

# Stormwater Management Plan

Permit No. CT0030279

**City of Stamford**  
Stamford, Connecticut

September 2, 2014  
Revised August 2020



56 Quarry Road  
Trumbull, Connecticut

## **About this Document**

The City of Stamford's Stormwater Management Plan provides general guidance for developing a plan for non-structural and structural controls to reduce pollutants in stormwater runoff from post development activities in residential, commercial, industrial areas, and at public facilities. This Stormwater Management Plan (SMP) is written in an attempt to comply with the NPDES Permit for discharge of stormwater from Stamford's municipal separate storm sewer system (MS4) on issued June 4, 2013 and updated in August 2017.

This SMP details requirements intended to address compliance with the NPDES Permit. The City of Stamford also has and/or may develop numerous other Planning, Zoning, Engineering, Environmental Protection Board and other regulations, guidelines and practices that apply to development within the City of Stamford. These may be more restrictive than those stated below, and it is the property owner and/or developer's responsibility to ensure compliance with all applicable requirements.

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## Executive Summary

The City of Stamford was issued a NPDES Permit for discharge of stormwater from its municipal separate storm sewer system (MS4) on June 3, 2013 and updated in August 2017. The permit requires many actions in order to reduce pollution coming from stormwater runoff. Common pollutants from stormwater runoff include pesticides, fertilizers, oils, salt, litter, debris, and sediment. These pollutants can cause water bodies to become impaired. Another concern is the possible illicit connections from sanitary sewers and other sources which can transport harmful bacteria and other pollutants to water bodies. A requirement of the permit is preparation and compliance with this Stormwater Management Plan (SMP.) The SMP provides a framework for the rest of the conditions and actions required by the NPDES permit. Key sections of the SMP are summarized below.

### **Public Education and Involvement**

The city's 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 Stamford's water bodies by local residents. Also, public education and outreach coupled with public involvement and participation allows Stamford residents to have a voice with regard to stormwater.

### **Illicit Discharge Detection and Elimination (IDDE)**

Illicit discharge detection and elimination 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 to determine whether illicit discharges are suspected and then extensive evaluation and follow-up to eliminate the illicit discharges that are found.

### **Controls on Stormwater from 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.

### **Infrastructure Operations and Maintenance**

Pollution prevention and good housekeeping is a critical minimum control measure because it concentrates 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.

### **Water Quality Monitoring**

The permit requires that in-stream samples be collected four times per year at ten locations. It also includes extensive outfall monitoring that is detailed in the SMP. Monitoring includes both dry and wet weather events.

# 1 Introduction

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## 1.1 Overview

The City of Stamford was issued a NPDES Permit for discharge of stormwater from its municipal separate storm sewer system (MS4) on June 3, 2013 (hereinafter called NPDES Permit). The permit was modified by the CTDEEP on August 14, 2017. A copy of the modified NPDES Permit can be found in *Appendix A*. The NPDES permit was modified to make it more consistent with the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (Small MS4 Permit.) Some of the compliance dates in the NPDES Permit were also changed by the modification. The NPDES permit has an expiration date of June 3, 2018; however, the City of Stamford submitted a renewal and will continue to operate under this permit's conditions until a renewal permit has been issued.

The NPDES Permit requires many actions in order to reduce pollution coming from stormwater. Common water pollutants include pesticides, fertilizers, oils, salt, litter, debris, and sediment. These pollutants can cause water bodies to become impaired. Another concern is the possible illicit connections from sanitary sewers and other sources which can transport harmful bacteria and other pollutants to water bodies.

One requirement of the NPDES Permit is the preparation and compliance with this Stormwater Management Plan (SMP.) This SMP provides a framework for the rest of the conditions and actions required by the NPDES Permit. These include:

1. Formation of a Pollution Prevention Team
2. Preparation of Mapping
3. Implementation of Control Measures including:
  - a. Public Education and Involvement
  - b. Pollution Prevention (Source Controls)
  - c. Controls on Stormwater from Land Disturbance and Development
  - d. Illicit Discharge Detection and Elimination (IDDE) Program
  - e. Infrastructure Operations and Maintenance
4. Establishment of a Monitoring Program

The schedules and procedures for the above items are included in this SMP. In addition, a description of the legal authority that the City of Stamford is developing is detailed in the SMP.

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## 1.2 Permit Scope

The NPDES permit authorizes:

- Existing stormwater discharges to surface waters through Stamford's MS4 system;
- New stormwater discharges subject to conditions placed on discharges to impaired or high quality waters, as addressed below;



- Certain common non-stormwater discharges as long as they do not contribute to a violation of water quality standards and are not significant sources of pollutants. These include:
  - irrigation water and runoff,
  - uncontaminated groundwater and diverted stream flows,
  - uncontaminated air conditioner or refrigeration condensate,
  - street sweeping wash water, and
  - firefighting waters,

### 1.2.1 New or Increased Discharges to High Quality Waters

The NPDES Permit requires that Stamford notify the CTDEEP commissioner 30 days prior to initiation of a new or increased discharge to High Quality Waters (those surface waters with water quality that is better than necessary to meet the criteria established in the Connecticut Water Quality Standards Manual). However, the CTDEEP has not yet identified these waters, so this provision is currently on hold awaiting that determination.

### 1.2.2 New or Increased Discharges to Impaired Waters

The NPDES Permit requires that Stamford demonstrate to the CTDEEP commissioner that any new or increased discharge to an impaired water is not expected to cause or contribute to an exceedance of a water quality standard for the pollutants of concern. Stamford is required to provide an explanation to demonstrate that the impairment would not be adversely impacted.

Some of the receiving water bodies to which the Stamford MS4 discharges are impaired. A summary of these impairments and the water quality classifications is provided below.

Water Body	Water Quality Classification	Impairment	Cause of Impairment	TMDL
LIS WB Shore - Westcott Cove, CT-W2_018	Coastal and Marine Surface Waters Class SA	Shellfish Harvest	Fecal coliform;	Statewide Bacteria TMDL
LIS WB Shore - Stamford Harbor - CT-W2_019	Coastal and Marine Surface Waters Class SA	Shellfish Harvest	Fecal coliform;	Statewide Bacteria TMDL
LIS WB Inner - Stamford Harbor - CT-W1_018-SB	Coastal and Marine Surface Waters Class SB	Habitat for Marine Fish, Other Aquatic Life and Wildlife;	Dissolved oxygen saturation; Nutrient/ Eutrophication Biological Indicators;	None

Water Body	Water Quality Classification	Impairment	Cause of Impairment	TMDL
Noroton River-01 - CT7403-00_01	Inland Surface Waters Class B	Habitat for Fish, Other Aquatic Life and Wildlife	Cause unknown	
LIS WB Shore - Stamford Harbor - CT-W2_019	Coastal and Marine Surface Waters Class SA	Shellfish Harvest	Fecal coliform;	Statewide Bacteria TMDL
LIS WB Inner - Holly Pond, Stamford CT-W1_016-SB	Coastal and Marine Surface Waters Class SB	Commercial Shellfish Harvesting Where Authorized	Fecal Coliform	
Rippowam River-01 - CT7405-00_01	Inland Surface Waters Class A	Habitat for Fish, Other Aquatic Life and Wildlife	Cause unknown	
LIS WB Shore - Stamford Harbor - CT-W2_020	Inland Surface Waters Class A	Shellfish Harvest	Fecal coliform;	Statewide Bacteria TMDL
Mianus River-02 - CT7407-00_02	Inland Surface Waters Class AA	Habitat for Fish, Other Aquatic Life and Wildlife	Cause unknown	

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### 1.3 General Limitations

The NPDES permit contains the following limitations on discharges:

- The stormwater should not cause any visible impacts:
- The stormwater shall not cause acute or chronic toxicity to the receiving water:
- Discharges to tidal wetlands and those below the high tide line have constraints specified in the NPDES permit.

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### 1.4 Overview of Selected Components

A brief overview of some of the most important components of the SMP and the reasons they are critical is provided below.

### ***Public Education and Involvement***

The city's residents can contribute to the pollution transported via stormwater by applying lawn pesticides, herbicides and fertilizers, littering, dumping pollutants into storm drains, failing to properly dispose of pet waste, 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 Stamford's water bodies by local residents. Also, public education and outreach coupled with public involvement and participation allows the city's residents to have a voice with regard to stormwater.

### ***IDDE***

Illicit discharge detection and elimination 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 storm drainage system. Once pollutants are present in a water body, or after a receiving water body's physical structure and habitat have been altered, it is much more difficult and expensive to restore it to its previous condition. Therefore, the use of a management system that relies first on preventing degradation of receiving waters is recommended.

### ***Controls on Stormwater from 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.

### ***Infrastructure Operations and Maintenance***

Pollution prevention and good housekeeping is a critical minimum control measure because it concentrates 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 prevent sediment, salt and pollutants from entering the drainage system thereby minimizing pollutant loads to local water bodies.

