl-1-propene	563-47-3				313		
2-Chloronaphthalene	91-58-7			5,000		U047	
Chlorophacinone	3691-35-8	100/10,000	100				
2-Chlorophenol	95-57-8			100		U048	
Chlorophenols	N084			&	313		
1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone	43121-43-3				X		
.alpha.-(2-Chlorophenyl)-.alpha.-4-chlorophenyl)-5-pyrimidinemethanol	60168-88-9				X		
p-Chlorophenyl isocyanate	104-12-1				313		
4-Chlorophenyl phenyl ether	7005-72-3			5,000			
Chloropicrin	76-06-2				313		
Chloroprene	126-99-8			100	313		
3-Chloropropionitrile	542-76-7	1,000	1,000	1,000	313	P027	
2-Chloropropylene	557-98-2						10,000
1-Chloropropylene	590-21-6						10,000
2-(4-((6-Chloro-2-quinoxalinyl)oxy]phenoxy) propanoic acid ethyl ester	76578-14-8				X		
Chlorosulfonic acid	7790-94-5			1,000			
Chlorotetrafluoroethane	63938-10-3				313		
1-Chloro-1,1,2,2-tetrafluoroethane	354-25-6				313		
2-Chloro-1,1,1,2-tetrafluoroethane	2837-89-0				313		
Chlorothalonil	1897-45-6				313		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
p-Chloro-o-toluidine	95-69-2				313		
4-Chloro-o-toluidine, hydrochloride	3165-93-3			100		U049	
2-Chloro-6-(trichloromethyl)pyridine	1929-82-4				X		
2-Chloro-1,1,1-trifluoroethane	75-88-7				313		
Chlorotrifluoromethane	75-72-9				313		
5-(2-Chloro-4-(trifluoromethyl)phenoxy)-2-nitrobenzoic acid, sodium salt	62476-59-9				X		
5-(2-Chloro-4-(trifluoromethyl)phenoxy)-N-methylsulfonyl)-2-nitrobenzamide	72178-02-0				X		
5-(2-Chloro-4-(trifluoromethyl)phenoxy)-2-nitro-2-ethoxy-1-methyl-2-oxoethyl ester	77501-63-4				X		
N-(2-Chloro-4-(trifluoromethyl)phenyl)-DL-valine(+)-cyano(3-phenoxyphenyl)methyl ester	69409-94-5				X		
3-Chloro-1,1,1-trifluoropropane	460-35-5				313		
3-(2-Chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl) methyl ester	68085-85-8				X		
Chloroxuron	1982-47-4	500/10,000	500				
Chlorpyrifos	2921-88-2			1			
Chlorpyrifos methyl	5598-13-0				313		
Chlorsulfuron	64902-72-3				313		
Chlorthiophos	21923-23-9	500	500				
Chromic acetate	1066-30-4			1,000	313c		
Chromic acid	7738-94-5			10	313c		
Chromic acid	11115-74-5			10	313c		
Chromic chloride	10025-73-7	1/10,000	1		313c		
Chromic sulfate	10101-53-8			1,000	313c		
Chromium	7440-47-3			5,000	313		
Chromium Compounds	N090			&	313		
Chromous chloride	10049-05-5			1,000	313c		
d-trans-Chrysanthemic acid of d-allethrone	28057-48-9				X		
Chrysene	218-01-9			100	X	U050	
C.I. Acid Green 3	4680-78-8				313		
C.I. Acid Red 114	6459-94-5				313		
C.I. Basic Green 4	569-64-2				313		
C.I. Basic Red 1	989-38-8				313		
C.I. Direct Black 38	1937-37-7				313		
C.I. Direct Blue 218	28407-37-6				313		
C.I. Direct Blue 6	2602-46-2				313		
C.I. Direct Brown 95	16071-86-6				313		
C.I. Disperse Yellow 3	2832-40-8				313		
C.I. Food Red 5	3761-53-3				313		
C.I. Food Red 15	81-88-9				313		
C.I. Solvent Orange 7	3118-97-6				313		
C.I. Solvent Yellow 3	97-56-3				313		
C.I. Solvent Yellow 14	842-07-9				313		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
C.I. Solvent Yellow 34	492-80-8			100	313	U014	
C.I. Vat Yellow 4	128-66-5				313		
Cobalt	7440-48-4				313		
Cobalt carbonyl	10210-68-1	10/10,000	10		313c		
Cobalt Compounds	N096			&	313		
Cobalt, ((2,2'-(1,2-ethanediylbis(nitrilomethylidyne))bis(6-fluorophenylato))(2-)-N,N',O,O')-	62207-76-5	100/10,000	100		313c		
Cobaltous bromide	7789-43-7			1,000	313c		
Cobaltous formate	544-18-3			1,000	313c		
Cobaltous sulfamate	14017-41-5			1,000	313c		
Coke Oven Emissions	N.A.			1			
Colchicine	64-86-8	10/10,000	10				
Copper	7440-50-8			5,000	313		
Copper Compounds	N100			&	313		
Copper cyanide	544-92-3			10	313c	P029	
Coumaphos	56-72-4	100/10,000	10	10			
Coumatetralyl	5836-29-3	500/10,000	500				
Creosote	N.A.			1		U051	
Creosote	8001-58-9				313		
p-Cresidine	120-71-8				313		
m-Cresol	108-39-4			100	313	U052	
o-Cresol	95-48-7	1,000/10,000	100	100	313	U052	
p-Cresol	106-44-5			100	313	U052	
Cresol (mixed isomers)	1319-77-3			100	313	U052	
Crimidine	535-89-7	100/10,000	100				
Crotonaldehyde	4170-30-3	1,000	100	100	313	U053	20,000
Crotonaldehyde, (E)-	123-73-9	1,000	100	100		U053	20,000
Cumene	98-82-8			5,000	313	U055	
Cumene hydroperoxide	80-15-9			10	313	U096	
Cupferron	135-20-6				313		
Cupric acetate	142-71-2			100	313c		
Cupric acetoarsenite	12002-03-8	500/10,000	1	1	313c		
Cupric chloride	7447-39-4			10	313c		
Cupric nitrate	3251-23-8			100	313c		
Cupric oxalate	5893-66-3			100	313c		
Cupric sulfate	7758-98-7			10	313c		
Cupric sulfate, ammoniated	10380-29-7			100	313c		
Cupric tartrate	815-82-7			100	313c		
Cyanazine	21725-46-2				313		
Cyanide Compounds	N106			&	313		
Cyanides (soluble salts and complexes), not otherwise specified	N.A.			10	313c	P030	
Cyanogen	460-19-5			100		P031	10,000
Cyanogen bromide	506-68-3	500/10,000	1,000	1,000	313c	U246	
Cyanogen chloride	506-77-4			10	313c	P033	10,000
Cyanogen iodide	506-78-5	1,000/10,000	1,000		313c		
Cyanophos	2636-26-2	1,000	1,000				
Cyanuric fluoride	675-14-9	100	100		313c		
Cycloate	1134-23-2				313		
2,5-Cyclohexadiene-1,4-dione, 2,3,5-tris(1-aziridinyl)-	68-76-8				X		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Cyclohexanamine	108-91-8	10,000	10,000				15,000
Cyclohexane	110-82-7			1,000	313	U056	
1,4-Cyclohexane diisocyanate	2556-36-7				313#		
Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1.alpha.,2.alpha.,3.beta.,4.alpha.,5.alpha.,6.beta.)-	58-89-9	1,000/10,000	1	1	X	U129	
Cyclohexanol	108-93-0				313		
Cyclohexanone	108-94-1			5,000		U057	
Cycloheximide	66-81-9	100/10,000	100				
Cyclohexylamine	108-91-8	10,000	10,000				15,000
2-Cyclohexyl-4,6-dinitrophenol	131-89-5			100		P034	
Cyclophosphamide	50-18-0			10		U058	
Cyclopropane	75-19-4						10,000
Cyfluthrin	68359-37-5				313		
Cyhalothrin	68085-85-8				313		
2,4-D	94-75-7			100	313	U240	
2,4-D Acid	94-75-7			100	X	U240	
2,4-D butyl ester	94-80-4			100	313		
2,4-D Esters	94-11-1			100	X		
2,4-D Esters	94-79-1			100			
2,4-D Esters	94-80-4			100	X		
2,4-D Esters	1320-18-9			100	X		
2,4-D Esters	1928-38-7			100			
2,4-D Esters	1928-61-6			100			
2,4-D Esters	1929-73-3			100	X		
2,4-D Esters	2971-38-2			100	X		
2,4-D Esters	25168-26-7			100			
2,4-D Esters	53467-11-1			100			
2,4-D isopropyl ester	94-11-1			100	313		
2,4-D propylene glycol butyl ether ester	1320-18-9			100	313		
2,4-D, salts and esters	94-75-7			100		U240	
Daunomycin	20830-81-3			10		U059	
Dazomet	533-74-4				313		
Dazomet, sodium salt	53404-60-7				313		
2,4-DB	94-82-6				313		
DBCP	96-12-8			1	X	U066	
DDD	72-54-8			1		U060	
DDE	72-55-9			1			
DDE	3547-04-4			5,000			
DDT	50-29-3			1		U061	
DDT and Metabolites	N.A.			&			
Decaborane(14)	17702-41-9	500/10,000	500				
Decabromodiphenyl oxide	1163-19-5				313		
DEF	78-48-8				X		
DEHP	117-81-7			100	X	U028	
Demeton	8065-48-3	500	500				
Demeton-S-methyl	919-86-8	500	500				
Desmedipham	13684-56-5				313		
2,4-D 2-ethylhexyl ester	1928-43-4				313		
2,4-D 2-ethyl-4-methylpentyl ester	53404-37-8				313		
Dialifor	10311-84-9	100/10,000	100				

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Diallate	2303-16-4			100	313	U062	
2,4-Diaminoanisole	615-05-4				313		
2,4-Diaminoanisole sulfate	39156-41-7				313		
4,4'-Diaminodiphenyl ether	101-80-4				313		
Diaminotoluene	496-72-0			10		U221	
Diaminotoluene	823-40-5			10		U221	
2,4-Diaminotoluene	95-80-7			10	313		
Diaminotoluene (mixed isomers)	25376-45-8			10	313	U221	
o-Dianisidine dihydrochloride	20325-40-0				X		
o-Dianisidine hydrochloride	111984-09-9				X		
Diazinon	333-41-5			1	313		
Diazomethane	334-88-3			100	313		
Dibenz(a,h)acridine	226-36-8				313+		
Dibenz(a,j)acridine	224-42-0				313+		
Dibenz[a,h]anthracene	53-70-3			1	313+	U063	
7H-Dibenzo(c,g)carbazole	194-59-2				313+		
Dibenzo(a,e)fluoranthene	5385-75-1				313+		
Dibenzofuran	132-64-9			100	313		
Dibenzo(a,e)pyrene	192-65-4				313+		
Dibenzo(a,h)pyrene	189-64-0				313+		
Dibenzo(a,l)pyrene	191-30-0				313+		
Dibenz[a,i]pyrene	189-55-9			10	X	U064	
Diborane	19287-45-7	100	100				2,500
Diborane(6)	19287-45-7	100	100				2,500
1,2-Dibromo-3-chloropropane	96-12-8			1	313	U066	
1,2-Dibromoethane	106-93-4			1	313	U067	
3,5-Dibromo-4-hydroxybenzonitrile	1689-84-5				X		
2,2-Dibromo-3-nitrilopropionamide	10222-01-2				313s		
Dibromotetrafluoroethane	124-73-2				313		
Dibutyl phthalate	84-74-2			10	313	U069	
Dicamba	1918-00-9			1,000	313		
Dichlobenil	1194-65-6			100			
Dichlone	117-80-6			1			
Dichloran	99-30-9				313		
o-Dichlorobenzene	95-50-1			100	X	U070	
Dichlorobenzene	25321-22-6			100	X		
1,2-Dichlorobenzene	95-50-1			100	313	U070	
1,3-Dichlorobenzene	541-73-1			100	313	U071	
1,4-Dichlorobenzene	106-46-7			100	313	U072	
Dichlorobenzene (mixed isomers)	25321-22-6			100	313		
Dichlorobenzidine	N.A.			&			
3,3'-Dichlorobenzidine	91-94-1			1	313	U073	
3,3'-Dichlorobenzidine dihydrochloride	612-83-9				313		
3,3'-Dichlorobenzidine sulfate	64969-34-2				313		
Dichlorobromomethane	75-27-4			5,000	313		
trans-1,4-Dichloro-2-butene	110-57-6	500	500		313		
trans-1,4-Dichlorobutene	110-57-6	500	500		X		
1,4-Dichloro-2-butene	764-41-0			1	313	U074	
4,6-Dichloro-N-(2-chlorophenyl)-1,3,5-triazin-2-amine	101-05-3				X		
1,2-Dichloro-1,1-difluoroethane	1649-08-7				313		
Dichlorodifluoromethane	75-71-8			5,000	313	U075	

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
1,1-Dichloroethane	75-34-3			1,000	X	U076	
1,2-Dichloroethane	107-06-2			100	313	U077	
3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropane carboxylic acid, (3-phenoxy-phenyl)methyl ester	52645-53-1				X		
3-(2,2-Dichloroethenyl)-2,2-dimethylcyclopropanecarboxylic acid, cyano(4-fluoro-3-phenoxyphenyl)methyl ester	68359-37-5				X		
1,1-Dichloroethylene	75-35-4			100	X	U078	10,000
1,2-Dichloroethylene	156-60-5			1,000		U079	
1,2-Dichloroethylene	540-59-0				313		
Dichloroethyl ether	111-44-4	10,000	10	10	X	U025	
1,1-Dichloro-1-fluoroethane	1717-00-6				313		
Dichlorofluoromethane	75-43-4				313		
Dichloroisopropyl ether	108-60-1			1,000	X	U027	
Dichloromethane	75-09-2			1,000	313	U080	
3,6-Dichloro-2-methoxybenzoic acid	1918-00-9			1,000	X		
3,6-Dichloro-2-methoxybenzoic acid, sodium salt	1982-69-0				X		
Dichloromethyl ether	542-88-1	100	10	10	X	P016	1,000
3-(2,4-Dichloro-5-(1-methylethoxy)phenyl)-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3H)-one	19666-30-9				X		
Dichloromethylphenylsilane	149-74-6	1,000	1,000				
2,6-Dichloro-4-nitroaniline	99-30-9				X		
Dichloropentafluoropropane	127564-92-5				313		
2,2-Dichloro-1,1,1,3,3-pentafluoropropane	128903-21-9				313		
2,3-Dichloro-1,1,1,2,3-pentafluoropropane	422-48-0				313		
1,2-Dichloro-1,1,2,3,3-pentafluoropropane	422-44-6				313		
3,3-Dichloro-1,1,1,2,2-pentafluoropropane	422-56-0				313		
1,3-Dichloro-1,1,2,2,3-pentafluoropropane	507-55-1				313		
1,1-Dichloro-1,2,2,3,3-pentafluoropropane	13474-88-9				313		
1,2-Dichloro-1,1,3,3,3-pentafluoropropane	431-86-7				313		
1,3-Dichloro-1,1,2,3,3-pentafluoropropane	136013-79-1				313		
1,1-Dichloro-1,2,3,3,3-pentafluoropropane	111512-56-2				313		
Dichlorophene	97-23-4				313		
2,6-Dichlorophenol	87-65-0			100		U082	
2,4-Dichlorophenol	120-83-2			100	313	U081	
2-(4-(2,4-Dichlorophenoxy)phenoxy)propanoic acid, methyl ester	51338-27-3				X		
Dichlorophenylarsine	696-28-6	500	1	1		P036	

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
3-(3,5-Dichlorophenyl)-5-ethenyl-5-methyl-2,4-oxazolidinedione	50471-44-8				X		
2-(3,4-Dichlorophenyl)-4-methyl-1,2,4-oxadiazolidine-3,5-dione	20354-26-1				X		
N-(3,4-Dichlorophenyl)propanamide	709-98-8				X		
1-(2-(2,4-Dichlorophenyl)-2-(2-propenyloxy)ethyl)-1H-imidazole	35554-44-0				X		
1-(2-(2,4-Dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl)-methyl-1H-1,2,4,-triazole	60207-90-1				X		
Dichloropropane	26638-19-7			1,000			
Dichloropropane - Dichloropropene (mixture)	8003-19-8			100			
1,1-Dichloropropane	78-99-9			1,000			
1,2-Dichloropropane	78-87-5			1,000	313	U083	
1,3-Dichloropropane	142-28-9			1,000			
Dichloropropene	26952-23-8			100			
1,3-Dichloropropene	542-75-6			100	X	U084	
trans-1,3-Dichloropropene	10061-02-6				313		
2,3-Dichloropropene	78-88-6			100	313		
2,2-Dichloropropionic acid	75-99-0			5,000			
1,3-Dichloropropylene	542-75-6			100	313	U084	
Dichlorosilane	4109-96-0						10,000
Dichlorotetrafluoroethane	76-14-2				313		
Dichlorotrifluoroethane	34077-87-7				313		
Dichloro-1,1,2-trifluoroethane	90454-18-5				313		
1,1-Dichloro-1,2,2-trifluoroethane	812-04-4				313		
1,2-Dichloro-1,1,2-trifluoroethane	354-23-4				313		
2,2-Dichloro-1,1,1-trifluoroethane	306-83-2				313		
Dichlorvos	62-73-7	1,000	10	10	313		
Diclofop methyl	51338-27-3				313		
Dicofol	115-32-2			10	313		
Dicrotophos	141-66-2	100	100				
Dicyclopentadiene	77-73-6				313		
Dieldrin	60-57-1			1		P037	
Diepoxybutane	1464-53-5	500	10	10	313	U085	
Diethanolamine	111-42-2			100	313		
Diethatyl ethyl	38727-55-8				313		
Diethylamine	109-89-7			100			
O-(2-(Diethylamino)-6-methyl-4-pyrimidinyl)-O,O-dimethyl phosphorothioate	29232-93-7				X		
N,N-Diethylaniline	91-66-7			1,000			
Diethylarsine	692-42-2			1		P038	
Diethyl chlorophosphate	814-49-3	500	500				
Diethyldiisocyanatobenzene	134190-37-7				313#		
Di(2-ethylhexyl) phthalate	117-81-7			100	313	U028	
O,O-Diethyl S-methyl dithiophosphate	3288-58-2			5,000		U087	
Diethyl-p-nitrophenyl phosphate	311-45-5			100		P041	
Diethyl phthalate	84-66-2			1,000		U088	
O,O-Diethyl O-pyrazinyl phosphorothioate	297-97-2	500	100	100		P040	

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Diethylstilbestrol	56-53-1			1		U089	
Diethyl sulfate	64-67-5			10	313		
Diflubenzuron	35367-38-5				313		
Difluoroethane	75-37-6						10,000
Digitoxin	71-63-6	100/10,000	100				
Diglycidyl ether	2238-07-5	1,000	1,000				
Diglycidyl resorcinol ether	101-90-6				313		
Digoxin	20830-75-5	10/10,000	10				
2,3,-Dihydro-5,6-dimethyl-1,4-dithiin 1,1,4,4-tetraoxide	55290-64-7				X		
5,6-Dihydro-2-methyl-N-phenyl-1,4-oxathiin-3-carboxamide	5234-68-4				X		
Dihydrosafrole	94-58-6			10	313	U090	
Diisocyanates (includes only 20 chemicals)	N120				313		
4,4'-Diisocyanatodiphenyl ether	4128-73-8				313#		
2,4'-Diisocyanatodiphenyl sulfide	75790-87-3				313#		
Diisopropylfluorophosphate	55-91-4	100	100	100		P043	
Dimefox	115-26-4	500	500				
1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a.beta.)-	309-00-2	500/10,000	1	1	X	P004	
Dimethipin	55290-64-7				313		
Dimethoate	60-51-5	500/10,000	10	10	313	P044	
3,3'-Dimethoxybenzidine	119-90-4			100	313	U091	
3,3'-Dimethoxybenzidine dihydrochloride	20325-40-0				313		
3,3'-Dimethoxybenzidine-4,4'-diisocyanate	91-93-0				313#		
3,3'-Dimethoxybenzidine hydrochloride	111984-09-9				313		
Dimethylamine	124-40-3			1,000	313	U092	10,000
Dimethylamine dicamba	2300-66-5				313		
4-Dimethylaminoazobenzene	60-11-7			10	313	U093	
Dimethylaminoazobenzene	60-11-7			10	X	U093	
N,N-Dimethylaniline	121-69-7			100	313		
7,12-Dimethylbenz[a]anthracene	57-97-6			1	313+	U094	
3,3'-Dimethylbenzidine	119-93-7			10	313	U095	
3,3'-Dimethylbenzidine dihydrochloride	612-82-8				313		
3,3'-Dimethylbenzidine dihydrofluoride	41766-75-0				313		
2,2-Dimethyl-1,3-benzodioxol-4-ol methylcarbamate	22781-23-3			100	X	U278	
Dimethylcarbamyl chloride	79-44-7			1	313	U097	
Dimethyl chlorothiophosphate	2524-03-0	500	500		313		
Dimethyldichlorosilane	75-78-5	500	500				5,000
3,3'-Dimethyl-4,4'-diphenylene diisocyanate	91-97-4				313#		
3,3'-Dimethyldiphenylmethane-4,4'-diisocyanate	139-25-3				313#		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
N-(5-(1,1-Dimethylethyl)-1,3,4-thiadiazol-2-yl)-N,N'-dimethylurea	34014-18-1				X		
Dimethylformamide	68-12-2			100	X		
N,N-Dimethylformamide	68-12-2			100	313		
1,1-Dimethyl hydrazine	57-14-7	1,000	10	10	313	U098	15,000
Dimethylhydrazine	57-14-7	1,000	10	10	X	U098	15,000
O,O-Dimethyl O-(3-methyl-4-(methylthio) phenyl) ester, phosphorothioic acid	55-38-9				X		
2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)methyl ester	7696-12-0				X		
2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (3-phenoxyphenyl)methyl ester	26002-80-2				X		
2,4-Dimethylphenol	105-67-9			100	313	U101	
Dimethyl-p-phenylenediamine	99-98-9	10/10,000	10				
Dimethyl phosphorochloridothioate	2524-03-0	500	500		X		
Dimethyl phthalate	131-11-3			5,000	313	U102	
2,2-Dimethylpropane	463-82-1						10,000
Dimethyl sulfate	77-78-1	500	100	100	313	U103	
O,O-Dimethyl-O-(3,5,6-trichloro-2-pyridyl)phosphorothioate	5598-13-0				X		
Dimetilan	644-64-4	500/10,000	1	1		P191	
Dinitrobenzene (mixed isomers)	25154-54-5			100			
m-Dinitrobenzene	99-65-0			100	313		
o-Dinitrobenzene	528-29-0			100	313		
p-Dinitrobenzene	100-25-4			100	313		
Dinitrobutyl phenol	88-85-7	100/10,000	1,000	1,000	313	P020	
4,6-Dinitro-o-cresol	534-52-1	10/10,000	10	10	313	P047	
Dinitrocresol	534-52-1	10/10,000	10	10	X	P047	
4,6-Dinitro-o-cresol and salts	534-52-1			10		P047	
Dinitrophenol	25550-58-7			10			
2,4-Dinitrophenol	51-28-5			10	313	P048	
2,5-Dinitrophenol	329-71-5			10			
2,6-Dinitrophenol	573-56-8			10			
1,6-Dinitropyrene	42397-64-8				313+		
1,8-Dinitropyrene	42397-65-9				313+		
Dinitrotoluene (mixed isomers)	25321-14-6			10	313		
2,4-Dinitrotoluene	121-14-2			10	313	U105	
2,6-Dinitrotoluene	606-20-2			100	313	U106	
3,4-Dinitrotoluene	610-39-9			10			
Dinocap	39300-45-3				313		
Dinoseb	88-85-7	100/10,000	1,000	1,000	X	P020	
Dinoterb	1420-07-1	500/10,000	500				
Di-n-octyl phthalate	117-84-0			5,000		U107	
n-Dioctylphthalate	117-84-0			5,000		U107	
1,4-Dioxane	123-91-1			100	313	U108	
Dioxathion	78-34-2	500	500				
Dioxin and dioxin-like compounds (includes only 17 chemicals)	N150				313		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Diphacinone	82-66-6	10/10,000	10				
Diphenamid	957-51-7				313		
Diphenylamine	122-39-4				313		
1,2-Diphenylhydrazine	122-66-7			10	313	U109	
Diphenylhydrazine	N.A.			&			
Diphosphoramide, octamethyl-	152-16-9	100	100	100		P085	
Dipotassium endothall	2164-07-0				313		
Dipropylamine	142-84-7			5,000		U110	
4-(Dipropylamino)-3,5-dinitrobenzenesulfonamide	19044-88-3				X		
Dipropyl isocinchomeronate	136-45-8				313		
Di-n-propylnitrosamine	621-64-7			10	X	U111	
Diquat	85-00-7			1,000			
Diquat	2764-72-9			1,000			
Disodium cyanodithioimidocarbonate	138-93-2				313		
Disulfoton	298-04-4	500	1	1		P039	
Dithiazanine iodide	514-73-8	500/10,000	500				
Dithiobiuret	541-53-7	100/10,000	100	100	X	P049	
2,4-Dithiobiuret	541-53-7	100/10,000	100	100	313	P049	
Diuron	330-54-1			100	313		
Dodecylbenzenesulfonic acid	27176-87-0			1,000			
Dodecylguanidine monoacetate	2439-10-3				X		
Dodine	2439-10-3				313		
2,4-DP	120-36-5				313		
2,4-D sodium salt	2702-72-9				313		
Emetine, dihydrochloride	316-42-7	1/10,000	1				
Endosulfan	115-29-7	10/10,000	1	1		P050	
alpha - Endosulfan	959-98-8			1			
beta - Endosulfan	33213-65-9			1			
Endosulfan and Metabolites	N.A.			&			
Endosulfan sulfate	1031-07-8			1			
Endothall	145-73-3			1,000		P088	
Endothion	2778-04-3	500/10,000	500				
Endrin	72-20-8	500/10,000	1	1		P051	
Endrin aldehyde	7421-93-4			1			
Endrin and Metabolites	N.A.			&			
Epichlorohydrin	106-89-8	1,000	100	100	313	U041	20,000
Epinephrine	51-43-4			1,000		P042	
EPN	2104-64-5	100/10,000	100				
EPTC	759-94-4				X		
Ergocalciferol	50-14-6	1,000/10,000	1,000				
Ergotamine tartrate	379-79-3	500/10,000	500				
Ethanamine	75-04-7			100			10,000
Ethane	74-84-0						10,000
Ethane, chloro-	75-00-3			100	X		10,000
1,2-Ethanediamine	107-15-3	10,000	5,000	5,000			20,000
Ethane, 1,1-difluoro-	75-37-6						10,000
Ethanedinitrile	460-19-5			100		P031	10,000
Ethane, 1,1'-oxybis-	60-29-7			100		U117	10,000
Ethaneperoxoic acid	79-21-0	500	500		X		10,000
Ethanesulfonyl chloride, 2-chloro-	1622-32-8	500	500				
Ethane, 1,1,1,2-tetrachloro-	630-20-6			100	X	U208	

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Ethane, 1,1'-thiobis[2-chloro-	505-60-2	500	500		X		
Ethanethiol	75-08-1						10,000
Ethane, 1,1,2-trichloro-1,2,2,-trifluoro-	76-13-1				X		
Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester	30558-43-1			5,000		U394	
Ethanimidothioic acid, N-[[methylamino)carbonyl]	16752-77-5	500/10,000	100	100		P066	
Ethanol, 1,2-dichloro-, acetate	10140-87-1	1,000	1,000				
Ethanol, 2-ethoxy-	110-80-5			1,000	X	U359	
Ethanol, 2,2'-oxybis-, dicarbamate	5952-26-1			5,000		U395	
Ethene	74-85-1				X		10,000
Ethene, bromotrifluoro-	598-73-2						10,000
Ethene, chloro-	75-01-4			1	X	U043	10,000
Ethene, chlorotrifluoro-	79-38-9						10,000
Ethene, 1,1-dichloro-	75-35-4			100	X	U078	10,000
Ethene, 1,1-difluoro-	75-38-7						10,000
Ethene, ethoxy-	109-92-2						10,000
Ethene, fluoro-	75-02-5						10,000
Ethene, methoxy-	107-25-5						10,000
Ethene, tetrafluoro-	116-14-3						10,000
Ethion	563-12-2	1,000	10	10			
Ethoprop	13194-48-4	1,000	1,000		313		
Ethoprophos	13194-48-4	1,000	1,000		X		
2-Ethoxyethanol	110-80-5			1,000	313	U359	
2-(1-(Ethoxyimino) butyl)-5-(2-(ethylthio)propyl)-3-hydroxyl-2-cyclohexen-1-one	74051-80-2				X		
2-((Ethoxyl((1-methylethyl)amino]phosphinothioyl]oxy) benzoic acid 1-methylethyl ester	25311-71-1				X		
Ethyl acetate	141-78-6			5,000		U112	
Ethyl acetylene	107-00-6						10,000
Ethyl acrylate	140-88-5			1,000	313	U113	
3-((Ethylamino)methoxyphosphinothioyl)oxy)-2-butenoic acid, 1-methylethyl ester	31218-83-4				X		
Ethylbenzene	100-41-4			1,000	313		
Ethylbis(2-chloroethyl)amine	538-07-8	500	500				
Ethyl carbamate	51-79-6			100	X	U238	
Ethyl chloride	75-00-3			100	X		10,000
Ethyl chloroformate	541-41-3				313		
Ethyl-2-(((((4-chloro-6-methoxyprimidin-2-yl)amino)carbonyl)amino)sulfonyl)benzoate	90982-32-4				X		
Ethyl cyanide	107-12-0	500	10	10		P101	10,000
Ethyl dipropylthiocarbamate	759-94-4				313		
Ethylene	74-85-1				313		10,000
Ethylenebisdithiocarbamic acid, salts and esters	N171				313		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Ethylenebisdithiocarbamic acid, salts & esters	111-54-6			5,000	X	U114	
Ethylenediamine	107-15-3	10,000	5,000	5,000			20,000
Ethylenediamine-tetraacetic acid (EDTA)	60-00-4			5,000			
Ethylene dibromide	106-93-4			1	X	U067	
Ethylene dichloride	107-06-2			100	X	U077	
Ethylene fluorohydrin	371-62-0	10	10				
Ethylene glycol	107-21-1			5,000	313		
Ethyleneimine	151-56-4	500	1	1	313	P054	10,000
Ethylene oxide	75-21-8	1,000	10	10	313	U115	10,000
Ethylene thiourea	96-45-7			10	313	U116	
Ethyl ether	60-29-7			100		U117	10,000
Ethylidene Dichloride	75-34-3			1,000	313	U076	
Ethyl mercaptan	75-08-1						10,000
Ethyl methacrylate	97-63-2			1,000		U118	
Ethyl methanesulfonate	62-50-0			1		U119	
N-Ethyl-N'-(1-methylethyl)-6-(methylthio)-1,3,5,-triazine-2,4-diamine	834-12-8				X		
O-Ethyl O-(4-(methylthio)phenyl)phosphorodithioic acid S-propyl ester	35400-43-2				X		
Ethyl nitrite	109-95-5						10,000
N-(1-Ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine	40487-42-1				X		
S-(2-(Ethylsulfinyl)ethyl) O,O-dimethyl ester phosphorothioic acid	301-12-2				X		
Ethylthiocyanate	542-90-5	10,000	10,000				
Ethyne	74-86-2						10,000
Famphur	52-85-7			1,000	313	P097	
Fenamiphos	22224-92-6	10/10,000	10				
Fenarimol	60168-88-9				313		
Fenbutatin oxide	13356-08-6				313		
Fenoxaprop ethyl	66441-23-4				313		
Fenoxycarb	72490-01-8				313		
Fenpropathrin	39515-41-8				313		
Fensulfothion	115-90-2	500	500				
Fenthion	55-38-9				313		
Fenvalerate	51630-58-1				313		
Ferbam	14484-64-1				313		
Ferric ammonium citrate	1185-57-5			1,000			
Ferric ammonium oxalate	2944-67-4			1,000			
Ferric ammonium oxalate	55488-87-4			1,000			
Ferric chloride	7705-08-0			1,000			
Ferric fluoride	7783-50-8			100			
Ferric nitrate	10421-48-4			1,000			
Ferric sulfate	10028-22-5			1,000			
Ferrous ammonium sulfate	10045-89-3			1,000			
Ferrous chloride	7758-94-3			100			
Ferrous sulfate	7720-78-7			1,000			
Ferrous sulfate	7782-63-0			1,000			

