

**Municipality/Organization:** City of Newton, MA

**EPA NPDES Permit Number:** MAR 041080

**MaDEP Transmittal Number:** W- W-039247

**Annual Report Number  
& Reporting Period:** No. 6: April 2009 – April 2010

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## NPDES PII Small MS4 General Permit Annual Report April 2010


### Part I. General Information

**Contact Person:** Thomas E. Daley, P.E **Title:** Commissioner of Public Works

**Telephone #:** 617-796-1008 **Email:** tdaley@newtonma.gov

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Signature:** 

**Printed Name:** Setti D. Warren

**Title:** Mayor

**Date:** 4-30-10

## Part II. Self-Assessment

The City of Newton, Massachusetts has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions. However, for Minimum Control Measure #3 Illicit Discharge Detection and Elimination (IDDE), the City has found bacteria contamination in some of its storm drains and brooks, particularly in areas where sanitary sewer infrastructure is aging, underdrains are co-located, and underground pathways or conduits to our drainage systems exist. Newton is proactively finding and eliminating illicit connections to the storm drainage system. In addition, we feel that our Comprehensive Stormwater Plan presents an effective program to address IDDE in more detail than this permit.

The following is provided to highlight key accomplishments made in Permit Year 7 with respect to MS4 General Permit goals and objectives.

### Administrative

- Budgeted \$725,000 in FY11 for stormwater management and capital projects.
- Retained a consultant to evaluate our existing stormwater utility rate structure and develop a planning level budget for the next five years. This evaluation and updated rate structure will put the City in a better position to address future NPDES permit requirements.

### Programmatic & Drainage System

- Another sanitary sewer and underdrain rehabilitation contract went out to bid in November 2009. National Water Main Cleaning Company was awarded the contract which includes heavy sewer and manhole cleaning, joint testing and sealing, cured-in-place liners and sealing of underdrain access ports. The work commenced this spring.
- Sections of storm drains are routinely inspected (CCTV) for water quality issues (based upon bacteria sampling data) and flood conveyance checks. As needed these pipes are cleaned (i.e., roots cut and sediment removed) by DPW.

### Pollution Prevention & Good Housekeeping

- Our 2009 Household Hazardous Waste (HHW) collection program ran from May 20<sup>th</sup> through October 17<sup>th</sup>. Last year, we collected 526 Tons of HHW that may otherwise find its way into the trash or the storm drain system. Please see Attachment A for a more detailed breakdown and website: <http://www.ci.newton.ma.us/DPW/recycling/default.asp>
- The Parks and Recreation Department strives to use very little, if any, pesticides. Any application of pesticides or herbicides on City property is approved by our IPM committee. Refer to Attachment A for the 2009 Report.
- The City of Newton strives for good housekeeping practices at our DPW yards. An internal audit of our DPW Yards and Parks and Recreation facility was conducted in April 2009. We have identified areas for improvement and will incorporate these into a Stormwater Pollution Prevention Plan (SWPPP).
- Newton monitors 143 stormwater discharge points to the Charles River, including the many brooks that feed into the Charles, by conducting wet and dry weather sampling.

### Public Education and Involvement

- Numerous activities and events listed in the following table.

