

**NPDES PERMIT**

issued to

City of Stamford  
888 Washington Blvd.  
Stamford, CT 06901

**Location Address:**  
Municipal Storm Sewer System

**Permit ID:** CT0030279

**Receiving Stream:** Long Island Sound, Cove Harbor,  
Westcott Cove, Stamford Harbor, Holly Pond, Rippowam River,  
Noroton River and Mianus River and their tributaries

**Permit Expires:** June 3, 2018

**SECTION 1: GENERAL PROVISIONS**

- (A) This permit is issued in accordance with section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and section 402(b) of the Clean Water Act, as amended, 33 USC 1251, et. seq., and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer an N.P.D.E.S. permit program.
- (B) **The City of Stamford**, ("Permittee"), shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to section 22a-430 of the CGS and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of section 22a-430-3.

Section 22a-430-3 General Conditions

- (a) Definitions
- (b) General
- (c) Inspection and Entry
- (d) Effect of a Permit
- (e) Duty

- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (l) Conditions Applicable to POTWs
- (m) Effluent Limitation Violations (Upsets)
- (n) Enforcement
- (o) Resource Conservation
- (p) Spill Prevention and Control
- (q) Instrumentation, Alarms, Flow Recorders
- (r) Equalization

Section 22a-430-4 Procedures and Criteria

- (a) Duty to Apply
- (b) Duty to Reapply
- (c) Application Requirements
- (d) Preliminary Review
- (e) Tentative Determination
- (f) Draft Permits, Fact Sheets
- (g) Public Notice, Notice of Hearing
- (h) Public Comments
- (i) Final Determination
- (j) Public Hearings
- (k) Submission of Plans and Specifications. Approval.
- (l) Establishing Effluent Limitations and Conditions
- (m) Case by Case Determinations
- (n) Permit issuance or renewal
- (o) Permit Transfer
- (p) Permit revocation, denial or modification
- (q) Variances
- (r) Secondary Treatment Requirements
- (s) Treatment Requirements for Metals and Cyanide
- (t) Discharges to POTWs - Prohibitions

(C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.

(D) Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under section 22a-438 or 22a-131a of the CGS or in accordance with section

22a-6, under section 53a-157b of the CGS.

- (E) The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner of Energy and Environmental Protection ("commissioner"). To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the commissioner, at least 30 days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the transferee, to obtain the commissioner's approval prior to commencing such discharge(s) may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the CGS and RCSA.
- (F) No provision of this permit and no action or inaction by the commissioner shall be construed to constitute an assurance by the commissioner that the actions taken by the Permittee pursuant to this permit will result in compliance or prevent or abate pollution.
- (G) Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- (H) An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the Regulations of Connecticut State Agencies.
- (I) This permitted discharge is consistent with the applicable goals and policies of the Connecticut Coastal Management Act (section 22a-92 of the Connecticut General Statutes).
- (J) Any activity prescribed by this permit, if it is located within an aquifer protection area as mapped under section 22a-354b of the Connecticut General Statutes, must comply with regulations adopted pursuant to section 22a-354i of the Connecticut General Statutes.

## **SECTION 2: DEFINITIONS**

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the CGS and section 22a-430-3(a) and 22a-430-6 of the RCSA.

(B) In addition to the above, the following definitions shall apply to this permit:

*"Alignment"* in the context of sanitary and storm sewer systems means the system of pipes and structures within the catchment area of the given system.

*"Annual"* in the context of a sampling frequency means that the sample must be collected at least once during each calendar year.

*"Coastal area"* shall be the same as the definition contained in section 22a-94 of the Connecticut General Statutes.

*“Coastal waters”* shall be the same as the definition contained in section 22a-93(5) of the Connecticut General Statutes.

*“Commercial activity”* means the discharge from any point source conveying stormwater runoff from any activity or facility under SIC codes 50-59, 60-69 or 70-79.

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

*“Construction activity”* means activity including but not limited to clearing and grubbing, grading, excavation and dewatering.

*“Department”* means the Department of Energy and Environmental Protection.

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

*“DMR”* means Discharge Monitoring Report.

*“Fresh-tidal wetland”* means a tidal wetland with an average salinity level of less than 0.5 parts per thousand.

*“Guidelines”* means the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, established pursuant to section 22a-328 of the Connecticut General Statutes.

*“High Quality Waters”* means surface waters where the water quality is better than necessary to meet the criteria established in the Connecticut Water Quality Standards Manual, as amended, for the applicable classification or which may sustain a sensitive use designated for a higher classification. This definition may be superseded by future amendments to the Water Quality Standards Manual.

*“Illicit Discharge”* means any discharge to the Permittee’s MS4 that is not composed entirely of stormwater, with the exception of discharges authorized by another N.P.D.E.S. permit, or discharges described in the “Non-Stormwater Discharges” section (Section 4(A)(3)) of this permit.

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

*“Industrial Activity”* refers to the definition of industrial activity in Section 2 of the General Permit for the Discharge of Stormwater Associated with Industrial Activity issued by the Department, as amended.

*“Maximum Extent Practicable”* means to reduce and/or eliminate the discharge of pollutants to the maximum extent practicable using control measures that are technologically available and economically practicable and achievable in light of best industry practice.

*“Medium MS4”*, as it relates to the City of Stamford, means all municipal separate storm sewers that are located in an incorporated place (city) with a population greater than 100,000 and less than 250,000 as determined by the latest Decennial Census by the Bureau of Census.

*“MS4”* or *“Municipal separate storm sewer system”* means a conveyance, or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains, which is or are (i) owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as sewer districts, flood control districts or drainage districts, or similar districts, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the state; (ii) designed or used for collecting or conveying stormwater; (iii) which is not a combined sewer; and (iv) which is not part of a POTW.

*“LC50”* means the concentration of a substance, mixture of substances, or discharge which causes mortality to fifty percent of the test organisms in an acute toxicity test.

*“NA”* as a Monitoring Table abbreviation means "not applicable".

*“NR”* as a Monitoring Table abbreviation means "not required".

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

*“Quarterly”*, in the context of a sampling frequency, means that a representative sample of the discharge shall be collected during each of the following periods: January - March, inclusive; April - June, inclusive; July - September, inclusive, and October - December, inclusive.

*“Retain”* means to hold runoff on-site with no subsequent point source release to surface waters from a storm event defined in this general permit or as approved by the commissioner.

*"Runoff reduction practices"* means those post-construction stormwater management practices used to reduce post-development runoff volume delivered to the receiving water, as defined by retaining the runoff from a storm up to the first half inch or one inch of rainfall in accordance with Section 6(A)(3)(a)(iii) of this general permit. Runoff reduction is quantified as the total annual post-development runoff volume reduced through canopy interception, soil amendments, evaporation, rainfall harvesting, engineered infiltration, extended filtration or evapotranspiration.

*"SIC Code"* means Standard Industrial Classification (SIC) codes as identified by "Standard Industrial Classification Manual, Executive Office of the President, Office of Management and Budget 1987".

*"Stamford MS4"* means the medium MS4 owned or operated by the City of Stamford.

*"Stamford MS4 Discharge(s)"* means the point source discharge(s) of stormwater from the MS4 owned or operated by the City of Stamford.

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

*"Semi-Annual"* in the context of a sampling frequency, means that a representative sample of the discharge shall be collected during each of the following periods: January - June, inclusive, and July - December, inclusive.

*"Stormwater Quality Manual"* means the Department's 2004 Connecticut Stormwater Quality Manual published, as may be amended.

*"Tidal wetland"* means a wetland as that term is defined in section 22a-29(2) of the Connecticut General Statutes.

*"Total Maximum Daily Load"* or *"TMDL"* means the maximum capacity of a surface water to assimilate a pollutant as established by the commissioner, including pollutants contributed by point and non-point sources and a margin of safety.

*"ug/l"* means micrograms per liter.

*"Water Quality Standards or Classifications"* means those water quality standards or classifications contained in the Connecticut Water Quality Standards published by the Department, as may be amended.

*"Water Quality Volume"* or *"WQV"* means the volume of runoff generated by one inch of rainfall on a site as defined in the 2004 Connecticut Stormwater Quality Manual, as amended.

### SECTION 3: COMMISSIONER'S DECISION

- (A) The commissioner has issued a final determination and found that the discharges will not cause pollution of any of the waters of the state. The commissioner's decision is based on **Application No. 201001035** for permit reissuance received on February 23, 2010 and the administrative record established in the processing of that application.
- (B) (1) From the issuance of this permit through and including June 30, 2013, the commissioner hereby authorizes the Permittee to discharge in accordance with the terms and conditions of Permit No. CT0030279, issued by the commissioner to the Permittee on March 18, 2005, the previous application submitted by the Permittee on December 2, 1998, and all modifications and approvals issued by the commissioner or the commissioner's authorized agent for the discharge and/or activities authorized by, or associated with, Permit No. CT0030279, issued by the commissioner to the Permittee on March 18, 2005.
- (2) From July 1, 2013 until this permit expires or is modified or revoked, the commissioner hereby authorizes the Permittee to discharge in accordance with the terms and conditions of Permit No. CT0030279, issued by the commissioner to the Permittee on June 4, 2013, Application No. 201001035 received by the Department on February 23, 2010, and all modifications and approvals issued by the commissioner or the commissioner's authorized agent for the discharge and/or activities authorized by, or associated with, Permit No. CT0030279, issued by the commissioner to the Permittee on June 4, 2013.
- (C) The commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

### SECTION 4: DISCHARGES AUTHORIZED UNDER THIS PERMIT

- (A) This permit authorizes:
- (1) **Existing** stormwater discharges to the surface waters of the state from all existing outfalls from areas, within the corporate boundary of the City of Stamford and served by, or otherwise contributing to, discharges from the existing MS4 owned and operated by the City of Stamford.
- (2) New storm water discharges to the surface waters of the state, subject to the "New or Increased Discharges to High Quality Waters" and "New and Improved discharges to Impaired Waters" sections (subsections 4(A)(4) and 4(A)(5) below) of this permit.