## **2 Pollution Prevention Team**

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### **2.1 Pollution Prevention Team Function**

The Pollution Prevention Team (PPT) consists of employees from the City of Stamford whom are in various job functions that have the potential to impact and improve stormwater quality. The team is responsible for implementing the SMP and assisting the implementation, maintenance, and development of revisions to the SMP as well as maintaining control measures and taking corrective actions where required. Each member of the team has ready access to either an electronic or paper copy of applicable portions of the NPDES Permit and the SMP.

### **2.2 Pollution Prevention Team**

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## Members

The PPT members are described below by job title and PPT responsibilities. Current team member names and contact information are included in *Appendix B*. Changes in PPT members will be documented by updating *Appendix B*.

### ***Director of Operations***

This person is responsible for signing and submitting the Stormwater Management Reports to the CTDEEP. He/she also provides executive oversight to overall stormwater functions and control measures.

### ***Road Maintenance Supervisor***

This person is Team Coordinator and will coordinate functions and responsibilities of team members. He/she is responsible for oversight of SMP and compliance with the NPDES Permit. The Traffic and Road Maintenance Supervisor will delegate staff for Infrastructure Operations and Maintenance (street sweeping, catch basin cleaning, leaf pick-up, etc.).

### ***Regulatory Compliance and Administrative Officer***

This person will assist the team coordinator for oversight of SMP and compliance with the NPDES Permit. He/she will help develop and enforce the stormwater ordinance. The Regulatory Compliance and Administrative Officer will also coordinate and oversee public education and involvement, IDDE, the monitoring program and maintenance of the SMP.

### ***Land Use Bureau Chief***

This person, or a designated member of his/her staff, coordinates the development, adoption and administration of land use regulations pertinent to both the SMP and NPDES Permit.

### ***Zoning Enforcement Officer***

This person, or a designated member of his/her staff, coordinates the enforcement of the Zoning Regulations as they pertain to both the SMP and NPDES Permit.

### ***Environmental Protection Board (Environmental Planner)***

This person, or a designated member of its staff, assists in the receipt, review and evaluation of submitted Stormwater Management Plans to ensure consistency with both the SMP and NPDES Permit.

### ***City Engineer***

This person, or a designated member of his/her staff, assists in the review and evaluation of submitted Stormwater management Plans, at the request of the members of the PPT, to ensure consistency with both the SMP and NPDES Permit.

### ***GIS Coordinator***

This person, or a designated member of his/her staff, coordinates the development and maintenance of mapping and other relevant data at the request of the members of the PPT, to ensure consistency with both the SMP and NPDES Permit.

***Health Department (Director of Environmental Inspections)***

This person, or a designated member of his/her staff, coordinates the enforcement of public health code as it pertains to both the SMP and NPDES Permit.

## **3 Mapping**

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### **3.1 Initial Mapping Requirements**

On or before December 3, 2017, the City of Stamford was required to prepare a city-wide map with enough detail to show the location of the following:

- Stormwater outfalls;
- Sampling points;
- City-owned roadways;
- City-designated business, commercial and special event areas;
- All receiving waters where MS4 discharges occur; and
- Watersheds of these receiving waters.

### **3.2 IDDE Mapping Requirements**

The IDDE program requires additional mapping. By December 3, 2017, the City of Stamford was required to prepare mapping to facilitate implementation of its Illicit Discharge Detection Protocol (IDDP) using geographic information systems (GIS) or other methodology. This mapping provides a comprehensive depiction of key infrastructure and factors influencing proper system operation and the potential for illicit discharges. The mapping is at an appropriate scale and detail to enable rapid understanding of the system and to show the following themes using colors and other methods:

- Key storm sewer infrastructure;
- Investigation and study findings;
- Monitoring data;
- Cleaning and repair activities;
- Capital projects;
- Water resources; and
- Topographic features.

Specific details included on the mapping include the following information and features, where currently available:

- Infrastructure
  - Municipal separate storm sewer system (including inter-municipal and private connections where available);
  - Thematic representation of sewer material, size, and age;
  - Storm sewer flow direction;
  - Select rim and invert elevations;

- Aerial delineations of MS4 outfall drainage areas;
  - Areas served by on-site subsurface disposal; and
  - Storm sewer alignments to which known or suspected underdrain systems may discharge.
- Water Resources and Topographic Features
    - Water bodies and watercourses identified by name and water quality classification;
    - Impaired waters (including type of impairment);
    - Inland wetlands;
    - Tidal wetlands;
    - Topography; and
    - Orthophotography.
- O&M, Investigations, Remediation, and Capital Projects
    - Alignments, dates, and thematic representation of work completed (with legend) or past illicit discharge investigations (e.g. flow isolation, dye testing, closed-circuit television (CCTV));
    - Locations of suspected, confirmed, corrected illicit discharges (with dates and flow estimates);
    - Water quality monitoring locations with representation of water quality indicator concentrations;
    - Recent and planned storm sewer infrastructure cleaning and repair projects
    - Planned capital projects relative to utility and roadway rehabilitation or replacement; and
    - Proposed phasing of future illicit discharge investigations.

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### 3.3 Mapping Status

The City maintains a strong GIS department that coordinates city data 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.

As of June 2018, it was estimated that approximately 95% of the City has been mapped. The GIS department is notified as the storm drainage systems are maintained and repaired, and when catch basins are inspected and cleaned.

The rest of the information is being added to the GIS system. The end result will be a GIS system that The City's employees can use to monitor, track and review the information described in *Section 3.2*. For the most part, this information will be accessed on computers and electronic tablets rather than on extensive paper mapping so that it can stay current.

The City is working with Networkfleet (affiliated with Verizon) to provide GPS services in their trucks, snow plows and sweepers. This will enable tracking of much of the data needed to implement this SMP.

## 4 Control Measures

There are numerous control measures that are required by the NPDES Permit. These are detailed below by type.

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### 4.1 Public Education and Involvement

Public education is a key component of effective stormwater management. By informing the public of potential risks to water quality caused by common activities, the potential for stormwater impacts can be reduced.

#### 4.1.1 Program Elements

The public education program includes the following elements:

- Education to increase the public awareness about stormwater pollution, its causes and effects, and actions that can be taken to reduce the impact of stormwater pollution on water quality;
- Promotion of the Stormwater Management Plan ("SMP") through varied public education and involvement methods including making information available to non-English speaking residents;
- Dissemination of information to residents regarding the proper handling and disposal of used motor vehicle fluids, household hazardous waste, electronic waste, food preparation waste, clippings, car wash waters, proper use of fertilizers, pesticides, and herbicides and educational material emphasizing nitrogen and phosphorus control as it relates to lawn care to residents;
- Education of dog owners about the proper disposal of pet waste and by providing written information at the time of dog license renewal. The City of Stamford is also required to install signage, pet waste baggies, and disposal receptacles in recreational areas where dog walking is allowed;
- Education of owners and operators of commercial, industrial, and institutional facilities as to their responsibility to control pollutants in stormwater discharges from their property to The City of Stamford's MS4;
- Opportunities for the public to participate in the review, modification, and implementation of its SMP. This can be done through partnerships with environmental groups and civic organizations interested in water quality related issues; and
- Annual public informational meeting within sixty (60) days of the date of anniversary of the NPDES Permit to discuss and provide information in each annual report.

#### 4.1.2 Progress to Date

The City of Stamford has performed the following tasks to meet the elements of the public education and involvement:

- Created a Stormwater Management web site, located at <http://www.stamfordct.gov/stormwater-management>. This site contains the NPDES

Permit and is frequently updated to include other information that the City of Stamford's residents and businesses need to know about stormwater management.

- Distributed the numerous pieces of literature, some of which is found in *Appendix C*. These selected materials include the following:
  - A pamphlet, entitled "Preventing Stormwater Pollution & You" which details steps all residents can take to minimize stormwater pollution. This was sent out in all Stamford property tax bills.
  - Stormwater Management – A Practical Guide to Regulatory Compliance for Commercial, Industrial and Institutional Facilities
- Teamed with local watershed groups to advance education in stormwater quality. Recent collaborations have involved the Mill River Collaborative, Sound Waters, Trout Unlimited, and Friends of Mianus River Park. These groups have spent thousands of hours making improvements and creating educational programming related to stormwater management.
- Conducted public meetings every year and advertised said meetings in the Stamford Advocate prior to the meetings.
- Undertaken significant steps to prevent dog waste from entering the MS4. They have had a law requiring immediate removal of dog feces from City property and from all property not owned by the dog owner.
  - Dog owner education has included the following:
    - Creation of a dog waste information pamphlet (also included in *Appendix C*).
    - This is given to dog owners at the time of dog license renewal (July 1 of each year.)
  - Dog waste bag dispensers have been placed in key municipal parks that allow dog walking. The City spends \$10,000 to \$20,000 each year to purchase bags for the dispensers. Beginning in July 2019, responsibility for maintaining the dog bag dispensers (along with funding) will be transferred to the Parks Department because they are that is the Department with regular maintenance of parks and interaction with park users.
- Educated groups of adults and schoolchildren in preventing stormwater pollution by the Water Pollution Control Authority (WPCA). A copy of the brochure they give out, entitled, "What is Your Storm Drain IQ?" is included in *Appendix C*.