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Fine mineral fibers	N.A.			&			
Fluazifop butyl	69806-50-4				313		
Fluenetil	4301-50-2	100/10,000	100				
Fluometuron	2164-17-2				313		
Fluoranthene	206-44-0			100	X	U120	
Fluorene	86-73-7			5,000			
Fluorine	7782-41-4	500	10	10	313	P056	1,000
Fluoroacetamide	640-19-7	100/10,000	100	100		P057	
Fluoroacetic acid	144-49-0	10/10,000	10				
Fluoroacetic acid, sodium salt	62-74-8	10/10,000	10	10	X	P058	
Fluoroacetyl chloride	359-06-8	10	10				
Fluorouracil	51-21-8	500/10,000	500		313		
5-Fluorouracil	51-21-8	500/10,000	500		X		
Fluvalinate	69409-94-5				313		
Folpet	133-07-3				313		
Fomesafen	72178-02-0				313		
Fonofos	944-22-9	500	500				
Formaldehyde	50-00-0	500	100	100	313	U122	15,000
Formaldehyde cyanohydrin	107-16-4	1,000	1,000				
Formaldehyde (solution)	50-00-0	500	100	100	X	U122	15,000
Formetanate hydrochloride	23422-53-9	500/10,000	100	100		P198	
Formic acid	64-18-6			5,000	313	U123	
Formic acid, methyl ester	107-31-3						10,000
Formothion	2540-82-1	100	100				
Formparanate	17702-57-7	100/10,000	100	100		P197	
Fosthietan	21548-32-3	500	500				
Freon 113	76-13-1				313		
Fuberidazole	3878-19-1	100/10,000	100				
Fumaric acid	110-17-8			5,000			
Furan	110-00-9	500	100	100	313	U124	5,000
Furan, tetrahydro-	109-99-9			1,000		U213	
Furfural	98-01-1			5,000		U125	
Gallium trichloride	13450-90-3	500/10,000	500				
Glycidol	556-52-5				313		
Glycidylaldehyde	765-34-4			10		U126	
Glycol Ethers	N230			&	313		
Guanidine, N-methyl-N'-nitro-N-nitroso-	70-25-7			10		U163	
Guthion	86-50-0	10/10,000	1	1			
Haloethers	N.A.			&			
Halomethanes	N.A.			&			
Halon 1211	353-59-3				X		
Halon 1301	75-63-8				X		
Halon 2402	124-73-2				X		
HCFC-121	354-14-3				X		
HCFC-121a	354-11-0				X		
HCFC-123	306-83-2				X		
HCFC-123a	354-23-4				X		
HCFC-123b	812-04-4				X		
HCFC-124	2837-89-0				X		
HCFC-124a	354-25-6				X		
HCFC-132b	1649-08-7				X		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
HCFC-133a	75-88-7				X		
HCFC-141b	1717-00-6				X		
HCFC-142b	75-68-3				X		
HCFC-21	75-43-4				X		
HCFC-22	75-45-6				X		
HCFC-225aa	128903-21-9				X		
HCFC-225ba	422-48-0				X		
HCFC-225bb	422-44-6				X		
HCFC-225ca	422-56-0				X		
HCFC-225cb	507-55-1				X		
HCFC-225cc	13474-88-9				X		
HCFC-225da	431-86-7				X		
HCFC-225ea	136013-79-1				X		
HCFC-225eb	111512-56-2				X		
HCFC-253fb	460-35-5				X		
Heptachlor	76-44-8			1	313	P059	
Heptachlor and Metabolites	N.A.			&			
Heptachlor epoxide	1024-57-3			1			
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	35822-46-9				313!		
1,2,3,4,7,8,9-heptachlorodibenzofuran	55673-89-7				313!		
1,2,3,4,6,7,8-heptachlorodibenzofuran	67562-39-4				313!		
1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene	76-44-8			1	X	P059	
Hexachlorobenzene	118-74-1			10	313	U127	
Hexachloro-1,3-butadiene	87-68-3			1	313	U128	
Hexachlorobutadiene	87-68-3			1	X	U128	
Hexachlorocyclohexane (all isomers)	608-73-1			&			
alpha-Hexachlorocyclohexane	319-84-6			10	313		
Hexachlorocyclohexane (gamma isomer)	58-89-9	1,000/10,000	1	1	X	U129	
Hexachlorocyclopentadiene	77-47-4	100	10	10	313	U130	
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	19408-74-3				313!		
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	39227-28-6				313!		
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	57653-85-7				313!		
1,2,3,6,7,8-hexachlorodibenzofuran	57117-44-9				313!		
2,3,4,6,7,8-hexachlorodibenzofuran	60851-34-5				313!		
1,2,3,4,7,8-hexachlorodibenzofuran	70648-26-9				313!		
1,2,3,7,8,9-hexachlorodibenzofuran	72918-21-9				313!		
Hexachloroethane	67-72-1			100	313	U131	
Hexachloronaphthalene	1335-87-1				313		
Hexachlorophene	70-30-4			100	313	U132	
Hexachloropropene	1888-71-7			1,000		U243	
Hexaethyl tetraphosphate	757-58-4			100		P062	
Hexakis(2-methyl-2-phenylpropyl)distannoxane	13356-08-6				X		
Hexamethylenediamine, N,N'-dibutyl-	4835-11-4	500	500				
Hexamethylene-1,6-diisocyanate	822-06-0			100	313#		
Hexamethylphosphoramide	680-31-9			1	313		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Hexane	110-54-3			5,000	X		
n-Hexane	110-54-3			5,000	313		
Hexazinone	51235-04-2				313		
Hydramethylnon	67485-29-4				313		
Hydrazine	302-01-2	1,000	1	1	313	U133	15,000
Hydrazine, 1,2-diethyl-	1615-80-1			10		U086	
Hydrazine, 1,1-dimethyl-	57-14-7	1,000	10	10	X	U098	15,000
Hydrazine, 1,2-dimethyl-	540-73-8			1		U099	
Hydrazine, 1,2-diphenyl-	122-66-7			10	X	U109	
Hydrazine, methyl-	60-34-4	500	10	10	X	P068	15,000
Hydrazine sulfate	10034-93-2				313		
Hydrazobenzene	122-66-7			10	X	U109	
Hydrochloric acid	7647-01-0			5,000			
Hydrochloric acid (conc 37% or greater)	7647-01-0			5,000			15,000
Hydrochloric acid (aerosol forms only)	7647-01-0			5,000	313		
Hydrocyanic acid	74-90-8	100	10	10	X	P063	2,500
Hydrofluoric acid	7664-39-3	100	100	100	X	U134	
Hydrofluoric acid (conc. 50% or greater)	7664-39-3	100	100	100	X	U134	1,000
Hydrogen	1333-74-0						10,000
Hydrogen chloride (anhydrous)	7647-01-0	500	5,000	5,000	X		5,000
Hydrogen chloride (gas only)	7647-01-0	500	5,000	5,000	X		5,000
Hydrogen cyanide	74-90-8	100	10	10	313	P063	2,500
Hydrogen fluoride	7664-39-3	100	100	100	313	U134	
Hydrogen fluoride (anhydrous)	7664-39-3	100	100	100	X	U134	1,000
Hydrogen peroxide (Conc.> 52%)	7722-84-1	1,000	1,000				
Hydrogen selenide	7783-07-5	10	10		313c		500
Hydrogen sulfide	7783-06-4	500	100	100	313	U135	10,000
Hydroperoxide, 1-methyl-1-phenylethyl-	80-15-9			10	X	U096	
Hydroquinone	123-31-9	500/10,000	100	100	313		
Imazalil	35554-44-0				313		
Indeno(1,2,3-cd)pyrene	193-39-5			100	313+	U137	
3-Iodo-2-propynyl butylcarbamate	55406-53-6				313		
Iron carbonyl (Fe(CO)5), (TB-5-11)-	13463-40-6	100	100		X		2,500
Iron, pentacarbonyl-	13463-40-6	100	100		313		2,500
Isobenzan	297-78-9	100/10,000	100				
Isobutane	75-28-5						10,000
Isobutyl alcohol	78-83-1			5,000		U140	
Isobutyraldehyde	78-84-2				313		
Isobutyronitrile	78-82-0	1,000	1,000				20,000
Isocyanic acid, 3,4-dichlorophenyl ester	102-36-3	500/10,000	500				
Isodrin	465-73-6	100/10,000	1	1	313	P060	
Isofenphos	25311-71-1				313		
Isofluorphate	55-91-4	100	100	100		P043	
1H-Isoindole-1,3(2H)-dione, 3a,4,7,7a-tetrahydro-2-[(trichloromethyl)thio]-	133-06-2			10	X		
Isononylphenol	11066-49-2				313$		
4-Isononylphenol	26543-97-5				313$		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Isopentane	78-78-4						10,000
Isophorone	78-59-1			5,000			
Isophorone diisocyanate	4098-71-9	500	500		313#		
Isoprene	78-79-5			100	313		10,000
Isopropanolamine dodecylbenzene sulfonate	42504-46-1			1,000			
Isopropyl alcohol (mfg-strong acid process)	67-63-0				313		
Isopropylamine	75-31-0						10,000
Isopropyl chloride	75-29-6						10,000
Isopropyl chloroformate	108-23-6	1,000	1,000				15,000
4,4'-Isopropylidenediphenol	80-05-7				313		
Isopropylmethylpyrazolyl dimethylcarbamate	119-38-0	500	100	100		P192	
Isosafrole	120-58-1			100	313	U141	
Isothiocyanatomethane	556-61-6	500	500		X		
Kepone	143-50-0			1		U142	
Lactofen	77501-63-4				313		
Lactonitrile	78-97-7	1,000	1,000				
Lasiocarpine	303-34-4			10		U143	
Lead	7439-92-1			10	313		
Lead acetate	301-04-2			10	313c	U144	
Lead arsenate	7645-25-2			1	313c		
Lead arsenate	7784-40-9			1	313c		
Lead arsenate	10102-48-4			1	313c		
Lead chloride	7758-95-4			10	313c		
Lead Compounds	N420			&	313		
Lead fluoborate	13814-96-5			10	313c		
Lead fluoride	7783-46-2			10	313c		
Lead iodide	10101-63-0			10	313c		
Lead nitrate	10099-74-8			10	313c		
Lead phosphate	7446-27-7			10	313c	U145	
Lead stearate	1072-35-1			10	313c		
Lead stearate	7428-48-0			10	313c		
Lead stearate	52652-59-2			10	313c		
Lead stearate	56189-09-4			10	313c		
Lead subacetate	1335-32-6			10	313c	U146	
Lead sulfate	7446-14-2			10	313c		
Lead sulfate	15739-80-7			10	313c		
Lead sulfide	1314-87-0			10	313c		
Lead thiocyanate	592-87-0			10	313c		
Leptophos	21609-90-5	500/10,000	500				
Lewisite	541-25-3	10	10				
Lindane	58-89-9	1,000/10,000	1	1	313	U129	
Linuron	330-55-2				313		
Lithium carbonate	554-13-2				313		
Lithium chromate	14307-35-8			10	313c		
Lithium hydride	7580-67-8	100	100				
Malathion	121-75-5			100	313		
Maleic acid	110-16-7			5,000			
Maleic anhydride	108-31-6			5,000	313	U147	
Maleic hydrazide	123-33-1			5,000		U148	

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Malononitrile	109-77-3	500/10,000	1,000	1,000	313	U149	
Maneb	12427-38-2				313		
Manganese	7439-96-5				313		
Manganese, bis(dimethylcarbamodithioato-S,S')-	15339-36-3			10	313c	P196	
Manganese Compounds	N450			&	313		
Manganese, tricarbonyl methylcyclopentadienyl	12108-13-3	100	100		313c		
MBOCA	101-14-4			10	X	U158	
MBT	149-30-4				X		
MCPA	94-74-6				X		
MDI	101-68-8			5,000	X		
Mechlorethamine	51-75-2	10	10		X		
Mecoprop	93-65-2				313		
Melphalan	148-82-3			1		U150	
Mephosfolan	950-10-7	500	500				
2-Mercaptobenzothiazole	149-30-4				313		
Mercaptodimethur	2032-65-7	500/10,000	10	10	X	P199	
Mercuric acetate	1600-27-7	500/10,000	500		313c		
Mercuric chloride	7487-94-7	500/10,000	500		313c		
Mercuric cyanide	592-04-1			1	313c		
Mercuric nitrate	10045-94-0			10	313c		
Mercuric oxide	21908-53-2	500/10,000	500		313c		
Mercuric sulfate	7783-35-9			10	313c		
Mercuric thiocyanate	592-85-8			10	313c		
Mercurous nitrate	7782-86-7			10	313c		
Mercurous nitrate	10415-75-5			10	313c		
Mercury	7439-97-6			1	313	U151	
Mercury Compounds	N458			&	313		
Mercury fulminate	628-86-4			10	313c	P065	
Merphos	150-50-5				313		
Methacrolein diacetate	10476-95-6	1,000	1,000				
Methacrylic anhydride	760-93-0	500	500				
Methacrylonitrile	126-98-7	500	1,000	1,000	313	U152	10,000
Methacryloyl chloride	920-46-7	100	100				
Methacryloyloxyethyl isocyanate	30674-80-7	100	100				
Methamidophos	10265-92-6	100/10,000	100				
Metham sodium	137-42-8				313		
Methanamine	74-89-5			100			10,000
Methanamine, N,N-dimethyl-	75-50-3			100			10,000
Methanamine, N-methyl-	124-40-3			1,000	X	U092	10,000
Methanamine, N-methyl-N-nitroso-	62-75-9	1,000	10	10	X	P082	
Methane	74-82-8						10,000
Methane, chloro-	74-87-3			100	X	U045	10,000
Methane, chloromethoxy-	107-30-2	100	10	10	X	U046	5,000
Methane, isocyanato-	624-83-9	500	10	10	X	P064	10,000
Methane, oxybis-	115-10-6						10,000
Methane, oxybis[chloro-	542-88-1	100	10	10	X	P016	1,000
Methanesulfenyl chloride, trichloro-	594-42-3	500	100	100	X		10,000
Methanesulfonyl fluoride	558-25-8	1,000	1,000				
Methane, tetranitro-	509-14-8	500	10	10		P112	10,000
Methanethiol	74-93-1	500	100	100	X	U153	10,000

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Methane, trichloro-	67-66-3	10,000	10	10	X	U044	20,000
4,7-Methanoindan, 1,2,3,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	57-74-9	1,000	1	1	X	U036	
Methanol	67-56-1			5,000	313	U154	
Methapyrilene	91-80-5			5,000		U155	
Methazole	20354-26-1				313		
Methidathion	950-37-8	500/10,000	500				
Methiocarb	2032-65-7	500/10,000	10	10	313	P199	
Methomyl	16752-77-5	500/10,000	100	100		P066	
Methoxone	94-74-6				313		
Methoxone sodium salt	3653-48-3				313		
Methoxychlor	72-43-5			1	313	U247	
2-Methoxyethanol	109-86-4				313		
Methoxyethylmercuric acetate	151-38-2	500/10,000	500		313c		
2-(4-Methoxy-6-methyl-1,3,5-triazin-2-yl)-methylamino)carbonyl)amino)sulfonyl) benzoic acid, methyl ester	101200-48-0				X		
Methyl acrylate	96-33-3				313		
Methyl bromide	74-83-9	1,000	1,000	1,000	X	U029	
2-Methyl-1-butene	563-46-2						10,000
3-Methyl-1-butene	563-45-1						10,000
Methyl chloride	74-87-3			100	X	U045	10,000
Methyl 2-chloroacrylate	80-63-7	500	500				
Methyl chlorocarbonate	79-22-1	500	1,000	1,000	313	U156	5,000
Methyl chloroform	71-55-6			1,000	X	U226	
Methyl chloroformate	79-22-1	500	1,000	1,000	X	U156	5,000
3-Methylcholanthrene	56-49-5			10	313+	U157	
5-Methylchrysene	3697-24-3				313+		
4-Methyldiphenylmethane-3,4-diisocyanate	75790-84-0				313#		
6-Methyl-1,3-dithiolo[4,5-b]quinoxalin-2-one	2439-01-2				X		
4,4'-Methylenebis(2-chloroaniline)	101-14-4			10	313	U158	
2,2'-Methylenebis(4-chlorophenol	97-23-4				X		
4,4'-Methylenebis(N,N-dimethyl)benzenamine	101-61-1				313		
1,1'-Methylene bis(4-isocyanatocyclohexane)	5124-30-1				313#		
Methylenebis(phenylisocyanate)	101-68-8			5,000	313#		
Methylene bromide	74-95-3			1,000	313	U068	
Methylene chloride	75-09-2			1,000	X	U080	
4,4'-Methylenedianiline	101-77-9			10	313		
Methyl ether	115-10-6						10,000
Methyl ethyl ketone	78-93-3			5,000		U159	
Methyl ethyl ketone peroxide	1338-23-4			10		U160	
Methyleugenol	93-15-2				313		
Methyl formate	107-31-3						10,000
Methyl hydrazine	60-34-4	500	10	10	313	P068	15,000
Methyl iodide	74-88-4			100	313	U138	
Methyl isobutyl ketone	108-10-1			5,000	313	U161	
Methyl isocyanate	624-83-9	500	10	10	313	P064	10,000

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Methyl isothiocyanate	556-61-6	500	500		313		
2-Methyllactonitrile	75-86-5	1,000	10	10	313	P069	
Methyl mercaptan	74-93-1	500	100	100	313s	U153	10,000
Methylmercuric dicyanamide	502-39-6	500/10,000	500		313c		
Methyl methacrylate	80-62-6			1,000	313	U162	
N-Methylolacrylamide	924-42-5				313		
Methyl parathion	298-00-0	100/10,000	100	100	313	P071	
Methyl phenkapton	3735-23-7	500	500				
Methyl phosphonic dichloride	676-97-1	100	100				
2-Methylpropene	115-11-7						10,000
2-Methylpyridine	109-06-8			5,000	313	U191	
N-Methyl-2-pyrrolidone	872-50-4				313		
Methyl tert-butyl ether	1634-04-4			1,000	313		
Methyl thiocyanate	556-64-9	10,000	10,000				20,000
Methylthiouracil	56-04-2			10		U164	
Methyltrichlorosilane	75-79-6	500	500				5,000
Methyl vinyl ketone	78-94-4	10	10				
Metiram	9006-42-2				313		
Metolcarb	1129-41-5	100/10,000	1,000	1,000		P190	
Metribuzin	21087-64-9				313		
Mevinphos	7786-34-7	500	10	10	313		
Mexacarbate	315-18-4	500/10,000	1,000	1,000		P128	
Michler's ketone	90-94-8				313		
Mitomycin C	50-07-7	500/10,000	10	10		U010	
Molinate	2212-67-1				313		
Molybdenum trioxide	1313-27-5				313		
Monochloropentafluoroethane	76-15-3				313		
Monocrotophos	6923-22-4	10/10,000	10				
Monoethylamine	75-04-7			100			10,000
Monomethylamine	74-89-5			100			10,000
Monuron	150-68-5				313		
Muscimol	2763-96-4	500/10,000	1,000	1,000		P007	
Mustard gas	505-60-2	500	500		313		
Myclobutanil	88671-89-0				313		
Nabam	142-59-6				313		
Naled	300-76-5			10	313		
Naphthalene	91-20-3			100	313	U165	
1,5-Naphthalene diisocyanate	3173-72-6				313#		
1-Naphthalenol, methylcarbamate	63-25-2			100	X	U279	
Naphthenic acid	1338-24-5			100			
1,4-Naphthoquinone	130-15-4			5,000		U166	
alpha-Naphthylamine	134-32-7			100	313	U167	
beta-Naphthylamine	91-59-8			10	313	U168	
Nickel	7440-02-0			100	313		
Nickel ammonium sulfate	15699-18-0			100	313c		
Nickel carbonyl	13463-39-3	1	10	10	313c	P073	1,000
Nickel chloride	7718-54-9			100	313c		
Nickel chloride	37211-05-5			100	313c		
Nickel Compounds	N495			&	313		
Nickel cyanide	557-19-7			10	313c	P074	
Nickel hydroxide	12054-48-7			10	313c		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Nickel nitrate	14216-75-2			100	313c		
Nickel sulfate	7786-81-4			100	313c		
Nicotine	54-11-5	100	100	100	313c	P075	
Nicotine and salts	N503				313		
Nicotine and salts	54-11-5			100	313c	P075	
Nicotine sulfate	65-30-5	100/10,000	100	100	313c		
Nitrapyrin	1929-82-4				313		
Nitrate compounds (water dissociable)	N511				313		
Nitric acid	7697-37-2	1,000	1,000	1,000	313		
Nitric acid (conc 80% or greater)	7697-37-2	1,000	1,000	1,000	X		15,000
Nitric oxide	10102-43-9	100	10	10 @		P076	10,000
Nitrilotriacetic acid	139-13-9				313		
p-Nitroaniline	100-01-6			5,000	313	P077	
5-Nitro-o-anisidine	99-59-2				313		
Nitrobenzene	98-95-3	10,000	1,000	1,000	313	U169	
4-Nitrobiphenyl	92-93-3			10	313		
6-Nitrochrysene	7496-02-8				313+		
Nitrocyclohexane	1122-60-7	500	500				
Nitrofen	1836-75-5				313		
Nitrogen dioxide	10102-44-0	100	10	10 @		P078	
Nitrogen dioxide	10544-72-6			10 @			
Nitrogen mustard	51-75-2	10	10		313		
Nitrogen oxide (NO)	10102-43-9	100	10	10 @		P076	10,000
Nitroglycerin	55-63-0			10	313	P081	
Nitromethane	75-52-5				313		
Nitrophenol (mixed isomers)	25154-55-6			100			
2-Nitrophenol	88-75-5			100	313		
4-Nitrophenol	100-02-7			100	313	U170	
m-Nitrophenol	554-84-7			100			
p-Nitrophenol	100-02-7			100	X	U170	
Nitrophenols	N.A.			&			
2-Nitropropane	79-46-9			10	313	U171	
1-Nitropyrene	5522-43-0				313+		
4–Nitropyrene	57835-92-4				313+		
Nitrosamines	N.A.			&			
N-Nitrosodi-n-butylamine	924-16-3			10	313	U172	
N-Nitrosodiethanolamine	1116-54-7			1		U173	
N-Nitrosodiethylamine	55-18-5			1	313	U174	
N-Nitrosodimethylamine	62-75-9	1,000	10	10	313	P082	
Nitrosodimethylamine	62-75-9	1,000	10	10	X	P082	
N-Nitrosodiphenylamine	86-30-6			100	313		
p-Nitrosodiphenylamine	156-10-5				313		
N-Nitrosodi-n-propylamine	621-64-7			10	313	U111	
N-Nitroso-N-ethylurea	759-73-9			1	313	U176	
N-Nitroso-N-methylurea	684-93-5			1	313	U177	
N-Nitroso-N-methylurethane	615-53-2			1		U178	
N-Nitrosomethylvinylamine	4549-40-0			10	313	P084	
N-Nitrosomorpholine	59-89-2			1	313		
N-Nitrosonornicotine	16543-55-8				313		
N-Nitrosopiperidine	100-75-4			10	313	U179	
N-Nitrosopyrrolidine	930-55-2			1		U180	

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Nitrotoluene	1321-12-6			1,000			
m-Nitrotoluene	99-08-1			1,000			
o-Nitrotoluene	88-72-2			1,000	313		
p-Nitrotoluene	99-99-0			1,000			
5-Nitro-o-toluidine	99-55-8			100	313	U181	
Nitrous acid, ethyl ester	109-95-5						10,000
Nonylphenol (includes only 6 chemicals)	N530				313		
Nonylphenol	25154-52-3				313$		
Nonylphenol, branched	90481-04-2				313$		
4-Nonylphenol	104-40-5				313$		
4-Nonylphenol, branched	84852-15-3				313$		
Norbormide	991-42-4	100/10,000	100				
Norflurazon	27314-13-2				313		
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	3268-87-9				313!		
1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001-02-0				313!		
Octachloronaphthalene	2234-13-1				313		
Octachlorostyrene	29082-74-4				313		
Octanoic acid, 2,6-dibromo-4-cyanophenyl ester	1689-99-2				X		
Oleum (fuming sulfuric acid)	8014-95-7			1,000			10,000
o-Nitroanisole	91-23-6				313		
Organorhodium Complex (PMN-82-147)	0	10/10,000	10	PMN			
Oryzalin	19044-88-3				313		
Osmium oxide OsO4 (T-4)-	20816-12-0			1,000	X	P087	
Osmium tetroxide	20816-12-0			1,000	313	P087	
Ouabain	630-60-4	100/10,000	100				
7-Oxabicyclo(2.2.1)heptane-2,3-dicarboxylic acid, dipotassium salt	2164-07-0				X		
Oxamyl	23135-22-0	100/10,000	100	100		P194	
Oxetane, 3,3-bis(chloromethyl)-	78-71-7	500	500				
Oxirane	75-21-8	1,000	10	10	X	U115	10,000
Oxirane, (chloromethyl)-	106-89-8	1,000	100	100	X	U041	20,000
Oxirane, methyl-	75-56-9	10,000	100	100	X		10,000
Oxydemeton methyl	301-12-2				313		
Oxydiazon	19666-30-9				313		
Oxydisulfoton	2497-07-6	500	500				
Oxyfluorfen	42874-03-3				313		
Ozone	10028-15-6	100	100		313		
Paraformaldehyde	30525-89-4			1,000			
Paraldehyde	123-63-7			1,000	313	U182	
Paraquat dichloride	1910-42-5	10/10,000	10		313		
Paraquat methosulfate	2074-50-2	10/10,000	10				
Parathion	56-38-2	100	10	10	313	P089	
Parathion-methyl	298-00-0	100/10,000	100	100	X	P071	
Paris green	12002-03-8	500/10,000	1	1			
PCBs	1336-36-3			1	X		
PCNB	82-68-8			100	X	U185	
PCP	87-86-5			10	X		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Pebulate	1114-71-2				313		
Pendimethalin	40487-42-1				313		
Pentaborane	19624-22-7	500	500				
Pentachlorobenzene	608-93-5			10	313	U183	
1,2,3,7,8-pentachlorodibenzo-p-dioxin	40321-76-4				313!		
2,3,4,7,8-pentachlorodibenzofuran	57117-31-4				313!		
1,2,3,7,8-pentachlorodibenzofuran	57117-41-6				313!		
Pentachloroethane	76-01-7			10	313	U184	
Pentachloronitrobenzene	82-68-8			100	X	U185	
Pentachlorophenol	87-86-5			10	313		
Pentadecylamine	2570-26-5	100/10,000	100				
1,3-Pentadiene	504-60-9			100		U186	10,000
Pentane	109-66-0						10,000
1-Pentene	109-67-1						10,000
2-Pentene, (E)-	646-04-8						10,000
2-Pentene, (Z)-	627-20-3						10,000
Pentobarbital sodium	57-33-0				313		
Peracetic acid	79-21-0	500	500		313		10,000
Perchloroethylene	127-18-4			100	X	U210	
Perchloromethyl mercaptan	594-42-3	500	100	100	313		10,000
Permethrin	52645-53-1				313		
Phenacetin	62-44-2			100		U187	
Phenanthrene	85-01-8			5,000	313		
Phenol	108-95-2	500/10,000	1,000	1,000	313	U188	
Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1			100	X	U411	
Phenol, 3-(1-methylethyl)-, methylcarbamate	64-00-6	500/10,000	10	10		P202	
Phenolphthalein	77-09-8				313		
Phenol, 2,2'-thiobis[4-chloro-6-methyl-	4418-66-0	100/10,000	100				
Phenothrin	26002-80-2				313		
Phenoxarsine, 10,10'-oxydi-	58-36-6	500/10,000	500				
(2-(4-Phenoxyphenoxy)ethyl carbamic acid ethyl ester	72490-01-8				X		
Phenyl dichloroarsine	696-28-6	500	1	1		P036	
(1,2-Phenylenebis(iminocarbonothioyl)) biscarbamic acid diethyl ester	23564-06-9				X		
1,2-Phenylenediamine	95-54-5				313		
p-Phenylenediamine	106-50-3			5,000	313		
1,3-Phenylenediamine	108-45-2				313		
1,2-Phenylenediamine dihydrochloride	615-28-1				313		
1,4-Phenylenediamine dihydrochloride	624-18-0				313		
1,4-Phenylene diisocyanate	104-49-4				313#		
1,3-Phenylene diisocyanate	123-61-5				313#		
Phenylhydrazine hydrochloride	59-88-1	1,000/10,000	1,000				
Phenylmercuric acetate	62-38-4	500/10,000	100	100	313c	P092	
Phenylmercury acetate	62-38-4	500/10,000	100	100	313c	P092	
5-(Phenylmethyl)-3-furanyl)methyl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate	10453-86-8				X		
2-Phenylphenol	90-43-7				313		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Phenylsilatrane	2097-19-0	100/10,000	100				
Phenylthiourea	103-85-5	100/10,000	100	100		P093	
Phenytoin	57-41-0				313		
Phorate	298-02-2	10	10	10		P094	
Phosacetim	4104-14-7	100/10,000	100				
Phosfolan	947-02-4	100/10,000	100				
Phosgene	75-44-5	10	10	10	313	P095	500
Phosphamidon	13171-21-6	100	100				
Phosphine	7803-51-2	500	100	100	313	P096	5,000
Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl)-,dimethyl ester	52-68-6			100	X		
Phosphonothioic acid, methyl-, O-ethyl O-(4-(methylthio)phenyl) ester	2703-13-1	500	500				
Phosphonothioic acid, methyl-, S-(2-(bis(1-methylethyl)amino)ethyl) O-ethyl ester	50782-69-9	100	100				
Phosphonothioic acid, methyl-, O-(4-nitrophenyl) O-phenyl ester	2665-30-7	500	500				
Phosphoric acid	7664-38-2			5,000			
Phosphoric acid, 2-chloro-1-(2,3,5-trichlorophenyl) ethenyl dimethyl ester	961-11-5				X		
Phosphoric acid, 2-dichloroethenyl dimethyl ester	62-73-7	1,000	10	10	X		
Phosphoric acid, dimethyl 4-(methylthio) phenyl ester	3254-63-5	500	500				
Phosphorodithioic acid O-ethyl S,S-dipropyl ester	13194-48-4	1,000	1,000		X		
Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester	56-38-2	100	10	10	X	P089	
Phosphorothioic acid, O,O-dimethyl-5-(2-(methylthio)ethyl)ester	2587-90-8	500	500				
Phosphorous trichloride	7719-12-2	1,000	1,000	1,000			15,000
Phosphorus (yellow or white)	7723-14-0	100	1	1	313		
Phosphorus	7723-14-0	100	1	1			
Phosphorus oxychloride	10025-87-3	500	1,000	1,000			5,000
Phosphorus pentachloride	10026-13-8	500	500				
Phosphorus trichloride	7719-12-2	1,000	1,000	1,000			15,000
Phosphoryl chloride	10025-87-3	500	1,000	1,000			5,000
Phthalate Esters	N.A.			&			
Phthalic anhydride	85-44-9			5,000	313	U190	
Physostigmine	57-47-6	100/10,000	100	100		P204	
Physostigmine, salicylate (1:1)	57-64-7	100/10,000	100	100		P188	
Picloram	1918-02-1				313		
2-Picoline	109-06-8			5,000	X	U191	
Picric acid	88-89-1				313		
Picrotoxin	124-87-8	500/10,000	500				
N,N'-(1,4-Piperazinediylbis(2,2,2-trichloroethylidene)) bisformamide	26644-46-2				X		
Piperidine	110-89-4	1,000	1,000				15,000
Piperonyl butoxide	51-03-6				313		
Pirimifos-ethyl	23505-41-1	1,000	1,000				
Pirimiphos methyl	29232-93-7				313		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Plumbane, tetramethyl-	75-74-1	100	100				10,000
Polybrominated Biphenyls (PBBs)	N575				313		
Polychlorinated alkanes (C10 to C13)	N583				313		
Polychlorinated biphenyls	1336-36-3			1	313		
Polycyclic aromatic compounds (includes only 23 chemicals)	N590				313		
Polycyclic organic matter	N.A.			&			
Polymeric diphenylmethane diisocyanate	9016-87-9				313#		
Polynuclear Aromatic Hydrocarbons	N.A.			&			
Potassium arsenate	7784-41-0			1	313c		
Potassium arsenite	10124-50-2	500/10,000	1	1	313c		
Potassium bichromate	7778-50-9			10	313c		
Potassium bromate	7758-01-2				313		
Potassium chromate	7789-00-6			10	313c		
Potassium cyanide	151-50-8	100	10	10	313c	P098	
Potassium dimethyldithiocarbamate	128-03-0				313		
Potassium hydroxide	1310-58-3			1,000			
Potassium N-methyldithiocarbamate	137-41-7				313		
Potassium permanganate	7722-64-7			100	313c		
Potassium silver cyanide	506-61-6	500	1	1	313c	P099	
Profenofos	41198-08-7				313		
Promecarb	2631-37-0	500/10,000	1,000	1,000		P201	
Prometryn	7287-19-6				313		
Pronamide	23950-58-5			5,000	313	U192	
Propachlor	1918-16-7				313		
1,2-Propadiene	463-49-0						10,000
Propadiene	463-49-0						10,000
2-Propanamine	75-31-0						10,000
Propane	74-98-6						10,000
Propane, 2-chloro-	75-29-6						10,000
Propane 1,2-dichloro-	78-87-5			1,000	X	U083	
Propane, 2,2-dimethyl-	463-82-1						10,000
Propane, 2-methyl	75-28-5						10,000
Propanenitrile	107-12-0	500	10	10		P101	10,000
Propanenitrile, 2-methyl-	78-82-0	1,000	1,000				20,000
Propane sultone	1120-71-4			10	313	U193	
1,3-Propane sultone	1120-71-4			10	X	U193	
Propanil	709-98-8				313		
Propargite	2312-35-8			10	313		
Propargyl alcohol	107-19-7			1,000	313	P102	
Propargyl bromide	106-96-7	10	10				
2-Propenal	107-02-8	500	1	1	X	P003	5,000
2-Propen-1-amine	107-11-9	500	500		X		10,000
Propene	115-07-1				X		10,000
1-Propene	115-07-1				X		10,000
1-Propene, 1-chloro-	590-21-6						10,000
1-Propene, 2-chloro-	557-98-2						10,000
1-Propene, 2-methyl-	115-11-7						10,000
2-Propenenitrile	107-13-1	10,000	100	100	X	U009	20,000
2-Propenenitrile, 2-methyl-	126-98-7	500	1,000	1,000	X	U152	10,000
2-Propen-1-ol	107-18-6	1,000	100	100	X	P005	15,000

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
2-Propenoyl chloride	814-68-6	100	100				5,000
Propetamphos	31218-83-4				313		
Propham	122-42-9			1,000		U373	
Propiconazole	60207-90-1				313		
beta-Propiolactone	57-57-8	500	10	10	313		
Propionaldehyde	123-38-6			1,000	313		
Propionic acid	79-09-4			5,000			
Propionic anhydride	123-62-6			5,000			
Propionitrile	107-12-0	500	10	10		P101	10,000
Propionitrile, 3-chloro-	542-76-7	1,000	1,000	1,000	X	P027	
Propiophenone, 4'-amino	70-69-9	100/10,000	100				
Propoxur	114-26-1			100	313	U411	
n-Propylamine	107-10-8			5,000		U194	
Propyl chloroformate	109-61-5	500	500				15,000
Propylene	115-07-1				313		10,000
Propyleneimine	75-55-8	10,000	1	1	313	P067	10,000
Propylene oxide	75-56-9	10,000	100	100	313		10,000
1-Propyne	74-99-7						10,000
Propyne	74-99-7						10,000
Prothoate	2275-18-5	100/10,000	100				
Pyrene	129-00-0	1,000/10,000	5,000	5,000			
Pyrethrins	121-21-1			1			
Pyrethrins	121-29-9			1			
Pyrethrins	8003-34-7			1			
Pyridine	110-86-1			1,000	313	U196	
Pyridine, 4-amino-	504-24-5	500/10,000	1,000	1,000		P008	
Pyridine, 3-(1-methyl-2-pyrrolidinyl)-,(S)-	54-11-5	100	100	100		P075	
Pyridine, 2-methyl-5-vinyl-	140-76-1	500	500				
Pyridine, 4-nitro-, 1-oxide	1124-33-0	500/10,000	500				
2,4-(1H,3H)-Pyrimidinedione, 5-bromo-6-methyl-3-(1-methylpropyl), lithium salt	53404-19-6				X		
Pyriminil	53558-25-1	100/10,000	100				
Quinoline	91-22-5			5,000	313		
Quinone	106-51-4			10	313	U197	
Quintozene	82-68-8			100	313	U185	
Quizalofop-ethyl	76578-14-8				313		
Reserpine	50-55-5			5,000		U200	
Resmethrin	10453-86-8				313		
Resorcinol	108-46-3			5,000		U201	
Saccharin (manufacturing)	81-07-2			100	313	U202	
Saccharin and salts	81-07-2			100		U202	
Safrole	94-59-7			100	313	U203	
Salcomine	14167-18-1	500/10,000	500				
Sarin	107-44-8	10	10				
Selenious acid	7783-00-8	1,000/10,000	10	10	313c	U204	
Selenious acid, dithallium(1+) salt	12039-52-0			1,000	313c	P114	
Selenium	7782-49-2			100	313		
Selenium Compounds	N725			&	313		
Selenium dioxide	7446-08-4			10	313c		
Selenium oxychloride	7791-23-3	500	500		313c		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Selenium sulfide	7488-56-4			10	313c	U205	
Selenourea	630-10-4			1,000		P103	
Semicarbazide hydrochloride	563-41-7	1,000/10,000	1,000				
Sethoxydim	74051-80-2				313		
Silane	7803-62-5						10,000
Silane, (4-aminobutyl)diethoxymethyl-	3037-72-7	1,000	1,000				
Silane, chlorotrimethyl-	75-77-4	1,000	1,000				10,000
Silane, dichloro-	4109-96-0						10,000
Silane, dichlorodimethyl-	75-78-5	500	500				5,000
Silane, tetramethyl-	75-76-3						10,000
Silane, trichloro-	10025-78-2						10,000
Silane, trichloromethyl-	75-79-6	500	500				5,000
Silver	7440-22-4			1,000	313		
Silver Compounds	N740			&	313		
Silver cyanide	506-64-9			1	313c	P104	
Silver nitrate	7761-88-8			1	313c		
Silvex (2,4,5-TP)	93-72-1			100			
Simazine	122-34-9				313		
Sodium	7440-23-5			10			
Sodium arsenate	7631-89-2	1,000/10,000	1	1	313c		
Sodium arsenite	7784-46-5	500/10,000	1	1	313c		
Sodium azide (Na(N3))	26628-22-8	500	1,000	1,000	313	P105	
Sodium bichromate	10588-01-9			10	313c		
Sodium bifluoride	1333-83-1			100			
Sodium bisulfite	7631-90-5			5,000			
Sodium cacodylate	124-65-2	100/10,000	100				
Sodium chromate	7775-11-3			10	313c		
Sodium cyanide (Na(CN))	143-33-9	100	10	10	313c	P106	
Sodium dicamba	1982-69-0				313		
Sodium dimethyldithiocarbamate	128-04-1				313		
Sodium dodecylbenzenesulfonate	25155-30-0			1,000			
Sodium fluoride	7681-49-4			1,000			
Sodium fluoroacetate	62-74-8	10/10,000	10	10	313	P058	
Sodium hydrosulfide	16721-80-5			5,000			
Sodium hydroxide	1310-73-2			1,000			
Sodium hypochlorite	7681-52-9			100			
Sodium hypochlorite	10022-70-5			100			
Sodium methylate	124-41-4			1,000			
Sodium methyldithiocarbamate	137-42-8				X		
Sodium nitrite	7632-00-0			100	313		
Sodium pentachlorophenate	131-52-2				313		
Sodium o-phenylphenoxide	132-27-4				313		
Sodium phosphate, dibasic	7558-79-4			5,000			
Sodium phosphate, dibasic	10039-32-4			5,000			
Sodium phosphate, dibasic	10140-65-5			5,000			
Sodium phosphate, tribasic	7601-54-9			5,000			
Sodium phosphate, tribasic	10101-89-0			5,000			
Sodium phosphate, tribasic	10361-89-4			5,000			
Sodium selenate	13410-01-0	100/10,000	100		313c		
Sodium selenite	7782-82-3			100	313c		
Sodium selenite	10102-18-8	100/10,000	100	100	313c		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Sodium tellurite	10102-20-2	500/10,000	500				
Stannane, acetoxytriphenyl-	900-95-8	500/10,000	500				
Streptozotocin	18883-66-4			1		U206	
Strontium chromate	7789-06-2			10	313c		
Strychnine and salts	N746				313		
Strychnine	57-24-9	100/10,000	10	10	313c	P108	
Strychnine, and salts	57-24-9			10	313c	P108	
Strychnine, sulfate	60-41-3	100/10,000	10	10	313c		
Styrene	100-42-5			1,000	313		
Styrene oxide	96-09-3			100	313		
Sulfotep	3689-24-5	500	100	100		P109	
Sulfoxide, 3-chloropropyl octyl	3569-57-1	500	500				
Sulfur dioxide	7446-09-5	500	500				
Sulfur dioxide (anhydrous)	7446-09-5	500	500				5,000
Sulfur fluoride (SF4), (T-4)-	7783-60-0	100	100				2,500
Sulfuric acid (aerosol forms only)	7664-93-9	1,000	1,000	1,000	313		
Sulfuric acid	7664-93-9	1,000	1,000	1,000			
Sulfuric acid (fuming)	8014-95-7			1,000			10,000
Sulfuric acid, mixture with sulfur trioxide	8014-95-7			1,000			10,000
Sulfur monochloride	[1]12771-08-3			1,000			
Sulfur monochloride	[2]10025-67-9			1,000			
Sulfur phosphide	1314-80-3			100		U189	
Sulfur tetrafluoride	7783-60-0	100	100				2,500
Sulfur trioxide	7446-11-9	100	100				10,000
Sulfuryl fluoride	2699-79-8				313		
Sulprofos	35400-43-2				313		
2,4,5-T acid	93-76-5			1,000			
2,4,5-T amines	1319-72-8			5,000			
2,4,5-T amines	2008-46-0			5,000			
2,4,5-T amines	3813-14-7			5,000			
2,4,5-T amines	6369-96-6			5,000			
2,4,5-T amines	6369-97-7			5,000			
2,4,5-T esters	93-79-8			1,000			
2,4,5-T esters	1928-47-8			1,000			
2,4,5-T esters	2545-59-7			1,000			
2,4,5-T esters	25168-15-4			1,000			
2,4,5-T esters	61792-07-2			1,000			
2,4,5-T salts	13560-99-1			1,000			
Tabun	77-81-6	10	10				
Tebuthiuron	34014-18-1				313		
Tellurium hexafluoride	7783-80-4	100	100				
Temephos	3383-96-8				313		
TEPP	107-49-3	100	10	10		P111	
Terbacil	5902-51-2				313		
Terbufos	13071-79-9	100	100				
Tetrabromobisphenol A	79-94-7				313		

[1] CAS Number should be 10025-67-9. See Introduction for further explanation.