**Part III. Summary of Minimum Control Measures**

**1. Public Education and Outreach**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
1.1 Revised	Develop Stormwater Press Release	Engineering, M. Rose	Submit annual press release to newspaper / CATV.	Published “Tips for Draining your Pool” in early October 2009 in the Newton Tab (press release provided in Attachment B).  Interview for NewTV and event coverage of the Charles River Clean-up: April 24, 2010. Complete. <a href="http://www.ci.newton.ma.us/stormwater/">http://www.ci.newton.ma.us/stormwater/</a>	Record a short segment on Newton’s stormwater program as a preview to the “After the Storm” video from EPA / The Weather Channel and show program on Newton’s CATV.  None, BMP complete.  Continuance under BMP 1.4
1.2 Revised	Develop Stormwater Web Site	Engineering, M. Rose	Prepare web site on stormwater issues.	<a href="http://www.ci.newton.ma.us/stormwater/">http://www.ci.newton.ma.us/stormwater/</a>	Continuance under BMP 1.4
1.3 Revised	Develop Stormwater Brochures	Engineering, M. Rose	Distribute brochures with water/sewer bills	Newton purchases material from the SuAsCo’s Stormwater Community Assistance Program. We also distributed brochures on phosphorus (from CRWA) and soils testing at an Organic Gardening lecture in April 2009 and Newton Pride event in May 2009. Examples of this literature are provided in Attachment B.	BMP Complete. However, new brochures and literature will be continually added to our stock, as needed.
1.4 Revised	Provide Stormwater News on City’s web site	Engineering, L. Taverna & M. Rose	Post stormwater and/or project news once per year	Stormwater information and news is posted on the main page of the City of Newton’s website and our Stormwater web page.	Maintain and update stormwater web page as needed.
1.5 Revised	Establish Volunteer Database	Environmental, M. Rose	Solicit volunteer educators to promote awareness of water quality.	Volunteer database established and is used mostly to encourage participation in Annual Charles River Clean-up and for storm drain stenciling.	None, BMP complete.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
1.6 Revised	Partner with Schools	Environmental, M. Rose	Obtain and distribute educational resources to schools.	We continued to offer specialized School Education Programs (see Attachment B).  During this permit period, "The Water Cycle with <i>Build your own Watershed</i> " lesson was taught to the 5 <sup>th</sup> grade classes at Solomon Schechter Day School. We also assisted several HS students and Boy Scouts with their Environmental Service Projects.	Continue with implementation of various school education and partnering programs.
1.7 Revised	Develop Education Program	Environmental, M. Rose	Implement stormwater pollution prevention program	Mayor Cohen proclaimed March as "Alternatives to Pesticides Month". From April to June 2009, DPW launched an educational program at numerous locations throughout the City with stormwater brochures and surveys (and a chance to win prizes). On April 27, 2009, Green Decade Newton Coalition and Newton DPW hosted a lecture on Organic Gardening. See Attachment B.  Every April, DPW coordinates the sale of rain barrels to residents. Residents picking up rain barrels are given a stormwater brochure.	Continue promoting water conservation, organic and environmentally-friendly lawn care methods and fertilizer efforts.
1.8 Revised	Partnering with Watershed Associations	Engineering, L. Taverna M. Rose	Promote meetings with Charles River Watershed Association (CRWA).	Newton actively supports CRWA programs and initiatives including workshops and the Annual Charles River Clean-up. Recently, we collaborated on a grant proposal for work in Cheesecake Brook.  In Nov. 2009, M.Rose gave a presentation on our stormwater program at the Massachusetts Environmental Trust Conference in Worcester, MA.	Maintain active participation and collaboration with the CRWA.

## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
2.1 Revised	Establish Stormwater Citizen Advisory Cmte.	Engineering, F. Russell	Committee to meet once per year, publish results	BMP Completed in prior years.	None.
2.2 Revised	Implement Public Meetings for Citizen Input	DPW, T. Daley M. Rose	Hold meetings once per year, publish results.	On March 18, 2010, the City held a Flood Relief Informational Clinic that was very well attended.	None, coverage under new Permit.
2.3 Revised	Encourage Citizen Communication and Reporting	Engineering, L. Taverna	Establish stormwater hotline for illicit discharges.	Customer service center and phone number established at City Hall. All stormwater questions and comments directed to Engineering or Utilities.	BMP Complete. Continue with current protocols.
2.4 Revised	Network with Local Community Groups	Engineering, M. Rose T. Daley	Observe outfalls, report illicit discharges & stream clean-up.	Staff attends at least one meeting per year of the Friends of Hemlock Gorge and Friends of Crystal Lake. DPW supports these groups' efforts and address concerns as they arise.  Staff supported the Newton Pride Committee at the Annual Plant Sale by hosting a lecture on Rain Barrels....in Your Garden.	Continue to provide support to these groups and foster communication and a partnership approach with the City.
2.5 Revised	Implement Storm Drain Marking Program	Utilities, T. Jerdee M. Rose	Volunteers mark catch basins with decals.	Permanent storm drain markers were installed along side of catch basins in the City. Storm drain stenciling was completed by volunteers at various locations in the City.	BMP Complete. Continue with storm drain marking program.
2.6 Revised	Promote Community Clean-Up day.	Human Services B. Droz	Promote annual community clean-up day.	M. Rose is on the Charles River Clean-up Steering Committee for the past 4 years. Newton Serves held April 26, 2009. Volunteer groups target specific areas of the City for clean-up. For more info, see: <a href="http://www.ci.newton.ma.us/Human%20Services/NewtonServes/default.html">www.ci.newton.ma.us/Human%20Services/NewtonServes/default.html</a>	Continue with annual community clean-up day. See also BMP 1.8

### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
3.1 Revised	Establish Stormwater System Map	Engineering, T. Jerdee	Update GIS information, locate all outfalls.	BMP previously completed.	BMP Complete.
3.2 Revised	Establish Stormwater Database Management System	Utilities, T. Jerdee	Add stormwater information to Hansen database.	BMP previously completed.	BMP Complete.
3.3 Revised	Locate and Inspect all Outfalls	Utilities, T. Jerdee & M. Rose	Collect outfall data for Hansen database.	BMP previously completed.	Continue with monitoring and sampling program.
3.4 Revised	Review existing Ordinances & determine whether they adequately prevent Illicit Discharges	Engineering, L. Taverna	Propose to BOA revisions to stormwater ordinance/ policies, as appropriate.	A Draft IDDE Ordinance has been prepared and recently revised.	Present draft ordinance to the Board of Alderman in the Fall of 2010.
3.5 Revised	Identify Illicit Discharge Sources	Utilities, T. Jerdee F. Russell	Identify bacteria sources via visual and CCTV inspections, dye and/or pressure tests.	DPW continually monitors and investigates potential indirect and direct illicit discharges to our storm drainage infrastructure. During this permit period: 7,300 LF of storm drains were inspected by CCTV and 3,900 LF of drains were cleaned.	Continue with efforts to find and remove indirect (underdrains) and direct illicit discharges.
3.6 Revised	Establish Illicit Discharge Hotline	Engineering, L. Taverna M. Rose	Receive and track citizen reports of illicit discharges.	Hotline established (customer service center). No calls received regarding illicit discharges during this period.	BMP Complete. Continue to encourage citizen reporting of illicit discharges.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
3.7 Revised	Train Employees	Utilities, T. Jerdee	Employees to help identify illicit discharges.	On March 24, 2010, Mabbett & Associates, Inc conducted an Emergency Spill Response Training for First Responders for DPW staff, Engineering Inspectors and the Conservation Agent. The course was funded by the MA Dept of Industrial Accidents, Office of Safety and followed the training requirements under 29 CFR 1910.120.	BMP Complete.
3.8 Revised	Monitor City's infrastructure for illicit discharges and non-point source pollution.	Utilities, T. Jerdee Engineering M. Rose	Observe major outfall discharges.	A comprehensive outfall monitoring program has been in place for several years. See Attachment B for sampling plan and data.	Continue with implementation of IDDE program.

#### 4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
4.1 Revised	Review existing Ordinances and determine whether they adequately regulate construction site stormwater runoff	Engineering, L. Taverna	Obtain Law Dept's opinion regarding existing practice and appropriateness of regulating construction site stormwater runoff.	Currently, there are numerous mechanisms through which new construction site runoff is prevented and controlled. These mechanisms include: an existing Ordinance (Sec 30-5c and 5d), DPW / Eng. Division Policy and the Special Permit approval process. Many construction projects regardless of size are required to provide soil erosion control measures.  DPW has two inspectors who ensure the measures shown on Approved Site Plans are implemented.	BMP Complete.
4.2 Revised	Implement Review of Construction Documents	Engineering, J. Daghlian	Establish policy for submittal of erosion control plans.	BMP Complete. Continue with plan reviews for building permits.	BMP Complete. Continue with plan reviews for building permits.
4.3 Revised	Implement Construction Inspection Program	Engineering, J. Daghlian	Develop guidelines, training, inspection of construction sites > 1 acre.	All construction sites inspected by Engineering. BMP guidelines followed.	Continue with inspection of all construction sites. Develop training for construction inspectors.
4.4 Revised	Educate Developers on Proper Erosion Control Techniques	Engineering, J. Daghlian / M. Rose	Distribute erosion control procedures to all applicants	Engineering requires erosion control BMPs for all construction. Wall poster of proper erosion control techniques posted at permit application counter.	BMP Complete. Continue with implementation.
4.5 Revised	Provide opportunity for citizen review and input on construction projects	Engineering, J. Daghlian	Ensure citizen review procedures for construction projects > 1 acre.	Citizen input of construction projects occurs during Conservation Commission, Land Use, and Board of Survey public hearings. Citizen review also occurs when Environmental Impact Reports are required.	BMP Complete. Continue with implementation.



BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
4.6 Revised	Establish Information Management System	Engineering, J. Daghlian	Track construction reviews and construction inspections.	An inspector is assigned to all construction projects over 1 acre (as well as many <1 ac). This person maintains a personal field log book of key events.	BMP complete. Continue with implementation.
4.7 Revised	Establish Standards for Erosion and Sedimentation Controls	Engineering, J. Daghlian	Establish adaptation of MADEP SWM Standard 8	Engineering requires implementation of MADEP SWMP Standard 8 for all construction projects > 1 acre.	BMP Complete. Continue with implementation.