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## 4.2 Pollution Prevention (Source Control)

### 4.2.1 Legal Authority

The Permit requires the City of Stamford develop a Stormwater Ordinance, which has been done and can be found in *Appendix D*. The Municipal Separate Storm Sewer Ordinance Number 1183 became effective on March 20, 2015. The ordinance is intended to do the following:

- Regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by stormwater discharges by any user;
- Prohibit Illicit Connections and Discharges to the municipal separate storm sewer system;
- Establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this ordinance; and
- Ensure compliance with the NPDES Permit.



## 4.2.2 Motor Oil Recycling

The City of Stamford is required to provide and actively promote the use of used motor oil collection facilities at the city-owned recycling facility(ies). Used motor oil is collected at the Katrina Mygatt Recycling Center. Use of these facilities is promoted by inclusion on the City of Stamford web site. Hours of operation can be found on Stamford's web site.

## 4.2.3 Household Hazardous Waste

The City of Stamford is required to conduct and promote an annual Household Hazardous Waste (HHW) day each year. It is promoted on the City of Stamford's web site and with banners in front of the City of Stamford Government Center for weeks before the event. There are also flashing highway department signs around the city on the day of the event to remind residents to drop off their HHW. The City of Stamford's web site also lists the HHW days of surrounding communities, so residents have numerous opportunities to dispose of their HHW throughout the spring, summer and fall each year.

## 4.2.4 Spills and Leaks

The City of Stamford is required to develop and implement a Spill Prevention and Response Plan (SPRP) to prevent, contain and respond to spills entering the MS4. This plan was developed and finalized in June 2016. Since its implementation, this has been a useful document on coordinating spill response to prevent impacts to water quality.

The NPDES permit requires that the City of Stamford maintain for a period of three years past the term of the permit, a list of spills and leaks of five gallons or more of petroleum and/or toxic or hazardous substances found 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 that have been reported to the City or have been the action of a City employee. These spill reports are included in each Annual Report and maintained on the web site. The above-referenced lists of toxic and hazardous substances are included in *Appendix E*.

## 4.2.5 Pesticides, Herbicides and Fertilizers

The City of Stamford 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 F* 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 modelled on the CTDEEP Integrated Pest Management (IPM) Plans. Completion of the PHF SOPs is anticipated by July 1, 2020.

### 4.2.5.1 Athletic Fields and Green Space

Fertilizers and herbicides are used on the municipal athletic fields as described in *Appendix G*. In April, Dimension is used. This product contains both fertilizer and herbicides. In May, Propendi is used. This product also contains both herbicides and fertilizer. In September, just fertilizer is used. No PHFs are used on park green spaces.

The Mill River Park / Mill River Collaborative (MRC) completely avoids the use of synthetic fertilizers. They employ a "feed the soil ecology" program where the soil is infused with 16+ species of soil bacteria and fed with a fish emulsion / kelp / yucca liquid blend as a substitute for traditional fertilizers. The MRC maintains its lawns at 4" high to build deeper, more drought tolerant root systems. All grass clipping to the lawns and use organic products such as soy bean meal to add nitrogen to the soil. The MRC uses minimal herbicides per DEEP guidelines on invasive plants and that treatment program has been shrinking dramatically each year as we win the invasive plant battle. They spend 99% of our weed management efforts physically pulling weeds.

#### 4.2.5.2 Golf Courses

The City of Stamford owns and operates the Sterling Farms and the E. G. Brennan Golf Courses. The city is required to implement practices which achieve a ten percent (10%) reduction in total nitrogen by June 3, 2018. The reduction is to be determined by the average annual usage, by weight, applied in 2010, 2011, and 2012. The average quantity used at Sterling Farms during 2010 – 2012 reporting period is 11.50 lbs./1000ft<sup>2</sup>/year. The average quantity used at E.G. Brennan during 2010 – 2012 period is 11.16 lbs./1000ft<sup>2</sup>/year. The 2018-2019 Annual Report indicates that these reductions have been achieved. The city will also develop best management practices (BMPs) to reduce total nitrogen and phosphorus. This will be completed by **July 1, 2020**.

#### 4.2.6 De-icing Materials

The NPDES permit requires that all City-owned storage piles of de-icing materials be enclosed or covered by a roof. Storage sites in areas with a groundwater classification of GA or GAA must have an impervious liner to prevent infiltration into groundwater. The city stores deicing liquids in the following locations:

- Highway Department (90 Magee Avenue) – this site has a sand/salt shed and a 5,000-gallon calcium chloride tank.
- Town Yard (106 Haig Avenue) – This site has a sand/salt dome, 5,000-gallon calcium chloride tank and 5,000-gallon salt brine tank.
- Scofieldtown Transfer Station (612 Scofieldtown Road) – This site has a new sand/salt dome, that was built in 2017 in accordance with the conditions of the NPDES permit.

Both of these sites operate under the General Permit for the Discharge of Stormwater Associated with Industrial Activity.

There are also salt domes at the Highway Department, the Town Yard and the Scofield Transfer Station. All three of the salt domes are within GA areas, so they are stored on concrete and covered with a dome.

In addition, no new road salt or de-icing materials storage facilities may be located within the 100-year floodplain.

#### 4.2.7 Unpermitted Discharges to MS4

The City of Stamford is required to track stormwater discharges from commercial, municipal, institutional or other facilities that contribute to stormwater pollution and includes inventory, mapping and prioritization as well as education. This requirement is addressed by other sections of the SMP. Inventory, mapping and prioritization are addressed within *Section 5 - Illicit Discharge Detection and Elimination (IDDE) Program*. Education is addressed within *Section 4.1*.

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### 4.3 Land Disturbance and Development

Managing future development using techniques to maximize infiltration and minimize stormwater run-off, also known as Low Impact Development (LID) is a key part of improving stormwater quality. The NPDES Permit has detailed requirements for Stamford to implement a program to control discharges to its MS4 associated with land development and redevelopment with one half acre or more of soil disturbance. The requirements described below are detailed herein to address compliance with the NPDES Permit. The City of Stamford also has and/or may develop numerous other Planning, Zoning, Engineering, and Environmental Protection Board regulations, guidelines and practices that still apply to development in the city. For example, the NPDES Permit only addresses projects with one-half acre or more of soil disturbance, but current Zoning regulations call for review of any project with more than 10,000 square feet of soil disturbance.

#### 4.3.1 Program Requirements

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.

#### 4.3.2 Legal Authority

The first step for the City of Stamford is, by December 3, 2017, to establish legal authority to:

- Require developers to maintain consistency with the 2002 Guidelines for Soil Erosion and Sediment Control, as amended, the 2004 Connecticut Stormwater Quality Manual, as amended and CTDEEP stormwater permits in Stamford;
- Identify existing municipal regulations that could represent barriers to implementing LID;
- Carry out inspection, surveillance and monitoring procedures necessary to determine compliance with City regulations related to the management of the MS4;
- Ensure that developers' use of LID is allowable;
- Optimize performance of privately owned detention and retention pods by ensuring the performance of adequate inspection and maintenance; and
- Control the contributions of pollutants from MS4s operated by others.

Some of this has been done with the Stormwater Ordinance found in *Appendix D*, and some has been done through draft revisions to the Zoning Regulations, found in *Appendix H*. These requirements are described below with references to the appropriate draft regulations.

- Section 15 of the Zoning Regulations (*Appendix H*) has been rewritten to include Stormwater Management along with Soil Erosion and Sediment Control. This now includes, by reference, requirements that developers and construction site operators maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, and the 2004 Connecticut Stormwater Quality Manual, as amended.
- There are no known zoning, site planning or street design regulations that would be an impediment to using LID practices.
- The Stormwater Ordinance establishes authority to carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with City regulations related to the management of the MS4.
- The changes to the Zoning Regulations ensure that LID practices are allowable have been adopted.
- The necessary regulations to comply with this section of the NPDES Permit have been implemented.
- Access to privately-owned detention and retention ponds has been addressed in the Stormwater Ordinance.
- Interagency and inter-jurisdictional agreements have been addressed in *Section 4.4.5*.

In addition, a Stormwater Drainage Manual has been developed which addresses many of these issues and provides developers with guidance for stormwater management. New zoning regulations are being prepared simultaneously with the new Stormwater Drainage Manual.

### 4.3.3 Interdepartmental Coordination

The permit requires that the City's stormwater management program coordinate all municipal departments and boards with jurisdiction over land disturbance and development projects in the City of Stamford. The City has well-established procedures for coordinating municipal departments review and approval of land disturbance and development projects. Attached, in *Appendix I*, is the Department Approval for Building Permit, which requires sign-off from all agencies that have an interest in the project. Typically, for most development projects (which are often re-development due to the relatively developed nature of the City of Stamford), the Building Department, Environmental Protection Board (EPB), and Zoning Office provide much of the review. The Engineering Department is frequently consulted for technical and design review. No project can go forward without approval from all these groups and many require additional approvals such as the Health and Traffic Departments and other groups. The Building Department will not issue a Building Permit until all required approvals have been obtained.