[2] This is correct CAS number but not the same CAS number used on the CERCLA list. See Introduction for further explanation.

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
1,2,4,5-Tetrachlorobenzene	95-94-3			5,000		U207	
2,3,7,8-tetrachlorodibenzofuran	51207-31-9				313!		
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1746-01-6			1	313!		
1,1,2,2-Tetrachloroethane	79-34-5			100	313	U209	
1,1,1,2-Tetrachloroethane	630-20-6			100	313	U208	
Tetrachloroethylene	127-18-4			100	313	U210	
1,1,2,2-Tetrachloro-1-fluoroethane	354-14-3				313		
1,1,1,2-Tetrachloro-2-fluoroethane	354-11-0				313		
2,3,4,6-Tetrachlorophenol	58-90-2			10	313c		
Tetrachlorvinphos	961-11-5				313		
Tetracycline hydrochloride	64-75-5				313		
Tetraethyldithiopyrophosphate	3689-24-5	500	100	100		P109	
Tetraethyl lead	78-00-2	100	10	10	313c	P110	
Tetraethyl pyrophosphate	107-49-3	100	10	10		P111	
Tetraethyltin	597-64-8	100	100				
Tetrafluoroethylene	116-14-3				313		10,000
Tetrahydro-5,5-dimethyl-2(1H)-pyrimidinone(3-(4-(trifluoromethyl)phenyl)-1-(2-(4-(trifluoromethyl)phenyl)ethenyl)-2-propenylidene)hydrazone	67485-29-4				X		
Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione	533-74-4				X		
Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione, ion(1-), sodium	53404-60-7				X		
Tetramethrin	7696-12-0				313		
2,2,3,3-Tetramethylcyclopropane carboxylic acid cyano(3-phenoxyphenyl)methyl ester	39515-41-8				X		
Tetramethyllead	75-74-1	100	100		313c		10,000
Tetramethylsilane	75-76-3						10,000
Tetranitromethane	509-14-8	500	10	10	313	P112	10,000
Thallic oxide	1314-32-5			100	313c	P113	
Thallium	7440-28-0			1,000	313		
Thallium(I) acetate	563-68-8			100	313c	U214	
Thallium(I) carbonate	6533-73-9	100/10,000	100	100	313c	U215	
Thallium chloride TlCl	7791-12-0	100/10,000	100	100	313c	U216	
Thallium Compounds	N760			&	313		
Thallium(I) nitrate	10102-45-1			100	313c	U217	
Thallium(I) sulfate	7446-18-6	100/10,000	100	100	313c	P115	
Thallium sulfate	10031-59-1	100/10,000	100	100	313c		
Thallous carbonate	6533-73-9	100/10,000	100	100	313c	U215	
Thallous chloride	7791-12-0	100/10,000	100	100	313c	U216	
Thallous malonate	2757-18-8	100/10,000	100				
Thallous sulfate	7446-18-6	100/10,000	100	100	313c	P115	
Thiabendazole	148-79-8				313		
2-(4-Thiazolyl)-1H-benzimidazole	148-79-8				X		
Thioacetamide	62-55-5			10	313	U218	
Thiobencarb	28249-77-6				313		
Thiocarbazide	2231-57-4	1,000/10,000	1,000				
Thiocyanic acid, methyl ester	556-64-9	10,000	10,000				20,000

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
4,4'-Thiodianiline	139-65-1				313		
Thiodicarb	59669-26-0			100	313	U410	
Thiofanox	39196-18-4	100/10,000	100	100		P045	
Thiomethanol	74-93-1	500	100	100	X	U153	10,000
Thionazin	297-97-2	500	100	100		P040	
Thiophanate ethyl	23564-06-9				313		
Thiophanate-methyl	23564-05-8			10	313	U409	
Thiophenol	108-98-5	500	100	100		P014	
Thiosemicarbazide	79-19-6	100/10,000	100	100	313	P116	
Thiourea	62-56-6			10	313	U219	
Thiourea, (2-chlorophenyl)-	5344-82-1	100/10,000	100	100		P026	
Thiourea, (2-methylphenyl)-	614-78-8	500/10,000	500				
Thiourea, 1-naphthalenyl-	86-88-4	500/10,000	100	100		P072	
Thiram	137-26-8			10	313	U244	
Thorium dioxide	1314-20-1				313		
Titanium chloride (TiCl4) (T-4)-	7550-45-0	100	1,000	1,000	X		2,500
Titanium tetrachloride	7550-45-0	100	1,000	1,000	313		2,500
o-Tolidine	119-93-7			10	X	U095	
o-Tolidine dihydrochloride	612-82-8				X		
o-Tolidine dihydrofluoride	41766-75-0				X		
Toluene	108-88-3			1,000	313	U220	
Toluenediamine	25376-45-8			10	X	U221	
Toluene-2,4-diisocyanate	584-84-9	500	100	100	313		10,000
Toluene-2,6-diisocyanate	91-08-7	100	100	100	313		10,000
Toluenediisocyanate (mixed isomers)	26471-62-5			100	313	U223	10,000
Toluene diisocyanate (unspecified isomer)	26471-62-5			100	X	U223	10,000
o-Toluidine	95-53-4			100	313	U328	
p-Toluidine	106-49-0			100		U353	
o-Toluidine hydrochloride	636-21-5			100	313	U222	
Toxaphene	8001-35-2	500/10,000	1	1	313	P123	
2,4,5-TP esters	32534-95-5			100			
Triadimefon	43121-43-3				313		
Triallate	2303-17-5			100	313	U389	
Triamiphos	1031-47-6	500/10,000	500				
Triaziquone	68-76-8				313		
Triazofos	24017-47-8	500	500				
Tribenuron methyl	101200-48-0				313		
Tribromomethane	75-25-2			100	X	U225	
Tributyltin fluoride	1983-10-4				313		
Tributyltin methacrylate	2155-70-6				313		
S,S,S-Tributyltrithiophosphate	78-48-8				313		
Trichlorfon	52-68-6			100	313		
Trichloroacetyl chloride	76-02-8	500	500		313		
1,2,4-Trichlorobenzene	120-82-1			100	313		
Trichloro(chloromethyl)silane	1558-25-4	100	100				
Trichloro(dichlorophenyl)silane	27137-85-5	500	500				
1,1,1-Trichloroethane	71-55-6			1,000	313	U226	
1,1,2-Trichloroethane	79-00-5			100	313	U227	
Trichloroethylene	79-01-6			100	313	U228	
Trichloroethylsilane	115-21-9	500	500				
Trichlorofluoromethane	75-69-4			5,000	313	U121	

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Trichloromethanesulfenyl chloride	594-42-3	500	100	100	X		10,000
Trichloromonofluoromethane	75-69-4			5,000	X	U121	
Trichloronate	327-98-0	500	500				
Trichlorophenol	25167-82-2			10	313c		
2,3,4-Trichlorophenol	15950-66-0			10	313c		
2,3,5-Trichlorophenol	933-78-8			10	313c		
2,3,6-Trichlorophenol	933-75-5			10	313c		
2,4,5-Trichlorophenol	95-95-4			10	313		
2,4,6-Trichlorophenol	88-06-2			10	313		
3,4,5-Trichlorophenol	609-19-8			10			
Trichlorophenylsilane	98-13-5	500	500				
1,2,3-Trichloropropane	96-18-4				313		
Trichlorosilane	10025-78-2						10,000
Triclopyr triethylammonium salt	57213-69-1				313		
Triethanolamine dodecylbenzene sulfonate	27323-41-7			1,000			
Triethoxysilane	998-30-1	500	500				
Triethylamine	121-44-8			5,000	313	U404	
Trifluorochloroethylene	79-38-9						10,000
2-(4-((5-(Trifluoromethyl)-2-pyridinyl)oxy)-phenoxy)propanoic acid, butyl ester	69806-50-4				X		
Trifluralin	1582-09-8			10	313		
Triforine	26644-46-2				313		
Trimethylamine	75-50-3			100			10,000
1,2,4-Trimethylbenzene	95-63-6				313		
Trimethylchlorosilane	75-77-4	1,000	1,000				10,000
2,4,4-Trimethylhexamethylene diisocyanate	15646-96-5				313#		
2,2,4-Trimethylhexamethylene diisocyanate	16938-22-0				313#		
Trimethylolpropane phosphite	824-11-3	100/10,000	100				
2,2,4-Trimethylpentane	540-84-1			1,000			
2,3,5-Trimethylphenyl methylcarbamate	2655-15-4				313		
Trimethyltin chloride	1066-45-1	500/10,000	500				
1,3,5-Trinitrobenzene	99-35-4			10		U234	
Triphenyltin chloride	639-58-7	500/10,000	500		313		
Triphenyltin hydroxide	76-87-9				313		
Tris(2-chloroethyl)amine	555-77-1	100	100				
Tris(2,3-dibromopropyl) phosphate	126-72-7			10	313	U235	
Tris(dimethylcarbamodithioato-S,S')iron	14484-64-1				X		
Trypan blue	72-57-1			10	313	U236	
Uracil mustard	66-75-1			10		U237	
Uranyl acetate	541-09-3			100			
Uranyl nitrate	10102-06-4			100			
Uranyl nitrate	36478-76-9			100			
Urea, N,N-dimethyl-N'-[3-(trifluoromethyl)phenyl]-	2164-17-2				X		
Urethane	51-79-6			100	313	U238	
Valinomycin	2001-95-8	1,000/10,000	1,000				

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Vanadium (except when contained in an alloy)	7440-62-2				313		
Vanadium Compounds	N770				313		
Vanadium pentoxide	1314-62-1	100/10,000	1,000	1,000	313c	P120	
Vanadyl sulfate	27774-13-6			1,000	313c		
Vikane	2699-79-8				X		
Vinclozolin	50471-44-8				313		
Vinyl acetate	108-05-4	1,000	5,000	5,000	313		15,000
Vinyl acetate monomer	108-05-4	1,000	5,000	5,000	X		15,000
Vinyl acetylene	689-97-4						10,000
Vinyl bromide	593-60-2			100	313		
Vinyl chloride	75-01-4			1	313	U043	10,000
Vinyl ethyl ether	109-92-2						10,000
Vinyl fluoride	75-02-5				313		10,000
Vinylidene chloride	75-35-4			100	313	U078	10,000
Vinylidene fluoride	75-38-7						10,000
Vinyl methyl ether	107-25-5						10,000
Warfarin	81-81-2	500/10,000	100	100	X 313c	P001	
Warfarin and salts	N874				313		
Warfarin, & salts, conc.>0.3%	81-81-2			100	X 313c	P001	
Warfarin sodium	129-06-6	100/10,000	100	100	313c		
m-Xylene	108-38-3			1,000	313	U239	
o-Xylene	95-47-6			1,000	313	U239	
p-Xylene	106-42-3			100	313	U239	
Xylene (mixed isomers)	1330-20-7			100	313	U239	
Xylenol	1300-71-6			1,000			
2,6-Xylidine	87-62-7				313		
Xylylene dichloride	28347-13-9	100/10,000	100				
Zinc (fume or dust)	7440-66-6			1,000	313		
Zinc	7440-66-6			1,000			
Zinc acetate	557-34-6			1,000	313c		
Zinc ammonium chloride	14639-97-5			1,000	313c		
Zinc ammonium chloride	14639-98-6			1,000	313c		
Zinc ammonium chloride	52628-25-8			1,000	313c		
Zinc borate	1332-07-6			1,000	313c		
Zinc bromide	7699-45-8			1,000	313c		
Zinc carbonate	3486-35-9			1,000	313c		
Zinc chloride	7646-85-7			1,000	313c		
Zinc Compounds	N982			&	313		
Zinc cyanide	557-21-1			10	313c	P121	
Zinc, dichloro(4,4-dimethyl-5((((methylamino)carbonyl)oxy)imino) pentanenitrile)-, (T-4)-	58270-08-9	100/10,000	100		313c		
Zinc fluoride	7783-49-5			1,000	313c		
Zinc formate	557-41-5			1,000	313c		
Zinc hydrosulfite	7779-86-4			1,000	313c		
Zinc nitrate	7779-88-6			1,000	313c		
Zinc phenolsulfonate	127-82-2			5,000	313c		
Zinc phosphide	1314-84-7	500	100	100	313c	P122	
Zinc phosphide (conc. <= 10%)	1314-84-7	500	100	100	313c	U249	
Zinc phosphide (conc. > 10%)	1314-84-7	500	100	100	313c	P122	
Zinc silicofluoride	16871-71-9			5,000	313c		

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Zinc sulfate	7733-02-0			1,000	313c		
Zineb	12122-67-7				313		
Ziram	137-30-4			10		P205	
Zirconium nitrate	13746-89-9			5,000			
Zirconium potassium fluoride	16923-95-8			1,000			
Zirconium sulfate	14644-61-2			5,000			
Zirconium tetrachloride	10026-11-6			5,000			

FUSS & O'NEILL

Appendix I

DEEP Spill Notification Form

STATE OF CONNECTICUT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127
http://dep.state.ct.us

Bureau of Waste Management
Oil and Chemical Spill Response Division

REPORT OF PETROLEUM OR CHEMICAL PRODUCT DISCHARGE, SPILLAGE OR RELEASE

1. When did the incident occur? Date ___/___/___ Time_____:_____
   month/day/year

2. Where did the incident occur? _____

   _____

3. How did the incident occur? (Describe the cause) _____

   _____

4. Under whose control was the chemical or petroleum product at the time of the incident?

   Name: _____

   Mailing & street address: _____

   Town: _____State:_____ Zip: _____Telephone: _____

5. Who is the owner of the property onto which the spill occurred?

   _____

   If this is a corporate property or property owned jointly, who is the represents the owner?

   Corporate property ☐ Property owned jointly ☐

   Name: _____

   Mailing & street address: _____

   Town: _____State:_____ Zip: _____Telephone: _____

6. When was the incident verbally reported to the Department of Environmental Protection?

   Date _____/____/_____ Time___:_____
   month/day/year

STATE OF CONNECTICUT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127
http://dep.state.ct.us

7. Who reported the incident and who were they representing?

Name: _____

Mailing & street address: _____

Town: _____State:_____ Zip: _____Telephone: _____

8. What were the chemicals or petroleum products released, spilled or discharged? Give an exact description of each of the materials involved in the incident, including the chemical names, percent concentrations, trade names, etc.

If the chemicals are Extremely Hazardous substances or CERCLA hazardous substances they must be identified as such and include the reportable quantity (RQ). Please attach a Material Safety Date Sheet (MSDS) for each chemical involved.

What were the quantities of chemicals that were released, spilled or discharged to each environmental medium (air, surface water, soil, ground water)? [NOTE: Connecticut General Statutes requires the reporting of any amount of any substance or material released to the environment].

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

9. Did any of the chemical(s) travel beyond the property line? [NOTE: Materials that enter the ground water are considered to have gone beyond the property line.]

_____

_____

_____

STATE OF CONNECTICUT
DEPARTMENT OF ENERGY AND
ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127
http://dep.state.ct.us

10. What actions were taken to respond to and contain the release, spill or discharge?

11. What actions are being taken to prevent reoccurrence of an incident of this type? (Attach additional sheets if necessary)

12. Were there any injuries as a result of the incident? If so, list the names of exposed individuals, their addresses, phone numbers and describe their injuries. (Attach additional sheets if necessary)

Name: _____

Mailing & street address: _____

Town: _____ State: _____ Zip: _____ Telephone: _____

13. What is the appropriate advice regarding medical attention necessary for exposed individuals?

STATE OF CONNECTICUT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127
http://dep.state.ct.us

14. Are there any known or anticipated health risks, acute or chronic, associated with the release of this chemical or medical advice that should be communicated?

_____

_____

_____

15. Was the incident completely cleaned up by the time this report was submitted? If not, what are the anticipated remedial actions and their duration?

_____

_____

_____

16. CERTIFICATION: I hereby affirm that the foregoing statement is true to the best of my knowledge.

Signature	Title	Date
Print Name		Telephone
Street Address/P.O. Box	City/Town	State & Zip

This form may be reproduced or computerized as long as it contains all of the information requested and is on an 8½ x 11 white paper, black type format. For serious incidents the questions may be answered in narrative format which must include the preparer's affidavit.

MAIL TO:

State of Connecticut
Department of Energy and Environmental Protection
Bureau of Waste Management
Oil and Chemical Spill Response Division
79 Elm Street
Hartford, CT 06106-5127

Telephone: Routine Calls (860) 424-3024
Emergency 24 hours (860) 424-3338

APPENDIX I

2015-2016 SPILLS OF FIVE GALLONS OR MORE

Stamford Fire Rescue

Hazmat List by Incident

Alarm Date Between {07/01/2015} And {06/30/2016} and Physical State Released In "1 ","2 "

Chemical Name	Container	Qty Released	Released Into
15-0007147 09/05/2015 13:26:14 **413 Oil or other combustible liquid spill** **18 ELIOT LN**			
Fuel oil #1	Tank or silo	5 Gallons	Ground
15-0007769 09/26/2015 18:32:26 **411 Gasoline or other flammable liquid spill** **43 HARBOR DR** **Mobile Property Involved: 41 Boat: shorter than 65 ft. with power**			
Gasoline UN#:1203 CAS#:8006-61-9		20 Gallons	Water
15-0007890 09/30/2015 10:09:37 **411 Gasoline or other flammable liquid spill** **629 E MAIN ST** **Mobile Property Involved: 11 Automobile, passenger car, ambulance, race car**			
Gasoline UN#:1203 CAS#:8006-61-9	Vehicle fuel tank and associated piping	12 Ounces (weight).	Confined, no environmental impact
16-0004027 05/08/2016 16:52:26 **451 Biological hazard, confirmed or suspected** **140 Myano LN**			
Unknown White Powder - Possible WMD	Container type, other	1 Pounds	Confined, no environmental impact
16-0004757 06/01/2016 05:10:11 **413 Oil or other combustible liquid spill** **1 Elm CT & Elm ST**			
Hydraulic Fluid		5 Gallons	Confined, no environmental impact
16-0005212 06/17/2016 07:33:55 **422 Chemical spill or leak** **140 Courtland AVE**			

Stamford Fire Rescue

Hazmat List by Incident

Alarm Date Between {07/01/2015} And {06/30/2016} and Physical State Released In "1 ","2 "

Chemical Name	Container	Qty Released	Released Into
Hydraulic Fluid	Product tank on or towed by vehicle	2 Gallons	Confined, no environmental impact

City of Stamford - No. CT0030279

Spills and Leaks 7/1/15 - 6/30/2016

Date	Address / Location	Material Spilled	Quantity	Receiving Stream	
5/28/2015 - 3/2/2016 (Ongoing Monitoring)	614 Scofieldtown Road	Heating Oil	122 Gallons of product and water	Poorhouse Brook / Rippowam River	Heating Oil UST ruputured by push drill rig on 4/21/2015. Temporary O/W separator and other protective sorbent pads and boom installed. Weekely site inspections and water quality testing performed by Fuss & O'Neill.
7/2/2015	310 Elm St.	Diesel Fuel	125 Gallons	Stamford Harbor / Long Island Sound	Manhole cover in roadway broke into pieces and punctured diesel fuel tank on dumptruck. City of Stamford Highways dispatched sander w/ 5 yards of sand to cover the spill route and speedy dry placed in areas where fuel puddles occurred. DEEP and US Coast Guard on scene. Connecticut Tank assisted in cleanup along with Stamford Highways. Highways dispactched a sweeper to clean the spill route and collected sand and sorbent was provided to Connecticut Tank for proper haz-mat disposal. Sorbent pillows placed in three (3) downstream storm manholes, and WPCA maintained stormwater pumpstation shut down until spill cleanup was complete.
8/4/2015	525 Cove Road	Hydraulic Fluid (City Sweeper)	Appx. 25 Gal.	Westcott Cove / Long Island Sound	City of Stamford sweeper ruptured hydraulic line on roadway. Spill was treated with sorbent material and sorbent boom placed adjacent to catch basin. Roadway swept and adjacent catch basin pumped and cleaned on 8/4/15.
8/31/2015	20 Garland Dr.	Unknown (likely commercial grade cleaning products from nearby Servpro facility)	Unknown	Noroton River	Puddles w/ tea colored soapy water observed in roadway. Contacted owner of Servpro and provided verbal warning of MS4 violations. City of Stamford Stormwater Management responded; cleaned all catch basins and cleaned up spill area. Stormwater Mangaement made referral to CT DEEP. Chris Gerke responded 8/31/16.
3/20/2016	90 Magee Ave.	Gear oil	Less than 5 Gal.	Stamford Harbor / Long Island Sound	Brush cutter flail knocked over at City Garage. Leak of gear oil on paved area. Oil treated with sorbent material and swept clean. Oil did not reach catch basin and no impact to waterways.
5/2/2016	703 Shippan Ave.	vehicle fluids (unknown)	Less than 5 Gal.	Stamford Harbor / Long Island Sound	Motor vehicle accident resulted in unknown vehicle fluids leaked onto roadway. Sorbent material applied. City sweeper dispatched to sweep and clean the area. Inspection of catch basin revealed no impacts of spill in sump.
6/30/2016	10 Farms Rd.	Hydraulic Fluid (City Sweeper)	Appx. 5 - 10 Gal.	Noroton River	City of Stamford sweeper ruptured hydraulic line on roadway. Spill was contained and did not enter storm drain system. Sorbent material and sand applied to area of spill. Area swept on 6/30/2015. Catch Basins pumped and cleaned 7/6/16.

Connecticut Department of Energy and Environmental Protection
Emergency Response and Spill Prevention Division
Emergency Incident Report

Case No.: 2016-02394
Staff Receiving Call: 214 WREN, MICHAEL **Assigned To:** 918 LECLERC, KEN
Date Reported: 05/07/2016 **Time Reported:** 20:43
Date of Release: 05/07/2016 **Time of Release:** 19:45
Town of Release: STAMFORD **State of Release:** CT
Location of Reported Release: 111 HARBOR VIEW AVE
Reported By: BRIAN **Phone:** (203) 943-1476 **Ext:**
Representing: STAMFORD WPCA
Responsible Party: **Phone:**
Street Address:
Town: **State:** **Zip Code:**
Does the Responsible Party Accept Financial Responsibility?
Release Type: SEWAGE RELATED
Release Substance: raw sewage bypass
Media: GROUND SURFACE
Total Quantity: **Gallons** 0 **Cubic Yards** 0 **Cubic Feet** 0 **Drums** 0 **Pounds**
Emergency Measures: Bypass ended 1750 hrs. Underground pipe burst. 3000 gallons spilled and entered storm drain.
Has the Release Been Terminated?: YES
Type of Waterbody Affected: CATCH BASIN
Name of Waterbody Affected: STORM DRAIN
Total Quantity Recovered: 0 **Total Quantity in Water:** 0
Corrective Actions Taken: CONTAINED

Discharge Class: UTILITY
Cause of Incident: BROKEN PIPE
Agencies Notified: DEP DISPATCH
Status: OPEN

APPENDIXJ

2015-2016 PESTICIDE, FERTILIZER AND HERBICIDE USE

Athletic Field Fertilizer use only, we do not use any Fertilizers on park Green space

1st application April 2nd Dimension application 18-0-40- 60 bags total used, each bag is 50lbs

2nd application May 2nd Propendi- 60 bags total used, each bag is 50lbs

3rd application Sept Fertilizer- 60 Bags total used, each bag 40lbs

Little League/Softball/Baseball

Troy #1 Field and Troy # Field 2- Cove

Federal #1 Field and Federal #2 Field

Kane Ave Field

Vine Road Field

Scalzi Little League Field/Scazli #1, #2 and #3

Cubeta Stadium

Springdale Little League Field

Kosciusesko LL and Softball Field

Cummings #1 Field #2 Field #4 field and #5

Chestnut Field

Dorthey Heroy Field

Northrop (Stark school) Field

Dimension (18-0-40) - 50lbs/bag x (18/100) = 9lbs/bag x 60 bags = 540lbs N

ProPendi (13-0-4) - 50lbs/bag x (13/100) = 6.5lbs/bag x 60 bags = 390lbs N

Fertilizer (25-0-5) - 40lbs/bag x (25/100) = 10lbs/bag x 60 bags = 600lbs N

Total N Used = 1,530lbs

2015-16 Nitrogen Application from Fertilizer

Sterling Farms Golf Course

Location	Fertilizer Type	lbs N (avg) / 1,000 SF	acres	lbs N
Greens	Granular	2.25	5	490.1
	Liquid	1.25	5	272.3
Tees	Granular	3	3.5	457.4
	Liquid	0.5	3.5	76.2
Fairways	Granular	2	25	2,178.0
	Liquid	0.25	25	272.3
Rough	Granular	1.75	10	762.3
Total			**43.5**	**4,508.5**

E. Gaynor Brennan Municipal Golf Course

Location	Fertilizer Type	lbs N / 1,000 SF	acres	lbs N
Greens	Granular	1	3	130.7
	Liquid	1.5	3	196.0
Tees	Granular	2.5	2	217.8
	Liquid	0.5	2	43.6
Fairways	Granular	2	20	1,742.4
	Liquid	0.5	20	435.6
Rough	-	2	10	871.2
Total			**35**	**3,637.3**

TOTAL 2014-15	**8,145.7**
Total 2014-2015	8,254.6
Percent Change	**-1.3%**

APPENDIX K

2015-2016 ENVIRONMENTAL PROTECTION BOARD SUMMARY TABLE

Performance Summary
Fiscal Years 2009-16

Activity	Service Output by Fiscal Year						
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Customer Service:							
Office Visits:	3354	4483	4783	4798	4900	4832	4912
Building/Septic Permit Reviews:	1222	1342	1642	1584	1505	1462	1540(a)
Administration:							
General Program Administration:	336	364	307	414	373	347	372
Referrals:	143	150	158	121	171	159	157
Permitting/Technical Review:							
Coastal Site Plan/Zoning Applications:	13	15	20	19	16	26	23
Wetland/Watercourse Applications:	27	38	35	41	28	28	34
Subdivision Applications:	02	03	03	03	05	09	07
ZBA Applications:	68	55	63	71	66	51	66
Site Plan Review Applications:	39	46	55	106	99	117	128
Enforcement/Inspection:							
Project Monitoring/Compliance:	79	82	87	81	95	93	106
General Enforcement Activity:	58	56	59	28	25	30	64
Complaints/Citizen Services:	35	34	39	37	46	220	249
Special Projects:							
CRS Program Recertification Tasks:	18	18	18	18(b)	18	18	18
GIS Updates/Permit Links	00	00	00	01	01	01	01
MS4 Regulations/Applications	00	00	00	00	01	01	01
Public Outreach	01	01	01	02	03	04	02

*The information summarized above is based upon an examination of written correspondence (chronological) files and existing data base entries for the period 7/1/15 to 6/30/16. Omitted from the reporting are telephone entries, electronic mailings, facsimile transmissions, undocumented field inspections, inspections conducted in conjunction with the review of development applications, and other related activities.

(a) Increase in activity despite the application of streamlined policies/procedures that reduce specific types of building permit applications reviewed by EPB Staff.

(b) Five (5) Year Recertification.

Revised 8/31/16

APPENDIX L

PIPELINE ASSESSMENT CERTIFICATION PROGRAM CERTIFICATES OF COMPLETION

National Association of Sewer Service Companies
NASSCO, Inc.

Certificate of Completion

This is to certify that

John W. Cornelio

Is certified to practice PACP.
Certification is valid for three years from the date of issuance.

CERTIFICATE NUMBER: U-615-07000181

Signature Theodore J. DeBoda, P.E., Executive Director

7/1/15
Date of Issuance

National Association of Sewer Service Companies
NASSCO, Inc.

Certificate of Completion

This is to certify that

Joseph Hoyt

Is certified to practice PACP.
Certification is valid for three years from the date of issuance.

CERTIFICATE NUMBER: U-615-07000183

Signature Theodore J. DeBoda, P.E., Executive Director

7/1/15
Date of Issuance

Note: The User is not an employee, agent or partner of NASSCO. The User acknowledges and agrees that NASSCO does not supervise or control the User and that NASSCO shall not be responsible for any acts or omissions of the User.

National Association of Sewer Service Companies
NASSCO, Inc.

Certificate of Completion

This is to certify that

Michael Scaturchio

Is certified to practice PACP.
Certification is valid for three years from the date of issuance.

CERTIFICATE NUMBER: U-615-07000185

Signature Theodore J. DeBoda, P.E., Executive Director

7/1/15
Date of Issuance

National Association of Sewer Service Companies
NASSCO, Inc.

Certificate of Completion

This is to certify that

Spero Moschos

Is certified to practice PACP.
Certification is valid for three years from the date of issuance.

CERTIFICATE NUMBER: U-615-07000180

Signature Theodore J. DeBoda, P.E., Executive Director

7/1/15
Date of Issuance

National Association of Sewer Service Companies
NASSCO, Inc.

Certificate of Completion

This is to certify that

Travis Hoyt

Is certified to practice PACP.
Certification is valid for three years from the date of issuance.

CERTIFICATE NUMBER: U-615-07000186

Signature Theodore J. DeBoda, P.E., Executive Director

7/1/15
Date of Issuance

National Association of Sewer Service Companies
NASSCO, Inc.

Certificate of Completion

This is to certify that

Tyler Theder

Is certified to practice PACP.
Certification is valid for three years from the date of issuance.

CERTIFICATE NUMBER: U-615-07000182

Signature Theodore J. DeBoda, P.E., Executive Director

7/1/15
Date of Issuance

National Association of Sewer Service Companies
NASSCO, Inc.

Certificate of Completion

This is to certify that

Wendell Christian

Is certified to practice PACP.
Certification is valid for three years from the date of issuance.

CERTIFICATE NUMBER: U-615-07000184

Signature Theodore J. DeBoda, P.E., Executive Director

7/1/15
Date of Issuance

Note: The User is not an employee, agent or partner of NASSCO. The User acknowledges and agrees that NASSCO does not supervise or control the User and that NASSCO shall not be responsible for any acts or omissions of the User.

APPENDIX M

CITY STAFF TRAINING EVENTS
SIGN-IN SHEETS

FUSS & O'NEILL

Universal Waste Management, Spill Prevention Control and Countermeasures (SPCC) Plan, Stormwater Pollution Prevention (SWPP) Plan
Employee Training
City of Stamford: Highway Department, Police Department, Transfer Station
Date of Training: June 22, 2016

Attendees Sign-In: P. Mardi

	Name Printed	Name Signed	Company / Work Function
1	DENNIS SURMACZEWICZ		HIGHWAYS
2	Joseph Coplon	Joseph Coplon	" "
3	John Moore		Highways
4	Mike Scaturchio		Highways
5	Anthony Carolluzzi		TRAFFIC + ROAD MAINTENANCE
6	Travis Hoyl		Highways
7	Todd M. Johnson SR.	Todd M. Johnson SR.	" "
8	James Taylor		City Highway
9		Jose Ortiz	(" "
10	Tyler Mc...		COS.