(3) The following non-stormwater discharges provided they do not contribute to a violation of water quality standards and are not significant contributors of pollutants to the MS4:

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

(4) New or Increased Discharges to High Quality Waters

On or before thirty (30) days prior to the commencement of a new or increased discharge to High Quality Waters (as defined in Section 2(B)) from its MS4, the Permittee must provide to the commissioner a description of the discharge and information demonstrating that the discharge will satisfy the Connecticut Anti-Degradation Implementation Policy in the Water Quality Standards, as amended. Such discharge will become authorized thirty (30) days after the Permittee's notification to the commissioner unless the commissioner notifies the Permittee that it has failed to demonstrate satisfaction with the retention standards of the anti-degradation provisions. Before commencing any new or increased discharge, the Permittee shall identify in its Stormwater Management Plan ("SMP"), the best management practices ("BMPs") it will implement to ensure compliance with antidegradation provisions and the terms of this Permit.

(5) New or Increased Discharges to Impaired Waters

Any new or increased discharge to an impaired water will become authorized only if the Permittee demonstrates to the commissioner, before commencement of the discharge, that through the implementation of BMPs or other measures, the discharge is not expected to cause or contribute to an exceedance of a water quality standard for the pollutant(s) of concern. This provision does not apply to routine maintenance and repair of the storm sewer system provided such work does not significantly increase the discharge from a given storm sewer catchment area. The Permittee shall provide data and other technical information to the commissioner sufficient to demonstrate one or more of the following:

- (a) the indicator pollutant(s) identified as causing the impairment will not be present in the discharge; or
- (b) the discharge is not expected to cause or contribute to an exceedance of a water quality standard. To do this, the Permittee must provide data and other technical information to the commissioner sufficient to demonstrate:
  - (i) For discharges to waters without an established TMDL, that the discharge of the pollutant identified as an indicator of the impairment will meet in-stream water quality criteria at the point of discharge to the waterbody; or
  - (ii) For discharges to waters with an established TMDL, that there are sufficient remaining Waste Load Allocations in the TMDL to allow the discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

**SECTION 5: GENERAL LIMITATIONS**

- (A) The stormwater discharges shall not contain, or cause in the receiving stream, a visible oil sheen, floating solids, visible discoloration or foaming. Excluded from this are naturally occurring substances such as leaves and twigs provided no person has placed such substances in or near the discharge.
- (B) The stormwater discharges shall not cause acute or chronic toxicity in its receiving water bodies.
- (C) A new Stamford MS4 discharge to a tidal wetland (that is not fresh-tidal) where such discharge is within 500 feet of the tidal wetland shall discharge through a system designed to retain the volume of stormwater runoff generated by 1 inch of rainfall from the MS4 within the discharge's drainage area. If there are site constraints that would prevent retention of this volume on-site (e.g., soil contamination, elevated ground-water, potential groundwater drinking supply area, etc.), documentation must be submitted, for the commissioner's review and written

approval, which explains the site limitations and offers an alternative retention volume and/or additional stormwater treatment. In such cases, the portion of 1 inch that cannot be retained must be provided with additional stormwater treatment so as to protect water quality. Any such treatment shall be designed, installed and maintained in accordance with the Stormwater Quality Manual.

- (D) A Stamford MS4 discharge below the high tide line into coastal, tidal, or navigable waters for which a permit is required under the Structures and Dredging Act in accordance with section 22a-361(a) of the Connecticut General Statutes or into tidal wetlands for which a permit is required under the Tidal Wetlands Act in accordance with section 22a-32 of the Connecticut General Statutes, shall obtain such permit(s) from the commissioner.

## **SECTION 6: CONDITIONS OF THIS PERMIT**

### **(A) CONTROL MEASURES**

Control Measures are required Best Management Practices (BMPs) that the Permittee must implement to reduce the discharge of pollutants from Stamford's MS4 to the maximum extent practicable.

#### **(1) Public Education and Involvement**

The Permittee shall continue to implement a public education and involvement program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness. The program shall include elements that:

- (a) increase the public awareness about stormwater pollution, its causes and effects, and actions that citizens, and commercial, industrial, and institutional entities can take to reduce the impact of stormwater pollution on water quality;
- (b) promote, publicize and facilitate the various elements of its Stormwater Management Plan ("SMP") through varied public education and involvement methods and make information available for non-English speaking residents;
- (c) disseminate information to residents regarding the proper handling and disposal of used motor vehicle fluids, household hazardous waste, electronic waste, food preparation waste, grass 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;
- (d) educate dog owners about the proper disposal of pet waste and by providing written information at the time of dog license renewal. The Permittee shall install signage, pet waste baggies, and disposal receptacles in recreational areas where dog walking is

allowed. In order to measure the effectiveness of education measures, the Permittee shall document in its annual report, information regarding the enforcement of the dog waste management ordinance (Section 11-7 of City Charter) including the number of violations and fines levied;

- (e) educate owners and operators of commercial, industrial, and institutional facilities as to their responsibility to control pollutants in stormwater discharges from their property to the Permittee's MS4; and
- (f) provide opportunities for the public to participate in the review, modification, and implementation of its SMP, and sustain partnerships with environmental groups and civic organizations interested in water quality related issues. The Permittee shall host an annual public informational meeting within sixty (60) days of the date of anniversary of this permit to discuss and provide information in each annual report required under Section 8(A) of this permit. The meeting notice shall comply with state public notice requirements, pursuant to CT Statute 7-3, and provide a forum for the education and involvement of interested public.

(2) Pollution Prevention (Source Controls)

Upon issuance of this permit, unless otherwise noted, the Permittee shall continue to implement, review and enhance its current pollution prevention practices and develop new source control procedures to include the elements listed below:

(a) Legal Authority

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

- (i) control the contribution of pollutants to the Stamford MS4 by permittees of the General Permit for the Discharge of Stormwater Associated with Industrial Activity and the General Permit for the Discharge of Stormwater Associated with Commercial Activity ("general permits"), issued pursuant to sections 22a-430b of the Connecticut General Statutes, by ensuring the City's stormwater rules and regulations contain requirements consistent with those of the general permits;
- (ii) control the contribution of pollutants to the Stamford MS4 by commercial, industrial, municipal, institutional or other facilities, not otherwise authorized by permit issued pursuant to Sections 22a-430 or 22a-430b of the Connecticut General Statutes;
- (iii) regulate the discharge of pollutants from any site that may affect water quality to the Stamford MS4.

- (b) The Permittee shall provide and actively promote the use of used motor oil collection capabilities at the city-owned recycling facility(ies) to facilitate the proper management, disposal, reuse and recycling of used motor vehicle fluids.
- (c) The Permittee shall continue to promote and offer at least annually its municipal Household Hazardous Waste (HHW) Collection and Electronic Waste Programs for the reuse, recycling, and proper disposal of such waste. The Permittee shall establish as a goal, increasing the frequency of the collection days hosted. The Permittee shall report progress made towards reaching the goals of the program in each annual report.

(d) Spills and Leaks

The Permittee shall develop and implement a Spill Prevention and Response Plan to prevent, contain, and respond to spills entering its MS4. The Permittee shall maintain, for a period of three years past the term of this permit, a list of spills and leaks of five gallons or more of petroleum products, or of toxic or hazardous substances which could affect stormwater, as listed in section 22a-430-4 (Appendix B Tables II, III and V, and Appendix D) of the Regulations of Connecticut State Agencies, and 40 CFR 116.4, that have been reported to the City or occurred as a result of an activity conducted by a city employee.

- (e) The Permittee shall limit the application of pesticides, herbicides and fertilizers (“PHFs”) in city owned or operated areas. The Permittee shall develop and implement standard operating practices for the handling, storage, application, and disposal of PHFs in compliance with applicable state and federal laws, and maintain consistency with model Integrated Pest Management Plans (“IPMs”) developed by the Department. The Permittee shall establish reduction goals in its SMP, including consideration of alternatives, for PHFs being used at city owned or operated areas. With respect to city-owned or -operated golf courses (such as Sterling Farms Golf Course and E. G. Brennan Golf Course), the Permittee shall implement practices that achieve a 10 percent reduction in total nitrogen by the expiration date of this permit. Such reduction shall be determined by the average annual usage, by weight, of the three years preceding this permit. Additionally, the MS4 shall identify BMPs to maximize reduction in total nitrogen and phosphorus.
- (f) The Permittee must enclose or cover by a rigid or flexible roof, or other structural means all storage piles of de-icing materials (including pure salt, salt alternatives or either of these mixed with other materials) at city owned or operated sites, which are not otherwise regulated by the General Permit for the Discharge of Stormwater Associated with Industrial Activity. Such structure shall not allow for the migration or release of material outside of the structure through its sidewalls. In areas with a groundwater classification of GA or GAA, an impervious liner shall be utilized under

any de-icing material pile to prevent infiltration to groundwater. As a temporary measure (not to exceed two years from the effective date of this general permit), a waterproof cover may be used to prevent exposure to precipitation (except for exposure necessary to add or remove materials from the pile) until a structure can be provided. For temporary storage piles of de-icing materials in place for less than 180 days per year, a waterproof cover may be used to prevent exposure to precipitation (except for exposure necessary to add or remove materials from the pile).

In addition, no new road salt or de-icing materials storage facilities shall be located within a 100-year floodplain as defined and mapped for each municipality under 44 CFR 59 et seq. or within 250 feet of a well utilized for potable drinking water supply or within a Level A aquifer protection area as defined by mapping pursuant to section 22a-354c of the Connecticut General Statutes.

- (g) If the Permittee determines that a stormwater discharge, from commercial, industrial, municipal, institutional or other facilities, not otherwise authorized by a permit issued pursuant to Sections 22a-430 or 22a-430b of the Connecticut General Statutes, is contributing a substantial pollutant loading to the MS4, it shall develop, implement, and enforce a program to control pollutants. The Permittee shall report progress made towards reaching the goals of the program in each annual report. The program shall include:
  - (i) an inventory, mapping, and prioritization of all facilities determined by the Permittee to be contributing a substantial pollutant loading to its MS4 through inspections, monitoring, or other methods conducted by the Permittee, facility operator, or others; and
  - (ii) an education program that informs these facility operators of their obligation to comply with the City's stormwater rules and regulations, encourages pollution prevention, and promotes facility-specific stormwater management practices, including appropriate operation and maintenance practices.