### 4.3.4 Low Impact Development Measures

The NPDES Permit requires the City of Stamford to incorporate the use of runoff reduction and LID into their land use regulations by December 3, 2017 to meet a goal of maintaining post-development runoff conditions similar to pre-development runoff conditions. The new Stormwater Drainage Manual will address use of LID.

The permit is very specific as to requirements for the way in which stormwater must be managed from new development and redevelopment projects. These requirements have been incorporated into the draft Zoning Regulations which are excerpted here for convenience.

- Land Development and Redevelopment Stormwater Standards
  - Developed parcels with an existing impervious cover of forty percent (40%) or more, and for which redevelopment is proposed, shall retain, on-site, one-half (1/2) the water quality volume for the site. When one-half (1/2) the water quality volume is not able to be retained, then the site shall be designed to retain runoff volume to the maximum extent achievable using available control measures. In such cases, the applicant shall provide additional stormwater treatment for sediment, floatables, and nutrients by using available control measures for the volume above that which can be retained up to the required water quality volume. Additionally, in cases where the runoff retention requirement cannot be met, the applicant shall submit a report detailing factors limiting the capability of achieving this goal. The report shall include:
    - Measures taken to maximize runoff reduction practices on the site;
    - Reasons why those practices constitute the maximum extent achievable;
    - The alternative retention volume; and
    - A description of the measures used to provide additional stormwater treatment above the alternate volume up to the water quality volume.
  - For all new development and for redevelopment of parcels with existing impervious cover of less than forty percent (40%), the site shall be designed to retain the water quality volume for the site. If site constraints prevent retention of this volume onsite (e.g., brownfields, capped landfills, bedrock, elevated groundwater, etc.), documentation must be provided. The documentation shall include:
    - An explanation of site limitations;
    - A description of the runoff reduction practices implemented;
    - Reasons why those practices constitutes the maximum extent achievable;
    - The alternative retention volume; and
    - A description of the measures used to provide additional stormwater treatment above the alternate volume up to the water quality volume.
  - Limit land disturbance to areas necessary to construct buildings, utilities, stormwater management measures, parking, reasonable lawn and landscape areas, and contouring necessary to prevent future site erosion.
  - Linear redevelopment projects (e.g. roadway reconstruction, widening, and pipelines) for the developed portion of the right of way.
    - Retain on-site one half (1/2) the water quality volume for the site.
    - Projects unable to comply with the full retention standard are required to meet the alternate retention and treatment provisions as described in Section 15,a,1.

- For projects that will not increase impervious cover within a given watershed, additional stormwater treatment measures as described in Section 15,a,1 are required.
- Retention of one-half (1/2) the water quality volume is not required for projects which do not increase impervious cover.

The new Stormwater Drainage Manual will address the above requirements.

#### 4.3.5 Stormwater Management Implementation

By December 3, 2017, the City of Stamford was required to implement and enforce a program to address construction and post-construction stormwater discharges during land disturbing activities and after site stabilization has been achieved. This 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 well on its way to achieving this goal, as both documents have been incorporated into the draft Zoning Regulations and the City of Stamford officials currently perform site inspections for some projects before, during and/or after construction.

#### 4.3.6 Site Review and Inspection

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.

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 of Stamford'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). If more staff can be hired, the number of meetings will be increased.

Generally speaking, City staff meets with builder/developer before construction of projects with disturbed area greater than one acre. Following that initial meeting, inspections are performed in response to comments from neighbors or if City staff observe problems during or post construction.

#### 4.3.7 Public Involvement

The NPDES Permit requires that there be a procedure for receipt and consideration of information submitted by the public concerning proposed and ongoing land disturbance and development activities. The easiest way for the public to get involved is to report stormwater issue/violation to the Citizens Service Center at (203) 977-4140. In addition, an online form is being developed. These reports are sent to the Regulatory Compliance and Administrative Officer who directs them to the appropriate city's staff member for response.

#### 4.3.8 State Permit Notification

Development and redevelopment projects that disturb more than one acre are required to comply with authorization under the DEEP's General Permit for the Discharge of Storm Water and Dewatering Wastewaters Associated with Construction Activities ("construction general permit"). The City of Stamford is required to implement a procedure to notify developers of this requirement. This has been added to the Building Permit application.

#### 4.3.9 Impervious Cover

The NPDES Permit requires that within four (4) years of the date of issuance of this permit, the City of Stamford must develop an estimate of the directly connected impervious area (DCIA) that contributes stormwater to each MS4 outfalls. This is required to be completed by June 3, 2017.

The City of Stamford has teamed with the Western Connecticut Council of Governments (WestCOG) to perform the DCIA mapping. They have conducted a pilot study in the Shippan area of Stamford that used a semi-automated process to review high resolution planimetric GIS to delineate watersheds and estimate impervious area. The results have shown that detailed field confirmation is required with this process.

The Stormwater Drainage Manual that is being developed will include a LID Plan Sheet that will address changes to DCIA.

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### 4.4 Infrastructure Operations and Maintenance

Infrastructure operations and maintenance are performed by the Traffic and Road Maintenance group and are a key part of protecting storm water quality.

#### 4.4.1 Employee Training

The City of Stamford conducts regular formal training sessions for key employees to increase awareness of water quality issues. The staff members who have been trained include representatives from the following departments:

- Traffic and Road Maintenance;
- Stormwater Management;
- Police;
- Parks;
- Vehicle Maintenance;
- Fire; and
- Solid Waste.

Many of the city's staff is taught about stormwater quality in association with the General Permit for Stormwater Associated with Industrial Activity. For those whose jobs specifically include compliance with the NPDES permit, training includes:

- Overview of the NPDES MS4 Permit;
- Goals and objectives of the SMP;
- Identifying and reporting illicit discharges; and
- Spill response procedures.

All members or departmental designees of the Pollution Prevention Team (PPT) have attended or will attend stormwater training.

#### 4.4.2 Infrastructure Repair and Rehabilitation

The City of Stamford will make repairs to the infrastructure of its MS4 system when it is determined that the infrastructure itself is the source of pollutants. The Traffic and Road Maintenance crews will make or coordinate repairs that are caused by blockages of sediment or other material in existing catch basins, piping and appurtenances. These repairs can likely be made within 60 to 90 days. If the problem involves installing new catch basins, piping or appurtenances, then this becomes a capital project and the Engineering Department takes the lead on making the repair. Priority will be given to those projects discharging pollutants to impaired waters or that have other concerns related to the mapping and IDDE process. However, in any municipal setting, funding for capital projects can sometimes take months to years. A schedule for implementation of the repair will be developed once the need for the repair is established.

#### 4.4.3 Roadway Maintenance

Roadway maintenance is a critical part of pollution control within the MS4. Removal of potential pollutants from roadways prevents their introduction into the MS4 system.

##### 4.4.3.1 Sweeping

According to the Connecticut Department of Transportation (ConnDOT), there are approximately 310 miles of streets accepted by the City of Stamford. The August 2017 NPDES Permit Modification requires that the City of Stamford use their knowledge and experience to develop their own street sweeping program targeting those areas with increased pollution potential due to construction or other activities. This program must include regular inspections and target areas based on those inspections and various land use factors. Each fall, the program shall visually inspect to determine which areas should be targeted the next year. However, a few specific requirements are included:

- All City-owned roads and parking lots must be swept at least once in a year, as soon after the completion of winter maintenance activities as possible, but no later than June 30 of each year.
- After each special event (parade, concert, etc.) sponsored by the City of Stamford, the gathering area and adjacent area (as reasonably determined by the City) must be swept prior to the event and within 24 hours after the event.
- All City-owned and/or operated parking lots must be swept at least quarterly.



- Sidewalks in the central business district must be swept at least weekly. Stamford has a Downtown Special Services District (DSSD) with that coordinates and pays for weekly sweeping along 9.5 miles of sidewalk and curbside.

The City has been meeting the above bulleted requirements. In addition, the City has also been able to improve the effectiveness of its sweeping program by implementing a “Post and Tow” policy in which they post dates of sweeping, and tow cars that remain in the designated area on the assigned dates. In addition through the routine sweeping and catch basin cleaning processes, they are constantly determining which areas need to be targeting and sending resources to those areas.

The city tracks the following information for its Annual Report:

- Curb miles swept;
- Dates of street cleaning, by street;
- Cubic yards of material collected; and
- Method of material disposal or reuse.

#### 4.4.3.2 *Leaf Collection*

The NPDES permit requires that Stamford collect leaves annually by December 15. The city collects leaves from all streets annually. The procedure breaks the city down into three areas; 1) Area north of the Merritt Parkway 2) area between Merritt Parkway and I-95, and 3) area south of I-95. Leaf pick-up typically begins in mid-November and is completed by December 15. 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 five weeks of full time work (20 business days) for all available road maintenance crews. Approximately 40 full time and 50 seasonal employees are dedicated to complete the work. Residents are required to pile their leaves on their property at the curb, not in the street. This policy has been well publicized using newspaper print and on-line advertising as well as with flyers, door hangers and lawn signs. Details of the city’s leaf collection program are posted on the city website.