Resources: Universal Waste
- Section 22a-430b of the Connecticut General Statutes
- Section 22a-449(c)-113 of the Regulations of Connecticut State Agencies (RCSA)
- F&O PowerPoint Presentation

Resources: SWPPP
- Section 22a-430b of the Connecticut General Statutes.
- Storm Water Pollution Prevention Plan (SWPPP)– City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Resources: SPCC
- Regulations of 40 CFR Part 112
- Spill Prevention Control and Countermeasure (SPCC) Plan – City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Training Presentation by: Miko Kempton

Miko Kempton, _____, Fuss & O'Neill, Inc
Printed Name Signature

FUSS & O'NEILL

Universal Waste Management, Spill Prevention Control and Countermeasures (SPCC) Plan, Stormwater Pollution Prevention (SWPP) Plan
Employee Training
City of Stamford: Highway Department, Police Department, Transfer Station
Date of Training: June 22, 2016

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Timothy Hinton	Timothy Hinton	Highway
2	James Hart	James Hart	Highway
3	Jose CRUZ	Jose Cruz	HIGHWAY
4	ERIC ADAMS	Eric Adams	HIGHWAY
5	David Plunkett	David Plunkett	Highway
6	Robert Gardner	Robert Gardner	Highway
7	Joe Hoyt	Joe Hoyt	Highway
8	AARON TURNER	Aaron Turner	Highway
9	Wendell Christian	Wendell Christian	Highway
10	Robert Frattaroli	Robert Frattaroli	Highways

Resources: Universal Waste
- Section 22a-430b of the Connecticut General Statutes
- Section 22a-449(c)-113 of the Regulations of Connecticut State Agencies (RCSA)
- F&O PowerPoint Presentation

Resources: SWPPP
- Section 22a-430b of the Connecticut General Statutes.
- Storm Water Pollution Prevention Plan (SWPPP)– City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Resources: SPCC
- Regulations of 40 CFR Part 112
- Spill Prevention Control and Countermeasure (SPCC) Plan – City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Training Presentation by: Miko Kempton

Miko Kempton (Printed Name), Miko Kempton (Signature), Fuss & O'Neill, Inc

FUSS & O'NEILL

Universal Waste Management, Spill Prevention Control and Countermeasures (SPCC) Plan, Stormwater Pollution Prevention (SWPP) Plan
Employee Training
City of Stamford: Highway Department, Police Department, Transfer Station
Date of Training: June 22, 2016

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	William Price		Solid Waste
2	John W Cognetic		Highways
3	JOHN TARDIF		HIGHWAY
4			
5			
6			
7			
8			
9			
10			

Resources: Universal Waste
- Section 22a-430b of the Connecticut General Statutes
- Section 22a-449(c)-113 of the Regulations of Connecticut State Agencies (RCSA)
- F&O PowerPoint Presentation

Resources: SWPPP
- Section 22a-430b of the Connecticut General Statutes.
- Storm Water Pollution Prevention Plan (SWPPP)– City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Resources: SPCC
- Regulations of 40 CFR Part 112
- Spill Prevention Control and Countermeasure (SPCC) Plan – City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Training Presentation by: Miko Kempton

Miko Kempton, _____, Fuss & O'Neill, Inc
Printed Name Signature

FUSS & O'NEILL

Universal Waste Management, Spill Prevention Control and Countermeasures (SPCC) Plan, Stormwater Pollution Prevention (SWPP) Plan
Employee Training
City of Stamford: Highway Department, Police Department, Transfer Station
Date of Training: June 23, 2016

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	Vito Capizzo		Transfer Station
2	Robert LoTz		Collections
3	Michael Scacco		Fleet Maintenance
4	RICH VALENTINE		Highway
5	Michael Savona		Collections
6	Chrstopher Baldwin		Traffic Maintenance
7	Keith Rich		Traffic Main.
8	EDDIE Whitehead		Traffic
9	Francisco DeJesus		
10	Santo DiDonato		Traffic

Resources: Universal Waste
- Section 22a-430b of the Connecticut General Statutes
- Section 22a-449(c)-113 of the Regulations of Connecticut State Agencies (RCSA)
- F&O PowerPoint Presentation

Resources: SWPPP
- Section 22a-430b of the Connecticut General Statutes.
- Storm Water Pollution Prevention Plan (SWPPP)– City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Resources: SPCC
- Regulations of 40 CFR Part 112
- Spill Prevention Control and Countermeasure (SPCC) Plan – City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Training Presentation by: Miko Kempton

Miko Kempton, _____, Fuss & O'Neill, Inc
Printed Name Signature

FUSS & O'NEILL

Universal Waste Management, Spill Prevention Control and Countermeasures (SPCC) Plan, Stormwater Pollution Prevention (SWPP) Plan
Employee Training
City of Stamford: Highway Department, Police Department, Transfer Station
Date of Training: June 23, 2016

Attendees Sign-In:

	Name Printed	Name Signed	Company / Work Function
1	RALPH SOCCI	Ralph Socci	TRAFFIC
2	ORAZIO CIVELLI	Orazio Civelli	TRAFFIC
3	Dan Colleluori	Dan Colleluori	Recycling & Sanitation
4	Tyler Theder	Tyler Theder	STORMWATER
5			
6			
7			
8			
9			
10			

Resources: Universal Waste
- Section 22a-430b of the Connecticut General Statutes
- Section 22a-449(c)-113 of the Regulations of Connecticut State Agencies (RCSA)
- F&O PowerPoint Presentation

Resources: SWPPP
- Section 22a-430b of the Connecticut General Statutes.
- Storm Water Pollution Prevention Plan (SWPPP)– City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Resources: SPCC
- Regulations of 40 CFR Part 112
- Spill Prevention Control and Countermeasure (SPCC) Plan – City of Stamford Highway Department, Police Department, Transfer Station
- F&O PowerPoint Presentation

Training Presentation by: Miko Kempton

Miko Kempton (Printed Name), (Signature), Fuss & O'Neill, Inc

Stamford MS4 & You Training

Name	Dept.	Email
Erin McKenna	LUB	EMckenna@stamfrdct.gov
Cindy Barber	IT/GIS	cbarber@stamfordct.gov
Pamela Favosty	EPS	pfavosty@ci.stamford.ct.us
Dave Killeen	LUB	DKilleen@StamfordCT.gov
RICK TALAMELLI	EPS	RTalamelli@ci.stamfordCT.US
Susan Kisken	Engineering	skisken@ci.stamford.ct.us
Dan Calleluori	Sw/Recycling	
Sam Northrop	Health	snorthrop@ci.Stamford.ct.us
Thomas Turk	Highways	tturk@stamfordct.gov
Trevor Roach	Fire	troach@StamfordCT.gov
Doug Hoyt	Hwys	dhoyt@Stamfordct.Gov.
Lou CASOLO	EB	LCASOLO@STAMFND.CT.GOV

APPENDIX N

2015-2016 CATCH BASIN / MANHOLE REPAIRS LIST

Basin and Manhole Repair List

	Date	Location	Basin/Manhole	Status	Costs
1	01/06/16	67 Finney Lane	Basin collapse/need repair	Completed	$ 2,806.60
2	01/06/16	87 Richmond Hill Ave	Basin to 2'/need repair	Completed	$ 2,007.10
3	01/06/16	162 Fairfield Ave	Basin grate need to be reset	Completed	$ 1,632.40
4	01/06/16	42 Hamilton Ave (Corner of Cullodan & Hamilton Ave)	Basin sunken/flat top of basin repair	Completed	$ 2,036.60
5	01/06/16	36 Dyke Lane	Basin needs repair	Completed	
6	01/06/16	Intersection of Shippan Ave & Rippowan Rd	Basin needs repair	Completed	$ 1,632.40
7	01/06/16	Cummings Park adjacent to Soundview Ave	Manhole need to be raised to match adjacent asphalt walk height	Completed	$ 609.60
8	01/06/16	177 Ocean Drive East	Basin needs repair/Double basin repair	Completed	$ 5,777.60
9	01/06/16	67 Crystal St	Basin undermining & collapsing	Completed	$ 932.40
10	01/06/16	12 Owen Street	Basin sunken/needs repair	Completed	$ 3,392.60
11	01/06/16	Hope Street adjacent to Splash Car Wash	Manhole is sinking/Need to be raised	Completed	$ 1,108.20
12	01/06/16	68 Willow Brook Ave	Manhole ring is cracked/need repair	Completed	$ 1,038.60
13	12/29/15	47 Boxwood	Manhole cover & frame repair	Completed	$ 833.40
14	12/29/15	95 Liberty	Basin collasp	Completed	$ 1,472.40
15	12/29/15	98 Brook Run	Basin repair	Completed	$ 1,667.40
16	01/06/16	Across from 160 High Clear	Basin repair	Completed	$ 1,778.20
17	01/04/16	78 White Birch Lane	Basin collapse/need repair	Completed	$ 3,067.40
18	01/07/16	91 Crestwood Dr	Double basin repair	Completed	$ 5,185.60
19	01/11/15	Across from 56 Manor	Basin collapse/need repair	Completed	$ 1,691.60
20	01/12/16	33 Brodwood	Basin collapse/need repair	Completed	$ 2,075.60
21	01/14/16	Corner of Riverbank Dr & Riverbank Rd	Double basin repair	Completed	$ 3,314.60
22	01/15/16	Turn of River Rd & Talmage	Basin repair	Completed	$ 4,876.60
23	01/20/16	55 Laurel Rd	Basin failing	Completed	$ 2,486.60
24	01/21/16	26 Fahey Street	Basin failing	Completed	$ 3,636.60
25	02/01/16	37 Soundview Ave	Basin failing	Completed	$ 2,370.60
26	02/01/16	26 Sunset off Bouton Street W	Basin repair	Completed	$ 2,047.40
27	02/03/16	24 Fairmont Ave	Basin collapse/need repair	Completed	$ 1,907.80
28	02/03/16	Across 82 Snow Cystal Ln	Basin repair	Completed	$ 1,827.80
29	02/03/16	57 Jessup	Basin repair	Completed	$ 633.20
30	02/03/16	25 Cedar Heights	Basin repair	Completed	$ 3,585.98
31	02/03/16	36 Cedar Heights	Basin repair	Completed	$ 698.40
32	02/03/16	42 Three Lakes	Basin repair	Completed	$ 3,250.30
33	02/03/16	24 Mary Violet	Basin repair	Completed	$ 6,136.60
34	03/01/16	Hamilton Ave (under railroad bridge)	Basin repair	Completed	$ 1,457.50
35	03/01/16	Across from 77 Selleck Street	Basin repair	Completed	$ 3,175.00
36	03/01/16	Bangall Road	Basin repair	Completed	$ 1,556.80
37	03/01/16	34 Fahey Street	Basin repair	Completed	$ 1,314.20
38	03/02/16	Vanbuskirk	2 Basin repairs	Completed	$ 2,727.50
39	03/06/16	Katydid @ Old Loging	Basin collapse/need repair	Completed	$ 3,956.60
40	03/14/16	61 West Hill Circle	Basin repair	Completed	$ 3,285.40
41	03/15/16	929 River Bank Road	Basin repair	Completed	$ 2,611.30

Basin and Manhole Repair List

42	3/6/2016	Corner of Daskam & Crystal Street	Basin repair	Completed	$	621.20
43	4/1/2016	Lockwood Bridge	Basin collapse/need repair	Completed	$	1,314.20
44	4/18/2016	47 Bridge Street	Basin repair	Completed	$	1,483.70
45	03/01/16	75 Selleck Street	Basin repair	Completed	$	2,370.10
46	3/29/2016	256 Haig Ave	Basin repair	Completed	$	2,340.40
47	5/19/2016	Woodchuck	Basin repair	Completed	$	4,721.10
48	2/9/2016	Lafayette & Crystal Street	Basin repair	Completed	$	2,368.50
49	6/25/2016	63 Vincent Ave	Basin repair	Completed	$	2,120.00
50	6/27/2016	70 Chestnut Hill	Basin repair	Completed	$	1,968.00
51	4/26/2016	Atlantic & N. State	Basin repair	Completed	$	1,059.00
				TOTAL COST OF BASIN & MANHOLE REPAIRS	$	117,968.68

(July 2015 to 2016) Catch Basin & Man HolesRELIABLE

COMPLAINT STATUS

Not Assigned

CRS#	Date	#	Street	Complaints	Contractor	Not Assigned	FY15/16	COMMENTS2
			82 Akbar Road Tyler 8/19	Sinkhole along catch basin	to reliable	done		
			81 Akbar rd	Sinkhole along catch basin	to rel	done		
			62 Akbar rd	Sinkhole along catch basin	to rel	done		
W465282-061715	6/17/2015		15 Albert Place	Sinkhole along catch basin	to reliable 6/18			
			Atlantic St/main st	manhole collapsed(Tyler T)		Roger Arnow 1/28)	done 1/29	
462267	3/30/2015	86	Barholm Ave	cb repair	to relaible 4/16			
W465825-070315		86	Barholm Ave	mh w hole	to reliable			
	8/31/2015		BAXTER AVE next to I-95 north	2-cb repair tyler PRIORITY ONE -one across	to relaible	TO REL 9/4	done both	
W466627-072915	7/28/2015	0	Black rock at trinity pass broken manhole frame storm	Cornelio	to Roger Arnow	done		
			79 Black Rock Rd	cb sinking by Highway	to reliable	done		
W470404-120215	12/2/2015		boxwood and Holbrook	mh ring Cornelio	to reliable	DONE		
	1/8/2015	17	Brandwine rd	cb sinking by Highway	to Relaiable	done		
455756	8/4/2014	3	Brantwood La	cb sinking	to reliable 8/4	DONE		
462267	3/30/2015	135	BreezeHill Rd	cb sinking	to reliable	done		
		33	bridge st	cb sunken(mayor office)	DONE	to reliable 7/23		
	4/13/2015		Bridge St/Summer	cb sinking	to reliable			
			Broad St(hoteldriveway)	Collapsed CB	done 1/29	Roger Arnow		
W470390-120215	12/2/2015		23 Brown House Road	cb sinking 2 cbs	to relia	done		
W468312-092415	9/24/2015		49 Brooklawn Avenue	Collapsed CB	to relaible	DONE		
			Brooklawn ave /center st Cornelio	Collapsed CB	to reliable	DONE		
455905	8/14/2014	83	BrookRun lane	Collapsed CB	to Reliable 815	DONE		
4543450-61514	6/15/2014	38	Brushwood Road	Collapsed CB	To Reliable			
	5/20/2015	257	257 Butternut lane CORNELIO	cb collapsed	TO RELIABLE	done		
	10/7/2015		234 butternut ln/155 butternut ln	2 cbs collapsed	to reliable	done		
			257 butternut ln	cb collapsed	to relaible	done		
	11/14/2014	106	Campbell Dr	cb collapsed	Reliab 11/14	DONE		
W463925-050415	5/4/2015	96	: 96 Carter Dr	cb needs repair				
461249	3/14/2015	17	Case Rd	cb grating rusted	not assged			
W467100-081215			: 25 Cedar Heights Road	cb needs repair	to reliable			
	6/4/3166	2-Apr	Charles Mary La	CB COLLAPSING cul de sac	to reliable	DONE		
	5/1/2014	12	Chestnut Hill Rd.	Creek running full and sending water into catch basin uphill				
W461145-031215	3/12/2015	27	COACHLAMP LA	CB COLLAPSING	to Rel;aible 4/8	DONE		
W464512-052115	5/28/2015	5	: 5 Cody Drive	CB COLLAPSING	to rel 5/28	done		
W470404-120215	12/2/2015		162 Colonial Road	mh sinking	to rel			
W470844-121415	12/14/2015		86 courtland circle	CB COLLAPSING 2 cbs	to reliable	done		
W470204-112415	11/24/2015		Cove Island Park	CB COLLAPSING entrance of cove island park	to reliable	DONE		
460656	3/4/2015	16	COWAN AVE	cb collapsed- BY DRIVEWAY	done	to reliab 5/28		
		44	Crestwood Ave	cb collapsed	to highway	hold		
W464799-060215	6/2/2015		219 Culloden Road	CB collapsing	to reliable 6/2			
			67 Crystal St.	CB collapsing Tyler T	to reliable			
W467867-091015	9/10/2015		50 Dale Street	CB collapsing comelio	to reliable			
W464269-051415	5/14/2015	58	dannel drive	CB collapsing	to reliable	DONE		
			40 Dann Drive	CB collapsing Hoyt	to reliable	done		
			61 Dann ave	CB collapsing		done		
W468030-091515	9/15/2015		49 Deleo Drive	CB collapsing	to reliable	DONE		

CRS#	Date	#	Street	Complaints	Contractor	Not Assigned	FY15/16	COMMENTS2
460979	3/10/2015	2	DENICOLA PLACE	Large washout pothole next to storm drain		TO BE ASSGD		
	7/13/2015		Dorlen st (BY FIRE STATION	CB collapsing		NOT ASSIGNED		
	5/20/2015		142 Downs Ave	CB collapsing	TO RELIABLE			
460160	2/13/2015	8	DunnAve	mh too high	NOT ASSGD	not critical		
W467501-082515	8/25/2015		72 Dyke Lane	CB collapsing		done		
[illegible]	2/23/2015		PEAK/DUNN AV	mh too high		NOT ASSGD		
458842	12/23/2014	26	Edice Rd	Water ponding in front of property	not assigned			lower rad/cb top
W465282-061715	6/17/2015		on Edward Place just before Whistler Place	CB collapsing	to reliable	done		
			EIGHT ST	BROKEN MH	done	TO ROGER ARNOW 2/27		
			Elmcroft Road	in front of Pitney bowes cb w/hole(tyler)	to reliable 12/5	DONE		
W463895-050415	5/4/2015		elmcroft road/dyke la	CB collapsing	to reliable			
W468629-100515	10/5/2015		70 erickson dr	CB collapsing	to relaibel	DONE		
		1	ETHAN LA	CB collapsing		DONE	2	
W466539-072715	07/27/2015		fairfield Ave/top gallant	CB collapsing	to reliable			
W464516-052115	06/01/2015		Top Gallant Rd	CB collapsing		done		
		0	58 Fairmont Ave.	CB collapsing Tyler	to reliable	DONE		
			55 Fairmont Ave.	CB collapsing		DONE		
			57 finney basin collapse	CB collapsing Cornelio	to reliable			
W467578-082815	8/28/2015		: 84 Fox Hill Road	CB collapsing	to reliab			
W464667-052815	5/28/2015		: 198 Foxwood Road	Washout next to storm drain	to reliable	done		
	6/8/2015		191 and 175 Foxwood Road	cbs to be elevated	to reliable	done		
		256	Haig Ave	Washout next to storm drain	to reliable 6/2	done		
			381 High Clear Dr. (stadium parking lot	CB collapsing Tyler	to rel 8/19	DONE		
W467974-091415	9/14/2015		68 High Clear Drive	CB collapsing	to reliable	DONE		
		160	Gaymoor Drive	catch basin at his location is collapsing		DONE		
W463857-050115	5/1/2015	92	92 George St.	Washout next to storm drain	to reliable 5/1	DONE		
w 4624293	5/15/2015	30	Gerik Rd	Washout next to storm drain	to reliable	DONE		
W463474-042215	5/5/2015		: 198 Glenbrook Road	mh sinking	to reliable			
	5/12/2015		16 Glenbrook Rd	catch basin at his location is collapsing	to reliable	done		
			GLENDALE Rd @ Hope Street	catch basin at his location is collapsing		DONE		
W463922-050415	5/4/2015	16	16 Glendale Road	catch basin at his location is collapsing	to reliable			
W462143-032615		118	Gray Farm Rd	catch basin at his location is collapsing	to reliab			
460189	2/17/2015	172	GREENWICH AVE -RR BRIDGE	mh sunken	TO ROGER ARNOW	done		
W464583-052615	5/26/2015	12	12 Gypsy Moth Landing	catch basin at his location is collapsing				
		35	HACKETT CIRCLE	mh sunken	TO WPCA 2/5			
			haig Ave	cb at Town yard caved (tyler)	Roger DONE			
	6/26/2015		256 haig ave basin repair	CB collapsing cornelio	to reliable			
	6/18/2015		hamilton Ave (under RR bridge)	cb caving		done		
W463877-050215	5/2/2015		65 Haviland rd	CB caving	to reliable			
	8/31/2015		16 Hazel S	CB caving tyler (2 cbs)	to reliable	done		
W465686-063015	6/30/2015		71 Heming Way	cb sinking	to reliable			
	7/22/3165	0	hemlock Dr	CB caving		Not Assd		
W467245-081815	8/18/2015		76 High Clear Drive	CB caving	to reliable	done		
w 464800	6/2/2015		113	CB caving steel	HOLD			
W467473-082415	8/24/2015		633 Hope Street	CB caving/low at driveway				
			at #953 Hope Street	double CB SINKING carolluzzi	to reliable			
W466444-072315	7/23/2015		: 1665 Hope Street	CB caving	to reliable			
			Glendale Rd @ Hope Street	CB caving		DONE	1	
	6/15/2015		127 Haig Ave	double cb needs repair yard hgwy		tempor patched		
452336	3/30/2015		havemeyer la	CB caving steel	to reliable			
W467198-081715	8/16/2015		Hartford ave at Hope street	cb repair cornelio				
	12/15/2015		Hope Street near Splash Car Wash manhole cover	mh sinking				
		839	Hope Street	To Anthony- CB collapsed	TO RELIABLE	noted by Tyler 12/26 email		
			HOPE STREET/ROCK SPRING	MH needs repair (Cornelio)		NOT ASSGD		
	12/3/2014		Hoyt St/Washington Blvd	cb to be repaired	hold -state?			
W463043-041315	4/13/2015		Hoyt st	mortar missing at cb		to reliable		

CRS#	Date	#	Street	Complaints	Contractor	Not Assigned	FY15/16	COMMENTS2
W467556-082815			: Hyde St	cb to be repaired near river	to reliable	DONE		
	12/15/2015		Jackson at Fairfield		to reliab	done		
W469806-111215	11/12/2015		57 Jessup Street	cb to be repaired	to reliable			
	05/19/2015	45	Idlewood drive	cb to be repaired	to reliable	DONE		
		138	Idlewood drive	cb to be repaired	to reliable	DONE		
465085	06/11/2015		Ingleside rd	3 cbS Behind Fire Station cornelio	to reliable	DONE		
		202/253	KenilworthDrive/Soundview Dr	3 cbS damaged and plated by HGWY	to Reliable			
			Kensington Rd	cb to be repaired	to reliable			
460127	2/11/2015	99	KNOX RD	mh sunken	NOT ASSGD	NOT CRITICAL		
			223 Jonathan dr 4 cbs repaired	cb to be repaired	to reliable	DONE all		
		44	Kirkham Place	CB collapsed	to Reliable	DONE		
W462237	3/30/2015	27	Knapp St(Northill)	cb to be repaired	to reliable			
			60 Lanark Rd	cb to be repaired		done		
W466728-073115	7/31/2015		44 Lawrence Hill Road	cb to be repaired	to reliable	done		
		55	LIMERICK ST	cb to be repaired BELMONTE/DOMENICK Tram	to Rel 11/7	done		
W463775-042915	4/29/2015	234	Little Hill Drive	cb to be repaired		DONE		
		100	Magee Ave	Storm Drain Collapse	To reliable	DONE		
W467582-082915	8/29/2015		90 magee ave	cb to be repaired	to reliable			
	3/25/2015		Magee Ave/Harborview (	cb to be repaired	not assgnd			
	4/9/2015		Magee Ave(near gas pumps) Tyler	mh collapsed(d hoyt)		to reliable DONE		
	4/7/2015	100	magee Ave (nearRecycling cter)	cb to be repaired	to reliable	DONE		
W463920-050415	5/4/2015	300	300 Main Street	utility grate sinking				
	8/17/2015		47 Main Street	cb repair Knittel	to reliable			
W466444-072315	7/23/2015		77 Main St	cb to be repaired	to reliable			
		110	Maple Tree Avenue	mh collapsed(d hoyt)	to reliable 9/30	DONE		
	5/22/2015	42	Mary Violet	doubl eCB sinking Natasha	to Relaibale			
W469045-101615			24 Mary Violet Road	Collapsed CB	to reliable			
			Meadow Street	Collapsed CB	To reliable	DONE		
W465133-061215	6/12/2015		20 Mercedes Lane	2 cbs Collapsed CB	to reliable	DONE TWO CBS		
		19	Meredith La	cb damaged	to reliable 7/24			
			99/104 MULBERRY ST	2 CBS DMAGED		DONE		
		44	MOHAWK	CB DAMAGED		DONE 7/25		
		27	MOHAWK	CB DAMAGED (reliable picture)				
	4/27/2015		460 newfield basin sinking	CB DAMAGED	to reliable			
W468679-100715	10/7/2015		: 58 Myano Lane	storm drain collapsing	to reliable	DONE		
		943	NEWFIELD AVE/TRINITY SCHOOL	Sunken manhole cover	done			
	4/1/2015	535	Newfiled Ave(Fairland St)	CB sunken	to reliable	done		
	5/5/2015	1839	1839 Newfield Ave.	CB sunken tyler theder	to reliable			
		65	Northwood Lane	CB sunken by Highway	to reliable	DONE		
W466417-072215	7/22/2015	27	27 Oak Street	CB sunken		to reliable		
		373	Ocean Dr West/Stamford Ave	cb damged 2cbs	to change grtng			
		40	OCEAN DRIVE	CB sunken		DONE		
W468847-100915	10/9/2015		177 Ocean Drive East	CB sunken	to reliable			
			- 177 Ocean Drive East	CB sunken tyler theder	to reliable			
		452	452 Ocean Dr West	CB sunken		not critaical yet		
W463764-042915	4/29/2015		: 215 Ocean Drive West	cb collapsing	to reliable			
W466417-072215	7/22/2015		27 Oak Street	cb with hole	to reliable	DONE		
W469372-102815	10/28/2015		: 112 Old Mill Lane	cb collapsing	to reliable	DONE		
	11/18/2015		old mill lane	cb collapsing- 3 cbs reliable		DONE		
465653	6/29/2015	68	Orange St	cb collapsing	to reliable			
462336	3/30/2015		Palmers Hill(havemeyer)	cb grating?		not assgned		
	7/20/2015		28 penzance road	cb with hole	cornelio	DONE		
W 462052/462369	3/25/2015	415	Pepperidge rd	cb with hole by driveway	to Relaible	done		
W463621/W463658	4/27/2015	12	: ridge brook drive	Strom drain colapsing	to reliable 4/27	done		

CRS#	Date	#	Street	Complaints	Contractor	Not Assigned	FY15/16	COMMENTS2
W465741-070115	7/1/2015		Rachelle Avenue	Strom drain colapsing	to reliable	done		
			Ralph Street	cb with hole		DONE RELIABLE		
W463678-042715	4/27/2015	25	Ralph Street	Mh collapsed	to Reliable 4/27			
W467921-091215	9/12/2015		14 Reed Place	CB Collapse 2 CBS	to reliable	DONE		
	6/24/2015		Remington street at school loading area	cb sinking cornelio	to reliable	done		
	5/4/2015	100	100 research	cb damaged by water co (cornelio)		DONE		
			23 research	CB Collapse		DONE		
W467864-091015	7/10/2015		: 98 Richmond Hill Avenue	Strom drain colapsing Reverend emercgency	HOLD	done		
W468052-091615	9/16/2015		78 and #80 Rippowam Road./77	sink holes have to be repaired opposite /cb location	DONE	to reliable		
461035	3/10/2015		RIVER HILL RD	MH cover sunk into road- POLICE		NOT ASSGD- FROST?		
	5/15/2015		Rockledge Drive and Ocean Drive East	mh collpased Tyler	to reliable	done		
		88	Rockridge Rd	Collapsed CB	To reliable	DONE		
460233	2/18/2015		ROLLING WOOD DR/LITTLE HILL	MH cover sunk into road		NOT ASSGD-FROST?		
W469945-111715	11/17/2015		Rose Park Avenue	catch basin at his location is collapsing				
		176	roxbury rd	cb sinking(by field)	To Reliable 8/4	DONE		
w448884-090413	9/4/2013		Russett Rd	Cb at Russett and Mac Intosh Rd (hole on side)		W/ Paving	1	
w450805	21914	46	Saddle rock rd	MH broken	electrical ?	Praksah alerted		
W467605-083115			24 Sawmill Road	CB Collapse cornelio		to reliable	done	
	12/04/2015		Scofield Rd/Oscar Rd	catch basin at his location is collapsing	to reliable12/4			
		148	Scofieldtown Rd	catch basin at his location is collapsing	to reliable 7/4	DONE		
			Seaton/Standish	cb collpased(figueroa)	to reliable 10/10	DONE		
	1	35	selleck st	catch basin at his location is collapsing	to reliable	DONE		
	0		2nd and Summer St.	mholes 2- collpased	to reliable	DONE		
W467135-081315	8/13/2015		42 sheep hill road	catch basin grating at his location is collapsing	hold			
460364	2/24/2015	49	SHIPPAN AVE	MH SUNKEN TRANSIT WAY	NOT CRITICAL			
W464861-060315	6/3/2015		SHIPPAN AVE	120 feet from SOUTHEAST corner of Shippan Ave	to reliable	DONE		
	2/27/2015		Shippan at park entrance	cb old style Lou?arnold	to reliable	DONE		
W470607-120815	12/8/2015		1 Shore Road by driveway	hole at cb 2 CBS	to reliable	DONE		
W466419-072215	7/22/2015		15 Silver Street	hole at cb	to reliable	DONE		
W469234-102515	10/25/2015		: 31 Summit Ridge Road	2 cbs w holes	to reliable			
	5/27/2015		Wardwell/Shippan	cb old style Lou?arnold	to reliable			
W463056-041315	4/13/2015		Skyline La/Northwind Rd	CB W HOLE	DONE	TO RELIABLE 4/16		
W470087-112015	11/20/2015		#82 SNOW CRYSTAL LANE	CB W HOLE Infante	to reliable			
			on snow crystal la @ Bradley		to rel			
		353	Soundview Ave	CORNELIO: double CB REPAIR	reliab 10/20	DONE		
W463281	4/17/2015	300	: 300 Soundview Avenue	catch basin at his location is collapsing	to reliable			
W465483-062415	6/24/2015		Soundview/: 14 Cresthill Place	Manhole w sinking	HOLD			
	5/31/3154	29	South Lake drive	cb/curb also destroyed leaf pickup		not assigned yet		
455014			South State/Canal St	MH with plate(cornelio)		Reliable 7/9/14	WPCA DONE	
W465825-070315	7/3/2015		Southfield Park	cb sinkhole cornelio	TO ROGER ARNOW	10-Aug		
W467839-090915	9/9/2015		8 Stanwick circle	hole at cb		to reliable		
	1/22/2015	36	Stanton Drive Tyler T	cb collapsed Tyler	To Relaible 1/22	DONE		
463017	4/13/2015	52	Stanton drive/Stanton Lane	cb at intersection	to reliable	DONE		
W463839-043015	4/30/2015		1351 Stillwater Road	cb needs repair (by Cornelio)	to reliable			
			Summer St/6THsT	cb collapsed Tyler	REL11/13	DONE		
459771	10/22/3158		SUMMER ST	2 MH"S sinking	ELECTRICAL -TO ARNOLD			
W464940-060615	6/6/2015		CORNER OF BRIDGE AND SUMMER	cb needs repair (by Cornelio)	to reliable	DONE		
W464939-060615	6/6/2015	1600	FOURTH AND SUMMER	cb needs repair (by Cornelio)	to reliable	DONE		
W464938-060615	6/6/2015		SECOND AND SUMMER HEADING	mh with hole cornelio	to relaible	done		
			manhole second and summer Doug Hoyt	mh sinking				
w 467196 8/16	8 16		31 Summit Ridge Rd	CB with hole	to reliable	DONE	DONE	
W469234-102515	10/25/2015		: 31 Summit Ridge Road	CB with hole	to reliable	DONE		

CRS#	Date	#	Street	Complaints	Contractor	Not Assigned	FY15/16	COMMENTS2
		10	Sylvandale ave	CB with hole Tyler	DONE	to reliable		
			20 terrace Ave basin repair	CB with hole Cornelio	to reliable			
			42 three lakes	CB with hole Cornelio	to rel			
W466627-072915	7/29/2015		trinity pass	mh sinking	to reliable			
W462327-033015	4/13/2015		Tower Ave	cb grating???	not assngd			
			tupper dr	CB needs repair for basin	to reliable	done		
		79	TurnRiver Rd	CB needs repair for basin	to Reliable	CHECK IF DONE		
W465858-070615	7/6/2015		73 Tyler Drive		to reliable	done		
		191	Van Rensellaer	hole near CB		DONE		
462015	3/10/2015	22	VERNON PLACE	CB needs repair for basin-SNAPPED BY PLOW		reliable 7/24	DONE	
			Vine Rd(High Ridge)	Cb at corner (By Cornelio)		hold state dot?	DONE DOT	
W466794-080315	8/3/2015		63 Vine Place	CB needs repair for basin	to reliable	DONE		
	4/14/2015	106	#106 Virgil Street - Manhole Cover	mh cover	to reliable			
			Washington Blvd./HOYT	cb with hole(cone needed)	TO RELIABLE			
			Washington Blvd./COLD SPRING/BRIDGE	Mh sunken	WPCA			
461724	3/23/2015	888	washinton blvd	possible cb collapse?	not clearly indicated			
			39 Waterbury Ave. hoyt	Hole next to CB corneilo	to reliable	DONE		
			waverly place/wilson st	cb with hole		done 9/21		
W463999-050515	5/5/2015	146	146 Weed Hill Avenue	mh sinking Cornelio	to reliable			
463747			106 Weed Hill Avenue	cb sinking	to reliable			
W465398-062215	6/22/2015		153 Weed Hill Avenue	mh sinking Cornelio	to reliable			
W470959-121615	12/16/2015		#117 West Haviland Lane	cb with sink hole	to reliable			
		60	WESTOVER RD	cb with sink hole CORNELIO	TO RELIABLE 12/19			
W463530	4/23/2015		Westover Road at Summit pl	cb sinking By police	to reliable			
		164	Westwood Rd	cb with sink hole	TO RELIABLE 9/9	DONE		
			151 Westwood road	cb with sink hole CORNELIO 2 CBS		to reliable DONE		
W469377-102815	7/17/2015		75 Westwood road	cb with sink hole CORNELIO		TO RELIABLE DONE		
			WIREMILL RD/BLACKWOOD LA	MH PLATED BY HGWY		TO ROGER ARNOW 2/23		
			WEST LA	cb with sink hole	To reliable	DONE		
	10/26/2015		#65 white Birch cornelio	double cb with hole?				
W469438-103015			30 Wild DUck Rd	cb with sink hole	to reliable	DONE		
			30 Wild Duck Rd			DONE		
	11/18/2015		68 Willowbrook Ave	mh frame Tyler	to reliable	DONE		
	8/31/2015		Wilson St(at 21 waverlry)	cb with sink hole tyler	to reliable			
462389	3/31/2015		20 and 22 Woodland Place 15 woodland pl	3 cbs with sink hole	to reliable	done		
462327	3/30/2015		WoodBury Ave	cb with sink hole	to reliable			
460077	02/18/2015	75	WOOD RIDGE DR	SINKING MH	NOT ASSGD			
W467867-091015	9/10/2015		Woodrow and DALE basin collapse	cb with sink hole	to reliable			
W466252-071715	7/17/2015		42 WOODS END ROAD.	cb with sink hole		to reliable		

APPENDIX O

CATCH BASIN INSPECTION AND CLEANING PROCEDURES AND SAMPLE INSPECTION FORM

MAYOR
DAVID MARTIN

DIRECTOR OF OPERATIONS
ERNEST ORGERA

TRAFFIC & ROAD MAINTENANCE SUPERVISOR
THOMAS TURK

REGULATORY COMPLIANCE OFFICER
TYLER THEDER

OPERATIONS SUPERVISOR
DOUGLAS HOYT

OPERATIONS SUPERVISOR
PETER J. IANNACCONE

OPERATIONS FOREMAN
JOHN CORNELIO

CITY OF STAMFORD
OFFICE OF OPERATIONS
HIGHWAY DEPARTMENT

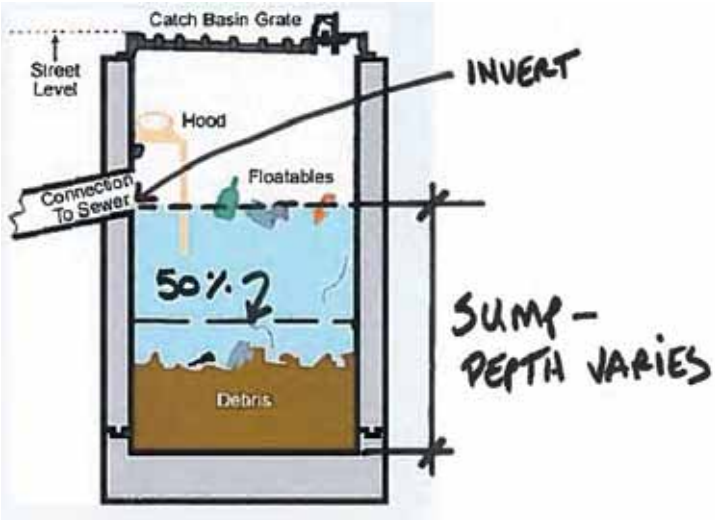
To: Stormwater Management Department Equipment Operators

From: Tyler Theder, Regulatory Compliance and Administrative Officer

Date: 9/29/2014

RE: CATCH BASIN INSPECTION AND CLEANING PROCEDURES

1. Arrive at catch basin, turn on IPad, launch MS4 Front program, locate basin on map, and photograph catch basin.
2. Properly position the Vac-truck and remove catch basin grate.
3. Remove bell trap to expose all piping.
4. Use probing rod to drill down through any accumulated sediment or debris to locate the concrete bottom of the sump.
5. Determine the depth of the sump basin (example: sump depth is 2 feet below invert piping) and record observations in MS4 Front.
6. Determine the depth of sediment or debris in the sump (example: debris loaded up to invert – sump is 100% full) and record observations in MS4 Front.
7. **Pump the basin with the Vac truck if the sump is determined to be more than 50% full of debris, sand, or accumulated solids**.
8. Complete the catch basin inspection and cleaning report in MS4 Front, replace catch basin grate, and proceed to the next catch basin.