### (3) Land Disturbance and Development

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

(i) Legal Authority

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

- establish an ordinance, bylaw, regulation, or other appropriate legal authority that requires developers and construction site operators to maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the 2004 Connecticut Stormwater Quality Manual, as amended, and all stormwater discharge permits issued by the DEEP within the City of Stamford pursuant to CGS 22a-430 and 22a-430b. Such ordinance, bylaw, regulation, or other appropriate legal authority may include the implementation of measures in addition to the Guidelines;
- identify existing municipal zoning, site planning, or street design regulations that address minimal dimensional criteria for the creation of roadways, parking lots, and other impervious cover that may represent barriers to implementing LID practices that involve minimization of impervious cover;
- carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with City regulations related to the management of the MS4;
- establish an ordinance, bylaw, regulation, or other appropriate legal authority to ensure that a developer's or construction site operator's proposed use of low impact development ("LID") practices are allowable by right or exception (e.g., special permit or variance) under its regulations;
- revise regulations necessary to eliminate or reduce potential barriers, or otherwise provide in its Annual Report(s) required by Section 8, a justification for why this schedule cannot be met and a revised schedule for implementation;
- optimize the performance and pollutant removal efficiency of privately-owned retention or detention ponds that discharge to or receive discharge from its MS4, by ensuring the performance of adequate inspection and maintenance activities;
- control through interagency or inter-jurisdictional agreements, the contribution of pollutants between the Permittee's MS4 and MS4s owned or operated by others.

(ii) Interdepartmental Coordination

A plan to coordinate all municipal departments and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects within the City of Stamford.

(iii) Low Impact Development ("LID") Measures

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

- For sites that are currently developed with an effective impervious cover of forty percent or more and for which the applicant is proposing redevelopment, the applicant shall design the site in such a manner as to retain on-site half the water quality volume for the site. In cases where the applicant is not able to retain this entire amount, the applicant shall design the redevelopment to retain runoff volume to the maximum extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice. In such cases, the applicant shall provide additional stormwater treatment for sediment, floatables and nutrients to the maximum extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice for the volume above that which can be retained up to the water quality volume. In cases where the runoff retention requirement cannot be met, the applicant shall submit, for the Permittee's review, a report detailing factors limiting the capability of achieving this goal. The report shall include: the measures taken to maximize runoff reduction practices on the site; the 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. In the case of linear redevelopment projects (e.g. roadway reconstruction or widening) for the developed portion of the right of way: (1) for projects that may be unable to comply with the full retention standard, the alternate retention and treatment provisions may also be applied as specified above, or (2) for projects that will not increase the effective impervious cover within a given watershed, the Permittee shall implement the additional stormwater treatment measures referenced above, but will not be required to retain half of the water quality volume.

- For all new development and for redevelopment of sites with a currently developed effective impervious cover of less than forty percent, the applicant shall design the site to retain the water quality volume for the site. If there are site constraints that would prevent retention of this volume on-site (e.g., brownfields, capped landfills, bedrock, elevated groundwater, etc.), documentation must be submitted, for the City's review and written approval, which: explains the site limitations; provides a description of the runoff reduction practices implemented; provides an explanation of why this constitutes the maximum extent achievable; offers an alternative retention volume; and provides a description of the measures used to provide additional stormwater treatment for sediment, floatables and nutrients above the alternate volume up to the water quality volume. Any such treatment shall be designed, installed and maintained in accordance with the Stormwater Quality Manual. In the case of linear projects that do not involve impervious surfaces (e.g. electrical transmission rights-of-way or natural gas pipelines), retention of the water quality volume is not required as long as the post-development runoff characteristics do not differ significantly from pre-development conditions.
- limit turf areas to areas of land disturbance,
- limit land disturbance to areas necessary to construct buildings, utilities, stormwater management measures, parking, access ways, reasonable lawn and landscape areas and contouring necessary to prevent future site erosion,
- maintain consistency with the Connecticut Stormwater Quality Manual (as amended), or if inconsistent, provide an explanation of why consistency is not feasible or practicable and information that the proposed plan of development is adequately protective.

(iv) Stormwater Management Implementation

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

(v) Site Review and Inspection

- 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; and
- Site inspection and enforcement to assess the adequacy of the installation, maintenance, operation, and repair of construction and post construction control measures.

(vi) Public Involvement

A procedure for receipt and consideration of information submitted by the public concerning proposed and ongoing land disturbance and development activities.

(vii) State Permit Notification

A procedure for notifying developers of their potential obligation to obtain authorization under the DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities ("construction general permit") if their development or redevelopment project disturbs one or more acres of land, either individually or collectively, as part of a larger common plan, and results in a point source discharge to the surface waters of the state directly or through the Permittee's MS4. The notification shall include a provision informing the project applicant of their obligation to provide a copy of the Storm Water Pollution Control Plan to the Permittee upon request pursuant to the construction general permit.

(viii) Impervious Cover

Within four (4) years of the date of issuance of this permit, the Permittee shall complete, and include in its SMP, an estimate of the DCIA that contributes stormwater to each of its MS4 outfalls. In its initial annual report, the Permittee shall describe the methodology and assumptions used to estimate the DCIA. Each annual report shall document the progress of this task until its completion in the fourth year. The Permittee shall revise its DCIA estimate as development, redevelopment, or retrofit projects effectively add or remove DCIA to its MS4.

(4) Illicit Discharges

The Permittee shall continue to implement their illicit discharge detection and elimination program and update such program in accordance with the Illicit Discharge Detection and

Elimination (IDDE) Program section (Section 6(D)).

(5) Infrastructure Operations and Maintenance

(a) Employee Training

The Permittee shall continue a formal employee training program to increase awareness of water quality related issues in management of its MS4. In addition to providing key staff with topical training regarding standard operating procedures and other activities necessary to comply with the provisions of this permit, the training program shall include establishing an awareness of the general goals and objectives of the SMP; identification and reporting of illicit discharges, and improper disposal; and spill response protocols and respective responsibilities of involved personnel.

(b) Infrastructure Repair and Rehabilitation

The Permittee shall repair and rehabilitate its MS4 infrastructure in a timely manner in order to reduce or eliminate the discharge of pollutants from its MS4 to receiving waters. Priority for repair and rehabilitation shall be based on existing information on outfalls discharging pollutants, impaired waters, inspection observations or observations made during outfall mapping pursuant to Section 6(D)(4)(c) of this permit. This shall include refinement of the Permittee's standard operating procedures and good housekeeping practices for management of its MS4.

(c) Roadway Maintenance

City-owned public streets, roads and highway rights-of-way shall be maintained by the Permittee in such a manner as to minimize the discharge of pollutants to its MS4.

(d) Sweeping

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

cleaning, cubic yards of material collected, and method(s) of reuse or disposal.

- (ii) The Permittee shall sweep all publicly owned parking lots at least monthly.
- (iii) The Permittee shall sweep sidewalks in the central business district at least weekly.

(e) Leaf Collection

The Permittee shall conduct a city wide leaf pickup program annually to be completed by December 15.

(f) Snow Removal

- (i) The Permittee shall implement and refine its standard operating practices regarding its snow and ice control operations to minimize the discharge of pollutants. The Permittee shall establish goals for the optimization of chemical application rates through the use of automated application equipment (e.g. zero-velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals. The Permittee shall maintain records of the application of anti-icing and/ or de-icing chemicals to document the reduction of chemicals to meet established goals.
- (ii) The Permittee shall maintain consistency with the DEEP's Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots, as amended, for the stockpiling or disposal of post-plowing snow.

(g) Catch Basin Cleaning

The Permittee shall conduct routine cleaning of all catch basins. The Permittee shall track catch basin inspection observations. Utilizing information compiled through its inventory of catch basins, operational staff and public complaints, the Permittee shall optimize routine cleaning frequencies for particular structures or catchment areas as follows to maintain acceptable sediment removal efficiencies:

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

shall inspect and, if necessary, clean these catch basins at least twice to establish a cleaning frequency determined such that no catch basin sump is found to be more than fifty percent (50%) full during routine cleaning events. If any of these catch basins are found to be more than fifty percent (50%) full, such basins shall be cleaned and reinspected within a year to determine the appropriate cleaning frequency. Once this frequency has been determined, it shall be included in the SMP and noted in the Permittee's Annual Reports.

- (iii) Following the establishment of appropriate cleaning frequencies pursuant to subparagraphs (i) and (ii) above, and notwithstanding extenuating circumstances (such as excessive erosion from an active construction site), if a catch basin sump is found to be more than fifty percent (50%) full during each of two consecutive routine cleaning events, the Permittee shall investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practical, abate contributing sources through appropriate measures. Appropriate measures may include stabilization practices, drainage modifications, and increased frequencies of catch basin cleaning and street sweeping, and structural controls suitable for controlling the excessive loading. The Permittee shall describe in its annual report actions taken or its plans to abate areas of persistent sedimentation (including a timeframe for the implementation of such actions), including stabilization practices, structural improvements or operational modifications. After implementation of these measures, if subsequent inspections continue to find the sump more than fifty percent (50%) full, cleaning frequency shall be increased as appropriate to maintain levels below fifty percent (50%). Such changes in frequency shall be included in the SMP and noted in the Permittee's Annual Report.

(h) Detention and Retention Ponds

The Permittee shall ensure the performance of retention or detention ponds which discharge to, or receive stormwater from, its MS4. This shall include ponds that are owned by the Permittee and all privately-owned ponds where the Permittee maintains an easement or other legal authority pursuant to Section 6(A)(3)(a)(i) of this permit. At a minimum, the Permittee shall annually inspect all such retention or detention ponds and remove accumulated solids to restore full solids capture design capacity where found to be in excess of 50% design capacity.

(i) Interconnected MS4s

As part of interagency agreements established pursuant to Section 6(B)(4)(h) of this permit, the Permittee shall coordinate with operators of interconnected MS4s (such as neighboring municipalities and DOT) regarding the contribution of potential pollutants from the storm sewer systems, contributing land use areas and stormwater

control measures in the respective MS4s. This same coordination shall be conducted regarding operation and maintenance procedures utilized in the respective systems.