#### 4.4.3.3 *Snow Removal*

The NPDES Permit requires that the City of Stamford implement and refine its standard operating practices 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 of Stamford is already well on its way to meeting these goals. The Highway Crew performs anti-icing using liquid calcium chloride 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 out throughout the City to monitor road conditions. Hills and intersections are spot-treated to minimize chemical usage.

In the winter of 2018-2019, the Highway Department developed a list of “Special Hazard Areas.” These are locations that are known to form icing hazards whenever the temperature drops below freezing. When below freezing temperatures are predicted, Highway crews perform extra brining at these locations to prevent ice from forming.

The cause of this localized icing is often a foundation drain or similar discharge prohibited by Ordinance 214-9 which states that,

“No person shall construct or cause to be constructed or allow to remain any spout or drain from any building or any drainage in such a manner that water, soil, gravel, or other debris therefrom will discharge upon and over any sidewalk or roadway within the city.”

The Stormwater Management Department has begun investigating these special hazard area locations to determine whether illegal discharges, such as foundation drains, are the cause of the icing. If an illegal discharge is found, enforcement action is taken to require the property owner to eliminate the discharge. An example letter requiring enforcement action is attached as *Appendix J*.

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.

The City follows the CTDEEP’s Best Management Practices for Disposal of Snow Accumulation from Roadways and Parking Lots, found in *Appendix K*. The purpose of these BMP’s is to prevent accumulation of sand, other solids and pollutants in sensitive areas such as streams and wetlands. Snow is typically moved to the gravel parking lot at West Beach; where there are no catch basins in order to follow these BMPs.

#### 4.4.3.4 *Catch Basin Cleaning*

During the life of the current NPDES Permit (through June 3, 2018), the goal was to establish optimal catch basin cleaning frequencies. The City of Stamford is in the process of developing a numbering system to track catch basin maintenance.

The city has over 11,000 catch basins in its MS4 system. With the exception of Inner Cove Harbor and Inner Stamford Harbor (mouth), all water bodies, to which The City of Stamford’s MS4 discharges are impaired, including the Mianus River which was added to the list of impaired waters in 2016. The protocol for impaired waters must be followed for these catch basins. This means that for the first four years of the NPDES Permit (until June 3, 2017), catch basins would have to be inspected annually. For those catch basins that are tributary to the Inner Cove Harbor and Inner Stamford Harbor (mouth), the catch basins must be inspected and cleaned if necessary twice within the first four years of the NPDES Permit. Catch basins will be cleaned if the sump is more than 50% full.

The following guidelines will be utilized to create standard operating procedures (SOP’s) for catch basin cleaning in accordance with the NPDES Permit. The guidelines will be based on the following information:

- Prior to about 1970, catch basins did not typically have sumps. The bottom of the catch basin is likely to be at the invert of the lowest pipe.
- From about 1970 to 2004, the standard catch basin depth was two (2) feet.
- In 2004, coinciding with the publication of the Connecticut Stormwater Quality Manual, the standard catch basin depth was increased to four (4) feet.

For areas of town in which the roads and catch basins are older (pre-2004), the catch basin needs to be cleaned if there is sediment less than one foot (1') from the lowest invert. For newer areas in which roads and catch basins were constructed after 2004, the catch basin needs to be cleaned if there is sediment less than two feet (2') from the nearest invert. As it is developed, the list of SOP's, inspections, cleanings, and recommended cleaning frequency for each catch basin will be included in *Appendix L*.

The City has made significant financial investment to support this program, including:

- Heavy equipment including three new vacuum trucks, street sweepers, 37 dump trucks, a Caterpillar mini-excavator and a Caterpillar loader, and a new utility truck;
- Five new heavy equipment operators;
- MS4Front tracking software and field tablets to track catch basin inspections, cleaning, and repairs.

Once the cleaning frequencies have been established, if a catch basin is found to be more than 50% full during two consecutive cleaning events, road maintenance staff will investigate the drainage area for sources of sediment loading and take appropriate measures to reduce that loading. This may include increased street sweeping, stabilization practices or drainage modifications. If the source of the sediment loading is from private property, the problem will be reported to the Regulatory Compliance and Administrative Officer for enforcement action. If these measures are unsuccessful, then the catch basin cleaning frequency must be increased as needed to keep the sump less than 50% full.

In addition to these catch basin inspection and cleaning improvements, the City also has begun a program of inspecting, cleaning, and stabilizing culverts including their inlets and outlets.

Changes in cleaning frequency will be updated in *Appendix L* and noted in the Annual Report.

#### 4.4.4 Detention and Retention Ponds

The City of Stamford staff has developed a list of detention and retention ponds that discharge to the MS4. The City of Stamford Environmental Protection Board (EPB) has developed a list of 77 detention basins and has begun inspecting and performing maintenance work on them. This list can be found in *Appendix M* and the city will strive inspect these ponds annually. If they are City-owned, they will remove solids when they are found to be in excess of 50% of design capacity. If they are privately owned, the owner will be informed that the solids must be removed when they are found to be in excess of 50% of design capacity.

#### 4.4.5 Interconnected MS4s

The NPDES permit has two requirements for addressing interconnected storm sewers. Where a portion of the storm sewer in Stamford is the responsibility of another municipality or state or federal agency, Stamford and the other agency should coordinate the development of their respective Stormwater Management Plans. The State of Connecticut Department of Transportation (ConnDOT) owns and operates separate storm drains in Stamford. Though no formal agreements exist, historically ConnDOT maintains all State roads, performing paving, snow removal and cleaning catch basins.

The second requirement is requires that the City of Stamford coordinate with interconnected MS4s regarding the contribution of pollutants. Stamford has investigated this and found that Pound Ridge, New York and Greenwich, Connecticut have the potential to contribute pollutants. Stamford discharges stormwater to New Canaan's MS4, but does not receive stormwater from New Canaan. Cooperative relationships have been developed with these communities to coordinate stormwater management efforts. A map showing these connections is included in *Appendix N*. Staff is currently investigating whether the previously identified municipalities have interconnected MS4s. Stamford will develop agreements detailing responsibilities of the City of Stamford and each the interconnected MS4 municipality. When such agreements are developed, they will be included in *Appendix N*.

## 5 Illicit Discharge Detection and Elimination (IDDE) Program

Illicit discharges to the City of Stamford's MS4 are prohibited, and any such discharges are a violation to the NPDES Permit and will remain a violation until they are eliminated. However, before illicit discharges can be addressed, they must first be found. This section details finding and addressing illicit discharges.

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### 5.1 Legal Authority

The NPDES Permit requires that the City of Stamford establish legal authority to do the following:

- Prohibit illicit discharges to the MS4 and require removal of any that are found;
- Control spills and discharges to and dumping in the MS4;
- Assess fines or penalties for anyone creating an illicit discharge or spilling or dumping into the MS4.

The Storm Sewer System Ordinance found in *Appendix D* establishes legal authority for all these measures and became effective on March 20, 2015.

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### 5.2 Program Elements

The IDDE program consists of outfall screening and discharge detection as described below. Once an illicit discharge is found, the city will immediately (within one week) contact the responsible party to have them eliminate the discharge within 30 days of being notified. Where it is not possible to eliminate

the discharge within 30 days, the city will develop a schedule for the elimination to be completed and confirmed within 6 months.

The city will track illicit discharge abatements and include the following information in its Annual Reports:

- Location;
- Description;
- Method of discovery;
- Date(s) of inspection;
- Sampling data (if sampled);
- Action(s) taken;
- Date of removal or repair;
- Responsible party;
- Costs associated with removal or repair; and
- Estimated flow removed.

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## 5.3 Outfall Screening for Illicit Discharges

A major component of the IDDE program is outfall screening. Many illicit discharges can be detected through this method.

### 5.3.1 Known Illicit Discharges

The City of Stamford did not provide a list of known illicit discharges to the CTDEEP, so no outfalls are exempt from screening.

### 5.3.2 Priority Ranking of Outfall Screening

The city has developed a priority system to determine which outfalls should be screened first. The outfalls will be screened with the following priorities in mind:

- Known or suspected illicit discharges, including those reported by the public;
- Discharges to impaired waters (which includes every receiving stream in the city except the Mianus River and its tributaries); and
- Several water bodies in the City of Stamford where residents have recreational contact with water. These include:
  - Mill River Park (Monitoring Point 5 – see below) – though residents do not typically swim here, they may dip their feet in;
  - West Beach Pier – residents fish from the pier;
  - Mianus River (Monitoring Point 1) – people fish at this location as well; and
  - Public beaches – there are several public beaches along Long Island Sound in the City of Stamford, including Cove Island Park and Cummings Park.

The water bodies described above will be prioritized for IDDE.

### 5.3.3 Priority Ranking for IDDE Investigation

The city had 154 “known” outfalls at the time of NPDES Permit issuance. Some of these were inaccurate locations, so some had to be eliminated. There are 92 remaining “known” outfalls that will likely be able to be sampled. These initial outfalls have been prioritized with a listing of “A”, “B” or “C” based on the factors in 5.3.2. The prioritized list, which includes the original 154, but prioritizes the 92 known outfalls included in *Appendix O*.