City of Stamford

Structural Stormwater BMPs Inspection Report

Inspection Details

Structural BMP Name:	164 RICHMOND HILL AVENUE
Date:	4/20/2016
Inspector:	Travis Hoyt
BMP Conditions:	Fair
Last Rainfall Date:	
Last Rainfall Amount:	inches
Comments:	Basin pumped and cleaned. No major problems.

cdv_photo_011.jpg

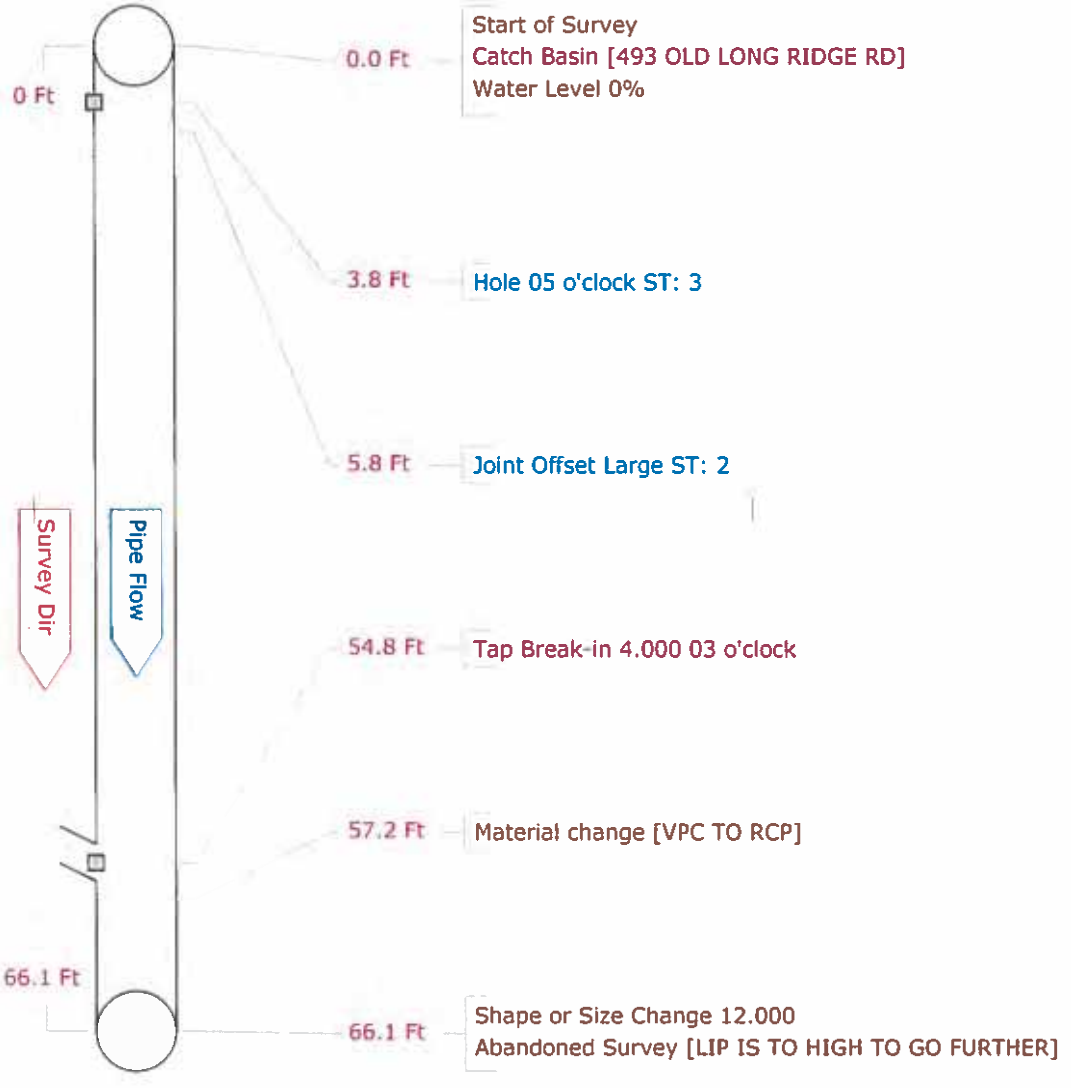
cdv_photo_013.jpg

Inspection Checklist (PP/GH Stormwater BMPs Inspection)

Is the catch basin more than 50% full?	Yes
What percentage is full?	>50%
Was it cleaned?	Yes
Is the basin failing?	No

Pipe Graphic Report of PSR 493 OLD LONG RIDGE RD A for STAMFORD

Setup	291	**Surveyor**	MIKE	**Certificate #**	7000185	**System Owner**	
Drainage		**Survey Customer**	STAMFORD				
P/O #		**Date**	2016/08/29	**Time**	8:56	**Street**	OLD LONG RIDGE RD
City	STAMFORD	**Further location details**					
Up	493 OLD LONG RIDGE RD	**Rim to invert**	48.00	**Grade to invert**		**Rim to grade**	Ft
Down	UNKNOWN	**Rim to invert**	48.00	**Grade to invert**		**Rim to grade**	Ft
Use		**Direction**	Downstream	**Flow control**		**Media No**	
Shape	Circular	**Height**	8	**Width**	ins	**Preclean** J	**Date Cleaned**
Material	Vitrified Clay Pipe	**Joint length**	Ft	**Total length**	Ft	**Length Surveyed**	66.10 Ft
Lining		**Year laid**		**Year rehabilitated**		**Weather**	
Purpose		**Cat**					
Additional info				Structural	O & M	Constructional	
Location				Miscellaneous	Hydraulic		
Project	GIS				**Work Order**		
Northing		**Easting**			**Elevation**		
Coordinate System				**GPS Accuracy**			



APPENDIX P

DETENTION/RETENTION BASIN INSPECTION REPORTS

STREET	ADDRESS	OWNER 1	PROJECT/SUBDIVISION	LOT	ACCOUNT	STRUCTURE	PUBLIC OR	PROJECT	AERIAL	ILS	AGREE	TYPE	BOOK	PAGE	DATE	COMMENTS	Basin No.
		As Reflected IN GIS 3/24/15 - 4/20/15	COMMON NAME	NUMBER	NUMBER	TYPE	PRIVATE	BUILT			EASE						Pieces
Bouton Street West	205 Bouton Street West	Pontefract, Owen	NA	23	002-4445	Rain Garden	Private	Yes	Yes	Yes	Yes	DMA	11038	83	7/7/2014		1-3
Ocean Drive West	380 Ocean Drive West	Schwartz, Ellen Bevins	NA	24	000-5269	Rain Garden	Private	Yes	Yes	Yes	Yes	DMA	10979	280	4/4/2014		2-3
Haviland Road	546 Haviland Road	Sunset Holdings, LLC	NA	1	004-0979	Basin	Private	Yes	Yes	Yes	Yes	DMA	10964	194	3/11/2014		3-3
Gatehouse Road	22 Gatehouse Road	SAC Capital Advisors	SAC Capital Parking Improvements	3	002-9162	Rain Garden	Private	Yes	Yes	Yes	Yes	DMA	10901	94	11/20/2013		4-3
Haviland Road	544 Haviland Road	Silver, Stephen	NA	2	004-0981	Basin	Private	Yes	Yes	Yes	Yes	DMA	10878	275	10/16/2013		5-4
	542 Haviland Road	Sunset Holdings, LLC	NA	3	004-0980	Basin	Private	Yes	Yes	Yes	Yes	DMA	10878	275	10/16/2013		
Washington Boulevard	2396 Washington Boulevard	Majumbar, Antara	White Socks, 2 Family, Unit 2	96-8	004-5396	Rain Garden	Private	Yes	Yes	Yes	Yes	DMA	10414	211	5/3/2012		6-3
	2396 Washington Boulevard	Wong, Paul	White Socks, 2 Family, Unit 1	96-8	004-5395	Rain Garden	Private	Yes	Yes	Yes	Yes	DMA	10414	211	5/3/2012		
Washington Boulevard	2382 Washington Boulevard	2382 Washington Boulevard, LLC	NA	B	000-8500	Rain Garden	Private	Yes	Yes	Yes	Yes	DMA	10369	319	3/8/2012		7-3
Haviland Road	547 Haviland Road	Rosenberg, Gloria	NA	2A	004-3317	Berm	Private	Yes	Yes	Yes	Yes	DMA	10179	169	7/14/2011		8-4
	519 Haviland Road	Francis, Patrick	NA	2B	004-3316	Berm	Private	Yes	Yes	Yes	Yes	DMA	10179	133	7/14/2011		
Compo Drive	Compo Drive	Compolattaro, Frank	Compo Drive Subdivision	ROW	000-0000	Rain Garden	Private	Yes	Yes	Yes	Yes	DMA	9619	259	6/9/2009		9-3
Den Road	480 Den Road	Brillant, Patrick	Den Road Subdivision	2	004-3064	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	8929	103	3/26/2007		10-4
	492 Den Road	Purser Place, LLC	Den Road Subdivision	3	004-3068	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	8929	89	3/26/2007		
MacArthur Lane	65 MacArthur Lane	MacArthur Park Puds	Saddle Horn Farm	NA	NA	Berm	Private	Yes	Yes	Yes	Yes	DMA	6256	159	5/28/2002		11-3
Golden Farm Road	Golden Farm Road	Vikstrom, John	Golden Farm Subdivision	6	004-2620	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	6185	260	4/3/2002		12-3
Konandreas Drive	Konandreas Drive	Konandreas, Lukas	Konandreas Drive Subdivision	8	004-2561	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	5865	178	7/24/2001		13-3
	Konandreas Drive	Konandreas, Lukas	Konandreas Drive Subdivision	9	004-2553	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	5865	178	7/24/2001		
Eastover Road	Eastover Road	Cellco Partnership	Davidoff Subdivision	1,2,3,4	004-2955	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	6727	168	3/11/2003	Majority of the structure may lie on Cellco Site (4) and may not subject to DMA.	14-4
Sunset Court	36 Sunset Court	Biancuzzo, Frank	NA	3	004-2969	Basin	Private	Yes	Yes	Yes	Yes	DMA	8568	177	5/30/2006		15-5
	39 Sunset Court	Wrigley, James	Sunset Court Subdivision	4	004-2972	Basin	Private	Yes	Yes	Yes	Yes	DMA	8398	203	1/10/2006		
Webbs Hill Road	189 Webbs Hill Road	Goldstone, Daniel	NA	3C	004-3397	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	9378	299	6/20/2008		16-3
West Avenue	650 West Avenue	West Avenue Realty Associates	Post Office/Standard Brands	NA	NA	Berm	Private	Yes	Yes	Yes	No	DMA	NA	NA	NA		17-9
Haviland Road	168 Haviland Road	Sluga, Robert	NA	5	004-1996	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	5006	129	5/29/1998		18-4
	162 Haviland Road	Iafrate, Anthony	NA	6	004-1995	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	5006	135	5/29/1998		
Strawberry Hill Avenue	90 Fieldstone Road	Kottoor, Cyriac	Stonegate Subdivision	82	003-8550	Basin	Private	Yes	Yes	Yes	Yes	DE	2766	205	5/9/1986		19-5
	98 Fieldstone Road	Walsh, Michael	Stonegate Subdivision	83	003-8549	Basin	Private	Yes	Yes	Yes	Yes	DE	2766	205	5/9/1986		
	6 Fieldstone Terrace	Majmudar, Shailesh	Stonegate Subdivision	84	003-8590	Basin	Private	Yes	Yes	Yes	Yes	DE	2766	205	5/9/1986		
	20 Fieldstone Terrace	Young, Sheryl	Stonegate Subdivision	85	003-8591	Basin	Private	Yes	Yes	Yes	Yes	DE	2766	205	5/9/1986		
	26 Fieldstone Terrace	Lane, Allan	Stonegate Subdivision	86	003-8592	Basin	Private	Yes	Yes	Yes	Yes	DE	2766	205	5/9/1986		
	14 Fieldstone Circle	Sakowitz, Russell	Stonegate Subdivision	88	003-8541	Basin	Private	Yes	Yes	Yes	Yes	DE	2766	205	5/9/1986		
Strawberry Hill Avenue	274 Strawberry Hill Avenue	Saint Bridget's R.C. Church Corp.	Queen of the Clergy	44	004-2537	Basin	Private	Yes	Yes	Yes	Yes	DMA	5174	169	1/5/1999		20-4
North Meadow Lane	58 North Meadow Lane	Cadoret, Francois	North Meadow Lane Subdivision	5	004-1899	Basin/Berm	Private	Yes	Yes	Yes	Yes	DMA	4394	23	4/19/1995		21-3
Davenport Farm Lane	Davenport Farm Lane West	Davenport Farm Corporation	Davenport Farm Subdivision	NA	NA	Basin	Private	Yes	Yes	Yes	Yes	DMA	2552	164	5/6/1985		22-4
	Davenport Farm Lane East	Davenport Farm Corporation	Davenport Farm Subdivision	NA	NA	Berm	Private	Yes	Yes	Yes	Yes	DMA	2552	164	5/6/1985		
Dannell Drive	Loveland Road	Genovese, Rocco	Dannell Drive/Lantern Circle	36	003-6733	Basin	Private	Yes	Yes	Yes	Yes	DMA	2461	214	10/4/1984		23-3
Strawberry Hill Avenue	320 Strawberry Hill Avenue	Strawberry Woods Condominium As.	Strawberry Woods	NA	NA	Berm	Private	Yes	Yes	Yes	Yes	DMA	3769	56	11/25/1991		24-6
Crofts Lane	54 Crofts Lane	Tanacea, David	Crofts Lane Subdivision	4	004-1376	Basin	Private	Yes	Yes	Yes	Yes	DMA	3738	226	9/6/1991		25-5
	49 Crofts Lane	Anstine, Robert	Crofts Lane Subdivision	5	004-1375	Basin	Private	Yes	Yes	Yes	Yes	DMA	3738	226	9/6/1991		
	36 Crofts Lane	Farley, Mark	Crofts Lane Subdivision	2	004-0787	Basin	Private	Yes	Yes	Yes	Yes	DMA	3738	226	9/6/1991		
	38 Crofts Lane	Crofts Lane Partners, LLC.	Crofts Lane Subdivision	3A	004-1206	Basin	Private	Yes	Yes	Yes	Yes	DMA	3738	226	9/6/1991		
Mary Violet Road	50 Mary Violet Road	Li, Jian Wen	NA	4	003-9212	Basin	Private	Yes	Yes	Yes	Yes	DMA	4883	341	12/9/1997		26-6
	56 Mary Violet Road	Rinaldi, Mary Lou	NA	5	003-9213	Basin	Private	Yes	Yes	Yes	Yes	DMA	4568	288	5/7/1996		
Emerald Lane	76 Emerald Lane	O'Farrell, Michael	NA	4A	003-8955	Basin	Private	Yes	Yes	Yes	No	NA	NA	NA	NA		27-2
Barnes Road	Barnes Road	Heatherwood Condominium Assoc.	Heatherwood Condominiums	NA	NA	Berm	Private	Yes	Yes	Yes	Yes	DMA	3378	324	1/24/1989		28-3
Heming Way	32 Heming Way	Fein, Edward	NA	1	004-0020	Basin	Private	Yes	Yes	No	NO	NA	NA	NA	NA		29-2
Edward Place	110 Edward Place	McGrath, Michael	Laurelwood	21	004-1415	Berm/OLCS	Private	Yes	Yes	Yes	Yes	DMA	3926	25	10/13/1992		30-4
	122 Edward Place	Bahar, David	Laurelwood	22	004-1416	Berm/OLCS	Private	Yes	Yes	Yes	Yes	DMA	3926	25	10/13/1992		
Friars Lane	56 Broad Brook Lane	Moss, Andrew	Broad Brook Farm	12	004-1782	Berm/OLCS	Private	Yes	Yes	Yes	Yes	DMA	4394	31	4/19/1995		31-4
Newfield Avenue	King Low Heywood Thomas	King Low Heywood Thomas School	KLHT	A	002-6661	Basin	Private	Yes	Yes	Yes	No	NA	NA	NA	NA		32-2
Palmer's Hill Road	122 Palmer's Hill Road	Edgehill Property Corporation	Edgehill	A	000-0265	Basin	Private	Yes	Yes	Yes	Yes	DMA	4805	135	7/31/1997	Modification Agreement Book 10106, Page 207, 3/11/11	33-4
Turn of River Road	Turn of River Road	Riverturn Condominium Assoc.	Riverturn Condominiums	NA	NA	Basin/OLCS	Private	Yes	Yes	Yes	Yes	DMA	4884	1	12/9/1997		34-3
Turn of River Road	Sterling Lake Lane	Sterling Lake Condominium Assoc.	Sterling Lake Condominiums	NA	NA	Berm/OLCS	Private	Yes	Yes	Yes	Yes	DMA	3759	226	10/29/1991		35-3
Ocean Drive West	270 Ocean Drive East	Colangelo, Robert	NA	1	004-2161	Rain Garden	Private	No	Yes	No	Yes	DMA	NA	NA	NA	Basin to be built, and both an as built and DMA to be submitted.	36-1
Newfield Avenue	1857 Newfield Avenue	The Greyrock Companies	NA	B1	001-0096	Basin	Private	Yes	Yes	Yes	Yes	DMA	NA	NA	NA	Basin built, and both an as built and DMA to be submitted.	37-1
Bridge Street	Bridge Street	City of Stamford	Scalzi Park Improvements	2	002-5986	Rain Garden	Public	Yes	Yes	No	No	NA	NA	NA	NA	Basin built, as built to be submitted, no drainage agreement required.	38-1
Merriebrook Lane	Merribrook Lane	City of Stamford	Mianus River Parking Improvement	B1/B3	000-8923	Rain Garden	Public	Yes	Yes	No	No	NA	NA	NA	NA	Basin built, as built to be submitted, no drainage agreement required.	39-1
Bud Lane	46 Bud Lane	Felenstein, Brad	NA	5	004-2071	Basin	Private	Yes	Yes	Yes	Yes	DMA	4635	257	9/10/1996		40-3
Brookdale Road	219 Brookdale Road	Heuman, Robert	NA	4	004-0971	Basin	Private	Yes	Yes	Yes	Yes	DMA	5044	257	7/16/1998		41-3
Wind Mill Circle	30 Windmill Circle	Kastrati, Xhavit	NA	A24	001-6339	Basin	Private	Yes	Yes	Yes	No	NA	NA	NA	NA	Basin built, as built submitted, no drainage agreement required.	42-2
East Ridge/Valley View	73 East Ridge Road	Lorenzo, Anthony	Macrides Subdivision	29	003-3246	Berm	Private	Yes	Yes	No	No	NA	NA	NA	NA		43-5
	1 Valley View Drive	Gediman, Judith	Macrides Subdivision	7	003-3229	Berm	Private	Yes	Yes	No	No	NA	NA	NA	NA		
Long Ridge Road	710 Long Ridge Road	710 Long Ridge Road, LLC	Mediplex Nursing Home	20A	004-1372	Basin	Private	Yes	Yes	Yes	Yes	DMA	3898	68	8/25/1992		44-3
Mulberry Street	139 Mulberry Street	Sandoval, Homero	NA	8 and 9	002-4908	Basin	Private	No	Yes	No	Yes	DMA	NA	NA	NA	Basin to be built, and both an as-built and DMA to be submitted.	45-1
West Main Street	1937 West Main Street	Cytec Industries, Inc.	NA	B2	004-3103	Basin	Private	No	Yes	No	Yes	DMA	NA	NA	NA	Basin to be built, and both an as-built and DMA to be submitted.	46-1
Sun Dance Road	125 Sundance Road	Daitzman, Sarah	NA	149	002-5484	Rain Garden	Private	No	Yes	No	No	NA	NA	NA	NA	Basin to be rebuilt, as-built to be provided, no drainage agreement required.	47-1
Gun Club Road	122 Gun Club Road	Lam, Howard	NA	5	003-1980	Berm/OLCS	Private	Yes	Yes	Yes	No	NA	NA	NA	NA		48-3
	106 Gun Club Road	Cohen, Herbert	NA	4	003-1978	Berm/PLCS	Private	Yes	Yes	Yes	No	NA	NA	NA	NA		
Mill Valley Lane	45 Mill Valley Lane	Crawford, Gregory	NA	13	003-0835	OLCS	Private	Yes	Yes	Yes	No	NA	NA	NA	NA		49-4
	146 Blackberry Drive	Speaker, Michael	NA	15	003-0834	OLCS	Private	Yes	Yes	Yes	No	NA	NA	NA	NA		
	142 Blackberry Drive	Munro, Carlton Lake	NA	16	003-0833	OLCS	Private	Yes	Yes	Yes	No	NA	NA	NA	NA		
Hillsbury Lane	21 Hillsbury Lane	Pemberton, Patricia	NA	B4	003-4915	Basin	Private	Yes	Yes	Yes	No	DE	2128	238	5/14/1982	Portions of the piping and basin may be covered by a Drainage Easement.	50-4
	57 Hillsbury Lane	Morello, Marianna	NA	B7	003-5171	Basin	Private	Yes	Yes	Yes	Yes	DE	2128	238	5/14/1982	Portions of the piping and basin may be covered by a Drainage Easement.	
Shippan Avenue	507 Shippan Avenue	Knights of Columbus Associates	Knights of Columbus Social Hall	A3	003-6701	Basin	Private	Yes	Yes	Yes	Yes	NA	NA	NA	NA	Basin built, as built submitted, required DMA apparently not secured.	51-2
Shippan Avenue	511 Shippan Avenue	National Church Residence of Stamford	Harbourside Residences	A24	003-6702	Basin	Private	Yes	Yes	Yes	No	NA	NA	NA	NA		52-2
Elm Street	566 Elm Street	Saint Mary's Church	Church Property	B	003-8149	Basin	Private	Yes	Yes	No	No	NA	NA	NA	NA		53-1
Stone Fence Lane	23 Stone Fence Lane	Severo, Christopher	NA	5	003-9527	Rain Garden	Private	No	Yes	No	No	NA	NA	NA	NA	Basin to be built, as built to be submitted, no drainage agreement required.	54-1

Street	Address	Owner	Common Name	Lot	Account	Type	Pub/Priv	Built	Aerial	ILS	Agree	Type	Book	Page	Date	Comments	Basin No.
																	Pieces

DMA = Drainage Maintenance Agreement
DE = Drainage Easement

City of Stamford Detention and Retention Basin Inspections

July 1, 2016

#CT0030279

205 Bouton Street West

Type: Raingarden
Inspected: 6/27/2016
Inspector: Tyler Theder
Ownership: Private (DMA) – Not directly connected to MS4
Notes: +/- 1' depression, soils have established cover, no visible accumulated sediment / solids, PVC piping and splash pad in good condition. No action required.

380 Ocean Drive West

Type: Raingarden
Inspected: 6/28/2016
Inspector: Tyler Theder
Ownership: Private (DMA) – Not directly connected to MS4
Notes: +/- 1' depressions, soils have established cover (turf), no visible accumulated sediment / solids in basins, PVC piping in good working condition. Discharge pipe from CB overflow not visible and no level spreader observed.

546 Haviland Road

Type: Basin
Inspected: 6/27/2016
Inspector: Tyler Theder
Ownership: Private (DMA) – Not directly connected to MS4
Notes: All soils have established cover, no visible accumulated sediment / solids in basin or in rip-rap, PVC piping and CB outlet structures in good condition. Accumulated solids observed in catch basin – required to be removed.

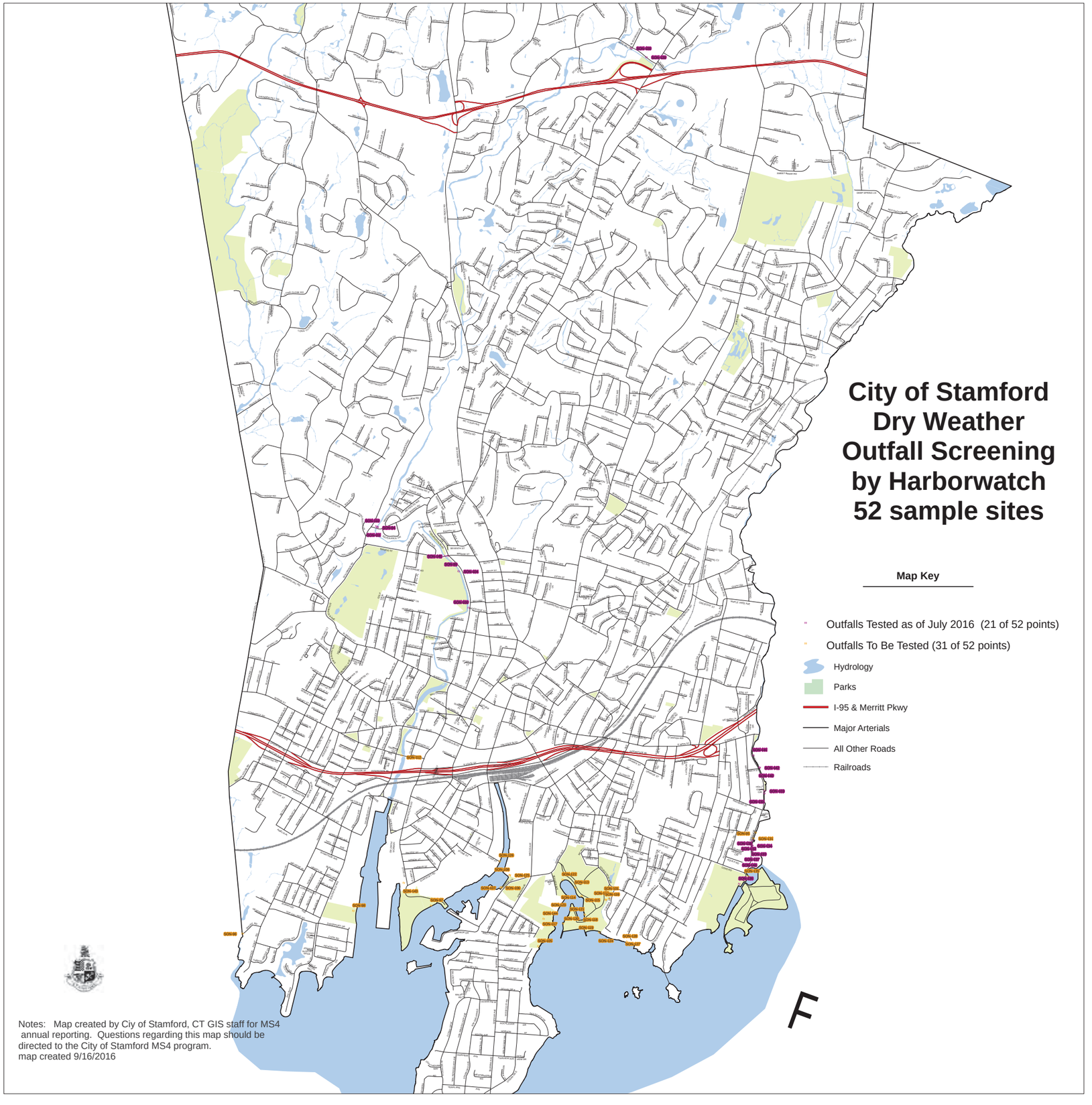
APPENDIX Q

2015-2016 IDDE SCREENING DATA SUMMARY TABLE

Site	Date	Time	Photo	Physical Condition	Other Defects	Illicit Discharges	Flow	Flow Estimation (gallon/second)	Conductivity (µS)	Turbidity (NTU)	DO (mg/L)	pH (pH Units)	Chlorine (mg/L)	Temp (°C)	Surfactants as (MBAS) (ppm)	Potassium (mg/L)	Ammonia (mg/L)	Fecal Coliform (CFU/100mL)	*E. coli* (CFU/100mL)	Notes
SON-0001	6/5/2015	1319	Yes	Intact	none	Foaming	Yes	0.05 (guess)	1879	0.83	10.23	7.1	0.70	15.6	0.25	8.0	0.01	400	360	
SON-0002																				
SON-0003	6/18/2015	945	yes	Intact	exposed rebar	none. Suspicious grey plume at 9:56am after initial observations were made	yes	>1 gal/sec; partially submerged pipe in river	1143	1.51	9.26	7.0	0.30	17.3	0.25	10.0	0.03	3300	3200	Suggested priority site
SON-0004	6/25/2015	1504	Yes	Intact	none	oil sheen observed	Yes	0.000013	1641	7.52	9.01	7.1	0.20	21.1	0.50	35.0	0.07	1200	1000	
SON-0005	6/11/2015	1504	yes	Intact	Aprox 4ft in pipe, sticks and trash debris visible	Copper color to discharge water	Yes	constant but slow trickle, not enough flow to use bucket for estimation	942	73.30	6.07	7.1	0.40	18.2	0.75	13.0	0.42	212	64	Local businessman said they have seen John Deere Landscapes washing things in the parking lot by the storm drains
SON-0006																				
SON-0007	6/18/2015	947	Yes	Intact	exposed rebar	none	Yes	>1 gal/sec; partially submerged pipe in river	1026	0.88	9.30	6.9	0.20	17.6	0.25	10.0	0.07	540	530	
SON-0008	6/18/2015	1124	Yes	Intact	none	Brown Discoloration of water	Yes	minimal, river flooding in pipe. Can hear distant dumping inside pipe	1254	5.92	8.14	6.9	0.40	16.1	0.00	8.0	0.11	430	380	
SON-0009	6/18/2015	1153	Yes	Intact	none	blue discoloration of water	Yes	Shallow constant sheet flow	1020	24.10	7.39	5.9	0.10	19.1	>3.0	8.0	0.93	720	40	Suggested priority site
SON-0010	10/20/2015	1434	Yes	Intact	none	Sewage odor and slight chemical smell, standing water where pipe discharges was very discolored	Yes	Could see low flow, but pipe was 50% submerged and flow could not be accurately estimated	1484	8.52	7.73	6.7	0.10	17.4	1.00	73.0	>2.50	330000	260000	
SON-0011																				
SON-0012																				
SON-0013																				
SON-0014	6/25/2015	1156	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Tidal incursion. Some standing tidal water at low tide.
SON-0015																				
SON-0016																				
SON-0017																				
SON-0018	11/18/2015	905	Yes	Collapsed	Broken pipe, partially obstructed by debris, rocks, and glass	none. Sewage odor present, but most likely from wastewater treatment plant	Yes	Flow was fast and constatnt, obstructions prevented accurate measurement. Visual estimation 0.59 gal/sec	30157.00	0.88	4.68	7.10	0.30	14.50	1.50	300.00	0.09	24	20	
SON-0019																				
SON-0020	2/29/2016	847	Yes	Intact	None	None	Yes	low but steady	5264.00	1.69	9.05	7.00	0.20	9.50	0.75	54.00	0.02	136	120	Sampling was first attempted on 11/18/15. Pipe was submerged at low tide. Bottom of pipe shows rusting, and metal seems to be offset/stops 8ft into pipe. On 2/29/16 sample taken at Transfer Station first manhole in.
SON-0021																				
SON-0022	10/20/2015	1043	Yes	Intact	Full of sand and rocks from tide	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0023																				
SON-0024	10/20/2015	1345	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0025	10/26/2015	1332	Yes	Intact	none	Rusty color in water standing in pipe. Evidence of flow at some point prior.	No	aprox. 3 gallons accumulated over 19 hours	391.70	4.43	10.29	6.20	0.20	10.30	0.00	5.00	0.34	4000	2100	
SON-0026	10/20/2015	951	Yes	Intact	Has rocks from tides inside pipe	none	Yes	Steady but low velocity, shallow flow over a wide area aprox 1m	1069	0.65	9.89	7.0	0.20	12.0	0.25	23.0	0.00	450	140	
SON-0027N	6/5/2015	1424	Yes	Intact	none	none	Yes	0.14	630	0.21	10.04	6.5	0.30	13.9	0.00	5.0	0.10	16	8	
SON-0027S	6/5/2015	1424	Yes	Intact	none	none	Yes	0.06	872	0.24	10.09	6.1	0.30	12.8	0.00	5.0	0.07	40	40	
SON-0028	6/25/2015	1218	Yes	Intact	Full of rocks, partial blockage	none	Yes	0.21	39780	0.81	4.11	6.9	0.30	19.2	1.50	340.0	0.02	440	250	
SON-0029	6/18/2015	1146	Yes	Intact	Rebar exposed	grey discoloration of water, possible toilet paper on rocks at outfall	Yes	.19 (visual estimation)	1290	35.80	4.73	6.2	0.30	19.3	0.00	21.0	>2.5	290000	290000	Suggested priority site; 2 outfalls present only north outfall flowing.
SON-0030																				
SON-0031	6/25/2015	1600	Yes	Intact	none	Sewage odor and sanitary floatables	Yes	1.24	428	1.00	9.63	6.9	0.30	19.0	0.00	6.0	0.00	2	0	
SON-0032	6/25/2015	1552	Yes	Intact	none	none	Yes	0.05	891	0.89	9.01	7.2	0.30	20.1	0.25	19.0	0.00	60	16	
SON-0033																				
SON-0034																				
SON-0035	10/26/2015	1616	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0036	10/20/2015	855	Yes	Intact	Rebar exposed	Iron slime on pipe bottom (orange color)	Yes	0.14	5774	22.60	7.90	6.8	0.10	15.9	0.50	50.0	0.08	120	120	
SON-0037																				
SON-0038																				
SON-0039	10/20/2015	1343	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0040	10/20/2015	1122	Yes	Intact	Algae growing below pipe from discharge	none	Yes	0.00	451	1.53	9.60	7.1	0.10	14.5	0.00	16.0	0.00	8	4	
SON-0041	6/5/2015	1000	Yes	Intact	Slightly jagged rim at bottom	none	yes	0.10	910	0.25	8.79	6.7	0.30	14.7	0.25	5.0	0.04	1100	1000	When looking in discharge pipe, another pipe is visible off to the left side
SON-0042	6/5/2015	1107	Yes	Intact	Rebar showing, erosion of concrete	Oil present in pool below outfall but sample taken does not look oily	Yes	0.31	1471	0.36	9.80	6.9	0.80	15.2	0.25	7.0	0.05	2600	1400	
SON-0043	10/26/2015	1601	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0044	10/27/2015	1117	Yes	Intact	Bottom of pipe exposed past concrete has rusted away aprox 6 in across	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0045																				
SON-0046																				

Site	Date	Time	Photo	Physical Condition	Other Defects	Illicit Discharges	Flow	Flow Estimation (gallon/second)	Conductivity (µS)	Turbidity (NTU)	DO (mg/L)	pH (pH Units)	Chlorine (mg/L)	Temp (°C)	Surfactants as (MBAS) (ppm)	Potassium (mg/L)	Ammonia (mg/L)	Fecal Coliform (CFU/100mL)	*E. coli* (CFU/100mL)	Notes
SON-0047	6/11/2015	1410	Yes	Intact	none	none	Yes	minimal but constant (not enough to use bucket)	815	0.31	9.25	7.0	0.40	22.4	0.00	6.0	0.00	124	76	Cond, DO, and Temp from sample bottle, not enough flow to put probe directly in discharge
SON-0048	2/29/2016	939	Yes	Intact	none	none	Yes	minimal	13198	26.40	7.55	6.8	0.30	9.0	0.75	120.0	0.20	140	92	Sampling first attempted on 11/18/15. Pipe was partially submerged at low tide. On 2/29/16 sample was taken at Jefferson Street, first manhole up.
SON-0049	10/27/2015	1144	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0050	10/26/2015	1358	Yes	Intact	none	none	Yes	0.83	1450	4.48	9.92	6.8	0.1	15.6	0.25	10	0	184	152	Flow increased aprox 1 min after arrival to site. Pipe was 5% submerged in River so we visually estimated the flow.
SON-0051	2/29/2016	800	Yes	Intact	none	Damp odor, no other indicators	Yes	high and constant	2926	3.51	10.12	7.4	0.4	10.2	0.5	33	0.08	156	144	Sampling first attempted on 11/18/15. Pipe was partially submerged at low tide. On 2/29/16 sample was taken at 263 Tresser Blvd, manhole in the sidewalk.
SON-0052																				
SON-0053																				
SON-0054																				
SON-0055																				
SON-0056	10/22/2015	930	Yes	Intact	Aprox 50% full of dirt, mud, and leaves	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0057																				
SON-0058																				
SON-0059																				
SON-0060																				
SON-0061																				
SON-0062	10/22/2015	953	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0063																				
SON-0064	10/22/2015	945	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0065	10/26/2015	1633	Yes	Intact	Rebar exposed	Slightly sewage smell (damp smell?), sil/dirt on bottom of pipe, damp, evidence of flow at some point prior.	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Sandbags placed to dam flow. Returned to check on 10/27/15 at 9:56. No accumulation behind sandbag.
SON-0066																				
SON-0067																				
SON-0068																				
SON-0069																				
SON-0070																				
SON-0071																				
SON-0072E	10/22/2015	1121	Yes	Intact	Partially full (10%) of debris and silt	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	River appears to be dammed and backing up the water. River is stagnant. Pipe is 50% submerged. Sample will be taken from second manhole from discharge point because first manhole was inaccessable. Consulted with Tyler Theder on where to sample from
SON-0072W	10/22/2015	1123	Yes	Intact	Silt and debris inside pipe	none	No	Appears to be standing water in catch basin. Consulted with Tyler Theder and he advised we take samples anyway.	346.80	8.05	2.72	6.50	0.20	13.40	0.25	3.00	0.08	88	72	River appears to be dammed and backing up the water. River is stagnant. Pipe is 80% submerged. Sample will be taken from first catch basin from discharge point. Consulted with Tyler Theder on where to sample from.
SON-0073	10/22/2015	1207	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0074	10/22/2015	1206	Yes	Intact	none	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0075																				
SON-0076																				
SON-0077																				
SON-0078	6/11/2015	1718	Yes	Intact	none	none	yes	no estimation because pipe is submerged in river water, but could see flow movement in water	817	2.24	9.47	6.9	0.10	16.1	0.00	5.0	0.04	360	320	
SON-0079	6/11/2015	1704	Yes	Intact	rebar showing	none	yes	0.13	1191	1.59	9.76	6.8	0.10	16.1	0.00	9.0	0.00	340	160	Algae buildup @ outfall
SON-0080																				
SON-0081																				
SON-0082																				
SON-0083																				
SON-0084																				
SON-0085																				
SON-0086																				
SON-0087	6/5/2015	834	Yes	Intact	Erosion on bottom, exposed rebar	Foaming	Yes	0.17	1370	0.36	9.5	6.8	0.1	15.2	0.25	6	0.01	6200	5400	
SON-0088	6/5/2015	830	Yes	Intact	Broken concrete on rim	none	No	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0089																				
SON-0090																				
SON-0091																				
SON-0092																				
SON-00094	6/20/2016	1351	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-00095																				
SON-00096																				

Site	Date	Time	Photo	Physical Condition	Other Defects	Illicit Discharges	Flow	Flow Estimation (gallon/second)	Conductivity (µS)	Turbidity (NTU)	DO (mg/L)	pH (pH Units)	Chlorine (mg/L)	Temp (°C)	Surfactants as (MBAS) (ppm)	Potassium (mg/L)	Ammonia (mg/L)	Fecal Coliform (CFU/100mL)	*E. coli* (CFU/100mL)	Notes
SON-00097																				
SON-00098																				
SON-00099	6/20/2016	1225	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	discoloration on bottom of pipe but nothing to indicate any evidence of recent flow
SON-0100	6/20/2016	1150	yes	intact	pipe is filled with sediment about 2 ft into pipe	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	spray paint marking on sidewalk identified pipe as DIS-248
SON-0101																				
SON-0102																				
SON-0103	7/18/2016	1531	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0104	6/20/2016	1215	yes	intact	rebar showing on pipe rim	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0105																				
SON-0106																				
SON-0107																				
SON-0108																				
SON-0109	6/20/2016	1120	yes	intact	none	dark coloring on pipe bottom	no, sanbagged													Sandbagged. Return trip necessary 6/21/16. Returned 6/21/16, but area looked like it received a lot of rainfall (puddles present, ground still wet at 10:30am) and the amount of water behind sandbags was more indicative of runoff than illicit discharge we were trying to catch. Will need to re-do during dry weather.
SON-0110	6/20/2016	1343	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0111	6/20/2016	1347	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0112																				
SON-0113																				
SON-0114																				
SON-0115																				
SON-0116																				
SON-0117																				
SON-0118																				
SON-0119																				
SON-0120																				
SON-0121																				
SON-0122																				
SON-0123																				
SON-0124																				
SON-0125																				
SON-0126																				
SON-0127																				
SON-0128																				
SON-0129	6/20/2016	1057	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0130	7/18/2016	1535	yes	intact	slight deterioration of edge	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0131																				
SON-0132	7/18/2016	1550	yes	Damaged	cracked all the way up the middle, 1.5 foot portion at top is missing	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0133	7/18/2016	1559	yes	intact	some rebar showing	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0134	7/18/2016	1554	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0135																				
SON-0136	7/18/2016	1619	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	pvc pipe
SON-0137	7/18/2016	1604	yes	intact	substantial reust and deterioration at end of pipe	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0138	7/18/2016	1600	yes	collapsed	over 1 food of end of pipe is missing	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0139																				
SON-0140	7/18/2016	1524	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0141	7/18/2016	1515	yes	intact	Bottom of pipe has chunk missing	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
SON-0142	7/18/2016	1525	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	pvc pipe
SON-0143																				
SON-0144																				
SON-0145	6/20/2016	1230	yes	intact	none	wet in pipe, standing water below	no, sanbagged													Sandbagged. Return trip necessary 6/21/16. Returned 6/21/16 and found small amount of water behind sandbag, but not enough to complete analysis on. When sandbag was removed, water did not exit pipe due to dirt build up at outfall. This may be we saw dampness in pipe to begin with - residual from old storms)
SON-0146	7/18/2016	1610	yes	intact	none	n/a	no	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	


City of Stamford
Dry Weather
Outfall Screening
by Harborwatch
52 sample sites
Map Key
Outfalls Tested as of July 2016 (21 of 52 points)
Outfalls To Be Tested (31 of 52 points)
Hydrology
Parks
I-95 & Merritt Pkwy
Major Arterials
All Other Roads
Railroads
Notes: Map created by Ciy of Stamford, CT GIS staff for MS4 annual reporting. Questions regarding this map should be directed to the City of Stamford MS4 program.
map created 9/16/2016

APPENDIX R

2015-2016 IDDE INVESTIGATION DATA SUMMARY TABLE

Description of IDDE Investigation Locations:

8/5/2015

This data was a split sample during an EPA sampling event.