(B) STORMWATER MANAGEMENT PLAN

- (1) The Permittee shall, within one year from the start of the Permittee's first fiscal year that begins after the date of issuance of this permit, submit to the commissioner for his/her review and approval a Stormwater Management Plan ("SMP"). The SMP shall set forth a program to provide for the implementation of specific control measures, stormwater monitoring, illicit discharge detection and elimination, and other appropriate means to control the quality of the authorized discharge. Notwithstanding the date of approval by the commissioner, the Permittee shall follow the timelines prescribed for these elements in this permit based on the effective date of the permit. Additionally, the Permittee must implement actions required to protect the surface waters of the state and to meet permit requirements.
- (2) If the commissioner disapproves the SMP or any portion thereof, the Permittee shall revise and resubmit a revised SMP within a timeframe determined by the commissioner. The Permittee shall submit an approvable revised SMP, that addresses the requirements of this permit and any deficiencies identified by the commissioner, no later than two years from the date of issuance of this permit.
- (3) Once the commissioner approves the SMP or any portion thereof, the Permittee shall implement it, and such SMP shall be deemed a condition of this permit and shall be enforceable as such.
- (4) Contents of the SMP

The SMP must reflect current conditions and provide, at a minimum, the following components:

(a) Pollution Prevention Team

The Permittee shall identify a team of individuals for the City who shall serve as members of a Stormwater Pollution Prevention Team ("team"). The team shall be responsible for implementing the SMP and assisting in the implementation, maintenance, and development of revisions to the SMP as well as maintaining control measures and taking corrective actions where required. The SMP shall clearly identify the responsibilities of each team member. One individual shall function as the Team Coordinator and shall coordinate the functions and responsibilities of the team members. The Team Coordinator shall be responsible for oversight of the SMP and compliance with this permit. The activities and responsibilities of the team shall address all aspects of the SMP. Each member of the team must have ready access to either an electronic or paper copy of applicable portions of this permit and the SMP.

(b) Mapping

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

(c) Control Measures

The SMP shall include a description of the location and type of control measures installed and/or implemented in accordance with the "Control Measures" section (Section 6(A)). The Permittee shall discuss the appropriateness and priorities of control measures in the SMP and how they address potential sources of pollutants to receiving waters. The SMP shall include a schedule for implementing the control measures as well as maintaining them where appropriate.

(d) Illicit Discharge Detection and Elimination (IDDE) Program

The SMP shall include a program to detect and eliminate existing illicit discharges and to prevent future illicit discharges. The IDDE program shall include inspections, detection protocols, dry- and wet-weather monitoring, discharge removal protocols, and any other measures as required by Section 6(D) of this permit.

(e) Monitoring Program

The SMP shall include a description of the dry- and wet-weather monitoring programs and sampling data in accordance with the Monitoring and Analyses section (Section 7). The SMP shall also include a description of and sampling data from any monitoring necessary to implement the IDDE Program in Section 6(D). The Permittee shall include in the SMP any additional monitoring that may be conducted to clarify or comply with any other elements of this permit along with a description of its purpose.

(f) Schedules and Procedures

The Permittee shall document in the SMP the schedules and procedures for implementation of mapping, control measures, monitoring, inspections, IDDE, reporting and any other elements of this permit that require scheduling. These include, but are not limited to: sweeping, catch basin cleaning, waste management practices and other good housekeeping measures; regular inspection, maintenance, and repair/rehabilitation of stormwater infrastructure; procedures for preventing and responding to spills and leaks; maintenance practices for city-owned properties and buildings; employee training; all inspection programs; and any monitoring conducted pursuant to this permit.

(g) Legal Authority

The Permittee shall document in the SMP and in the Annual Reports the provisions implemented to ensure legal authority to control discharges to and from the Stamford MS4 as required in the various Legal Authority subsections of this permit. This legal authority may be a combination of ordinance, lawful delegation of authority from another agency, permit, or agreements with other entities.

(h) Coordination

Where a portion of the separate storm sewer system within a municipality is owned or otherwise the responsibility of another municipality, or a state or federal agency, the Permittee and entities shall coordinate the development and implementation of their respective Stormwater Management Plans to address all the elements of Section 6(B). A description of the respective responsibilities for these elements shall be included in the Stormwater Management Plan for each municipality and/ or agency.

(i) Consistency with Other Plans and Permits

Where applicable, the SMP may reference requirements contained in a Spill Prevention Control and Countermeasure (SPCC) plan or a plan prepared or approved under the Resource Conservation and Recovery Act (RCRA) and other plans required by state, federal or local law. A copy of the pertinent sections of any referenced plan must be kept with the SMP. The SMP shall identify all general and individual permits issued by the DEEP for which the Permittee is authorized.

(5) Stormwater Management Program Resources

The Permittee shall provide adequate finances, staff, equipment, and support capabilities necessary to implement all elements of the SMP. A summary of dedicated resources and support capabilities shall be documented in the SMP and the Annual Reports.

(6) Stormwater Management Plan Review and Modification

(a) SMP Review

The Permittee shall undertake an annual review of its current SMP in conjunction with preparation of the annual report required under Section 8(A) of this permit.

(b) SMP Modification by Permittee

The Permittee may modify the SMP during the term of this permit in accordance with the following procedures:

- (i) The approved SMP shall not be modified by the Permittee without the prior written approval of the commissioner, unless in accordance with subparagraph (ii) below.
- (ii) Modifications adding (but not subtracting or replacing) components, activities, controls, or requirements to the approved Stormwater Management Plan may be made by the Permittee at any time upon written notification to the commissioner summarizing the modifications.
- (iii) Modifications replacing an ineffective or impracticable BMP specifically identified in the Stormwater Management Plan with an alternate BMP shall be documented in the Annual Report, with a justification for the modification.

(c) Modifications required by the commissioner

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

- (i) Assess impacts and/or correct adverse impacts that are causing or have the potential to cause pollution to surface waters receiving discharges from the Stamford MS4;
- (ii) Include more stringent requirements necessary to comply with new State or Federal statutory or regulatory requirements; or
- (iii) 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
- (iv) the actions required by the Plan fail to ensure or adequately protect against pollution of the surface waters of the state; or
- (v) the Permittee is notified that a TMDL to which the Permittee is subject has been established for the stormwater receiving water; or

- (vi) 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 shall be made in writing, set forth the time schedule for the Permittee to develop the modification(s), and offer the Permittee the opportunity to propose alternative SMP modifications to meet the objective of the required modification. All required modifications must be made in accordance with the required time schedule.

#### (7) Plan Certification

The SMP shall contain the following certification, signed by a professional engineer licensed to practice in the State of Connecticut:

“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.”

#### (C) MONITORING

The Permittee shall implement a monitoring program to monitor Stamford MS4 discharge and existing water quality, wet-weather impacts to water quality, possible illicit discharges to the MS4 or waters of the state, track compliance with this permit, and track progress in reducing negative impacts to surface waters of the state. Monitoring of dry and wet weather conditions shall be conducted in accordance with Section 7 of this permit. Monitoring for the detection of illicit discharges shall be conducted in accordance with Section 6(D) of this permit.

#### (D) ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PROGRAM

The Permittee shall develop an Illicit Discharge Detection and Elimination (IDDE) program designed to: provide the legal authority to prohibit and eliminate illicit discharges to the MS4; find the source of any illicit discharges; eliminate those illicit discharges; and ensure ongoing screening and tracking to prevent and/or eliminate future illicit discharges.

##### (1) IDDE Program Elements

- (a) Illicit discharges to the MS4 are prohibited, and any such discharges are a violation of this permit and remain a violation until they are eliminated. The Permittee shall prohibit all illicit discharges from entering its MS4. Upon detection, the Permittee

shall eliminate illicit discharges as soon as possible and require the immediate cessation of such discharges upon confirmation of responsible parties in accordance with its enforceable legal authorities established pursuant to subsection (b) below. Where elimination of an illicit discharge within thirty (30) days of its confirmation is not possible, the Permittee shall establish a schedule for its elimination; such schedule not to exceed six (6) months. No later than six (6) months after confirmation, such discharges shall be eliminated or the Permittee shall initiate appropriate enforcement actions. In the interim, the Permittee shall take all reasonable and prudent measures to minimize the discharge of pollutants to its MS4.

- (b) The Permittee shall implement outfall screening and an illicit discharge detection protocol pursuant to subsections (3) and (4) below to identify, prioritize, and investigate separate storm sewer catchments for suspected illicit discharges of pollutants.
- (c) The Permittee shall maintain a record of illicit discharge abatement activities including, at a minimum: location, description, method of discovery, date(s) of inspection, sampling data (if applicable), action(s) taken, date of removal or repair, responsible party(ies), costs associated with removal or repair, and estimated daily flow or total volume removed. This information shall be included in the Permittee's annual reporting pursuant to the "Annual Report" section (Section 8) of this permit.

(2) Legal Authority

Within one (1) year of the effective date of this permit, the Permittee shall ensure that it obtains or maintains the necessary and enforceable legal authority established by statute, ordinance, rules and regulations, permit, easement, contract, order and any other means, to:

- (a) prohibit illicit discharges to its MS4 and require removal of such discharges consistent with subsection (1)(a), above, of this permit; and
- (b) control the discharge of spills and prohibit the dumping or disposal of materials including, but not limited to, industrial and commercial wastes, trash, used motor vehicle fluids, food preparation waste, leaf litter, grass clippings, and animal wastes into its MS4; and
- (c) assess fines or penalties and/or recoup costs incurred by the City from anyone creating an illicit discharge or spilling or dumping as specified in subsections (2)(a) and (2)(b), above.

(3) Outfall Screening for Illicit Discharges

The Permittee shall screen its MS4 outfalls during dry weather conditions for physical, chemical, and biological indicators of the presence of illicit discharges.

(a) Known Illicit Discharges

Whether documented by the commissioner, the Permittee, or others, outfalls from drainage areas with known or highly suspected contributions of illicit discharges may have already been identified. Screening of outfalls serving such portions of the MS4 is not required for the purpose of prioritization as required in subsection (c) below, and the Permittee shall continue or initiate identification and removal procedures for illicit discharges in these areas based on the Permittee's priority ranking established pursuant to subsection (c) below. Within one hundred eighty (180) days of the effective date of this permit the Permittee shall submit to the commissioner an inventory of all MS4 outfalls for which the Permittee deems screening is not required pursuant to this subsection. For each such drainage area, the Permittee shall provide:

- (i) all available documented evidence, including monitoring results, of illicit discharges;
- (ii) completed, ongoing or planned corrective measures addressing the documented illicit discharges; and
- (iii) a schedule for completing and verifying measures correcting the documented illicit discharges.