### 5.3.4 IDDE Investigation Schedule

The NPDES Permit requires that MS4 outfalls be screened at a rate of twenty five (25) percent of the outfalls known at the time of NPDES Permit issuance during each of the first four years of the permit in order to screen all outfalls so that the Illicit Discharge Detection Protocol (IDDP) implementation within the NPDES Permit life. The City of Stamford has been unable to begin the IDDE screening during the first year of the NPDES Permit, so every attempt will be made to accelerate the IDDE screening over the rest of the permit life. The current plan is to screen 46 outfalls by June 3, 2015, 23 outfalls by June 3, 2016, and 23 outfalls by June 3, 2017. Outfalls have been prioritized with an A, B or C rating. Completion dates are proposed as follows:

- Priority A Outfalls (46 outfalls) - June 3, 2015;
- Priority B Outfalls (23 outfalls) - June 3, 2016; and
- Priority C Outfalls (23 outfalls) - June 3, 2017.

### 5.3.5 IDDE Investigation Methodology

The methodology is explicitly specified in the NPDES Permit and repeated here for convenience.

- Outfall screening will proceed only during dry weather when no more than 0.1 inches of rainfall has occurred in the previous 48-hour period. The duration of the antecedent period may be shortened or lengthened as necessary or appropriate depending upon rainfall depth or the relative extent, slope, storage, and other influences to assure that any stormwater runoff has ceased from the particular drainage area served by the outfall. Screening will be performed according to the following procedures:
  - Locate the outfall, and take a photograph. At outfalls where photographs were previously taken, new photographs will be taken from the same approximate orientation to facilitate comparison and determination of any changes.
  - Collect data on physical condition of the outfall, including evidence of collapse and structural defects, and evidence of erosion or deposition in the vicinity of the outfall.
  - Record any indicators of illicit discharges such as odors, oil sheen, discoloration, foaming, soap suds, slimes, or presence of sanitary floatables or solids.
  - If the outfall is inaccessible or submerged, proceed to the first accessible upstream manhole or structure.
- Outfall observation - Observe the outfall for evidence of discharge and proceed as follows:
  - If no flow is observed and there is no evidence of an illicit discharge (e.g. a residue unrelated to a storm water discharge or color or algae), this outfall will be assigned a lower priority ranking and the screening will proceed to the next outfall.

- If flow is observed, estimate flow using the product of flow area and velocity or the quotient volume discharged over time, perform the field analyses below, and collect a grab sample for enumeration of E. coli indicator bacteria in the laboratory.
- If the outfall is not flowing, but shows evidence of an illicit discharge, return in 4 to 24 hours and screen again, completing flow estimation, field analyses, and grab sampling for indicator bacteria analysis if flow is subsequently observed. If no flow is observed initially and upon return, make note of the outfall to prioritize for future investigation and proceed to the next outfall.
- Field analyses of dry weather flow samples will include measurement of the following parameters:
  - Conductivity
  - Turbidity
  - Dissolved Oxygen
  - pH
  - Chlorine
  - Temperature
  - Surfactants as (MBAS)
  - Potassium
  - Ammonia

A screening checklist for outfalls has been developed and can be found in *Appendix P*. Benchmark values for screening are found below:

Analyte	Benchmark
Conductivity	Ambient benchmark to be established during initial round of testing (likely <100 µmhos/cm unless influenced by salt water)
Turbidity	Ambient benchmark to be established during initial round of testing (likely <10 NTUs)
Surfactants, as MBAS	>0.25 mg/L
Potassium	Ambient benchmark to be established during initial round of testing (likely <1 mg/L)
Ammonia	Ambient benchmark to be established during initial round of testing (likely <1 mg/L)
Ammonia/Potassium Ratio	>1.0 mg/L
Chlorine	>0.1 mg/L
Temperature	Significant departure from ambient; groundwater would be 50 -55 degrees F at source
pH	Ambient benchmark to be established during initial round of testing (5.5 - 9)

Based on these field analyses, evidence of the degree and severity of an illicit discharge will be taken into account in prioritizing outfalls for illicit discharge investigation. If the discharge does not exceed any benchmarks, and has no color, sheen or odor, and is in an area of high groundwater, it should be noted that the discharge may be groundwater and can be given a lower priority for further action in the IDDP process. However, if more than 80% of the outfalls are either dry with no evidence of illicit discharge or

have suspected groundwater, then the suspected groundwater outfalls may be considered higher priority and selected for further evaluation in the IDDP process.

The conclusion of the screening step must be reported, whether the outfall should be considered for IDDP prioritization must be reported on the IDDE Screening Form in *Appendix P*.

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## 5.4 Illicit Discharges Detection Protocol (IDDP)

IDDP implementation involves more rigorous analysis of the source(s) of the contamination found in the IDDE screening. Using this methodology, the City of Stamford will attempt to find precise source of the illicit discharge and eliminate it.

### 5.4.1 IDDP Implementation

During the life of the NPDES Permit, the city is required to complete IDDP implementation for the highest 20% priority of the outfall drainage areas.

### 5.4.2 IDDP Prioritization

Based on the results of the outfall screening detailed in *Section 5.3.5*, the worst 20% of outfalls from the prior year will be selected for the more rigorous IDDP. If more than 20% of the outfalls screened through the processes described in *Section 5.3* are suspected of having illicit discharges, then selection of the worst 20% outfalls will be based on flows and water quality monitoring, and will only be done within drainage areas to impaired water bodies. Those outfalls that contain only suspected groundwater will be considered lower priority and will not be selected.

### 5.4.3 IDDP Mapping

Mapping is a key part of IDDE. The mapping that is being prepared is detailed in *Section 3* of this SMP.

### 5.4.4 IDDP Methodology

There are two phases to the IDDP methodology – field testing during dry weather and confirmation using more invasive methods such as internal plumbing inspections, dye or smoke testing, and closed circuit television (CCTV) inspections.

#### 5.4.4.1 Notification

Prior to smoke or dye testing, the city will notify all residents, businesses and all other property owners or occupants within that drainage area of the impending testing. Smoke testing notification will include hanging notifications on doors for single family homes and posting notices in building lobbies for multi-family dwellings. These notifications will be modeled on those used by the Water Pollution Control Authority (WPCA) and included in *Appendix Q*.



#### 5.4.4.2 *Infrastructure Verification and Preparation*

IDDE inspectors will check field records for each selected outfall prior to scheduling site visit. If the outfall has debris or blockages, it will need to be cleaned by Traffic and Road Maintenance Crews prior to further investigation.

#### 5.4.4.3 *Dry Weather Criteria*

Outfall screening will proceed only during dry weather when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period. The duration of the antecedent period may be shortened or lengthened as necessary or appropriate dependent upon rainfall depth or the relative extent, slope, storage, and other influences to assure that any stormwater runoff has ceased from the particular drainage area under investigation.

#### 5.4.4.4 *Storm Sewer Inspection Methodology*

The storm sewer inspection methodology section of the NPDES Permit specifies procedures for outfalls with no dry weather flow, groundwater dry weather flow and contaminated dry weather flow. However, if an outfall had no dry weather flow or evidence of one, it would have been assigned a lower priority during the screening step and would be evaluated further during the IDDP step, so those steps are not detailed here.

If an outfall was suspected to have only groundwater flow, it is also less likely to be considered for IDDP. However, if no outfalls are found with illicit discharges other than those outfalls with suspected groundwater, then the procedure is to follow the storm sewer (and its tributaries if necessary) to the most upstream point at which there is flow. This location should then be sampled to determine if the flow is likely only groundwater.

For those locations suspected of contaminated groundwater flow, the process is much more rigorous. The city of Stamford's investigators should proceed as follows:

- Inspect next upstream stormwater structure(s) to determine which ones show signs of dry weather flow. There may be several structures depending on the tributaries;
- For any tributary that shows signs of dry weather flow, continue to follow that upstream inspecting every structure including sub-tributaries until no structures show any indication of dry weather flow;
- Repeat for all tributaries that show signs of dry weather flow;
- Take samples whenever possible. Document all observations by taking photographs and including test results as part of the documentation. Indicate on a map structures have been inspected and include the map as part of the permanent documentation;
- For alignments that indicate an illicit discharge, the next step is to smoke test the area to the source of discharge following the notification procedures;
- If the location is identified, appropriate corrections, as described below will be made to stop the illicit discharge;
- If no location is determined, dye testing of potential upstream sources will be conducted and the violation corrected; and

- If no location is still identified, the area will be monitored twice per month to establish the cause this illicit discharge.

#### 5.4.4.5 *Field Monitoring*

Where flow is observed that does not demonstrate obvious visual, sheen or odor, a sample will be collected and analyzed with the field kits described in *Section 5.3.5* and compared against the benchmarks in the same section. If surfactant concentrations are measured to be above 0.25 mg/L, the ammonia to potassium ratio should be considered. If the ammonia is less than the potassium, then the source may be from washwater such as a washing machine. If the ammonia is higher, then the source may be from a sanitary source containing bathrooms.