1.) 0 Pumping station road @ City owned transfer station (DIS-8 *Part of original 92 Outfalls)

2.) 20 Harbor Drive – Czesick Marina (DIS-665 ***NOT PART OF ORIGINAL 92 OUTFALLS)

3.) 2236 Shippan Ave. (DIS-15 *Part of original 92 outfalls) – Note: later renamed by GIS to DIS-339

4.) Tresser blvd. storm man hole (DIS-74 *Part of original 92 outfalls)

5.) Tresser blvd. on Greyrock Place - storm man hole (DIS-74 *Part of original 92 outfalls)

6.) Tresser blvd. @ intersection of Canal St. - storm man hole (DIS-74 *Part of original 92 outfalls)

9/3/2015

1.) 92 Garland Drive (DIS-96 *Part of original 92 Outfalls)

2.) 172 Greyrock Place (believed to be part of DIS-74 *Part of original 92 Outfalls) **Note: confirmed leaky 6" clay sanitary main in Greyrock place, repaired by WPCA contractor and storm pipe below sealed and repaired by contractor at the same time. Estimate +/- 2 GPM flow.

3.) 50 Glenbrook Road (believed to be part of DIS-74 *Part of original 92 Outfalls)

4.) 0 Home Court (Determined this is a state owned / maintained outfall discharging into Holly Pond at US RT-1 – NOT PART OF ORIGINAL 92)

5.) 50 Lanark Road (DIS-19 *Part of original 92 Outfalls) – GIS Dept. later modified outfall name to DIS-343.

9/18/2015

1.) 69 Sunnyside Ave.(DIS-126) *Part of original 92 Outfalls.

9/22/2015

Samples 1-6: All part of catchment area draining to Cummings Park North; outfall at top of pond (DIS-50 *Part of original 92 Outfalls)

9/23/2015

1.) Cummings park pump station manhole (NOT A PART OF ORIGINAL 92 - **now known as DIS-917)

2.) Cummings park pump station upstream near tennis court(NOT A PART OF ORIGINAL 92 - **now known as DIS-917)

3.) 44 Park street (NOT A PART OF ORIGINAL 92 - **now known as DIS-917)

4.) 181 Frederick street (NOT A PART OF ORIGINAL 92 - **now known as DIS-917)

5.) 73 Warren St (NOT A PART OF ORIGINAL 92 - **now known as DIS-917)

6.) 26 Mill River Street (DIS-26 *Part of Original 92) GIS Dept later modified outfall name to be DIS-47

7.) 91 Stillwater Ave. (DIS-26 *Part of Original 92) GIS Dept later modified outfall name to be DIS-47

8.) 101 Stillwater Ave. (DIS-26 *Part of Original 92) GIS Dept later modified outfall name to be DIS-47

9/24/2015

1.) Cove Island Park (DIS-48 *Part of Original 92)

2.) 20 Harbor Drive – Czesick Marina (DIS-665 ***NOT PART OF ORIGINAL 92 OUTFALLS)

3.) 0 Home Court (Determined this is a state owned / maintained outfall discharging into Holly Pond at US RT-1 – NOT PART OF ORIGINAL 92)

4.) 70 Mill River Street (DIS-49 *Part of Original 92)

9/25/2015

1.) Washington Blvd across Rippowam river from Scalzi Park (DIS-70 *Part of Original 92)

2.) Washington Blvd across Rippowam river from Scalzi Park (DIS-71 *Part of Original 92)

3.) Woodside green CB (DIS-70/71 *Part of Original 92)

4.) 107 Revonah (DIS-70/71 *Part of Original 92)

5.) 85 Urban St. (DIS-70/71 *Part of Original 92)

6.) 35 Sixth St. (DIS-70/71 *Part of Original 92)

7.) Sixth and Bedford St (DIS-70/71 * Part of Original 92)

8.) Cove Island Park at Outfall (DIS-47) *Part of Original 92)

6/16/2016

1.) Washington Blvd across Rippowam river from Scalzi Park (DIS-70/71 *Part of Original 92)

City of Stamford Stormwater outfalls IDDE							
CT0030279							
DSN		sw#_DIS-8__	sw#__DIS-74_	sw#_DIS-74-NB__	sw#__DIS-74-WB_	sw#_DIS-339__	sw#__DIS-605_
Description		East side of east branch- adjacent to SW building	Jefferson Street- north of East Branch	2 manholes norwest of MH-237 on Grey Rock Place	Manhole at intersection of Canal and Tresser Bcld	RCP discharging to beach from end of Shippan Ave	Manhole upgradient of DIS-665- Czecick Marina
Latitude		41.0459275991	41.0487581437	41.0521300000	41.0514000000	41.0217600000	41.0414100000
Longitude		-73.5314238649	-73.5339890793	-73.5360900000	-73.5362600000	-73.5216000000	-73.5287400000
Recieving Stream		Stamford Harbor/ LIS	Stamford Harbor/LIS			LIS	LIS
Date of sample		8/5/2015	8/5/2015	8/5/2015	8/5/2015	8/5/2015	8/5/2015
PARAMETER	UNITS						
pH	s.u	6.84	7.38	6.70	7.53	7.82	6.77
Temperature	C	21.91	21.71	18.96	20.26	23.70	20.49
Dissolved Oxygen	mg/l	6.33	7.86	8.36	9.32	8.41	4.73
Specific Conductance	µmhos/cm	17,825	4,391	7,668	2,574	1,988	7,838
Turbidity	NTU	0.00	0.57	0.16	0.01	0.35	16.4
B.O.D./5 day	mg/L	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	5.1
Chlorine	mg/L	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
C.O.D.	mg/L	259	42	83	14	< 10	109
Enterococci Bacteria	MPN/100 mls	300	360	10	<10	10	50
Fecal Coliforms	/100 mls	1,700	>2000	180	>2000	>2000	60
Hardness (CaCO3)	mg/L	2,250	660	1,060	478	250	1,260
MBAS	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.08
Ammonia as Nitrogen	mg/L	0.09	0.18	0.24	< 0.05	< 0.05	11.2
Nitrate-N	mg/L	1.00	2.2	0.58	1.96	1.77	< 0.02
Oil and Grease by EPA 1664	mg/L	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Nitrogen Tot Kjeldahl	mg/L	0.28	0.68	0.39	0.41	0.76	11.7
Phosphorus, as P	mg/L	0.17	0.14	0.04	0.07	0.04	0.21
Total Suspended Solids	mg/L	160	< 5.0	6.5	< 5.0	< 5.0	44
Cadmium	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Copper	mg/L	0.006	0.009	0.006	< 0.005	< 0.005	< 0.005
Lead	mg/L	< 0.002	< 0.002	< 0.002	0.003	< 0.002	0.003
Zinc	mg/L	0.029	0.019	0.006	0.008	< 0.002	0.003

City of Stamford Stormwater outfalls IDDE						
CT0030279						
DSN		sw#_DIS-GREY ROCK__	sw#__DIS-CAMP 1_	sw#_DIS-50-GLENBROOK__	sw#__DIS-HOME_	sw#_DIS-50 Lanark__
Description		Manhole infront of 172 Grey Rock Place	Discharge onto sidewalk at 92 Camp Ave.	Manhole at 50 Glenbrook Road	Catchbasin at intersection of Home Ct and E. Main St.	Manhole at 50 Lanark Road
Outfall size		12"	6"	12"	12"	12"
Outfall type		concerte pipe	PVC pipe	concrete pipe	concrete pipe	clay pipe
Date of sample		9/3/2015	9/3/2015	9/3/2015	9/3/2015	9/3/2015
PARAMETER	UNITS					
pH	S.U.	7.95	7.99	7.85	8.12	7.55
Temperature	C	25.22	25.87	26.57	24.12	22.66
Specific Conductance	µmhos/cm	1,028	409	2,847	1,347	507
Turbidity	NTU	113	0.16	48.7	31.6	12.7
B.O.D./5 day	mg/L	430	< 4.0	6.3	1,000	< 4.0
Chlorine Residual	mg/L	< 0.02	0.08	< 0.02	< 0.1	< 0.02
C.O.D.	mg/L	759	12	49	1,690	< 10
Enterococci Bacteria	MPN/100 mls	24,200	<10	190	>24200	<10
Fecal Coliforms	/100 mls	>2000	>2000	>2000	>2000	>2000
Hardness (CaCO3)	mg/L	110	76.2	519	128	99.2
MBAS	mg/L	2.17	< 0.05	< 0.05	204	< 0.05
Ammonia as Nitrogen	mg/L	21.6	< 0.05	0.30	34.2	0.62
Nitrate-N	mg/L	< 0.02	0.03	0.17	<0.05	0.65
Oil and Grease by EPA 1664	mg/L	48	< 1.4	< 1.4	65	< 1.4
Nitrogen Tot Kjeldahl	mg/L	47.4	0.27	0.84	56.0	0.92
Phosphorus, as P	mg/L	19.1	0.44	0.29	1.03	0.16
Total Suspended Solids	mg/L	280	< 5.0	61	220	8.5
Cadmium	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Copper	mg/L	0.119	0.012	0.397	0.123	< 0.005
Lead	mg/L	0.121	< 0.002	0.012	0.026	< 0.002
Zinc	mg/L	0.289	0.029	0.135	0.546	0.012

City of Stamford Stormwater outfalls IDDE		
CT0030279		
DSN		sw#_DIS-SUNNY__
Description		Manhole infront of 69 Sunnyside Avenue
Outfall size		15" (estimated)
Outfall type		concrete pipe
Date of sample		9/18/2015
PARAMETER	UNITS	
pH	S.U.	7.45
Temperature	C	42.33
Dissolved Oxygen	mg/l	4.89
Specific Conductance	µmhos/cm	521
Turbidity	NTU	3.47
B.O.D./5 day	mg/L	<4.0
Chlorine Residual	mg/L	0.12
C.O.D.	mg/L	<10
Enterococci Bacteria	MPN/100 mls	<10
Fecal Coliforms	/100 mls	<10
Hardness (CaCO3)	mg/L	83
MBAS	mg/L	<0.05
Ammonia as Nitrogen	mg/L	<0.05
Nitrate-N	mg/L	0.05
Oil and Grease by EPA 1664	mg/L	<1.4
Nitrogen Tot Kjeldahl	mg/L	0.19
Phosphorus, as P	mg/L	0.32
Total Suspended Solids	mg/L	<5.0
Cadmium	mg/L	<0.001
Copper	mg/L	0.019
Lead	mg/L	<0.002
Zinc	mg/L	0.013
Detected Volatile Organic Compounds		
Bromodichloromethane	ug/L	4.1
Chloroform	ug/L	10
Dibromochloromethane	ug/L	1.2

City of Stamford Stormwater outfalls IDDE							
CT0030279							
DSN		sw#_DIS-Orange & Ursula Place_	sw#__DIS-Orange Street_	sw#_DIS- Frank Street_	sw#__DIS- 51-61 Dale Street_	sw#_DIS-50_	sw#__DIS-Limerick_
Description		Manhole at intersection of Orange and Ursula Place	Manhole at 27 Orange Street	Between 68 and 70 Frank Street	Manhole at intersection of Dale and Ursula Place	In park at Van Buskirk and East Avenue	Manhole at 55 Limerick Street
Outfall size		-	36"	36"	-	-	-
Outfall type		RCP	RCP	CMP	-	-	-
Date of sample		9/22/2015	9/22/2015	9/22/2015	9/22/2015	9/22/2015	9/22/2015
PARAMETER	UNITS						
pH	S.U.	7.49	7.23	7.67	6.75	6.77	6.80
Temperature	C	23.52	27.61	20.82	18.77	18.12	18.79
Specific Conductance	µmhos/cm	678	696	766	1,019	1,178	1,129
Turbidity	NTU	0.01	0.01	0.01	0.01	0.01	0.01
Dissolved Oxygen	mg/L	6.78	6.14	4.92	6.71	7.33	6.39
B.O.D./5 day	mg/L	<4.0	6.2	9.5	-	<4.0	-
Chlorine Residual	mg/L	0.17	0.42	0.09	-	<0.02	-
C.O.D.	mg/L	12	16	29	-	<10	-
Eschericichia Coli	MPN/100 mls	80	110	>24,200	7,700	8,160	>24,200
Enterococci Bacteria	MPN/100 mls	<10	440	1,620	90	800	19,860
Fecal Coliforms	/100 mls	>2,000	2,000	>2,000	>2,000	>2,000	>2,000
Total Coliforms	MPN/100 mls	3,260	>24,200	>24,200	>24,200	>24,200	>24,200
MBAS	mg/L	<0.05	0.72	0.07	-	<0.05	-
Ammonia as Nitrogen	mg/L	0.12	0.18	0.57	-	0.12	-
Nitrate-N	mg/L	6.33	1.39	1.08	-	2.38	-
Hardness	mg/L	232	122.00	163	-	294	-
Oil and Grease by EPA 1664	mg/L	<1.4	<1.4	<1.4	-	<1.4	-
Nitrogen Tot Kjeldahl	mg/L	1.17	0.80	1.97	-	0.58	-
Phosphorus, as P	mg/L	0.12	0.38	0.34	-	0.11	-
Total Suspended Solids	mg/L	7.5	10	<5.0	-	6.0	-
Cadmium	mg/L	<0.001	<0.001	<0.001	-	<0.001	-
Copper	mg/L	<0.005	<0.005	0.007	-	0.007	-
Lead	mg/L	0.004	<0.002	<0.002	-	<0.002	-
Zinc	mg/L	0.028	0.016	0.033	-	0.015	-

City of Stamford Stormwater outfalls IDDE									
CT0030279									
DSN		sw#_DIS-Cummings Park_	sw#__DIS-Cummings Park #2_	sw#_DIS- 44 Park Street_	sw#__DIS-181 Park Street_	sw#_DIS-Warren & Shippan_	sw#__DIS-Smith Mill River_	sw#_DIS- Alden & Stillwater_	sw#__DIS-Stillwater and Spruce_
Description		Manhole cloest to pump station	Mahhole between tennis courts and baseball field	Manhole at 44 Park Street	Manhole at 181 Park Street	Manhole at intersection of Warren and Shippan St.	Manhole at intersection of Smith and Mill River	Manhole at intersection of Stillwater and Alden Street	Manhole at intersection of Stillwater and Spruce
Outfall size		-	-	24"	-	30"	36"	12"	12'
Outfall type		-	-	Clay	-	RCP	RCP	RCP	RCP
Date of sample		9/23/2015	9/23/2015	9/23/2015	9/23/2015	9/23/2015	9/23/2015	9/23/2015	9/23/2015
PARAMETER	UNITS								
pH	S.U.	7.56	7.31	7.07	6.73	6.68	7.32	7.28	7.27
Temperature	C	18.39	19.23	19.39	19.50	20.37	25.22	25.00	24.90
Specific Conductance	µmhos/cm	27,897	26,927	13,633	8,815	1,257	975	388	1,275
Turbidity	NTU	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Dissolved Oxygen	mg/L	5.11	4.29	4.43	3.02	6.60	7.07	6.73	7.04
B.O.D./5 day	mg/L	<4.0	-	-	<4.0	-	<4.0	<4.0	<4.0
Chlorine Residual	mg/L	<0.02	-	-	<0.02	-	0.04	0.92	<0.02
C.O.D.	mg/L	847	-	-	109	-	14	<10	23
Eschericichia Coli	MPN/100 mls	-	-	-	-	-	-	-	-
Enterococci Bacteria	MPN/100 mls	1,200	790	330	570	>24,200	6,130	<10	80
Fecal Coliforms	/100 mls	940	>2,000	>2,000	>2,000	>2,000	>2,000	140	1,100
Total Coliforms	MPN/100 mls	-	-	-	-	-	-	-	-
MBAS	mg/L	<0.05	-	-	<0.05	-	0.10	<0.05	<0.05
Ammonia as Nitrogen	mg/L	0.17	-	-	0.37	-	0.54	0.05	<0.05
Nitrate-N	mg/L	0.89	-	-	2.84	-	0.74	0.02	0.80
Hardness	mg/L	690	-	-	1,180	-	235	79.8	284
Oil and Grease by EPA 1664	mg/L	<1.5	-	-	<1.4	-	<1.4	<1.4	<1.4
Nitrogen Tot Kjeldahl	mg/L	0.53	-	-	0.71	-	1.05	0.18	0.42
Phosphorus, as P	mg/L	0.18	-	-	0.27	-	0.30	0.35	0.07
Total Suspended Solids	mg/L	<5.0	-	-	58	-	13	<5.0	<5.0
Cadmium	mg/L	<0.001	-	-	<0.001	-	<0.001	<0.001	<0.001
Copper	mg/L	0.006	-	-	0.018	-	<0.005	<0.005	<0.005
Lead	mg/L	<0.002	-	-	0.008	-	<0.002	<0.002	<0.002
Zinc	mg/L	0.025	-	-	0.059	-	0.013	0.008	0.003

City of Stamford Stormwater outfalls IDDE					
CT0030279					
DSN		sw#_DIS-1170 Cove Road_	sw#__DIS-Czeck Marina_	sw#_DIS-10 Home CT_	sw#__DIS-#70 Mill River_
Description		-	3rd manhole near entrance of Marina	-	2nd manhole across from 70 Mill River St.
Outfall size		-	36"	-	18"
Outfall type		-	RCP	-	PVC
Date of sample		9/24/2015	9/24/2015	9/24/2015	9/24/2015
PARAMETER	UNITS				
pH	S.U.	-	6.19	-	7.17
Temperature	C	-	20.87	-	22.19
Specific Conductance	µmhos/cm	-	16,860	-	984
Turbidity	NTU	-	24.0	-	47.1
Dissolved Oxygen	mg/L	-	3.02	-	0.34
B.O.D./5 day	mg/L	<4.0	<14	240	290
Chlorine Residual	mg/L	<0.02	<0.02	<0.02	<0.02
C.O.D.	mg/L	21	223	705	992
Eschericichia Coli	MPN/100 mls	550	10	>24,200	1,010
Enterococci Bacteria	MPN/100 mls	30	<10	>24,200	>24,200
Fecal Coliforms	/100 mls	>2,000	100	>2,000	>2,000
Total Coliforms	MPN/100 mls	9,800	1,300	>24,200	>24,200
MBAS	mg/L	<0.05	<0.10	83.6	164
Ammonia as Nitrogen	mg/L	0.07	9.60	14.8	24.8
Nitrate-N	mg/L	4.86	0.20	<0.02	<0.02
Hardness	mg/L	258	2,470	95.6	138
Oil and Grease by EPA 1664	mg/L	<1.4	<1.4	43	6.8
Nitrogen Tot Kjeldahl	mg/L	0.45	10.5	21.3	37.5
Phosphorus, as P	mg/L	0.11	0.26	0.97	3.9
Total Suspended Solids	mg/L	7.0	22	230	21
Cadmium	mg/L	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	<0.005	<0.005	0.081	0.375
Lead	mg/L	0.002	0.003	0.010	0.020
Zinc	mg/L	0.014	0.027	0.192	0.753

City of Stamford Stormwater outfalls IDDE									
CT0030279									
DSN		sw#_DIS-50 Left_	sw#__DIS-50 Right_	sw#_DIS-Woodside Green_	sw#__DIS-#107 Revonoh_	sw#_DIS-Revonoh + Urban__	sw#__#6th + LA Fitness_	sw#_DIS-6th and Bedford__	sw#_DIS-47__
Description		-	-	Catch basin in front of Woodside Green	Catch basin in front of #107 Revonoh	Manhole at Revonoh and Urban	Manhole at 6th Outside of LA fitness	Manhole at 6th and Bedford	-
Outfall size		48"	48"	-	-	-	36"	48"	-
Outfall type		RCP	RCP	-	-	concrete pipe	RCP	-	-
Date of sample		9/25/2015	9/25/2015	9/25/2015	9/25/2015	9/25/2015	9/25/2015	9/25/2015	9/25/2015
PARAMETER	UNITS								
pH	S.U.	7.05	7.30	7.78	6.66	6.79	7.06	7.22	-
Temperature	C	17.13	15.20	20.20	21.11	23.33	21.33	9.14	-
Specific Conductance	µmhos/cm	844	854	1,848	1,019	1,294	919	577	-
Turbidity	NTU	0.01	0.01	16.7	1.96	10.76	0.01	0.01	-
Dissolved Oxygen	mg/L	9.08	8.85	7.66	5.00	4.94	7.69	10.30	-
B.O.D./5 day	mg/L	<4.0	<4.0	-	<4.0	-	-	-	-
Chlorine Residual	mg/L	<0.02	<0.02	-	<0.02	-	-	-	-
C.O.D.	mg/L	<10	10	-	27	-	-	-	-
Eschericichia Coli	MPN/100 mls	17,330	>24,200	260	150	>24,200	<10	2,910	>24,200
Enterococci Bacteria	MPN/100 mls	200	930	<10	50	>24,200	<10	600	4,610
Fecal Coliforms	/100 mls	>2,000	>2,000	>2,000	>2,000	>2,000	70	>2,000	>2,000
Total Coliforms	MPN/100 mls	>24,200	>24,200	>24,200	>24,200	>24,000	1,790	14,140	>24,200
MBAS	mg/L	<0.05	<0.05	-	0.05	-	-	-	-
Ammonia as Nitrogen	mg/L	<0.05	0.06	-	2.47	-	-	-	-
Nitrate-N	mg/L	1.02	1.06	-	1.98	-	-	-	-
Hardness	mg/L	185	214	-	297	-	-	-	-
Oil and Grease by EPA 1664	mg/L	<1.4	<1.4	-	<1.4	-	-	-	-
Nitrogen Tot Kjeldahl	mg/L	0.68	0.84	-	35.0	-	-	-	-
Phosphorus, as P	mg/L	0.10	0.08	-	0.25	-	-	-	-
Total Suspended Solids	mg/L	<5.0	<5.0	-	12	-	-	-	-
Cadmium	mg/L	<0.001	<0.001	-	<0.001	-	-	-	-
Copper	mg/L	<0.005	<0.005	-	0.030	-	-	-	-
Lead	mg/L	0.005	0.005	-	0.004	-	-	-	-
Zinc	mg/L	<0.002	<0.002	-	0.014	-	-	-	-

City of Stamford Stormwater outfalls IDDE		
CT0030279		
DSN		sw#_Unknown Discharge_
Description		Unkonwn outfall flowing into Rippowam River
Outfall size		18"
Outfall type		RCP
Date of sample		6/16/2016
PARAMETER	UNITS	
pH	S.U.	7.55
Temperature	C	17.49
Specific Conductance	µmhos/cm	857
Turbidity	NTU	0.76
Dissolved Oxygen	mg/L	8.36
B.O.D./5 day	mg/L	<4.0
Chlorine Residual	mg/L	<0.02
C.O.D.	mg/L	<10
Eschericichia Coli	MPN/100 mls	10
Enterococci Bacteria	MPN/100 mls	<10
Fecal Coliforms	/100 mls	40
Total Coliforms	MPN/100 mls	1,660
MBAS	mg/L	<0.05
Ammonia as Nitrogen	mg/L	0.06
Nitrate-N	mg/L	1.54
Hardness	mg/L	141
Oil and Grease by EPA 1664	mg/L	<1.4
Nitrogen Tot Kjeldahl	mg/L	0.60
Phosphorus, as P	mg/L	0.04
Total Suspended Solids	mg/L	6.0
Cadmium	mg/L	<0.001
Copper	mg/L	0.006
Lead	mg/L	<0.002
Zinc	mg/L	0.009

APPENDIX S

SEWAGE SNIFFING DOG REPORT

Canine Scent Detection of Human Waste Contamination in Stormwater Infrastructure

Stamford, Connecticut

October 2015

Prepared by:
FB Environmental Associates
97A Exchange Street, Suite 305
Portland, ME 04101

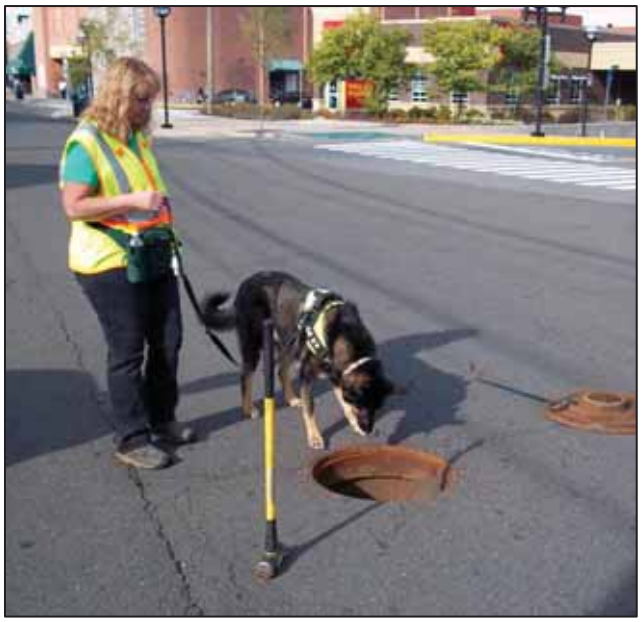
And

Environmental Canine Services, LLC
2734 Auburn Road
Turner, ME 04282

Prepared for:
City of Stamford
Office of Operations
Stamford, CT 06901

Table of Contents

List of Tables



Karen Reynolds and Sable of Environmental Canine Services assessing a storm manhole for human waste contamination on Sixth Street in Stamford, Connecticut.

1. Executive Summary

In coordination with the City of Stamford, FB Environmental and Environmental Canine Services assessed portions of the city's stormwater infrastructure for the presence of human sewage using a scent-trained canine. Portions of eight separate drainages were assessed. 114 Storm manholes, 18 catch basins, five outfalls, and one hole-in-road pavement area were assessed resulting in 138 sampling locations. Human sewage was detected in all drainages. Of the 138 structures assessed, 96 (70%) solicited a positive response from the scent-trained canine, Sable.

2. Introduction

FB Environmental Associates (FBE) and Environmental Canine Services (ECS) were contracted by City of Stamford, Connecticut to assess stormwater infrastructure for the presence of human fecal contamination using a scent-trained canine. The goal of the project was to detect human sewage in stormwater infrastructure (e.g., manholes and catch basins) and the waterbodies the infrastructure drains to. Possible sources of human fecal contamination include illegal piping connections, broken or damaged sanitary infrastructure, and cross connections of storm and sanitary piping. Areas of concern identified as part of this project can be further isolated and inspected via closed-circuit television and laboratory analysis of collected water samples.

Scott and Karen Reynolds of ECS along with their canines Sable and Logan pioneered the canine detection method of identifying pollution sources in the Upper Midwest and California. The use of canines to detect human waste in stormwater systems is recognized by EPA Regions 1 and 5 as an effective, quality-controlled tool able to rapidly detect human-source wastewater in the environment.

2.1 Canine Source Tracking

ECS uses specially-trained canines to identify and source-track human sewage contamination in watersheds. The canines are trained to ignore animal fecal contamination sources which can be difficult to differentiate from human contamination when using only traditional tracking methods (i.e., collecting water samples for laboratory analysis). These canines alert (via barking or sitting, depending on the individual canine) to the presence of human sewage in containers of collected water samples and/or at waterbodies and infrastructure encountered during field investigations. Examples include, but are not limited to stormwater outfalls, manholes or catch basins, drains, creeks, rivers, and shorelines. This rapid detection method can assist with immediate source tracking in the field and provide valuable information for future monitoring and investigations. Combining the canine results with concurrent and/or historical bacterial testing results for sites investigated provides further information on the significance of the contamination. For a comprehensive treatment on canine source tracking, see Murray et al. (2011) and Van De Werfhorst (2014).

3. Methods

The study was conducted within nine separate outfall drainages within the City of Stamford (Appendices A and C). The field crew consisted of Karen Reynolds and Sable of ECS, Kevin Ryan of FBE, and Tyler Theder, Travis Hoyt, and Joe Hoyt of the City of Stamford. Stefan Zessin of Anchor Engineering Services was also present and to collect sample aliquots at selected locations determined by Tyler Theder.

Sable, a German Shepherd mix, was used to assess the presence or absence of human waste. At manhole, catch basin, and outfall locations, Sable was given the search commend wherein he walked to a given structure

and sniffed. Sable's handler (Karen Reynolds) had no prior knowledge as to the presence of human feces in any sampling location, nor did she peer into a structure prior to Sable working on it.

Catch basins were assessed by Sable as they were found however it was necessary for City personnel to open manhole covers prior to investigation. If Sable gave the trained alert (a bark), he was given verbal praise and a food reward and led away. If no alert was given he was given just verbal praise and led away. At several areas where thick vegetation or other barriers precluded Sable's access to the water, water samples were collected in small plastic buckets which were placed on the ground for Sable to assess.

For quality assurance, one in every ten samples consisted of a "field blank". A field blank consists of uncontaminated water in a small Nalgene bottle. Sable would be commanded to inspect the water to determine the presence of human sewage. Barking upon inspection of a field blank would result in a false positive. Data collected at infrastructure and outfalls in-between the field blank and the preceding one would be suspect. In a random fashion to test for a false negative response, Sable was also commanded to assess several sanitary sewer manholes.

4. Results

4.1 Field Assessment

The project took place over the course of four days from September 22-25, 2015. Portions of the following eight separate outfall drainages were inspected (see Appendix A):

1. DIS/50
2. Cummings Pump Station Line (not known upon issuance of MS4 permit in 2013)
3. DIS 26/SON 0008
4. DIS 48/SON 0042
5. Czecik Marina outfall
6. DIS 49/SON 0009
7. DIS 70/SON 0003
8. DIS 47
9. East Main St. Bridge/Holly Pond Outfall

A total of 114 Storm manholes, 18 catch basins, five outfalls, and one hole-in-road pavement areas were surveyed, resulting in 138 total assessment areas (Appendix C). Of the 138 total assessments, 96 (70%) solicited a positive response from Sable (Table 1). Sable did not alert at 39 assessment locations. When no alert is given it is highly unlikely that human sewage is present, or if it is present it is at a level so low it is undetectable by the canine.

4.2 Field blanks

Throughout the course of fieldwork, Sable was commanded to assess 15 field blanks of distilled water. Of these, Sable alerted to the presence of sewage of one blank. The positive response may have been due to the fact that the field blank bottle rested overnight on top of a pair of hip waders which were used to enter contaminated water. It is therefore likely that this contact resulted in cross-contamination. In this instance a new field blank using a different bottle was used. Sable did not then alert to the presence of sewage. All four sanitary sewer manholes solicited a correct positive response from Sable.

Table 1 Proportions of positive canine responses (i.e., number of positive responses/total number samples) for the presence of human sewage at 138 assessment locations in Stamford, Connecticut.

Drainage	Storm manhole	Catch basins	Outfalls	Hole in pavement	Total for all structures
Cummings Pump Station Line	16/28	0/3	-	0/1	16/32
Czecik Marina outfall	5/5	-	1/1	-	6/6
DIS 26/SON 0008	11/11	0/1	-	-	11/12
DIS 47	2/4	-	-	-	2/4
DIS 48/SON 0042	15/18	-	-	-	15/18
DIS 49/SON 0009	5/7	1/2	1/1	-	7/10
DIS 50	17/24	5/10	1/2	-	23/36
DIS 70/SON 0003	13/17	1/1	1/1	-	15/19
East Main St. Bridge/Holly Pond Outfall	-	1/1	-	-	1/1
Total	**84/114**	**18**	**3/5**	**0/1**	**96/138**

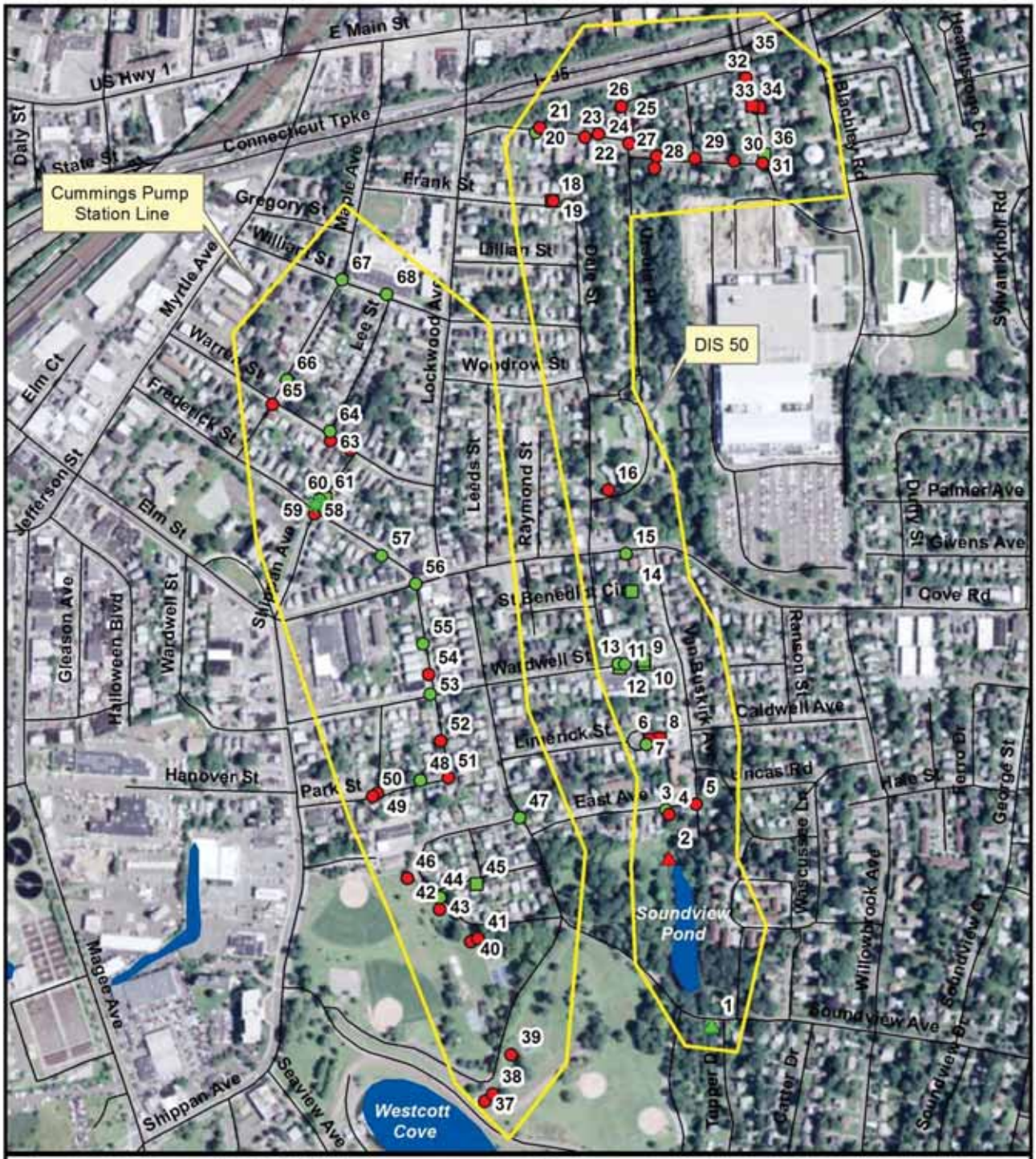
Literature cited

Murray, J., S. Reynolds, P. Holden, and L. Van De Werfhorst. 2011. Canine scent and microbial source tracking in Santa Barbra California. Water Environment Research Foundation, Alexandria, VA. 56pp.