(b) Priority Ranking of Outfall Screening

The Permittee shall develop a priority ranking for the purpose of scheduling its outfall screening activities required by this part. The commissioner recommends that the Permittee consider the current or intended designated uses of receiving waters, existence of impaired waters, and the relative likelihood of the presence of illicit discharges in the development of its priority ranking.

(c) Priority Ranking for IDDE Investigation

Screening of outfalls (in the priority ranking developed in subsection (b) above) shall be completed to facilitate the priority ranking of individual separate storm sewer drainage areas for investigation using the Permittee's Illicit Discharge Detection Protocol ("IDDP") described in subsection (4) below. Analysis of screening results, including comparisons with benchmark values for parameters in Table 1 and Figure 1 in subsection (4)(d)(iv) below, shall support such prioritization. Screening of outfalls

after implementation of the Permittee's IDDP shall serve to verify that the correction of all illicit discharges has been completed.

(d) Schedule

Except where excluded by subsection (3)(a) above, MS4 outfalls shall be screened at a rate of twenty five (25) percent of the outfalls known at the time of permit issuance during each of the first four years of the permit in order to permit timely execution of the Permittee's IDDP as described in subsection (4) below. For MS4 outfalls first identified after the date of issuance of this permit, the Permittee shall submit to the commissioner a schedule for screening these outfalls. As described in subsection (4)(d)(viii) below, 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 shall be completed no more than sixty (60) days after the Permittee has verified removal of all such discharges contributing to the outfall's drainage area in accordance with subsection (4)(d)(vii) below.

(e) Methodology

Outfall screening shall 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 by the Permittee 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 served by the outfall. Screening shall be performed according to the following procedures:

- (i) Locate the outfall, and take a photograph. At outfalls where photographs were previously taken, new photographs shall be taken from the same approximate orientation to facilitate comparison and determination of any changes.
- (ii) 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.
- (iii) Record any indicators of illicit discharges such as odors, oil sheen, discoloration, foaming, soap suds, slimes, or presence of sanitary floatables or solids.
- (iv) If the outfall is inaccessible or submerged, proceed to the first accessible upstream manhole or structure.

(v) Outfall observation

Observe the outfall for evidence of illicit 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 stormwater discharge), this outfall will be assigned a lower priority ranking and the screening shall proceed to the next outfall.
- If flow is observed, estimate flow using the product of flow area and velocity or the quotient of volume discharged over time, perform the field analyses described in subparagraph (vi) 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.

(vi) Field analyses of dry weather flow samples shall include measurement of the following parameters:

Conductivity  
Turbidity  
Dissolved Oxygen  
pH  
Chlorine  
Temperature  
Surfactants as (MBAS)  
Potassium  
Ammonia

Based on these field analyses, evidence of the degree and severity of an illicit discharge shall be taken into account in prioritizing outfalls for illicit discharge investigation pursuant to subsection (4)(b) below.

(4) Illicit Discharge Detection Protocol (“IDDP”)

(a) Implementation

The Permittee shall implement an IDDP according to the priorities developed pursuant to subparagraph (b) below, and consistent with the methodology described in

subparagraph (d) below. The Permittee shall complete implementation of its IDDP for twenty (20) percent of the MS4 outfall drainage areas no later than **five (5) years** from the effective date of this permit. The drainage areas investigated shall include the highest 20 percent of the priority areas as determined by subparagraph (b) below. The IDDP shall be completed in minimum increments of twenty-five percent (25%) of these drainage areas no later than **2, 3, 4, and 5 years**, respectively, from the effective date of this permit. The Permittee shall eliminate all identified illicit discharges pursuant to the "IDDE Program Elements" section (Section 6(D)(1)(a)).

(i) Impaired Waters

If more than twenty (20) percent of the outfall drainage areas in the MS4 discharge to impaired waters, the Permittee shall include in their SMP a discussion of the criteria by which those areas in the highest 20 percent of prioritized drainage areas were chosen. The remaining drainage areas to impaired waters that are not included in the highest 20 percent of prioritized areas shall receive highest priority for future investigation. If the Permittee completes the initial 20 percent of highest priority areas ahead of the schedule in subsection (4)(a) above, the IDDP investigations shall proceed immediately to these remaining high priority areas discharging to impaired waters.

(b) Prioritization

The Permittee shall use the results from its dry weather outfall screening required by Section 6(D)(3) to develop a priority ranking of outfall drainage areas for the purpose of scheduling its IDDP implementation. The commissioner recommends that the Permittee consider the perceived severity of the pollution, the current or intended uses of receiving waters, impairment status, and any planned infrastructure improvements, in the development of its priority ranking. Drainage areas discharging to impaired waters will receive primary consideration when prioritizing.

(c) Mapping

Through a geographic information system or other methods, the Permittee shall, within three years of the effective date of this permit, prepare mapping to facilitate implementation of its IDDP. Mapping shall provide a comprehensive depiction of key infrastructure and factors influencing proper system operation and the potential for illicit discharges. Mapping themes shall include: key storm sewer infrastructure, investigation and study findings, monitoring data, cleaning and repair activities, capital projects, and water resource and topographic features. The required number, scale and detail of the maps shall be appropriate to facilitate a rapid understanding of the system by the Permittee and the commissioner. In addition, the mapping shall serve as a planning tool for the implementation and phasing of the IDDP, a

demonstration of the extent of complete and planned investigations and corrections, and other related capital projects. Mapping shall proceed at a rate that will not impede implementation of the IDDP. To ensure legible mapping, information shall be grouped appropriately and represented thematically (e.g. by color) with legends or schedules where possible. Mapping shall be updated as necessary to reflect new information, corrections or modifications, and progress made. The following information and features, where currently available, shall be included in the mapping:

(i) 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 systems
- Storm sewer alignments to which known or suspected underdrain systems may discharge

(ii) 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
- Orthophotography

(iii) O&M, Investigations, Remediation, and Capital Projects

- Alignments, dates, and thematic representation of work completed (with legend) of past illicit discharge investigations (e.g. flow isolation, dye testing, closed-circuit television (CCTV))
- Locations of suspected, confirmed, and 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
- Proposed phasing of future illicit discharge investigations

(d) IDDP Methodology

The IDDP shall utilize methodologies described in this subsection to perform a thorough investigation of MS4 outfall drainage areas that relies on results from visual observation, field test kits, and portable instrumentation during dry weather conditions to isolate areas or alignments with likely illicit discharges. Internal plumbing inspections, dye or smoke testing, CCTV inspections, or other methods consistent with the Permittee's established procedures shall then be employed to confirm the illicit and non-stormwater flow sources.

(i) Notification

Prior to beginning an IDDP investigation that may involve smoke testing in a given drainage area, the Permittee shall notify all residents, businesses and all other property owners or occupants within that drainage area of the impending testing.

(ii) Infrastructure Verification and Preparation

Infrastructure mapping and drainage area delineations shall be verified in the field and corrected, as necessary, prior to investigations. MS4 infrastructure shall be evaluated for the need to be cleaned to remove debris or blockages that could compromise investigations. Such material shall be removed prior to investigation, where possible. However, some cleaning may occur concurrently.

(iii) Dry Weather Criteria

In order to prevent or limit the influence of stormwater runoff during the investigations, inspections and field monitoring shall not begin for at least 24 hours after any previous storm event greater than 0.1 inches. The duration of this dry weather period may be shortened or lengthened by the Permittee as necessary or appropriate dependent upon rainfall depth or the relative extent, slope, storage, and other influences on the particular drainage area under investigation.

(iv) Storm Sewer Inspection Methodology

Visually inspect outfalls in dry weather conditions to determine the possible presence of dry weather flows. Depending on the findings, conduct one of the procedures below. Table 1 indicates which analytes will be used for the determination of illicit discharges.

- **No Dry Weather Flow:** If no dry weather flow is observed at an outfall and there is no evidence of one (color, algae, etc.), no further inspection of the outfall or its contributing drainage alignment is required during the term of this permit.

If there is no dry weather flow but there is evidence of one (color, algae, etc.), proceed as follows:

- Partially dam the outfall when no rain is forecast for at least 48 hours;
- Re-inspect the outfall within 24 to 48 hours of damming (prior to any precipitation or snow melt) for evidence of the capture of periodic or intermittent flows behind the inlet dam. If, upon reinspection, there is no evidence of dry weather flows, re-inspect within six months. If, upon reinspection, there is evidence of dry weather flows, visual observations and field testing pursuant to the procedures below shall be completed on any captured flow to identify alignments for additional inspections.
- **Groundwater Dry Weather Flow** – If a dry weather flow is observed, test the flow for the analytes in Table 1 (pursuant to subsection (iv) below) and inspect the flow for evidence of an illicit discharge (color, odor, sheen, etc). If discharge is determined to be groundwater:
  - Inspect upstream stormwater structures to determine the source of the groundwater infiltration. For all inlets to upstream structures, follow the procedures of this subsection for determination of dry weather flows.

Take samples at the most upstream structure which has flows to ensure the flow is only groundwater;

- Go to the next upstream structures including those on tributary lines. Ensure that there is no evidence of dry weather flow, including discoloration or other indications that there may have been a dry weather flow at one time. Once the next upstream structure exhibits no dry weather flow or evidence of one, no further upstream inspection of that alignment is required.
- Document all observations, take photographs and include test results as part of the documentation. Indicate on a map which structures have been inspected. The map will also be part of the permanent documentation.
- Re-inspect within six months.
- **Contaminated Dry Weather Flow:** If a dry weather flow is observed and testing or visual inspection indicates that the discharge is other than groundwater:
  - 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 using the procedures of this subsection, 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, take photographs and include test results as part of the documentation. Indicate on a map which structures have been inspected. The map will also be part of the permanent documentation.
  - For alignments that indicate an illicit discharge, the next step is to smoke test the area to determine the source of the discharge following the notification procedures.
  - If the location is identified, appropriate corrections will be made to stop the illicit discharge.

- If no location is determined, dye testing of potential upstream sources shall be conducted and then the violation corrected.
- If no location is still identified, the area will be monitored twice per month to establish the cause of this illicit discharge.