If surfactants are not detected above the benchmark, the discharge should be tested for chlorine. If chlorine is detected, the source is likely from tap water, pool water or irrigation water. If it is not, the source may be groundwater.

The NPDES Permit recommends, but does not require, sampling for caffeine and various pharmaceuticals to determine whether the illicit discharge is of human origin. Several local environmental laboratories were contacted to determine if they have the capabilities to run these analyses. All the laboratories contacted stated that they could not analyze these parameters. Testing for fecal coliform could help indicate whether an illicit discharge may be of human origin. Since waste from other warm-blooded animals can also contain fecal coliform, it is not an absolute guarantee of a human source.

#### 5.4.4.6 *Isolation and Confirmation of Illicit Discharges*

Where physical evidence or field monitoring identifies storm sewer alignments influenced by illicit discharges, the city will isolate the tributary area for implementation of more detailed investigations. Additional manholes and/or catch basins along the alignment will be inspected to refine the location of potential contamination sources (e.g., an individual home or block of homes). Targeted internal plumbing inspections, dye or smoke testing, and/or CCTV inspection methods may be used to confirm the flow source(s).

#### 5.4.4.7 *Removal of Illicit Discharges*

Once the illicit discharge is confirmed, the city will use the Stormwater Ordinance discussed in *Section 4.2.1* to require the property owner to eliminate the discharge.

#### 5.4.4.8 *Verification of Illicit Discharge Removals*

After completing the removal of all illicit discharges from a particular MS4 segment or portion of an outfall drainage area, the city will confirm that no illicit discharges remain. Depending on the extent and timing of corrections made, verification monitoring may be accomplished at the original junction structure or the closest downstream MS4 structure to each correction. Verification will be accomplished by using the same visual inspection and field monitoring techniques described previously. Investigations of other alignments in the same drainage area outfall cannot proceed until this verification has been completed.

#### 5.4.4.9 Verification of IDDP Completion in MS4 Drainage Areas

A completed verification at the outfall (or the first accessible upstream structure from an inaccessible MS4 outfall) of an MS4 outfall drainage area will serve to demonstrate that the IDDP has been fully implemented for that entire drainage area. This drainage area verification will include a repeat of the previous steps to show that there is no longer dry weather flow or that it is groundwater (or permitted discharges) only. An additional round of screening is required as a verification of the completion of the IDDP within the drainage area of the outfall. Such verification screening will be completed no more than sixty (60) days after the City of Stamford has verified removal of such discharges contributing to the outfall's drainage.

#### 5.4.4.10 Work Progression & Schedule

Since the IDDP requires verification of illicit removals prior to progressing to affected portions of interconnected MS4 drainage areas, the City of Stamford will simultaneously perform investigations in other drainage areas or unaffected lateral alignments within the same drainage area, to facilitate suitable progress while awaiting correction of illicit discharges within the same outfall drainage area. Since work progress may be further constrained by the persistence of precipitation and snow melt events, the city will provide for adequate staffing and equipment resources to perform concurrent investigations in multiple areas as necessary to complete IDDP investigations in 20% of all known outfalls by June 4, 2018.

#### 5.4.4.11 Reporting and Evaluation

The city of Stamford will document in the Annual Reports the progress made under the IDDP program progress. The report will include:

- Results and status of its outfall screening and monitoring, including percent of MS4 drainage areas or outfalls screened and/or monitored;
- Percent of structures inspected;
- Footage of MS4 cleaned and/or inspected by CCTV; and
- Mapping status.

#### 5.4.4.12 Modifications

Stamford will modify the IDDP program as necessary to address situations where groundwater or backwater conditions or other issues preclude adequate implementation as described in the NPDES Permit. Any modifications will be documented as described in *Section 7* of this SMP.

## 6 Monitoring Program

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### 6.1 Monitoring Program Revisions

The revised NPDES Permit has the following general requirements. It requires wet weather monitoring of impaired water bodies only. It also requires dry and wet weather screening for illicit discharges as

described above as part of the IDDE protocol. The previous version of the permit also included instream dry weather monitoring of receiving waters.

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## 6.2 Legal Authority

The Stormwater Ordinance described in *Section 4.2.11* is intended to provide the City of Stamford with the legal authority necessary to carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with the NPDES Permit.

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## 6.3 First Year - Description of Program

The NPDES Permit specifies that this SMP must include a description of the means, methods, quality assurance and control protocols, and schedule for implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis and evaluation of the data collected. A description of meteorological resources that the city intends to use is also required. Much of this information is specifically prescribed by the NPDES Permit. It is repeated here for convenience.

### 6.3.1 Description of Methods

The methods by which monitoring will occur are detailed in *Section 6.3* of this SMP.

### 6.3.2 Description of Quality Assurance

Quality assurance will be performed by taking split samples of one sample of every twenty samples or one sample for the entire sampling event if the sampling event consists of less than twenty samples. Documentation of samples will be required through use of chains of custody. The analytical laboratory used will also be required to document the following:

- Quantification limits;
- Duplicates;
- Percent Recovery;
- Blanks; and
- Matrix Spikes.

### 6.3.3 Meteorological Resources that Will Be Used

Weather forecasting web sites will be the primary resource be used for prediction of rainfall events. They will also be used for confirmation of sufficient dry periods prior to sampling. Preferred web sites include weather.com, wunderground.com, and intellicast.com.

In addition, the city maintains rain gauges in the following locations:

- Highway Department; and
- Scofield Town Road Recycling Center.

These rain gauges will serve as the official rainfall readings for the City of Stamford's locations south and north of the Merritt Parkway, respectively.

## 6.4 Impaired Waters Outfall Investigation and Monitoring

The NPDES Permit requires both dry and wet weather monitoring within the MS4 as detailed below.

### 6.4.1 Inventory

The permit requires that Stamford inventory all discharges to impaired waters. The City has identified a total of 949 outfalls. Of these, 150 discharge to the impaired waters listed below. A list of outfalls to impaired water bodies can be found in *Appendix R*.

Water Body	Water Quality Classification	Impairment	Cause of Impairment	TMDL
LIS WB Shore - Westcott Cove, CT-W2_018	Coastal and Marine Surface Waters Class SA	Shellfish Harvest	Fecal coliform;	Statewide Bacteria TMDL
LIS WB Shore - Stamford Harbor - CT-W2_019	Coastal and Marine Surface Waters Class SA	Shellfish Harvest	Fecal coliform;	Statewide Bacteria TMDL
LIS WB Inner - Stamford Harbor - CT-W1_018-SB	Coastal and Marine Surface Waters Class SB	Habitat for Marine Fish, Other Aquatic Life and Wildlife;	Dissolved oxygen saturation; Nutrient <sup>1</sup> / Eutrophication: Biological Indicators	None
Noroton River-01 - CT7403-00_01	Inland Surface Waters Class B	Habitat for Fish, Other Aquatic Life and Wildlife	Cause unknown	
LIS WB Shore - Stamford Harbor - CT-W2_019	Coastal and Marine Surface Waters Class SA	Shellfish Harvest	Fecal coliform;	Statewide Bacteria TMDL
LIS WB Inner - Holly Pond, Stamford CT-	Coastal and Marine Surface Waters Class SB	Commercial Shellfish Harvesting Where	Fecal Coliform	

<sup>1</sup> The CTDEEP considers Nutrient/Eutrophication to be a nutrient impairment requiring phosphorus and nitrogen sampling – per Chris Stone December 4, 2018 email.

Water Body	Water Quality Classification	Impairment	Cause of Impairment	TMDL
W1_016-SB		Authorized		
Rippowam River-01 - CT7405-00_01	Inland Surface Waters Class A	Habitat for Fish, Other Aquatic Life and Wildlife	Cause unknown	
LIS WB Shore - Stamford Harbor - CT-W2_020	Inland Surface Waters Class A	Shellfish Harvest	Fecal coliform;	Statewide Bacteria TMDL
Mianus River-02 - CT7407-00_02 <sup>2</sup>	Inland Surface Waters Class AA	Habitat for Fish, Other Aquatic Life and Wildlife	Cause unknown	

#### 6.4.2 Outfall Screening for Phosphorus and Nitrogen

The only one of the MS4 receiving waters that has impairments for phosphorus or nitrogen is LIS WB Inner - Stamford Harbor - CT-W1\_018-SB, so the 33 outfalls that discharge to it must be monitored for nitrogen and phosphorus. This monitoring may be done with a portable meter(s). Follow up is required if the following thresholds are exceeded:

- Total Nitrogen >2.5 mg/L
- Total Phosphorus >0.3 mg/L

#### 6.4.3 Outfall Screening for Bacteria

Outfalls that discharge to waters that are impaired due to bacteria must analyze for bacteria during a qualifying wet weather discharge. Since the water bodies that are impaired for bacteria are all Class SA and SB, the samples must be analyzed for fecal coliform and enterococci. Follow up is required if the following results are found:

- Fecal Coliform > 31 colonies/100 ml for Class SA
- Fecal Coliform > 260 colonies/100 ml for Class SB
- Enterococci > 104 colonies/100 ml for swimming areas
- Fecal Coliform > 500 colonies/100 ml for all others.