Van De Werfhorst, L., Murray, J. L. S., S. Reynolds, K. Reynolds, and P. A. Holden. 2014. Canine scent detection and microbial source tracking of human waste contamination in storm drains. Water Environment Research 86:550-558.

Appendix A. Site Maps Showing Assessment Results

*Numbers assigned to infrastructure on maps can be cross-referenced with "Site ID" in Appendix C.



DIS 50 & Cummings Pump Station Line

Stamford, Connecticut

Sample Locations and Canine Response

	Manhole	Catch Basin	Outfall Pipe	Hole in Road
No	○	□	△	✱
Yes	●	■	▲	

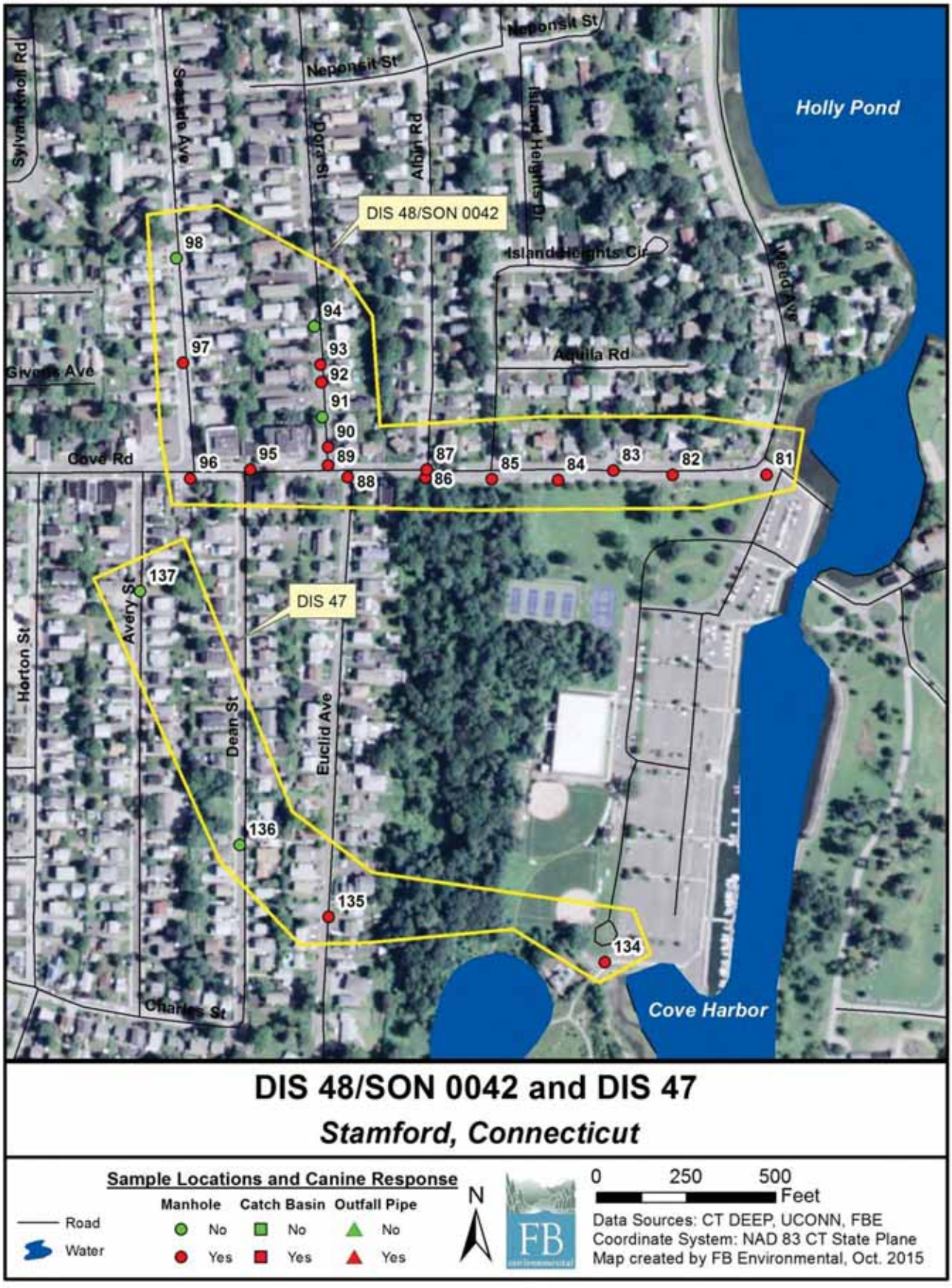
Road — Water

N

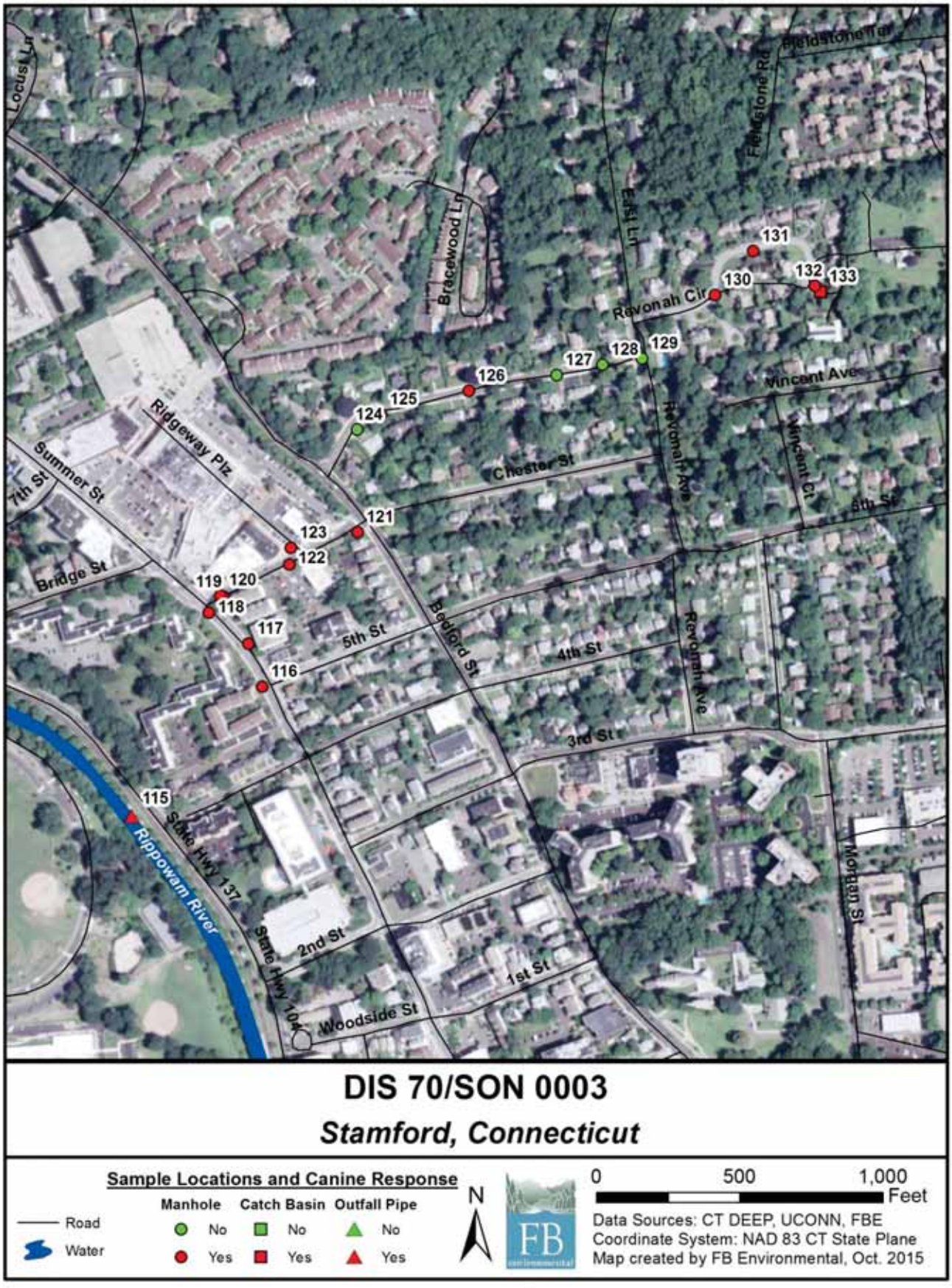
0 750 1,500 Feet

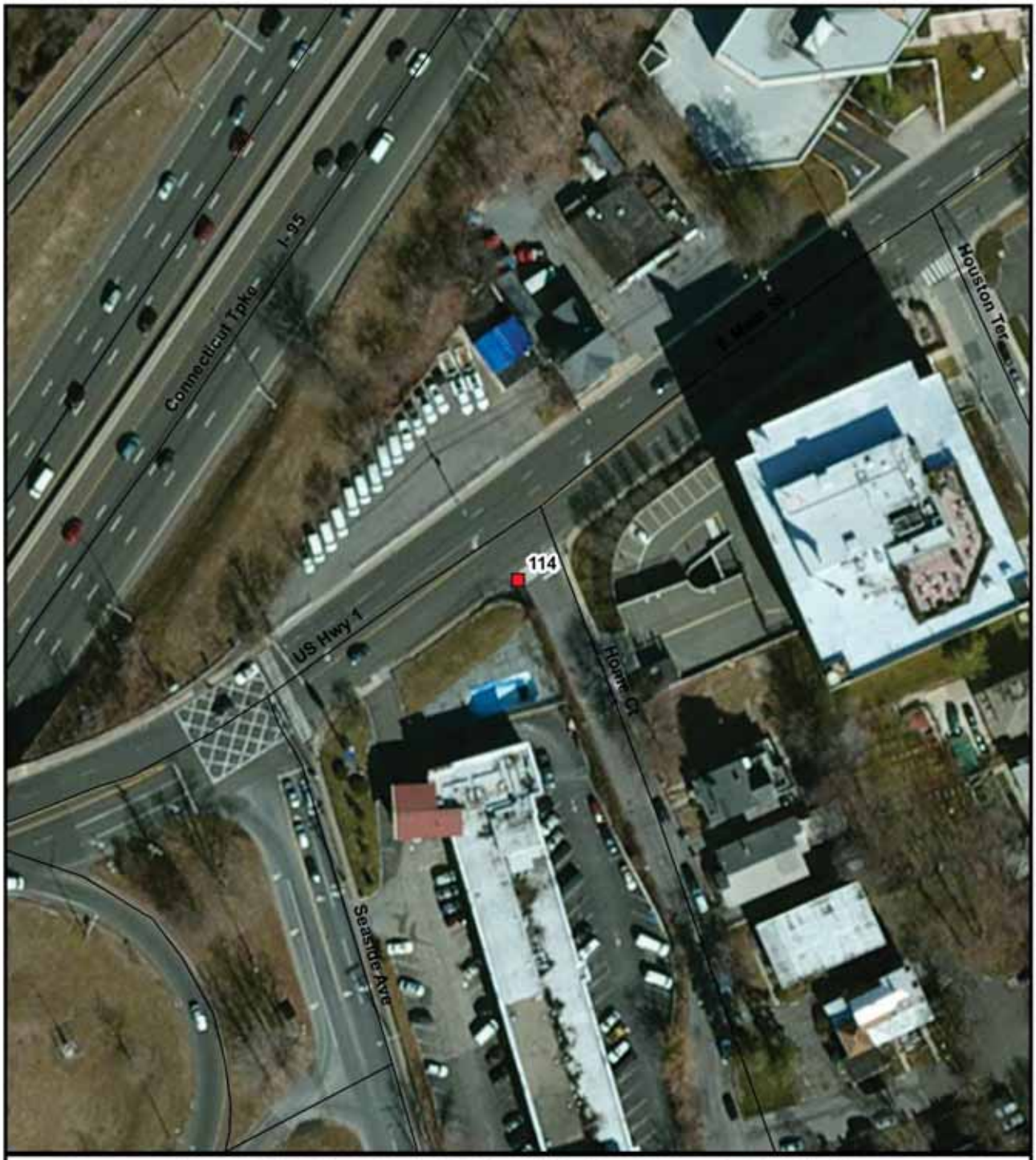
Data Sources: CT DEEP, UCONN, FBE
Coordinate System: NAD 83 CT State Plane
Map created by FB Environmental, Oct. 2015


W Broad St
113
112
111
110
109
107
106
108
105
104
DIS 49/SON 0009
DIS 26/SON 0008
Wright St
Pine Ave
Schuyler Ave
Finney Ln
Spruce St
Ann St
80
79
Hillhorst St
Smith St
71
70
72
73
74
69
78
75
76
77
Stillwater Ave
Fairfield Ave
W Main St
Mill River St
Rippowam River
Clinton Ave
US Hwy 1
Tresser Blvd
DIS 26/SON 0008 and DIS 49/SON 0009
Stamford, Connecticut
Sample Locations and Canine Response
Manhole
Catch Basin
Outfall Pipe
Road
Water
No
Yes
N
0
250
500
Feet
Data Sources: CT DEEP, UCONN, FBE
Coordinate System: NAD 83 CT State Plane
Map created by FB Environmental, Oct. 2015


Holly Pond
Neponsit St
Sylvan Knoll Rd
Seaside Ave
Pole St
Albin Rd
Island Heights Dr
Island Heights Cir
Weed Ave
Aquila Rd
Givens Ave
Cove Rd
DIS 48/SON 0042
DIS 47
98
97
94
93
92
91
90
89
88
87
86
85
84
83
82
81
96
95
137
136
135
134
Avery St
Horton St
Dean St
Euclid Ave
Charles St
Cove Harbor
DIS 48/SON 0042 and DIS 47
Stamford, Connecticut
Sample Locations and Canine Response
Manhole Catch Basin Outfall Pipe
Road
Water
No No No
Yes Yes Yes
N
FB
0 250 500
Feet
Data Sources: CT DEEP, UCONN, FBE
Coordinate System: NAD 83 CT State Plane
Map created by FB Environmental, Oct. 2015


Stamford Harbor
99
100
101
102
103
Maggie Ave
Shippan Ave
Harbor Dr
Czecik Marina Outfall
Stamford, Connecticut
Sample Locations and Canine Response
Manhole
Catch Basin
Outfall Pipe
Road
Water
No
Yes
No
Yes
No
Yes
N
FB
0
150
300
Feet
Data Sources: CT DEEP, UCONN, FBE
Coordinate System: NAD 83 CT State Plane
Map created by FB Environmental, Oct. 2015


Locust Ln
Bracewood Ln
East Ln
Flintstone Rd
Fieldstone Dr
Revonah Cir
Vincent Ave
Revonah Ave
Vincent Ct
6th St
Ridgeway Plz
Summer St
7th St
Chester St
Bridge St
Bedford St
5th St
4th St
3rd St
2nd St
1st St
Woodside St
State Hwy 137
State Hwy 104
Rippowam River
Morgan St
131
130
132
133
129
128
127
126
125
124
123
122
121
120
119
118
117
116
115
DIS 70/SON 0003
Stamford, Connecticut
Sample Locations and Canine Response
Manhole
Catch Basin
Outfall Pipe
No
Yes
Road
Water
N
0
500
1,000
Feet
Data Sources: CT DEEP, UCONN, FBE
Coordinate System: NAD 83 CT State Plane
Map created by FB Environmental, Oct. 2015



East Main St. Bridge/Holly Pond Outfall

Stamford, Connecticut

Sample Locations and Canine Response

	Manhole	Catch Basin	Outfall Pipe
	No	No	No
	Yes	Yes	Yes

Road
Water

N

0 100 200 Feet

Data Sources: CT DEEP, UCONN, FBE
Coordinate System: NAD 83 CT State Plane
Map created by FB Environmental, Oct. 2015

Appendix B. Photographs

Photo 1. Outfall DIS 50. A bucket of water from this pool tested positive for sewage.

Photo 2. ECS and City employees inspect a stormwater manhole on Orange Street.

Photo 3. The Cummings Pump Station outfall is below the section of metal railing.

Photo 4. View of a storm manhole in Cummings Park that has accumulated a significant amount of garbage. .

Photo 5. Outfall DIS 26/SON 008 drains to the Rippowam River.

Photo 6. Sable inspecting a field blank.

Appendix C. Raw Data

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
001	9/22/2015	DIS 50	9:30	OUTFALL	ISS9 - PIPES UNDER BRIDGE - NO FLOW AT VISIT, STREAM FLOWS UNDER BRIDGE	41.043647	-73.51706	N	PIPE IS DIS 52 NO ON BUCKET SAMPLE OF STREAM WATER, NO ON INSPECTION OF PIPE
002	9/22/2015	DIS 50	9:45	OUTFALL	TOOK BUCKET SAMPLE BY REACHING INTO PIPE	41.045754	-73.517799	Y	DIS 50, LG POOL, OBS FISH, LG PIPE 50% INUNDATED
003	9/22/2015	DIS 50	10:00	STORM MANHOLE	MANHOLE 700 UPSTREAM FROM DIS 50	41.046362	-73.517861	N	-
004	9/22/2015	DIS 50	10:00	STORM MANHOLE	ADJACENT TO MANHOLE 700 SEWAGE MUST BE GETTING TO DIS 50 (SANITARY MANHOLE)	41.046301	-73.517804	Y	THIS LINE CROSSES OVER STORMWATER ONE
005	9/22/2015	DIS 50	10:05	STORM MANHOLE	VAN BUSKIRK AND EAST AVE STORM MANHOLE	41.046434	-73.517359	Y	NO FLOW
006	9/22/2015	DIS 50	10:10	STORM MANHOLE	END OF LIMIRICK JUST OFF DRIVEWAY OF HOUSE #55	41.047246	-73.518149	Y	NO FLOW, WATER IN NEARBY SANITARY MANHOLE IS VERY HIGH
007	9/22/2015	DIS 50	10:15	STORM MANHOLE	END OF LIMERICK, END OF CAULDESACK - CONNECTS TO 006	41.047183	-73.518201	N	NO FLOW
008	9/22/2015	DIS 50	10:30	CATCH BASIN	55 LIMERICK OPEN STORM DRAIN AT VERY END OF DRIVEWAY	41.047256	-73.517976	Y	STANDING WATER PRESENT, LEADS TO DIS 50
009	9/22/2015	DIS 50	10:40	CATCH BASIN	CATCH BASIN AT END OF WARDWELL ST. NEXT TO DUMPSTER AREA	41.048194	-73.518248	N	-
010	9/22/2015	DIS 50	10:43	CATCH BASIN	CATCH BASIN PAST END OF WARDWELL ST (PAVED PATH LEADING TO IT)	41.048242	-73.51825	N	-
011	9/22/2015	DIS 50	10:45	CATCH BASIN	CATCH BASIN ON WARDWELL	41.048144	-73.518648	N	-
012	9/22/2015	DIS 50	10:46	STORM MANHOLE	STORM MANHOLE ON WARDWELL - NEAR CONDO #1	41.048197	-73.51868	N	-
013	9/22/2015	DIS 50	10:47	STORM MANHOLE	STORM MANHOLE ON WARDWELL IN MIDDLE OF RD IN-BETWEEN CONDOS	41.048195	-73.518566	N	-
014	9/22/2015	DIS 50	11:00	CATCH BASIN	TWO CATCH BASINS BEHIND APTS ON DALE	41.049109	-73.518459	N	NO STANDING WATER

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
015	9/22/2015	DIS 50	11:03	STORM MANHOLE	STORM MANHOLE ON COVE RD	41.049583	-73.518563	N	FLOW OBSERVED
016	9/22/2015	DIS 50	11:15	STORM MANHOLE	STORM MANHOLE IN FRONT YARD OF 51 URSULA - NE INTERSECTION WITH DALE	41.050388	-73.51887	Y	DEEP MANHOLE
017	9/22/2015	DIS 50	11:25	STORM MANHOLE	STORM MANHOLE AT DALE & FRANK ST	41.053977	-73.519593	N	STANDING WATER
018	9/22/2015	DIS 50	11:33	CATCH BASIN	CATCH BASIN IN FRONT OF 68 FRANK ST	41.054024	-73.519851	Y	STANDING WATER
019	9/22/2015	DIS 50	11:35	STORM MANHOLE	STORM MANHOLE IN FRONT OF 70 FRANK ST	41.054023	-73.519826	Y	RIGHT NEXT TO 018
020	9/22/2015	DIS 50	11:45	STORM MANHOLE	STORM MANHOLE ON SIDEWALK OF ORANGE ST BETWEEN #23 & #27	41.05488	-73.52013	N	FLOWING WATER
021	9/22/2015	DIS 50	11:47	STORM MANHOLE	MANHOLE ON ORANGE ST IN FRONT OF #27	41.054943	-73.520056	Y	FLOWING WATER
Field Blank	9/22/2015	DIS 50	1:00	-	FIELD BLANK (DISTILLED WATER)	-	-	Y	-
022	9/22/2015	DIS 50	1:03	STORM MANHOLE	STORM MANHOLE IN FRONT OF 41 ORANGE ST DRIVEWAY (IN RD)	41.054831	-73.519308	Y	STANDING WATER
023	9/22/2015	DIS 50	1:05	STORM MANHOLE	STORM MANHOLE IN ORANGE RD IN FRONT OF HSE #51 DRIVEWAY	41.054871	-73.519083	Y	FLOWING WATER
SMH	9/22/2015	DIS 50	1:12	-	NO GPS POINT (INTERSECTION ORANGE & URSULA)	-	-	Y	-
024	9/22/2015	DIS 50	1:13	STORM MANHOLE	MANHOLE AT INT ORANGE & URSULA	41.054756	-73.518572	Y	SEVERAL PIPES ENTERING MANHOLE
025	9/22/2015	DIS 50	1:19	CATCH BASIN	CATCH BASIN JUST N INT ORANGE AND URSULA (W SIDE OF RD)	41.054984	-73.518613	Y	NATURAL GAS SMELL EMITTING FROM BASIN - STRONGLY (GAS COMPANY NOTIFIED)
026	9/22/2015	DIS 50	1:30	STORM MANHOLE	MANHOLE ON URSULA	41.055221	-73.518707	Y	NOT SURE IF STORM OR SANITARY
027	9/22/2015	DIS 50	1:41	STORM MANHOLE	MANHOLE ON ORANGE IN FRONT OF HOUSE # 68	41.054594	-73.518115	Y	POSSIBLE LEAK W/ NEARBY (~5 FT) SMANHOLE

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
028	9/22/2015	DIS 50	1:46	STORM MANHOLE	MANHOLE IN BACK YARD OF URSULA 56-58	41.054444	-73.518149	Y	MANHOLE NEAR ORANGE ST
029	9/22/2015	DIS 50	1:50	STORM MANHOLE	MANHOLE IN FRONT OF ORANGE #87	41.054572	-73.517475	Y	-
Field Blank	9/22/2015	DIS 50	1:53	-	-	-	-	N	-
030	9/22/2015	DIS 50	1:55	STORM MANHOLE	ORANGE ST IN FRONT OF HSE #99	41.054545	-73.516825	Y	-
031	9/22/2015	DIS 50	1:57	STORM MANHOLE	MANHOLE AT INT ORANGE AND MAHER	41.054524	-73.51635	Y	FECAL MATTER VISIBLE IN MANHOLE, MANHOLE ON MAHER
032	9/22/2015	DIS 50	2:08	STORM MANHOLE	MANHOLE AT INT ORANGE AND MAHER NEAR I95	41.055591	-73.516637	Y	NO FLOW, MANHOLE ON MAHER
033	9/22/2015	DIS 50	2:17	CATCH BASIN	CATCH BASIN ON MAHER BETWEEN HOUSE 56 AND 52	41.055218	-73.516423	Y	-
034	9/22/2015	DIS 50	2:18	CATCH BASIN	CATCH BASIN ON MAHER BETWEEN HOUSE 51 AND 55	41.055237	-73.516529	Y	ALMOST OPPOSITE 033
035	9/22/2015	DIS 50	2:25	STORM MANHOLE	MANHOLE ON MAHER VERY CLOSE TO I95	41.055829	-73.516658	Y	-
036	9/22/2015	DIS 50	2:30	CATCH BASIN	CATCH BASIN ON MAHER NEAR INT ORANGE (W SIDE OF ROAD)	41.054625	-73.516326	N	-
Field Blank	9/22/2015	DIS 50	2:34	-	-	-	-	N	-
037	9/23/2015	CUMMINGS PUMP STATION LINE	7:56	STORM MANHOLE	PUMP STATION MANHOLE - RIGHT NEXT TO PUMPING STATION	41.042664	-73.520827	Y	CUMMINGS PARK - PUMP STATION VAULT MANHOLE, STANDING WATER
038	9/23/2015	CUMMINGS PUMP STATION LINE	7:58	STORM MANHOLE	PUMP STATION MANHOLE - FURTHER BACK FORM STATION	41.04276	-73.520704	Y	STANDING WATER
039	9/23/2015	CUMMINGS PUMP STATION LINE	8:04	STORM MANHOLE	MANHOLE RIGHT NEXT TO TENNIS COURTS (IN GRASS)	41.043259	-73.520395	Y	STANDING WATER - STARTED MOVING UPON INSPECTION
040	9/23/2015	CUMMINGS PUMP STATION LINE	8:17	STORM MANHOLE	MANHOLE AT CORNER TENNIS COURTS ON GRASS	41.044678	-73.521087	Y	VERY STRONG ODOR. DEBRIS IN STANDING WATER

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
041	9/23/2015	CUMMINGS PUMP STATION LINE	8:19	STORM MANHOLE	MANHOLE EVEN CLOSER TO CORNER OF TENNIS COURTS (IN GRASS)	41.044716	-73.520965	Y	-
042	9/23/2015	CUMMINGS PUMP STATION LINE	8:34	STORM MANHOLE	MANHOLE IN GRASS ACROSS FROM 62 MCMULLEN	41.045076	-73.521609	Y	TONS OF GARBAGE IN MANHOLE
043	9/23/2015	CUMMINGS PUMP STATION LINE	8:39	STORM MANHOLE	MANHOLE IN MIDDLE OF MCMULLEN ST ACROSS FROM HOUSE 62	41.045228	-73.5216	N	STANDING WATER
044	9/23/2015	CUMMINGS PUMP STATION LINE	8:40	CATCH BASIN	CATCH BASINS (2 ALONGSIDE) AT INT OF JAMES & MCMULLEN ON SIDE OF RD	41.04524	-73.521711	N	-
045	9/23/2015	CUMMINGS PUMP STATION LINE	8:43	CATCH BASIN	CATCH BASIN ACROSS FROM INT JAMES & OWEN	41.045401	-73.521001	N	ON SIDE OF RD CLOSEST TO 26 JAMES
046	9/23/2015	CUMMINGS PUMP STATION LINE	8:53	STORM MANHOLE	MANHOLE NR. MAINT. BLDG	41.045469	-73.52215	N/Y	TWO TRIES - SECOND, STANDING WATER AT 8:59
Field Blank	9/23/2015	CUMMINGS PUMP STATION LINE	8:56	-	YESTERDAY'S FIELD BLANK	-	-	Y	NALGENE CONTAMINATED BY BEING NEXT TO HIP WADERS?
Field Blank	9/23/2015	CUMMINGS PUMP STATION LINE	8:58	-	BUCKET WITH DI WATER	-	-	N	BUCKET THROUGHOUGHLY RINSED WITH DI WATER
047	9/23/2015	CUMMINGS PUMP STATION LINE	9:10	STORM MANHOLE	MANHOLE @ INTERSECTION MCMULLEN & SOUNDVIEW	41.046246	-73.520294	N	-
048	9/23/2015	CUMMINGS PUMP STATION LINE	9:22	STORM MANHOLE	MANHOLE IN FRONT YARD 44 PARK - RIGHT NEXT TO CURB	41.046701	-73.521952	N	-
049	9/23/2015	CUMMINGS PUMP STATION LINE	9:28	STORM MANHOLE	MANHOLE AT INT CUMMINGS + PARK (MIDDLE OF INT)	41.046539	-73.522668	Y	-
050	9/23/2015	CUMMINGS PUMP STATION LINE	9:31	STORM MANHOLE	MANHOLE AT INT CUMMINGS + PARK (EAST OF MIDDLE)	41.046499	-73.522743	Y	STANDING WATER
051	9/23/2015	CUMMINGS PUMP STATION LINE	9:35	STORM MANHOLE	MANHOLE @ INT. FREDERICK + PARK	41.046737	-73.521484	Y	STANDING WATER
052	9/23/2015	CUMMINGS PUMP STATION LINE	9:37	STORM MANHOLE	MANHOLE IN FRONT OF 181 FREDERICK	41.047204	-73.521622	Y	STANDING WATER
053	9/23/2015	CUMMINGS PUMP STATION LINE	10:03	STORM MANHOLE	MANHOLE AT INT WORDWELL & FREDERICK	41.047788	-73.521798	N	STANDING WATER

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
054	9/23/2015	CUMMINGS PUMP STATION LINE	10:06	STORM MANHOLE	MANHOLE IN FRONT OF 159 FRED.	41.048041	-73.521827	Y	STANDING WATER
055	9/23/2015	CUMMINGS PUMP STATION LINE	10:08	STORM MANHOLE	MANHOLE IN FRONT OF 149 FRED.	41.048425	-73.521922	N	STANDING WATER
056	9/23/2015	CUMMINGS PUMP STATION LINE	10:11	STORM MANHOLE	MANHOLE AT INT FRED & COVE (SW SIDE OF INTERSECTION)	41.049182	-73.522058	N	STANDING WATER
Field Blank	9/23/2015	CUMMINGS PUMP STATION LINE	10:20	-	-	-	-	N	-
057	9/23/2015	CUMMINGS PUMP STATION LINE	10:26	STORM MANHOLE	FRED ST ACROSS FROM HSE 108	41.049534	-73.522626	N	-
058	9/23/2015	CUMMINGS PUMP STATION LINE	10:32	STORM MANHOLE	MANHOLE AT INT SHIPPAN & FRED.	41.05005	-73.523754	Y	SW SIDE OF INT SOME RUNNING WATER
059	9/23/2015	CUMMINGS PUMP STATION LINE	10:35	OTHER	HOLE IN RD INT SHIPPAN AND FRED. ON SHIP JUST E INT	41.050164	-73.523721	N	NO WATER
060	9/23/2015	CUMMINGS PUMP STATION LINE	10:38	STORM MANHOLE	NEXT TO CURB (IN RD) IN FRON OF 49 SHIPPAN	41.050227	-73.523666	N	SOME WATER
061	9/23/2015	CUMMINGS PUMP STATION LINE	10:43	CATCH BASIN	CATCH BASIN ACCROSS ST FROM SITE 060	41.05024	-73.523574	N	SOME WATER
062	9/23/2015	CUMMINGS PUMP STATION LINE	10:48	STORM MANHOLE	MANHOLE AT INT WARREN AND SHIPPAN SW SIDE OF INT	41.050868	-73.523163	Y	TESTED YES ON GRAB SAMPLE FROM MANHOLE, SOME WATER, NO OTHERWISE
063	9/23/2015	CUMMINGS PUMP STATION LINE	10:56	STORM MANHOLE	MANHOLE ACROSS FROM INT WARREN + LEE (MANHOLE ON WARREN)	41.050977	-73.523496	Y	FLOWING WATER
064	9/23/2015	CUMMINGS PUMP STATION LINE	10:58	STORM MANHOLE	MANHOLE ON LEE AT INT LEE & WARREN	41.051092	-73.523503	N	NO WATER
065	9/23/2015	CUMMINGS PUMP STATION LINE	11:01	STORM MANHOLE	MANHOLE INT WARREN & MAPLE SW SIDE OF INT	41.051428	-73.524465	Y	VERY LITTLE FLOWING WATER
066	9/23/2015	CUMMINGS PUMP STATION LINE	11:05	STORM MANHOLE	MANHOLE JUST IN RD FROM DRIVEWAY OF 132 MAPLE	41.051736	-73.524224	N	-
067	9/23/2015	CUMMINGS PUMP STATION LINE	11:15	STORM MANHOLE	MANHOLE INT MAPLE AND WILLIAM (SE PORTION OF INT)	41.053006	-73.523325	N	VERY LITTLE FLOW, STANDING WATER

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
068	9/23/2015	CUMMINGS PUMP STATION LINE	11:20	STORM MANHOLE	MANHOLE ACROSS FROM 57 MILLIAM (NE SIDE OF RD)	41.052828	-73.522579	N	-
Field Blank	9/23/2015	DIS 26/SON 0008	12:50	-	-	-	-	N	-
069	9/23/2015	DIS 26/SON 0008	12:54	STORM MANHOLE	MANHOLE INT SMITH & MILL RIVER ST 1ST UP FROM OUTFALL (MILL RIVER)	41.052394	-73.546312	Y	MUCH FLOWING WATER
070	9/23/2015	DIS 26/SON 0008	1:26	STORM MANHOLE	MANHOLE ON SIDEWALK OF SMITH ST	41.052789	-73.546887	Y	FLOWING WATER
071	9/23/2015	DIS 26/SON 0008	1:30	STORM MANHOLE	MANHOLE IN SMITH ST NR CHARTER SCHOOL	41.052729	-73.547583	Y	FLOWING WATER
072	9/23/2015	DIS 26/SON 0008	1:35	STORM MANHOLE	MANHOLE SMITH ST IN FRONT OF MI TIERRA MARKET	41.052596	-73.548486	Y	-
073	9/23/2015	DIS 26/SON 0008	1:38	STORM MANHOLE	MANHOLE AT INT SMITH + STEPHEN	41.052508	-73.548831	Y	-
074	9/23/2015	DIS 26/SON 0008	1:39	STORM MANHOLE	MANHOLE AT INT SMITH + STEPHEN (S SIDE OF SMITH)	41.052416	-73.548824	Y	-
075	9/23/2015	DIS 26/SON 0008	1:45	STORM MANHOLE	MANHOLE AT INT SMITH AND ALDEN	41.05219	-73.549546	Y	WATER POURING IN FROM PIPE `40GPM - UNSURE OF SOURCE
076	9/23/2015	DIS 26/SON 0008	1:51	STORM MANHOLE	MANHOLE IN SMITH ACROSS FROM #95	41.051998	-73.549873	Y	WATER GETTING MORE DISCOLORED AS WE MOVE UP LINE
Field Blank	9/23/2015	DIS 26/SON 0008	1:54	-	-	-	-		-
077	9/23/2015	DIS 26/SON 0008	1:56	STORM MANHOLE	MANHOLE NR INT STILLWATER AND SPRUCE N SIDE OF STILL	41.051837	-73.550311	Y	WATER POURING IN FROM PIPE, SIMILAR TO # 75
078	9/23/2015	DIS 26/SON 0008	2:25	CATCH BASIN	CATCH BASIN ON W SIDE SPRUCE ST	41.052267	-73.550416	N	-
079	9/23/2015	DIS 26/SON 0008	2:27	STORM MANHOLE	MANHOLE IN CENTER INT SPRUCE AND HILLHURST	41.052862	-73.550453	Y	FLOW AND ORANGE STAINING
080	9/23/2015	DIS 26/SON 0008	2:32	STORM MANHOLE	MANHOLE IN SPRUCE ST NR. HOSPITAL CONSTRUCTION ENTRANCE	41.05332	-73.550495	Y	FLOW PRESENT

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
Field Blank	9/23/2015	DIS 26/SON 0008	2:39	-	-	-	-	N	-
081	9/24/2015	DIS 48/SON 0042	8:13	STORM MANHOLE	FIRST MANHOLE UP FROM OUTFALL	41.048964	-73.503247	Y	FLOW BUT IS LIKELY TIDALLY INFLUENCED
082	9/24/2015	DIS 48/SON 0042	8:18	STORM MANHOLE	MANHOLE ACROSS FROM 1170 COVE RD (S SIDE OF RD)	41.048957	-73.504198	Y	SOME FLOW, NOT NEARLY AS MUCH AS #81
083	9/24/2015	DIS 48/SON 0042	9:03	STORM MANHOLE	MANHOLE ACROSS FROM 1138 COVE RD (S SIDE OF RD)	41.048984	-73.504801	Y	SAME FLOW AS #82
084	9/24/2015	DIS 48/SON 0042	9:07	STORM MANHOLE	MANHOLE ACROSS FROM 1092 COVE RD (S SIDE OF RD)	41.048907	-73.505362	Y	SAME FLOW AS ABOVE
085	9/24/2015	DIS 48/SON 0042	9:10	STORM MANHOLE	COVE RD ACROSS FROM INT MANHOLE ISLAND HEIGHTS RD (S SIDE OF RD)	41.048911	-73.50603	Y	SAME FLOW AS ABOVE
Field Blank	9/24/2015	DIS 48/SON 0042	9:12	-	-	-	-	N	-
086	9/24/2015	DIS 48/SON 0042	9:16	STORM MANHOLE	COVE RD ACROSS FORM ALBIN (S SIDE OF RD) MANHOLE	41.048919	-73.506705	Y	OBS. THICK BACTERIAL FILM - WATER ALSO ENTERS THIS FROM ALBIN - BUT NOT FROM #87 WHICH IS DRY!
087	9/24/2015	DIS 48/SON 0042	9:19	STORM MANHOLE	MANHOLE AT INT COVE & ALBIN AT VERY END OF ALBIN IN MIDDLE OF RD	41.048981	-73.506687	Y	NO FLOW!
088	9/24/2015	DIS 48/SON 0042	9:28	STORM MANHOLE	MANHOLE AT INT COVE AND EUCLID SW SIDE OF INT	41.048916	-73.50749	Y	-
089	9/24/2015	DIS 48/SON 0042	9:30	STORM MANHOLE	MANHOLE AT INT OF COVE AND DORA N SIDE OF COVE IN MIDDLE OF DORA	41.049005	-73.50769	Y	-
090	9/24/2015	DIS 48/SON 0042	9:36	STORM MANHOLE	MANHOLE ACROSS FROM 3 DORA. W SIDE OF RD	41.049146	-73.507694	Y	UNK. PIPE ENTERING FROM E - TRICKLE OF FLOW, STAIN ON PIPE - PUT ABSORBANT PILLOW IN MANHOLE
091	9/24/2015	DIS 48/SON 0042	9:47	STORM MANHOLE	MANHOLE IN DORA ACROSS FROM 9 &13 DORA. W SIDE OF RD	41.049377	-73.507752	N	VERY LITTLE FLOW
092	9/24/2015	DIS 48/SON 0042	9:50	STORM MANHOLE	MANHOLE ACROSS FROM 22 DORA W SIDE OF RD	41.049642	-73.507767	Y	VERY LITTLE FLOW