(v) Field Monitoring

Where flow is observed that does not demonstrate obvious physical or olfactory evidence of the type and source of an illicit discharge, a sample shall be collected and analyzed with the field kits and instrumentation as identified in Table 1. The Permittee shall compare the measured values with benchmark values using the flow chart in Figure 1 to determine the likely source of the flow. Where surfactant concentrations are measured in the flow above the benchmark, ammonia and potassium shall be measured and results used in a ratio analysis to determine if the flow is likely to be governed by a sanitary or wash water component. Where surfactants are not detected above the benchmark concentration, a flow sample shall be analyzed for chlorine in an attempt to determine if the likely source is natural surface water or groundwater, or possibly a potable water source, a swimming pool, or an industrial discharge. However, the results of this analysis may not always prove conclusive as the chlorine demand found in the storm sewer may diminish or eliminate any chlorine present. The Permittee may need to adjust benchmark values found in Table 1 during the course of investigations after a comparison and calibration of data with actual incidences of observed flow sources.

If the results of field monitoring are not conclusive or additional data is needed to confirm that the source of an illicit discharge is human-generated, alternate parameters for Pharmaceutical and Personal Care Products (PPCP) may be monitored as indicated in Table 2. Any or all of these parameters may be analyzed. These samples must be analyzed by a laboratory with the appropriate capability. Advance notice to the lab may be required. Levels of these parameters above the Reporting Limit indicate the presence of human-generated contamination.

**Table 1 - Field Measurements, Benchmarks, and Instrumentation**

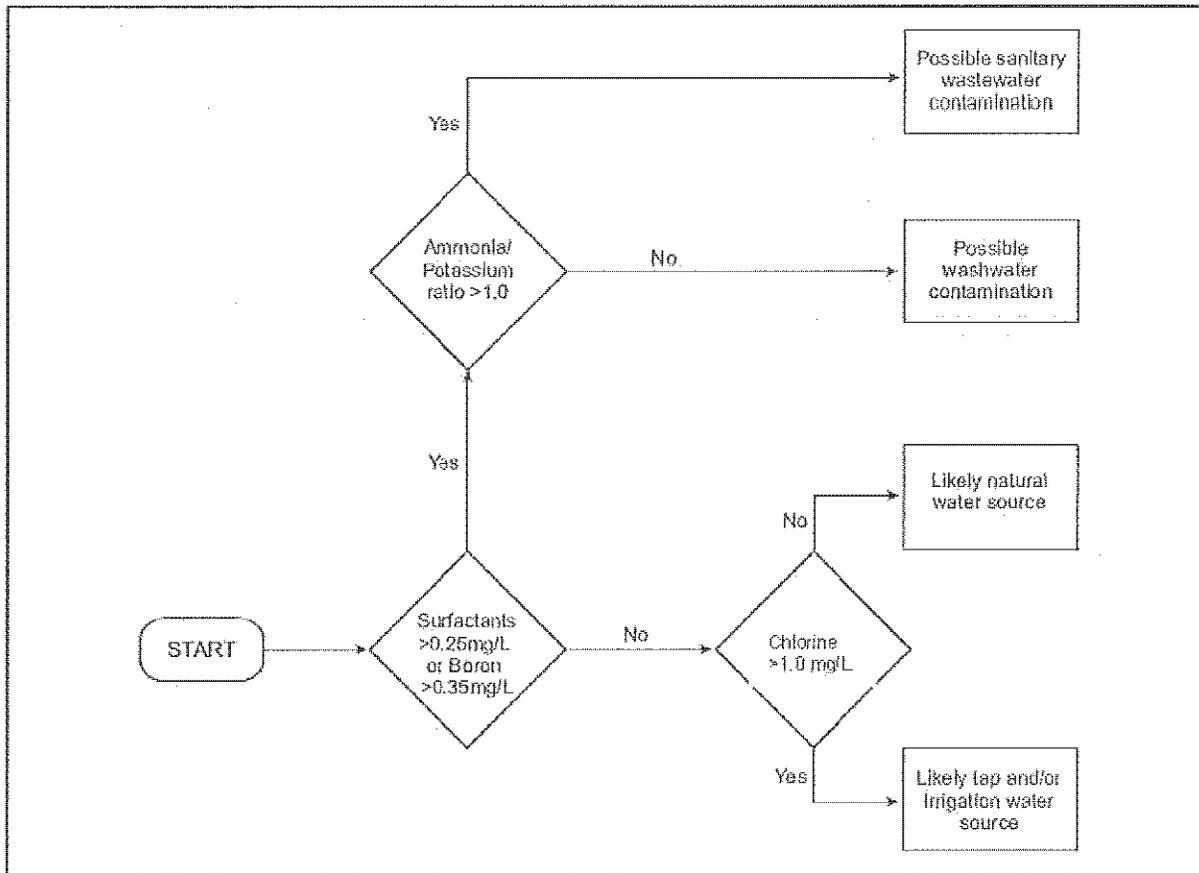
<u>Analyte</u>	<u>Benchmark</u>	<u>Instrumentation</u> <sup>1</sup>
Surfactants (as MBAS)	>0.25 mg/L	MBAS Test Kit (e.g. CHEMetrics K-9400)
Potassium (K)	(ratio below)	Portable Ion Meter (e.g. Horiba Cardy C131)
Ammonia (NH3)	NH3/K > 1.0	Portable Colorimeter or Photometer (e.g. Hach DR/890, CHEMetrics V-2000)
Chlorine	>0.1 mg/L	Portable Colorimeter or Photometer (e.g. Hach DR/890, CHEMetrics V-2000)
Temperature	Abnormal	Thermometer
pH	Abnormal	pH Meter

<sup>1</sup> Instrumentation manufacturers and models provided for informational purposes only. Mention of specific products does not constitute or imply DEEP endorsement of same.

**Table 2 – Compounds for Pharmaceutical and Personal Care Products Analysis**

<u>Compound</u>	<u>Major Use</u>	<u>Reporting Limit (ng/L)</u>
Caffeine	Natural Stimulant	5.0
1,7 DMX	Metabolite of caffeine	2.5
Acetaminophen	Pain reliever	2.5
Carbamazepine	Anti-depressant, Anti-convulsant	0.5
Primidone	Anti-epilepsy drug	5.0
Atenolol	Beta blocker, high blood pressure medicine	2.5
Cotinine	Metabolite of nicotine	0.5
Urobilin	By-product of hemoglobin breakdown	5.0
Azithromycin	Antibiotic	1.6

**Figure 1. Flow Chart - Determining Likely Source of Discharge (Adapted from Pitt, 2004)**



(vi) Isolation and Confirmation of Illicit Discharges

Where physical evidence or field monitoring has identified storm sewer alignments influenced by illicit discharges, the Permittee shall isolate the tributary area for implementation of more detailed investigations. Additional manholes and/or catch basins along the alignment shall 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, CCTV inspections, or other methods consistent with the Permittee’s established procedures shall then be employed to confirm the flow source(s).

(vii) Removal of Illicit Discharges

Where an illicit discharge is verified, the Permittee shall exercise its authority as necessary to require its removal pursuant to Sections 6(D)(1)(a) and 6(D)(2) of

this permit, including prompt notification and any appropriate cost-sharing arrangements.

(viii) Verification of Illicit Discharge Removals

After completing the removal of all illicit discharges from a particular alignment or portion of an MS4 outfall drainage area, the Permittee shall verify 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 shall be accomplished by using the same visual inspection, field monitoring, and/or damming techniques as described in subparagraphs (iii) through (v) above. Investigation of those portions of any other alignments confounded by the identified illicit discharge(s) shall not proceed until removal or elimination has been verified.

(ix) 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 shall serve to demonstrate that the IDDP has been fully implemented for that entire drainage area. This drainage area verification shall include both the techniques described in subparagraphs (iii) through (v) above, as well as completion of the dry weather screening methodology described in Section 6(D)(3)(e).

(x) Work Progression & Schedule

Since the IDDP requires verification of illicit discharge removals prior to progressing to affected portions of interconnected MS4 drainage areas, the Permittee shall maintain capacity to mobilize investigations to other drainage areas or unaffected lateral alignments within the same drainage area, to facilitate suitable progress while awaiting correction of illicit discharges confounding investigations within the same outfall drainage area. Since work progress may be further constrained by the persistence of precipitation and snow melt events, the Permittee shall provide for adequate staffing and equipment resources to perform concurrent investigations in multiple areas as necessary to complete all investigations, as specified in subsection (4)(a) above, within **five (5) years** from the effective date of this permit.

(xi) Reporting and Evaluation

The Permittee shall document in its Annual Reports required by Section 8 its progress implementing the provisions of Section 6(D)(4), including the results

and status of its outfall screening and monitoring, mapping, and IDDP implementation. The Permittee shall evaluate its progress by tracking, at a minimum, the percentage of MS4 outfall drainage areas or outfalls screened and/or monitored, percentage of structures inspected, and the footage or percentage of MS4 cleaned and inspected by CCTV.

(xii) Modifications

Though the IDDP is applicable to most storm sewers, modifications to methods and materials may be required to address situations where groundwater or backwater conditions or other issues preclude adequate implementation as described herein. In such instances, the Permittee shall make necessary modifications to the IDDP in accordance with Section 6(B)(6)(b) of this permit.

## SECTION 7: MONITORING REQUIREMENTS

(A) Legal Authority

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

(1) carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with this permit;

(B) Monitoring and analysis activities shall include in-stream dry and wet weather monitoring of receiving waters; wet weather outfall monitoring for storm water quality; dry and wet weather outfall screening for illicit discharges and implementation of an illicit discharge detection protocol.

(C) Upon the effective date of this permit, the Permittee shall begin implementation of activities described in this part. Within one year from the start of the Permittee's first fiscal year that begins after the effective date of this permit the Permittee shall submit as part of its SMP submission pursuant to Section 6(B)(1) of this permit, a description of the means, methods, quality assurance and control protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis and evaluation of data collected. The submission shall include a description of meteorological resources the Permittee intends to utilize to facilitate the required activities.