#### 6.4.4 Outfall Screening for Other Pollutants of Concern

The impairments for water bodies to which the Stamford MS4 discharges are limited to nitrogen, phosphorus and bacteria, so no other sampling is required.

<sup>2</sup> Added to Impaired Waters List in 2016

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## 6.5 Follow-up Investigations

If bacteria counts in an impaired receiving water exceed the thresholds in *Sections 6.4.2 and/or 6.4.3*, the City is required to investigate activities within the drainage area to determine which factors may be contributing to the impairment. Factors to be considered include:

- Land use or development patterns;
- Business, commercial, residential or industrial activities;
- DCIA;
- Natural contributors;
- MS4 maintenance issues;
- Other activities identified by the permittee.

Based on the findings of this investigation, the City is required to implement a Best Management Practices (BMP) program focusing on the cause of the impairment.

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## 6.6 Prioritized Outfall Monitoring

Once screening has been completed for at least half the outfalls for which follow-up monitoring is required, the six outfalls with the highest contributors of bacteria must be sampled annually for bacteria.

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## 6.7 Schedule

The inventory and mapping to impaired waters were required to be completed by June 2, 2017. The initial screening of all required outfalls is to be completed by June 2, 2023, and at least 25% of this screening was to have occurred by June 2, 2018. The follow up investigations were required to begin by June 2, 2017.

Annual monitoring of the six outfalls for each watershed for which screening occurs is to begin within one year following completion of outfall screening in the watershed.

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## 6.8 Reporting

Beginning the fourth year following issuance of the NPDES Permit, the City is required to report on the progress of the impaired waters investigation. The following information is required:

- List of outfalls screened during the year;
- Number of outfalls screened during the year;
- Number of outfalls identified for follow-up investigation;
- Progress of drainage area investigations;
- Description of control measure implementation; and
- Identification of six priority outfalls and the results of that outfall monitoring.

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## 6.9 Wet Weather Outfall Monitoring

Sampling condition requirements for wet weather monitoring are as follows:

- Sampling must be done at least 48 hours after any previous storm that produced a discharge from the outfall;
- Runoff events cannot be from ice or snow melt alone but may include insignificant amounts of meltwater;
- Monitoring shall consist of a single grab sample taken within the first six hours of discharge from the outfall;
- The following information must be recorded:
  - Date, temperature, time of start of discharge, time of sampling and inches of rainfall;
  - Duration between sampled rain event and prior rain even
- Laboratory testing must be conducted in accordance with 40 CFR 135 and be consistent with Connecticut Reasonable Confidence Protocols.

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## 6.10 Dry Weather Outfall Screening for Illicit Dischargers

Dry weather monitoring of outfalls is part of the IDDE program and is covered in *Section 5*.

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## 6.11 Evaluation and Reporting

All data collected as required by *Sections 5* and *6* of this SMP will be evaluated each year and included in the Annual Report. This data will be compared to that previously collected under the 2005 NPDES Permit. It also must be reported to the CTDEEP using the Discharge Monitoring Report (DMR) and NetDMR procedures described in Section 8B of the NPDES Permit.

Beginning the fourth year following issuance of the NPDES Permit, the City is required to report on the progress of the impaired waters investigation. The following information is required:

- List of outfalls screened during the year;
- Number of outfalls screened during the year;
- Number of outfalls identified for follow-up investigation;
- Progress of drainage area investigations;
- Description of control measure implementation; and
- Identification of six priority outfalls and the results of that outfall monitoring.

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## 6.12 Program Modifications

Modifications, if needed, will be made in accordance with the procedures in *Section 7*.



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## 6.13 Monitoring Recordkeeping

The NPDES Permit no longer specifically requires the following, but they it is recommended that they be maintained for Stamford's records:

- Samples and measurements taken for the purpose of monitoring be representative of the monitored activity.
- The city will retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the NPDES Permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, report or application.

### 6.13.1 Monitoring Records

Records of monitoring information will include:

- The date, exact place, and time of sampling or measurements;
- The date off the most recent previous rain event greater than 0.1 inches;
- The individual(s) who performed the sampling or measurements;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses (this can be found on lab reports);
- The analytical techniques or methods used (this can be found on lab reports); and
- The results of such analyses (this can be found on lab reports).

The In-stream Monitoring Field Data Sheet found in *Appendix S* will include all of the information that is not included in the lab reports.

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## 6.14 Monitoring Waiver

Should the City of Stamford is unable to collect a sample due to adverse climatic conditions, they will submit in lieu of sampling data, a description of why samples could not be collected, including available documentation of the storm event. Adverse climatic conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection or a sample dangerous or physically impossible. If more than one (1) sample is missed, the missed outfalls will be resampled as soon as possible or an alternate outfall designated and sampled as soon as possible.

## 7 Reporting

Beginning the fourth year following issuance of the NPDES Permit, the City is required to report on the progress of the impaired waters investigation. The following information is required:

- List of outfalls screened during the year;
- Number of outfalls screened during the year;

- Number of outfalls identified for follow-up investigation;
- Progress of drainage area investigations;
- Description of control measure implementation; and
- Identification of six priority outfalls and the results of that outfall monitoring.

## 8 SMP Review and Modifications

Each year, the city will review this SMP as part of the preparation of the annual report. This review may result in the need to revise the SMP.

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### 8.1 SMP Modification by Permittee

The City of Stamford may modify the SMP during the term of the NPDES Permit in accordance with the following procedures. The approved SMP will not be modified by the City of Stamford without the prior written approval of the DEEP commissioner, except if:

- Modifications adding (but not subtracting or replacing) components, activities, controls, or requirements to the approved SMP are made at any time upon written notification to the commissioner summarizing the modifications.
- Modifications replacing an ineffective or impracticable BMP specifically identified in the Stormwater Management Plan with an alternate BMP will be documented in the Annual Report, with a justification for the modification.

The City has notified Christopher Stone of the CTDEEP that the SMP is being modified herein.

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### 8.2 Modifications Required By Commissioner

The commissioner may require modification of the SMP as needed to:

- Assess impacts and or correct adverse impacts that are causing or have the potential to cause pollution to surface waters receiving discharges from the City of Stamford MS4;
- Include more stringent requirements necessary to comply with new State or Federal statutory or regulatory requirements; or
- Include such other conditions deemed necessary by the commissioner to comply with the goals and requirements of the RCSA and the Clean Water Act, or
- the actions required by the Plan fail to ensure or adequately protect against pollution of the surface waters of the state; or
- The city is notified that a TMDL to which they is subject has been established for the stormwater water; or if actions are necessary to address any significant sources or potential sources of pollution identified as a result of any inspection or visual monitoring.

Modifications required by the commissioner pursuant to this subsection will be made in writing, set forth the time schedule for the city to develop the modification(s), and offer the opportunity to propose

alternative SMP modifications to meet the objective of the required modifications. The commissioner will indicate a schedule by which the modifications must be made.

## 9 Plan Certification

"I certify that I have thoroughly and completely reviewed the Stormwater Management Plan prepared for the City of Stamford. I further certify, based on such review and site visit by myself or my agent, and on my professional judgment, that the Stormwater Management Plan meets the criteria set forth in this permit. I am aware that there are significant penalties for false statements in this certification, including the possibility of fine and imprisonment for knowingly making false statements."

This certification is made noting the following differences from the NPDES Permit:

- Some of the tasks required by the Permit were completed after the date specified in the Permit.
- SOPs for pesticide and fertilizer use are being developed.
- The list of all outfalls is has been developed, but changes will be made as new information is discovered.

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Erik Mas, P.E.

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PE Number

## **Appendix A**

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Modified NPDES Permit No. CT0030279

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## Appendix B

### Pollution Prevention Team Members

## Appendix C

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### Selected Stormwater Management Public Information

## Appendix D

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### Stormwater Management Ordinance



## **Appendix E**

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### Lists of Toxic and Hazardous Substances

## **Appendix F**

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### BMPs for Pesticides

## Appendix G

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### PHF Use in Athletic Fields

## Appendix H

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### Changes to Zoning Regulations for Stormwater Management

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## Appendix I

Building Permit

To be Updated by Stamford to include check-off for construction  
Stormwater General Permit

## **Appendix J**

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### Example Illegal Discharge Enforcement Letter

## Appendix K

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CTDEEP's Best Management Practices for Disposal of Snow  
Accumulation from Roadways and Parking Lots

## Appendix L

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### Catch Basin Inspections, Cleanings and Recommended Cleaning Frequency



## **Appendix M**

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### Detention and Retention Ponds

## Appendix N

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### Interconnected MS4s Information

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## Appendix O

IDDE Outfall Lists

## Appendix P

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### IDDE Screening Checklist

## **Appendix Q**

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### Sample Smoke Testing Notifications

## **Appendix R**

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### Discharges to Impaired Water Bodies

## **Appendix S**

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### In-stream Monitoring Field Data Sheet