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
093	9/24/2015	DIS 48/SON 0042	9:52	STORM MANHOLE	MANHOLE ACROSS FROM 26 DORA W SIDE OF RD	41.049777	-73.507777	Y	STANDING WATER
094	9/24/2015	DIS 48/SON 0042	9:55	STORM MANHOLE	MANHOLE ACROSS FORM 33 DORA W SIDE OF RD	41.05007	-73.507842	N	DRY
095	9/24/2015	DIS 48/SON 0042	9:59	STORM MANHOLE	MANHOLE ACROSS FROM 930 COVE N SIDE OF RD	41.048967	-73.508479	Y	LITTLE FLOW
Field Blank	9/24/2015	DIS 48/SON 0042	10:02	-	-	-	-	N	-
096	9/24/2015	DIS 48/SON 0042	10:03	STORM MANHOLE	MANHOLE AT INT SEASIDE AND COVE N END OF INTERSECTION IN MIDDLE	41.048896	-73.509084	Y	-
097	9/24/2015	DIS 48/SON 0042	10:06	STORM MANHOLE	MANHOLE ACROSS FROM 269 SEASIDE W SIDE OF RD	41.049783	-73.50917	Y	TRICKLE
098	9/24/2015	DIS 48/SON 0042	10:09	STORM MANHOLE	MANHOLE ACROSS FROM 245 SEASIDE W SIDE OF RD	41.050584	-73.509246	N	TRICKLE
099	9/24/2015	CZECIK MARINA OUTFALL	10:35	STORM MANHOLE	1ST MANHOLE UP FROM OUTFALL	41.0414	-73.528785	Y	STANDING WATER - TIDALLY INFLUENCED
100	9/24/2015	CZECIK MARINA OUTFALL	10:39	STORM MANHOLE	2ND MANHOLE UP FROM OUTFALL	41.041386	-73.528621	Y	-
Field Blank	9/24/2015	CZECIK MARINA OUTFALL	10:40	-	-	-	-	N	STANDING WATER - TIDALLY INFLUENCED
101	9/24/2015	CZECIK MARINA OUTFALL	10:41	STORM MANHOLE	3RD MANHOLE UP FORM OUTFALL	41.041399	-73.528415	Y	STANDING WATER - TIDALLY INFLUENCED
102	9/24/2015	CZECIK MARINA OUTFALL	10:42	STORM MANHOLE	MANHOLE IN GRASS ALONG RD (N SIDE) HARBOR DRIVE	41.041422	-73.528069	Y	NO WATER
103	9/24/2015	CZECIK MARINA OUTFALL	10:45	STORM MANHOLE	MANHOLE IN GRASS ON N SIDE HARBOR DRIVE	41.041743	-73.527443	Y	NO WATER
N/A	9/24/2015	CZECIK MARINA OUTFALL	10:50	-	BUCKET OF WATER FROM HARBOR	-	-	Y	N/A
104	9/24/2015	DIS 49/SON 0009	12:44	OUTFALL	DIS 49 / SON 009	41.054126	-73.545837	Y	SNIFFED AT OUTFALL

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
105	9/24/2015	DIS 49/SON 0009	12:47	STORM MANHOLE	MANHOLE IN GRASS RIGHT NEXT TO CONCRETE PATH	41.05434	-73.545949	Y	STANDING WATER - TIDALLY INFLUENCED
106	9/24/2015	DIS 49/SON 0009	12:49	STORM MANHOLE	MANHOLE IN GRASS JUST NW OF #105 (CLOSER TO RD THAN PREVIOUS)	41.054393	-73.545905	N	DRY
107	9/24/2015	DIS 49/SON 0009	1:04	CATCH BASIN	CATCH BASIN ON NW SIDE MILL RIVER ST	41.054755	-73.54598	N	DRY
108	9/24/2015	DIS 49/SON 0009	1:08	CATCH BASIN	CATCH BASIN ON E SIDE OF MILL RIVER ST	41.054311	-73.545989	Y	SOME STANDING WATER
109	9/24/2015	DIS 49/SON 0009	1:27	STORM MANHOLE	MANHOLE JUST E OF YELLOW LINE ON MILL RIVER ST	41.055004	-73.545832	Y	SOME STANDING WATER
110	9/24/2015	DIS 49/SON 0009	1:30	STORM MANHOLE	MANHOLE ON MILL RIV ST @ INT W/W BLVAD (E SIDE OF RD)	41.055566	-73.545669	Y	DRY
111	9/24/2015	DIS 49/SON 0009	1:36	STORM MANHOLE	MANHOLE AT INT SCHULYER & W BROAD SW END OF INT IN CROSSWALK	41.055755	-73.547399	Y	DRY
Field Blank	9/24/2015	DIS 49/SON 0009	1:39	-	-	-	-	N	-
112	9/24/2015	DIS 49/SON 0009	1:44	STORM MANHOLE	MANHOLE IN W BROAD NEAR INT WRIGHT	41.055903	-73.549829	N	DRY
113	9/24/2015	DIS 49/SON 0009	1:47	STORM MANHOLE	MANHOLE IN WRIGHT NR INT BROAD (W SIDE OF RD)	41.055914	-73.550019	Y	DRY
114	9/24/2015	EAST MAIN ST BRDGE/HOLLY POND OUTFALL	2:18	CATCH BASIN	CATCH BASIN ON HOME ST AT INT E. MAIN (SW SIDE OF HOME)	41.059136	-73.510701	Y	-
115	9/25/2015	DIS 70/SON 0003	8:13	OUTFALL	AT OUTFALL - TWO LARGE PIPES	41.064471	-73.546012	Y	AT RIPPEWAM RIVER
116	9/25/2015	DIS 70/SON 0003	8:40	STORM MANHOLE	MANHOLE ON SIDEWALK OF SUMMER ST AT INT FIFTH (W SIDE OF INT)	41.065727	-73.544379	Y	FLOW
CHECK OF SMH	9/25/2015	DIS 70/SON 0003	8:44	-	-	-	-	Y	CHECK OF ACTUAL SANITARY MANHOLE RIGHT NEXT TO #116 BUT IN RD
117	9/25/2015	DIS 70/SON 0003	8:51	STORM MANHOLE	MANHOLE IN SIDE WALK SUMMER ST ACROSS FROM BLDG 2009 (W SIDE OF RD)	41.066136	-73.544562	Y	FLOW

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
118	9/25/2015	DIS 70/SON 0003	8:55	STORM MANHOLE	MANHOLE ON SUMMER ST NR INT SIXTH (SW SIDE OF INT)	41.066432	-73.545062	Y	FLOW
119	9/25/2015	DIS 70/SON 0003	9:03	STORM MANHOLE	MANHOLE ON SIXTH ST (S SIDE OF RD RIGHT NEXT TO CURB)	41.066581	-73.544877	Y	DRY
120	9/25/2015	DIS 70/SON 0003	9:07	STORM MANHOLE	MANHOLE IN THE MIDDLE OF SIXTH NR INT SUMMER (AWAY FROM CLUSTER OF 2 CLOSER TO INT)	41.066598	-73.544922	Y	FLOW WITH ROCKS, LOOKS LIKE A STREAM BOTTOM
121	9/25/2015	DIS 70/SON 0003	9:32	STORM MANHOLE	MANHOLE IN SIXTH ST NR INT BEDFORD JUST S OF MIDDLE OF RD	41.067217	-73.543187	Y	FLOW
122	9/25/2015	DIS 70/SON 0003	9:43	STORM MANHOLE	MANHOLE IN SIXTH ON S SIDE OF RD ACROSS FROM LA FITNESS	41.066901	-73.544048	Y	FLOW AND FLOW FROM ENTERING LARGE PIPE YELLOW-ORANGE STAIN ON PIPE
Field Blank	9/25/2015	DIS 70/SON 0003	9:50	-	-	-	-	N	NO FLOW IN NEARBY SEWER MANHOLE ON OTHER SIDE OF ST
123	9/25/2015	DIS 70/SON 0003	9:55	STORM MANHOLE	MANHOLE IN CURB IN FRONT OF LA FITNESS	41.067058	-73.544035	Y	DEEP CLEAR STANDING WATER - SEVERAL FEET CONNECTS TO # 122 (BIG PIPE)
N/A	9/25/2015	DIS 70/SON 0003	10:07	SEWER MANHOLE	SEWER MANHOLE CHECK	-	-	Y	-
124	9/25/2015	DIS 70/SON 0003	10:11	STORM MANHOLE	MANHOLE IN RD IN FRONT OF 15 URBAN S SIDE OF RD	41.068201	-73.543209	N	FLOWING
N/A	9/25/2015	DIS 70/SON 0003	10:19	SEWER MANHOLE	SEWER MANHOLE CHECK ON URBAN RD	-	-	Y	-
125	9/25/2015	DIS 70/SON 0003	10:20	STORM MANHOLE	MANHOLE JUST S OF MID OF RD ACROSS FROM 26 URBAN	41.068347	-73.542907	Y	FLOWING
126	9/25/2015	DIS 70/SON 0003	10:26	STORM MANHOLE	MANHOLE JUST SOUTH OF MIDDLE OF RD ACROSS FROM HSE 46	41.068579	-73.5418	Y	TRICKLE FLOW
127	9/25/2015	DIS 70/SON 0003	10:29	STORM MANHOLE	MANHOLE ACROSS FROM 69 URBAN. S SIDE OF ROAD	41.06874	-73.540686	N	TRICKLE
128	9/25/2015	DIS 70/SON 0003	10:33	STORM MANHOLE	MANHOLE ACROSS FROM 85 URBAN. S SIDE OF ROAD	41.068843	-73.540105	N	TRICKLE

Site ID	Date	Drainage	Time	Structure Type	Location Description	Latitude	Longitude	K9 Alert?	Remarks
129	9/25/2015	DIS 70/SON 0003	10:36	STORM MANHOLE	VERY END OF URBAN AT END REVONAH IN MIDDLE OF ROAD	41.068907	-73.539604	N	SOME FLOW
130	9/25/2015	DIS 70/SON 0003	10:54	STORM MANHOLE	MANHOLE AT REVAONAH CIRCLE	41.06952	-73.53869	Y	PILE OF FECES/TP VISIBLE - ILLICIT CONNECTION!
131	9/25/2015	DIS 70/SON 0003	11:04	STORM MANHOLE	MANHOLE IN ROAD NEAR 4 REVONAH	41.069945	-73.53821	Y	-
Field Blank	9/25/2015	DIS 70/SON 0003	11:07	-	-	-	-	N	-
132	9/25/2015	DIS 70/SON 0003	11:11	STORM MANHOLE	MANHOLE IN REVONAH CUL-DE-SAC IN-BETWEEN HOUSE 6 AND 67	41.069615	-73.537424	Y	-
133	9/25/2015	DIS 70/SON 0003	11:12	CATCH BASIN	CATCH BASIN IN CUL-DE-SAC JUST PAST END OF DRIVEWAY FOR HSE 107	41.069561	-73.537356	Y	-
134	9/25/2015	DIS 47	1:19	STORM MANHOLE	1ST MANHOLE UP FROM OUTFALL	41.045211	-73.504844	Y	VERY LOW FLOW
135	9/25/2015	DIS 47	1:39	STORM MANHOLE	MANHOLE ON E SIDE OF RD IN-BETWEEN 96&102 EUCLID	41.04554	-73.507647	Y	VERY LOW FLOW
136	9/25/2015	DIS 47	1:53	STORM MANHOLE	MANHOLE ON W SIDE DEAN ST IN-BETWEEN HOUSES 85 & 81	41.046088	-73.50855	N	SOME STANDING WATER
137	9/25/2015	DIS 47	2:14	STORM MANHOLE	MANHOLE ON SIDE OF RD (NEAR CURB) IN FRONT OF 23 AVERY	41.048027	-73.509586	N	BONE DRY

APPENDIX T

IDDE PRIORITY AREAS MAP

City of Stamford
IDDE Priority Areas
6/30/2016

Map Key

- IDDE Priority Outfalls
- IDDE Priority Areas
- Hydrology
- Parks
- I-95 & Merritt Pkwy
- Major Arterials
- All Other Roads
- Railroads

Notes: Map created by Ciy of Stamford, CT GIS staff for MS4 annual reporting. Questions regarding this map should be directed to the City of Stamford MS4 program.
map created 9/16/2016

APPENDIX U

2015-2016 IN-STREAM SAMPLING DATA SUMMARY TABLE

CITY OF STAMFORD MS4 INSTREAM SAMPLING RESULTS
STAMFORD, CONNECTICUT

PARAMETER	UNITS	ISS-001	ISS-002	ISS-003	ISS-004	ISS-005	ISS-006	ISS-007	ISS-008	ISS-009	ISS-010
DSN	-	DSN-001	DSN-002	DSN-003	DSN-004	DSN-005	DSN-006	DSN-007	DSN-008	DSN-009	DSN-010
Description	-	Mianus River (7407)	East Mianus River (7406)	Mill River (7403)	Nororton River (7403)	Rippowam River "A" (7405)	Rippowam River "B" (7405)	Rippowam River "C" (7405)	LIS Coastal Watershed "A" (7000)	LIS Coastal Watershed "B" (7000)	LIS Coastal Watershed "C" (7000)
Latitude	dec. deg	41.10746	41.13363	41.1648	41.06329	41.05458	41.066	41.08963	41.02823	41.04359	41.04414
Longitude	dec. deg	-73.58722	-73.58796	-73.54427	-73.50879	-73.54503	-73.55778	-73.55925	-73.55566	-73.51705	-73.56443
Receiving Stream	-	Long Island Sound	Mianus River	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound
Date of Sample	-	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015
Magnitude of Storm	inches	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
Event Type	-	WET	WET	WET	WET	WET	WET	WET	WET	WET	WET
Date of Last Storm	-	7/30/2015	7/30/2015	7/30/2015	7/30/2015	7/30/2015	7/30/2015	7/30/2015	7/30/2015	7/30/2015	7/30/2015
LAB SAMPLE #	-	BJ72118	BJ72119	BJ72120	BJ72121	BJ72122	BJ72123	BJ72124	BJ72125	BJ72126	BJ72127
pH	S.U.	7.32	7.26	7.21	7.36	7.25	6.92	7.35	7.68	7.07	6.81
Temperature	° C	13.21	12.22	16.37	21.29	20.98	21.97	20.66	22.79	21.19	21.52
Specific Conductivity	µmhos/cm	262	221	264	529	190	457	358	547	370	116
Dissolved Oxygen	mg/L	12.40	12.85	10.64	7.59	8.90	5.12	10.26	7.12	8.65	8.59
B.O.D./5 day	mg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	8.3	8.5	<4.0
Chloride	mg/L	66.3	66.9	56.3	133	38.1	137	93.1	109	215	7.6
C.O.D.	mg/L	14	34	31	27	66	23	31	66	66	68
Hardness (CaCO3)	mg/L	90.2	60.4	79.6	119	39.2	98.6	77.6	86.6	101	20.6
MBAS	mg/L	<0.05	<0.05	<0.05	0.16	0.10	0.12	0.07	0.09	0.26	<0.05
Phosphorus, as P	mg/L	0.04	0.10	0.04	0.36	0.31	0.15	0.14	0.24	0.24	0.30
Total Suspended Solids	mg/L	<5.0	31	7.0	10	56	19	20	24	39	58
Oil and Grease, Total	mg/L	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	1.5	1.5
Oil and Grease, TPH	mg/L	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Copper	mg/L	<0.005	<0.005	0.024	<0.005	0.011	<0.005	0.006	0.016	0.019	0.024
Lead	mg/L	0.004	0.005	0.002	<0.002	0.011	0.004	0.005	<0.002	0.010	0.013
Zinc	mg/L	<0.002	0.008	<0.002	0.012	0.046	0.007	0.013	<0.002	0.071	0.077
Nitrite-N	mg/L	<0.004	<0.004	<0.004	<0.004	0.010	<0.004	0.014	<0.004	<0.004	0.008
Nitrate-N	mg/L	0.11	0.52	0.15	1.01	0.34	0.65	0.39	0.16	0.47	0.12
Ammonia as Nitrogen	mg/L	0.11	0.11	0.10	0.22	0.15	0.14	0.16	0.11	0.32	0.16
Nitrogen Tot Kjeldahl	mg/L	0.35	0.52	0.42	1.38	1.04	0.60	0.67	1.50	1.24	0.88
Escherichia Coli	/100 mls	140	6,870	1,010	9,210	15,530	24,200	4,350	9,800	>24,200	9,800
Enterococci Bacteria	/100 mls	290	15,530	1,940	6,130	19,860	13,000	4,350	9,210	>24,200	6,130
Fecal Coliforms	/100 mls	230	>2,000	950	>2,000	>2,000	>2,000	>2,000	>2,000	>2,000	>2,000
24 hr. LC50	%	NA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
48 hr. LC50	%	NA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

Wet sampling event

Rainfall data taken from National Weather Service Guaging Station in White Plains, NY

CITY OF STAMFORD MS4 INSTREAM SAMPLING RESULTS
STAMFORD, CONNECTICUT

PARAMETER	UNITS	ISS-001	ISS-002	ISS-003	ISS-004	ISS-005	ISS-006	ISS-007	ISS-008	ISS-009	ISS-010
DSN	-	DSN-001	DSN-002	DSN-003	DSN-004	DSN-005	DSN-006	DSN-007	DSN-008	DSN-009	DSN-010
Description	-	Mianus River (7407)	East Mianus River (7406)	Mill River (7403)	Nororton River (7403)	Rippowam River "A" (7405)	Rippowam River "B" (7405)	Rippowam River "C" (7405)	LIS Coastal Watershed "A" (7000)	LIS Coastal Watershed "B" (7000)	LIS Coastal Watershed "C" (7000)
Latitude	dec. deg	41.10746	41.13363	41.1648	41.06329	41.05458	41.066	41.08963	41.02823	41.04359	41.04414
Longitude	dec. deg	-73.58722	-73.58796	-73.54427	-73.50879	-73.54503	-73.55778	-73.55925	-73.55566	-73.51705	-73.56443
Receiving Stream	-	Long Island Sound	Mianus River	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound
Date of Sample	-	8/14/2015	8/14/2015	8/14/2015	8/14/2015	8/14/2015	8/14/2015	8/14/2015	8/14/2015	8/14/2015	8/14/2015
Magnitude of Storm	inches	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Event Type	-	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
Date of Last Storm	-	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015	8/11/2015
LAB SAMPLE #	-	BJ74795	BJ74796	BJ74797	BJ74798	BJ74799	BJ74800	BJ74801	BJ74802	BJ74803	BJ74804
pH	S.U.	7.61	7.51	7.44	7.68	8.20	7.30	7.77	7.85	7.71	7.52
Temperature	° C	17.58	17.79	21.61	21.54	22.69	19.91	22.47	25.10	21.33	22.02
Specific Conductivity	µmhos/cm	300	342	297	622	710	574	561	2,811	10,424	997
Dissolved Oxygen	mg/L	8.17	7.91	6.55	5.30	7.80	8.66	7.56	7.52	4.87	8.54
B.O.D./5 day	mg/L	<4.0	<4.0	4.7	<4.0	<4.0	<4.0	<4.0	6.2	<4.0	<4.0
Chloride	mg/L	63.6	85.1	49.4	126	173	157	133	772	3,370	264
C.O.D.	mg/L	12	16	40	<10	<10	<10	<10	38	137	<10
Hardness (CaCO3)	mg/L	87.3	60.9	83.3	97.8	133	117	104	349	1,260	249
MBAS	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	0.14	0.07	0.05
Phosphorus, as P	mg/L	0.05	0.09	0.26	0.07	0.06	0.07	0.06	0.21	0.23	0.07
Total Suspended Solids	mg/L	<5.0	<5.0	170	<5.0	<5.0	<5.0	<5.0	50	5.5	<5.0
Oil and Grease, Total	mg/L	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Oil and Grease, TPH	mg/L	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Copper	mg/L	< 0.005	0.037	< 0.005	0.293	<0.005	<0.005	0.006	0.012	0.008	<0.005
Lead	mg/L	< 0.002	< 0.002	< 0.002	0.016	<0.002	< 0.002	<0.002	0.004	<0.002	<0.002
Zinc	mg/L	< 0.002	0.036	0.004	0.052	<0.002	< 0.002	<0.002	0.011	0.015	0.007
Nitrite-N	mg/L	0.10	0.39	0.03	0.80	0.70	0.73	0.60	0.38	1.50	0.93
Nitrate-N	mg/L	0.10	0.42	0.05	0.82	0.72	0.75	0.62	0.41	1.58	0.96
Ammonia as Nitrogen	mg/L	0.06	0.06	0.11	0.09	0.05	<0.05	<0.05	0.14	0.38	0.11
Nitrogen Tot Kjeldahl	mg/L	0.37	0.53	1.37	0.39	0.36	0.36	0.380	1.40	0.82	0.57
Escherichia Coli	/100 mls	50	200	110	790	460	260	110	320	5,480	360
Enterococci Bacteria	/100 mls	170	170	30	320	10	30	30	80	1,150	80
Fecal Coliforms	/100 mls	90	360	580	1,340	980	600	260	>2,000	>2,000	470
24 hr. LC50	%	NA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
48 hr. LC50	%	NA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

Dry sampling event

Rainfall data taken from National Weather Service Guaging Station in White Plains, NY

CITY OF STAMFORD MS4 INSTREAM SAMPLING RESULTS
STAMFORD, CONNECTICUT

PARAMETER	UNITS	155-001	155-002	155-003	155-004	155-005	155-006	155-007	155-008	155-009	155-010
DSN	-	DSN-001	DSN-002	DSN-003	DSN-004	DSN-005	DSN-006	DSN-007	DSN-008	DSN-009	DSN-010
Description	-	Mianus River (7407)	East Mianus River (7406)	Mill River (7403)	Nororton River (7403)	Rippowam River "A" (7405)	Rippowam River "B" (7405)	Rippowam River "C" (7405)	LIS Coastal Watershed "A" (7000)	LIS Coastal Watershed "B" (7000)	LIS Coastal Watershed "C" (7000)
Latitude	dec. deg	41.10746	41.13363	41.1648	41.06329	41.05458	41.066	41.08963	41.02823	41.04359	41.04414
Longitude	dec. deg	-73.58722	-73.58796	-73.54427	-73.50879	-73.54503	-73.55778	-73.55925	-73.55566	-73.51705	-73.56443
Receiving Stream	-	Long Island Sound	Mianus River	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound	Long Island Sound
Date of Sample	-	11/11/2015	11/11/2015	11/11/2015	11/11/2015	11/11/2015	11/11/2015	11/11/2015	11/11/2015	11/11/2015	11/11/2015
Magnitude of Storm	inches	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Event Type	-	WET	WET	WET	WET	WET	WET	WET	WET	WET	WET
Date of Last Storm	-	10/29/2015	10/29/2015	10/29/2015	10/29/2015	10/29/2015	10/29/2015	10/29/2015	10/29/2015	10/29/2015	10/29/2015
LAB SAMPLE #	-	BK21342	BK21343	BK21344	BK21345	BK21346	BK21347	BK21348	BK21349	BK21350	BK21351
pH	S.U.	6.32	6.47	6.29	6.95	6.82	7.29	6.61	6.71	7.18	6.92
Temperature	° C	10.16	9.88	10.54	8.66	9.31	11.83	9.83	11.74	9.89	11.31
Specific Conductivity	µmhos/cm	437	443	435	666	526	703	575	941	1,603	221
Dissolved Oxygen	mg/L	*	*	*	*	*	8.09	*	7.37	8.50	5.59
B.O.D./5 day	mg/L	8.9	<4.0	<4.0	6.8	12	5.5	4.1	13	20	9.5
Chloride	mg/L	62.1	73.1	64.1	125	90.9	136	104	226	420	13.2
C.O.D.	mg/L	17	42	21	36	59	36	29	66	79	57
Hardness (CaCO3)	mg/L	83.2	70.7	85.7	231	78.7	105	84.7	142	170	27.9
MBAS	mg/L	<0.05	<0.05	<0.05	0.07	0.07	0.06	<0.05	0.06	0.10	0.06
Phosphorus, as P	mg/L	0.05	0.07	0.03	0.17	0.31	0.13	0.12	0.52	0.39	0.41
Total Suspended Solids	mg/L	5.0	6.5	<5.0	8.0	76	10	10	15	24	51
Oil and Grease, Total	mg/L	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Oil and Grease, TPH	mg/L	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Copper	mg/L	<0.005	<0.005	0.021	0.009	0.008	<0.005	0.010	0.015	0.017	0.022
Lead	mg/L	0.003	0.003	0.002	<0.002	0.007	0.004	0.015	0.006	0.007	0.010
Zinc	mg/L	<0.002	0.010	0.006	0.031	0.032	0.013	0.018	0.011	0.059	0.090
Nitrite-N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01
Nitrate-N	mg/L	0.10	0.09	0.05	0.30	0.03	0.20	0.27	0.45	0.10	0.09
Ammonia as Nitrogen	mg/L	0.11	0.15	0.09	0.07	0.11	0.05	0.12	0.39	0.14	0.12
Nitrogen Tot Kjeldahl	mg/L	0.49	0.68	0.49	0.69	0.97	0.57	0.63	1.24	0.99	1.24
Escherichia Coli	/100 mls	240	2,610	1,470	8,660	24,200	4,610	2,140	17,330	>24,200	24,200
Enterococci Bacteria	/100 mls	50	1,010	300	4,880	>24,200	980	1,010	8,660	>24,200	8,660
Fecal Coliforms	/100 mls	480	>2000	1,900	>2,000	>2,000	>2,000	>2,000	>2,000	>2,000	>2,000
LC 50	%	>100	>100	>100	>100	>100	>100	>100	>100	>100	>100
NOAEL	%	<6.25	100	<6.25	100	100	100	100	100	100	100

Notes:

Wet sampling event.

Rainfall data taken from National Weather Service Gauging Station in White Plains, NY

* = dissolved oxygen probe malfunction

APPENDIX V

2015-2016 WET WEATHER OUTFALL MONITORING SUMMARY TABLE

City of Stamford Stormwater outfalls										
CT0030279										
DSN			sw#_SON-0008L__	sw#__SON-0008R_	sw#_SON-0010__	sw#__SON-0018_	sw#_SON-0022__	sw#__SON-0025_	sw#_SON-0026__	sw#__SON-0027N_
Description			Smith and Mill River Street-left outfall	Smith and Mill River Street-right outfall	Cummings Park- adjacent to East Avenue.	East side of East Branch-adjacent to facilities Mgt.	Fairview Avenue-end of street	West North Street- adjacent to bridge	Stamford Avenue- end of street	Ocean View Drive- end of street, north outfall
Latitude			41.052498	41.0524305209	41.0457933898	41.043360	41.0245006941	41.0589647940	41.0201639200	41.0270530
Longitude			-73.547511	-73.5460498031	-73.5177810748	-73.529841	-73.5302085932	-73.5467035262	-73.5242269864	-73.5191530
Recieving Stream			Rippowam River	Rippowam River	Westcott Cove/LIS	Stamford Harbor/LIS	Stamford Harbor/LIS	Rippowam River	LIS	LIS
Date of sample			12/2/2015	12/2/2015	12/2/2015	12/2/2015	12/2/2015	12/2/2015	12/2/2015	12/2/2015
Magnitude of storm			0.29 in	0.29 in	0.29 in	0.29 in	0.29 in	0.29 in	0.29 in	0.29 in
Date of last storm			11/19/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015
PARAMETER	ml	units								
pH		s.u	8.02	8.03	7.74	6.86	7.49	8.13	7.37	7.24
Temperature		C	9.73	11.58	11.52	11.37	10.45	10.41	10.91	12.03
Dissolved Oxygen		mg/l	13.49	9.10	9.76	7.27	7.41	11.63	9.91	6.97
Specific Conductance		µmhos/cm	96	464	400	1,728	1,328	644	834	626
B.O.D./5 day		mg/L	11	6.1	5.7	< 4.0	83	41	26	< 4.0
Chloride		mg/L	4.2	101	70.6	5,350	155	9.8	192	134
C.O.D.		mg/L	92	42	72	173	398	156	156	25
Escherichia Coli		MPN/100 mls	12,030	13,000	>24,200	1,220	>24,200	>24,200	>24200	6,870
Enterococci Bacteria		MPN/100 mls	>24,200	10,460	>24,200	1,990	>24,200	>24,200	>24200	1,660
Fecal Coliforms		/100 mls	>2000	>2,000	>2,000	1,070	>2,000	>2,000	>2000	>2000
Hardness (CaCO3)		mg/L	31.7	134	86.1	1,710	114	33.1	163	145
MBAS		mg/L	0.18	0.15	0.12	0.09	< 0.20	0.10	0.06	< 0.05
Ammonia as Nitrogen		mg/L	0.68	0.14	0.22	0.17	< 0.50	< 0.25	< 0.50	0.06
Nitrite-N		mg/L	0.07	0.04	0.02	0.02	0.05	0.03	0.02	< 0.01
Nitrate-N		mg/L	0.42	0.79	0.67	0.42	< 0.02	0.10	1.03	3.01
Oil and Grease by EPA 1664		mg/L	5.8	2.0	< 1.4	< 1.4	< 1.5	< 1.4	< 1.5	< 1.4
Total Coliforms		MPN/100 mls	>24,200	>24,200	>24,200	>24,200	>24,200	>24,200	>24,200	>24,200
Nitrogen Tot Kjeldahl		mg/L	1.75	0.96	1.71	0.58	3.90	1.75	1.75	1.18
O&G, Non-polar Material		mg/L	3.1	< 1.4	< 1.4	< 1.4	< 1.5	< 1.4	< 1.5	< 1.4
Phosphorus, as P		mg/L	0.21	0.22	0.70	0.18	4.1	0.68	1.67	0.38
Total Suspended Solids		mg/L	51.0	14	< 5.0	< 5.0	25	26	20	< 5.0
Copper		mg/L	0.030	0.015	0.012	0.008	0.022	0.013	0.031	0.052
Lead		mg/L	0.020	0.010	0.006	< 0.002	0.013	0.007	0.008	0.004
Zinc		mg/L	0.156	0.057	0.057	0.031	0.069	0.045	0.020	0.009
* please include laboratory report forTotal Petroluem Hydrocarbons for Each outfall										

City of Stamford Stormwater outfalls										
CT0030279										
DSN			sw#_SON-0028__	sw#__SON-0032_	sw#_SON-0035__	sw#__SON-0039_	sw#_SON-0040__	sw#__SON-0049_	sw#_SON-0050__	sw#__SON-0087_
Description			Hobson Street-end of street	Tresser Blvd- adjacent to bridge on north side	Meadowpark Avenue	Vernon Place- end of street	Richmond Hill Avenue- adjacent to bridge	West Forest Lawn Avenue- end of street	Washington Blvd & Second Street	Weed Avenue & Matthews Street- south outfall
Latitude			41.0295241112	41.0509493334	41.0913971642	41.0572911264	41.0482698968	41.0678198517	41.0627046955	41.0549772519
Longitude			-73.5173571751	-73.5454885553	-73.5548821907	-73.5459379569	-73.5452535021	-73.5527015999	-73.5445090060	-73.5038476345
Recieving Stream			LIS	Rippowam River	Rippowam River	Rippowam River	Rippowam River	Rippowam River	Rippowam River	Holly Pond/LIS
Date of sample			12/2/2015	12/2/2015	12/2/2015	12/2/2015	12/2/2015	12/2/2015	12/2/2015	12/2/2015
Magnitude of storm			0.29 in	0.29 in	0.29 in	0.29 in	0.29 in	0.29 in	0.29 in	0.29
Date of last storm			11/19/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015	11/19/2015
PARAMETER	ml	units								
pH		s.u	7.23	7.99	8.32	7.74	7.80	7.87	7.73	7.38
Temperature		C	11.16	11.58	10.22	8.15	10.60	9.40	9.84	9.98
Dissolved Oxygen		mg/l	8.43	8.54	10.92	11.21	9.60	6.32	11.65	9.37
Specific Conductance		µmhos/cm	20,328	273	84	65	125	165	162	435
B.O.D./5 day		mg/L	10	< 4.0	7.6	4.1	< 4.0	6.9	4.8	20
Chloride		mg/L	7,160	22.9	3.7	4.1	5.5	19.5	21.7	97.0
C.O.D.		mg/L	376	17	62	32	23	44	42	115
Escherichia Coli		MPN/100 mls	>24,200	910	12,030	2,600	240	>24,200	8,660	>24,200
Enterococci Bacteria		MPN/100 mls	>24,200	610	880	7,700	260	>24,200	6,490	24,200
Fecal Coliforms		/100 mls	>2,000	1,470	>2,000	>2,000	210	>2,000	>2,000	>2,000
Hardness (CaCO3)		mg/L	2,380	84.9	12.0	12.3	41.4	30.3	36.1	89.0
MBAS		mg/L	0.07	0.09	0.05	0.13	0.07	0.08	0.09	0.25
Ammonia as Nitrogen		mg/L	0.17	0.29	0.16	0.46	0.22	0.18	0.27	0.15
Nitrite-N		mg/L	0.01	0.03	0.02	0.03	0.03	0.02	0.03	0.02
Nitrate-N		mg/L	0.27	1.27	0.06	0.34	0.58	0.29	0.43	1.07
Oil and Grease by EPA 1664		mg/L	< 1.4	< 1.4	1.8	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Total Coliforms		MPN/100 mls	>24,200	>24,200	>24,200	>24,200	>24,200	>24,200	>24,200	>24,200
Nitrogen Tot Kjeldahl		mg/L	0.91	1.12	1.28	1.09	0.88	0.82	0.66	1.24
O&G, Non-polar Material		mg/L	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Phosphorus, as P		mg/L	0.53	0.35	0.27	0.08	0.28	0.18	0.14	0.86
Total Suspended Solids		mg/L	18	< 5.0	52	< 5.0	7.0	5.5	16	12
Copper		mg/L	0.009	0.030	0.007	0.007	0.113	0.013	0.014	0.009
Lead		mg/L	< 0.002	0.005	0.004	< 0.002	0.002	0.002	0.005	0.003
Zinc		mg/L	0.015	0.308	0.023	0.054	0.137	0.058	0.086	0.026
* please include laboratory report forTotal Petroluem Hydrocarbons for										

APPENDIX W

EXAMPLE PRIVATE PROPERTY SAMPLING NOTIFICATION

MAYOR
DAVID R. MARTIN

DIRECTOR OF OPERATIONS
ERNEST ORGERA

TRAFFIC & ROAD MAINTENANCE SUPERVISOR
THOMAS TURK

REGULATORY COMPLIANCE OFFICER
TYLER THEDER

CITY OF STAMFORD

OFFICE OF OPERATIONS
STORMWATER MANAGEMENT DEPARTMENT

July 29, 2016

Christopher and Melissa Busch
12 Regent Court
Stamford, CT 06907

RE: Notification of Intent to Conduct Stormwater Monitoring and Sampling at 12 Regent Court

Mr. and Mrs. Freud,

Please be advised the City of Stamford's records show that there is a stormwater discharge pipe on your property at the above listed address.

The City is required by State law to monitor the stormwater discharges on your property during both dry weather and wet weather. To do so, the City has hired consultants to collect stormwater at the discharge point. It will be necessary for the consultants to enter onto you property to collect stormwater samples. They will carry identification of their company and be wearing yellow safety vests. **Please allow them ready access to your property for the purposes of completing this work.** It will take 15 to 30 minutes for the collection process to be completed.

Please be advised that the City's Stormwater Ordinance requires you, as a property owner, to allow City contractors to come onto your property to collect stormwater samples. This program will begin shortly after your receipt of this letter, but because of the number of properties involved, the sampling on your property may not take place for some time.

The City appreciates your cooperation. Please contact me at **203-977-5281** if you have questions.

Sincerely,

7/29/2016

Tyler L. Theder
Regulatory Compliance and Administrative Officer

cc: Thomas Turk – Traffic & Road Maintenance Supervisor
Burt Rosenberg -Assistant Corporation Counsel