(D) In-stream Dry and Wet Weather Monitoring of Receiving Water Quality

(1) Location

In-stream dry and wet weather monitoring shall be conducted at a minimum total of ten

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

(2) Frequency

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

(a) Aquatic toxicity

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

(3) Dry Weather Monitoring

Dry weather monitoring shall be performed only when an antecedent dry period of at least 48 hours after a rain event greater than 0.1 inch in depth is satisfied. Monitoring methodology shall consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of 5 minutes each. Grab samples will be combined into a single composite sample from each station, preserved, and delivered to the laboratory for analysis. No dry weather monitoring is required for aquatic toxicity, pursuant to subsection (2)(a) above.

(4) Wet Weather Monitoring

Wet weather monitoring shall be performed only when the predicted rainfall depth of a storm event is greater than 0.25 inches and an antecedent dry period of at least 48 hours after a rain event greater than 0.1 inch in depth is satisfied. Monitoring methodology will consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of 15 minutes each. Grab samples will be combined into a single composite sample from each

station, preserved, and delivered to the laboratory for analysis. Wet weather monitoring for aquatic toxicity shall be conducted annually during the summer round of samples only, pursuant to subsection (2)(a) above.

- (5) At the time of sampling, the Permittee shall record any observed erosion of stream banks, scouring, or sedimentation in streams, such as sand bars or deltas.
- (6) Samples collected during the dry and wet weather monitoring shall be analyzed for the following parameters in the field (indicated by “\*”) or laboratory:

- Dissolved Oxygen (DO)\*
- pH\*
- Temperature\*
- Conductivity\*
- Hardness (as CaCO<sub>3</sub>)
- Total Suspended Solids (TSS)
- Oil & Grease, Total
- Total Petroleum Hydrocarbons (TPH)
- Surfactants
- Total Phosphorus
- Ammonia
- Nitrate Nitrogen
- Nitrite Nitrogen
- Total Kjeldahl Nitrogen
- Total Copper
- Total Lead
- Total Zinc
- Chloride
- Biochemical Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- E. coli*
- Fecal Coliform
- Enterococci

Aquatic Toxicity (LC50) (required annually during summer wet weather event)

- (7) The Permittee shall analyze all monitoring results in combination with relevant data collected during the 2005 – 2010 permit term to assess any changes or trends in observed receiving water quality.

(E) Wet Weather Outfall Monitoring

- (1) Permittee shall perform stormwater monitoring at each of its MS4 outfalls delineated in the

Stormwater Monitoring Plan a minimum of twice during the permit term. The first round of outfall monitoring shall be completed within the first two (2) years after the effective date of this permit. The second round of outfall monitoring shall be completed within the final two (2) years prior to the expiration date of this permit.

- (2) In addition to the monitoring required by subsection (E)(1) above, for stormwater discharges into water bodies identified as impaired by a known pollutant with or without an approved TMDL, the Permittee shall include in that monitoring the indicator pollutant(s) of concern (or appropriate precursors) identified as contributing to the impairment(s). For the purposes of this part, a “storm water discharge to an impaired water” includes any discharge from the Permittee’s MS4 flowing directly into the impaired water, and does not include discharges from its MS4 located in the upstream tributary area to an impaired water. The Permittee may combine implementation of the monitoring required in this subsection with the monitoring required by subsection (D)(1) above to simultaneously satisfy requirements of both parts during a singular storm event by choosing a sampling location in an impaired reach of the stream designated in subsection (D)(1).
- (3) Monitoring methodology at each outfall shall consist of a single grab sample, collected during any portion of the outfall’s discharge hydrograph (i.e., first flush, rising limb, peak, and falling limb). In order to accommodate the timely completion of all required monitoring, no minimum rainfall depth or antecedent dry period criterion need be established beyond the requirement that qualifying storm events be sufficient in depth to generate storm water runoff and resultant discharge at the outfalls to be monitored.
- (4) Individual grab samples collected pursuant to subsection (3) above shall be analyzed using field (indicated by “\*”) and laboratory instrumentation to measure the following physical, chemical, and biological water quality indicator parameters:

- Dissolved Oxygen (DO)\*
- pH\*
- Temperature\*
- Conductivity\*
- Hardness (as CaCO<sub>3</sub>)
- Total Suspended Solids (TSS)
- Oil & Grease, Total
- Total Petroleum Hydrocarbons (TPH)
- Surfactants
- Total Phosphorus
- Ammonia
- Nitrate Nitrogen
- Nitrite Nitrogen
- Total Kjeldahl Nitrogen
- Copper

Lead  
Zinc  
Chloride  
Biochemical Oxygen Demand (BOD)  
Chemical Oxygen Demand (COD)  
*E. coli*  
Fecal Coliform  
Enterococci

(F) Dry Weather Outfall Screening for Illicit Discharges

Outfall screening shall be conducted during dry weather conditions as described in the Illicit Discharge, Detection and Elimination (IDDE) Program section (Section 6(D)).

(G) Implementation Schedule

The Permittee shall implement the activities required by Section 6(C) of this permit in accordance with the following schedule:

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

(H) Evaluation and Reporting

All data collected related to activities required by Section 6(D) and Section 7 of this permit shall be evaluated and presented with findings in the Permittee's annual reports required by Section 8. This shall include a comparison with data collected by the Permittee in each prior year, including those data collected pursuant to the 2005 permit (e.g., City of Stamford, NPDES Permit Phase I Stormwater Quality Annual Report, January, 2009).

(I) Program Modifications

Modifications to the monitoring and analysis activities required by Section 6(D) and Section 7 shall be made pursuant to the Section 6(B)(6)(b) of this permit.

(J) Monitoring Recordkeeping

(1) Monitoring Records

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- (b) The Permittee shall 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 this 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.
- (c) Records of monitoring information shall include:
  - The date, exact place, and time of sampling or measurements;
  - The date of the most recent previous rain event greater than 0.1 inches and 0.25 inches;
  - The individual(s) who performed the sampling or measurements;
  - The date(s) analyses were performed;
  - The individual(s) who performed the analyses;
  - The analytical techniques or methods used; and
  - The results of such analyses.

(2) Test Procedures

(a) Chemical Analysis

- (i) Chemical analyses to determine compliance with conditions established in this permit shall be performed using the methods approved pursuant to the 40 CFR 136 unless an alternative method has been approved in writing pursuant to 40

CFR 136.4 or as provided in section 22a-430-3(j)(7) of the RCSA. Chemicals which do not have methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit.

- (ii) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136, unless otherwise specified.
- (iii) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible consistent with the requirements of this section of the permit.

(b) Acute Aquatic Toxicity Test

- (i) Samples for monitoring of Aquatic Toxicity shall be collected and handled as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012).
  - Composite samples shall be chilled as they are collected. Grab samples shall be chilled immediately following collection. Samples shall be held at 4 degrees Centigrade until Aquatic Toxicity testing is initiated.
  - Stormwater samples shall not be dechlorinated, filtered, or, modified in any way, prior to testing for Aquatic Toxicity unless specifically approved in writing by the commissioner for monitoring.
  - Chemical analyses of the parameters identified in Section 7(D)(6) shall be conducted on an aliquot of the same sample tested for Aquatic Toxicity.
    - At a minimum, pH, specific conductance, total alkalinity, total hardness, and total residual chlorine shall be measured in the effluent sample and, during Aquatic Toxicity tests, in the highest concentration of test solution and in the dilution (control) water at the beginning of the test and at test termination. If Total Residual Chlorine is not detected at test initiation, it does not need to be measured at test termination. Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination.
  - Tests for Aquatic Toxicity shall be initiated within 24 hours of sample collection.
- (ii) Monitoring for Aquatic Toxicity shall be conducted for 48-hours utilizing neonatal Daphnia pulex (less than 24-hours old)

(iii) Tests for Aquatic Toxicity shall be conducted as prescribed for static non-renewal acute tests in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012), except as specified below.

- Definitive (multi-concentration) testing, with LC50 as the endpoint, shall be conducted in accordance with the monitoring conditions and shall incorporate, at a minimum, effluent concentrations of 100%, 50%, 25%, 12.5%, and 6.25%:
- Organisms shall not be fed during the tests.
- Copper nitrate shall be used as the reference toxicant in tests with freshwater organisms.
- Synthetic freshwater prepared with deionized water adjusted to a hardness of 50 mg/L (plus or minus 5 mg/L) as CaCO<sub>3</sub> shall be used as dilution water in tests with freshwater organisms.

#### (K) Monitoring Waiver

If the Permittee is unable to collect a sample required by Sections 7(D) or 7(E) due to adverse climatic conditions, the Permittee must 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 of a sample dangerous or physically impossible. However, if more than one (1) sample is missed, the missed outfalls must be resampled as soon as possible or an alternate outfall designated and sampled as soon as possible.

### **SECTION 8: REPORTING AND RECORD KEEPING REQUIREMENTS**

#### (A) Annual Report

The Permittee shall prepare an annual report each year summarizing the activities conducted and measures taken to comply with this permit in the previous year.

(1) Schedule

The first Annual Report shall be submitted no later than one (1) year plus ninety (90) days from the effective date of this permit. Subsequent Annual Reports shall be submitted no later than ninety (90) days after the anniversary of the effective date of this permit.

(2) Public Availability

The Annual Report shall be made available to the public for review and comment thirty (30) days after the anniversary of the effective date of this permit. The Permittee shall make the Annual Report available to the public electronically (i.e. city website) and in "hard copy" for at least thirty (30) days at a minimum of one City office and one public library branch. Notice of availability of the Annual Report shall be published in at least one newspaper with circulation throughout the City of Stamford and also posted on the City website. A summary of any public comments, the Permittee's response to such comments, and any proposed modifications to the SMP as a result of comment shall be included in the Annual Report submitted to the commissioner.

(3) Contents of the Annual Report

The Annual Report shall include the following sections: Contacts List; Program Evaluation; Summary Table; Narrative Report; Summary of Proposed Program Modifications; Resource Analysis; and Appendices. The following paragraphs describe in more detail the specific requirements for the Annual Report.

(a) Contacts List

Provide a list of all those, with their names, employers, addresses and phone numbers, who had input to or responsibility for the preparation of the Annual Report.

(b) Program Evaluation

Describe the objective of the SMP, major findings (water quality improvements or degradation), overall SMP strengths and weaknesses, and the future direction of the Stormwater Management Program.

(c) Summary Table of SMP Components

The Permittee shall submit a summary table of the SMP's yearly activities. The purpose of the Table is to document in a concise form the program activities and Permittee's compliance with specific program requirements. Program elements that are administrative (e.g. planning procedures, program development and pilot studies) are inappropriate for the Summary Table and shall be reported on in the Narrative

section of the Annual Report. The summary table shall indicate the Permittee's SMP's activities and accomplishments. The table shall include all major elements of the SMP including control measure BMPs, monitoring, legal authority, IDDE and other appropriate additional program items. Items that shall be reported for each program activity are:

- (i) Activity Description.
  - (ii) Number of actions (with frequency) that were *scheduled* for implementation and/or accomplishment in the SMP (e.g. once/6 months, 20% of the activity completed/year, 10 sites monitored 4 times/year, etc.). Enter "not applicable" if no specific schedule was presented in the SMP.
  - (iii) Status of schedule for the reporting year (yes-schedule was adhered to, or no-schedule was not adhered to).
  - (iv) Number of activities that *were* accomplished.
  - (v) Permittee's comments on the activity.
  - (vi) Public comments on the activity and Permittee's response.
- (d) Narrative Report

The narrative report provides an opportunity for the Permittee to discuss in further detail any of the elements of the SMP that may require clarification beyond that of the summary table. It may include a discussion of such items as scheduling issues, climate conditions as they might affect monitoring or IDDE, unforeseen circumstances, legal authority issues, or public input. A discussion of issues resulting in modifications to the SMP should be included in subsection (5) below.

- (e) Summary of Proposed SMP Modifications

The Permittee shall report on any SMP modifications proposed and/or implemented by the Permittee either at the Permittee's discretion or as a modification required by the commissioner pursuant to Sections 6(B)(6)(b) or (c), respectively. This narrative shall discuss the reasons for the modification, the nature of the modification, any approvals or requirements by the commissioner, the progress of implementing the modification, and the results of implementation.

(f) Program Resource Analysis

The Permittee shall report on the status of obtaining or developing the resources necessary to fully implement the SMP.

(i) Fiscal Analysis

The Permittee shall provide a complete fiscal analysis for the Permittee's SMP implementation, both for the past calendar year and the next. The analysis shall indicate budgets and funding sources for implementation of the Stormwater Management Program and the requirements of this permit.

(ii) Staff and Resources

The Permittee shall also provide annually updated information on the staff, equipment and support capabilities used to implement the Permittee's SMP, demonstrating that all items are adequate to ensure full permit compliance.

(iii) Legal Authority

Provide documentation supporting the Permittee's legal authority to administer this program and all elements of the Stormwater Management Plan.

(g) Appendices

The following information shall be included as Appendices to the Annual Report:

- (i) Results of wet weather in-stream monitoring.
- (ii) Results of wet weather outfall monitoring.
- (iii) Results of the dry weather in-stream monitoring.
- (iv) Results of dry weather outfall screening.
- (v) Results of illicit discharge monitoring.
- (vi) Any ordinances, permits, contracts, orders or other legal authority used by the Permittee to regulate discharges to the MS4.
- (vii) Any other data required to substantiate statements and conclusions reached in the Annual Report.

(4) Report Submission

The Annual Report shall be submitted to:

Stormwater MS4 Permit Coordinator  
Bureau of Materials Management & Compliance Assurance  
Connecticut Department of Energy and Environmental Protection  
79 Elm St.  
Hartford, CT 06106-5127

(B) Monitoring

(1) In-Stream and Outfall Monitoring

- (a) The results of chemical analyses and any aquatic toxicity test required by Section 7 of this permit shall be entered on the Discharge Monitoring Report (DMR), provided by this office, and reported to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing) at the address below. Any additional monitoring conducted in accordance with 40 CFR 136 or other methods approved by the commissioner shall also be included on the DMR, or as an attachment, if necessary. The DMR shall be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Materials Management and Compliance Assurance  
Water Permitting and Enforcement Division (Attn: DMR Processing)  
Connecticut Department of Energy and Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

- (b) Complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC50 values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Protection and Land Reuse at the address below. The ATMR shall be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity)  
Connecticut Department of Energy and Environmental Protection  
79 Elm St.  
Hartford, CT 06106-5127

- (c) Where this permit requires monitoring of a discharge on a calendar basis (e.g.

seasonally), but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR and ATMR, as scheduled, indicating "NO DISCHARGE".

(d) NetDMR Reporting Requirements

(i) Prior to one-hundred and eighty (180) days after the issuance of this permit, the Permittee may either submit monitoring data and other reports to the Department in hard copy form or electronically using NetDMR, a web-based tool that allows Permittees to electronically submit discharge monitoring reports (DMRs) and aquatic toxicity monitoring reports (ATMRs) through a secure internet connection. Unless otherwise approved in writing by the commissioner, no later than one-hundred and eighty (180) days after the issuance of this permit the Permittee shall begin reporting electronically using NetDMR. Specific requirements regarding subscription to NetDMR and submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

- Submittal of NetDMR Subscriber Agreement

On or before fifteen (15) days after the issuance of this permit, the Permittee and/or the person authorized to sign the Permittee's discharge monitoring reports ("Signatory Authority") as described in RCSA Section 22a-430-3(b)(2) shall contact the Department at [deep.netdmr@ct.gov](mailto:deep.netdmr@ct.gov) and initiate the NetDMR subscription process for electronic submission of Discharge Monitoring Report (DMR) information. Information on NetDMR is available on the Department's website at [www.ct.gov/deep/netdmr](http://www.ct.gov/deep/netdmr). On or before ninety (90) days after issuance of this permit the Permittee shall submit a signed and notarized copy of the *Connecticut DEEP NetDMR Subscriber Agreement* to the Department.

- Submittal of Reports Using NetDMR

Unless otherwise approved by the commissioner, on or before one-hundred and eighty (180) days after issuance of this permit, the Permittee and/or the Signatory Authority shall electronically submit DMRs and ATMRs required under this permit to the Department using NetDMR in satisfaction of the DMR and ATMR submission requirements of Sections 8(B)(1)(a) and (b) of this permit.

DMRs and ATMRs shall be submitted electronically to the Department no later than the 30th day of the month following the completed reporting period. Any additional monitoring conducted in accordance with 40 CFR 136 shall be submitted to the Department as an electronic attachment to the

DMR in NetDMR. Once a Permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or ATMRs to the Department. The Permittee shall also electronically file any written report of non-compliance described in Section 6 of this permit as an attachment in NetDMR. NetDMR is accessed from: <http://www.epa.gov/netdmr>.

- Submittal of NetDMR Opt-Out Requests

If the Permittee is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for electronically submitting DMRs and ATMRs, the commissioner may approve the submission of DMRs and ATMRs in hard copy form (“opt-out request”). Opt-out requests must be submitted in writing to the Department for written approval on or before fifteen (15) days prior to the date a Permittee would be required under this permit to begin filing DMRs ATMRs using NetDMR. This demonstration shall be valid for twelve (12) months from the date of the Department’s approval and shall thereupon expire. At such time, DMRs and ATMRs shall be submitted electronically to the Department using NetDMR unless the Permittee submits a renewed opt-out request and such request is approved by the Department.

All opt-out requests and requests for the NetDMR subscriber form should be sent to the following address or by email at [deep.netdmr@ct.gov](mailto:deep.netdmr@ct.gov):

**Attn: NetDMR Coordinator**  
**Connecticut Department of Energy and Environmental Protection**  
**79 Elm Street**  
**Hartford, CT 06106-5127**

(2) IDDE Monitoring

Any monitoring conducted pursuant to the IDDE section (Section 6(D)) of this permit shall be recorded on IDDE monitoring forms. This recording shall include the results of laboratory testing and any field testing conducted. These forms shall be included in the Annual Report appendices pursuant to subsection (A)(3)(g) above and submitted as part of the Annual Report.

(C) Records Retention

The Permittee shall keep records required by this permit for at least 5 years following its expiration or longer if requested by the commissioner in writing. Such records, including the

Stormwater Management Plan, shall be available to the public at reasonable times during regular business hours.

#### **SECTION 9: COMPLIANCE SCHEDULE AND ADDITIONAL REQUIREMENTS**

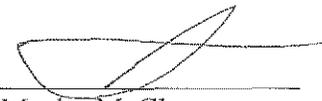
- (A) The Permittee shall perform the actions in the approved Stormwater Management Plan in accordance with the schedules in Sections 6 and 7 of this permit.
- (B) The Permittee shall use best efforts to submit to the commissioner all documents required by Sections 6, 7 and 8 of the permit in a complete and approvable form. If the commissioner notifies the Permittee that any document or other action is deficient, and does not approve it with conditions or modifications, it is deemed disapproved, and the Permittee shall correct the deficiencies and resubmit it within the time specified by the commissioner or, if no time is specified by the commissioner, within thirty days of the commissioner's notice of deficiencies. In approving any document or other action, the commissioner may approve the document or other action as submitted or performed or with such conditions or modifications as the commissioner deems necessary to carry out the purposes of this section of the permit. Nothing in this paragraph shall excuse noncompliance or delay.
- (C) Dates. The date of submission to the commissioner of any document required by the permit shall be the date such document is received by the commissioner. The date of any notice by the commissioner under the permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" as used in this section of the permit means calendar day. Any document or action which is required by the permit to be submitted or performed by a date which falls on, Saturday, Sunday, or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or Connecticut or federal holiday.
- (D) Notification of noncompliance. In the event that the Permittee becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this section of the permit or of any document required hereunder, the Permittee shall immediately notify the commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates which may be approved in writing by the commissioner. Notification by the Permittee shall not excuse noncompliance or delay, and the commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the commissioner in writing.

- (E) Notice to commissioner of changes. Within fifteen days of the date the Permittee becomes aware of a change in any information submitted to the commissioner under the permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the commissioner.
- (F) Submission of documents. Any document, other than a DMR or ATMR, required to be submitted to the commissioner under the permit shall, unless otherwise specified in writing by the commissioner, be directed to:

Stormwater MS4 Permit Coordinator  
Bureau of Materials Management & Compliance Assurance  
Department of Energy and Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

This permit is hereby issued on the

6/4/2013



Macky McCleary  
Deputy Commissioner