### 5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
5.1 Revised	Review existing Ordinances and determine whether they adequately regulate post construction stormwater runoff	Engineering, L. Taverna	Obtain Law Dept's opinion regarding existing practice and appropriateness of regulating post construction stormwater runoff	Collaborated with the Planning Dept. and Inspectional Services Dept. regarding our existing ordinances and permit requirements. At this time, these provide adequate protection.	BMP Complete.
5.2 Revised	Develop Stormwater Management Policy	Engineering, L. Taverna	Establish policy to establish minimum BMPs for developers.	BMP Complete. Continue with implementation.	BMP Complete. Continue with implementation.
5.3 Revised	Develop Stormwater Operations and Maintenance Policy	Engineering, J. Daghlian	Establish policy to establish minimum operations and maintenance plans.	Engineering requires the submittal of stormwater operations and maintenance plans for all construction > 1 acre. About 5 per year received for review.	BMP Complete. Continue with implementation.
5.4 Revised	Implement Controls to Minimize Impacts to Water Quality	Engineering, J. Daghlian / M. Rose	Implement use of structural and non-structural BMPs.	DPW/Eng. requires developers to implement MADEP Stormwater Standards (1- 8) for applicable projects. Separate and supplemental requirements are outlined for smaller construction projects in the City's Stormwater Management Policy.	BMP Complete. Continue with implementation and stormwater recharge requirements.
5.5 Revised	Encourage Reducing Directly Connected Impervious Surfaces	Engineering, J. Daghlian	Encourage the use of grass swales and filter strips.	Recommended to developers during development review team meetings.	Continue to recommend for all construction projects > 1 acre. Continue to be a resource for developers and homeowners on alternatives to asphalt pavement.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
5.6 Revised	Determine Capacity of Stormwater System Elements	Engineering, J. Daghlian	Perform capacity analysis for wet weather events.	A sewer and drainage study of the Old Farm Road System Evaluation project was completed. This southeastern corner of the City has historically been plagued with flooding and SSO's issues.	Several recommendations in this study will be designed in 2010 and implemented in 2011.
5.7 Revised	Review existing Ordinances and determine whether they adequately regulate recharges to groundwater	Engineering, J. Daghlian	Obtain Law Dept's opinion regarding existing practice and appropriateness of regulating recharges to groundwater	Current practices include on-site stormwater recharge requirements for new construction.	BMP Complete.
5.8 Revised	Implement Use of Groundwater Recharge Rates	Engineering, J. Daghlian	Explore adaptation of MADEP SWMP Standard 3	Engineering requires implementation of MADEP SWMP Standard 3 for all construction projects > 1 acre.	BMP Complete. Continue with implementation.
5.9 Revised	Implement Post Development Peak Discharge Rates	Engineering, J. Daghlian	Implement adaptation of MADEP SWMP Standard 2	Engineering requires implementation of MADEP SWMP Standard 2 for all construction projects > 1 acre.	BMP Complete. Continue with implementation.
5.10 Revised	Implement Requirements for Removal of 80% TSS	Engineering, J. Daghlian	Implement adaptation of MADEP SWMP Standards 4 & 7	Engineering requires implementation of MADEP SWMP Standard 4 & 7 for all construction projects > 1 acre.	BMP Complete. Continue with implementation.

**6. Pollution Prevention and Good Housekeeping in Municipal Operations**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
6.1 Revised	Develop Staff Training Program	Environmental, E. Gentile	Train staff on spill prevention control, vehicle maintenance, and lawn care.	BMP Complete.	None.
6.2 Revised	Develop Stormwater Pollution Prevention Plan	Environmental, E. Gentile	Develop spill prevention control procedures.	A self-audit of DPW Yards was conducted in April 2009. Spill prevention procedures and spill kits are on premises. In general, good housekeeping practices in place; however, improvements can be made.	Recommend developing a Stormwater Pollution Prevention Plan for DPW Yards.
6.3 Revised	Develop Flood Mitigation Plan	Utilities, T. Jerdee	Develop plan, perform exercises.	BMP Complete.	Continue field exercises and update the flood mitigation plan, as needed.
6.4 Revised	Establish Inspection Procedures	Utilities, T. Jerdee	Inspect storm drain system using visual inspection and CCTV.	Inspected and cleaned 11,200 linear feet of storm drain system with City's CCTV truck.	Continue to inspect storm drain system.
6.5 Revised	Incorporate BMPs into Standard Procedures	Utilities, T. Jerdee Highway, S. Tocci	Establish BMPs for municipal operations and maintenance.	Stormwater BMPs are designed into new or redevelopment projects for City-owned property, most recently would be the NNHS project.	BMP Complete. Review needs for other stormwater retrofit / improvement projects.
6.6 Revised	Establish Maintenance Procedures	Utilities, T. Jerdee	Vector/flush storm drains to remove sedimentation	BMP Complete.	BMP Complete. Continue with implementation.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
6.7 Revised	Establish Maintenance Procedures	Utilities, T. Jerdee	Clean drainage brooks to remove sedimentation.	Cleaned 525 linear feet of drainage ditch behind Beethoven Rd in Newton Highlands.	Continue with annual maintenance of drainage brooks.
6.8 Revised	Establish Maintenance Procedures	Utilities, T. Jerdee	Clean catch basins every 2 years.	We cleaned 4,350 catch basins during this reporting period.	Continue with catch basin cleaning program.
6.9 Revised	Establish Maintenance Procedures	Highway, S. Tocci	Sweep streets 2 times per year.	Streets were swept 5 times in 2009 and in some locations as many as 8 times.	Continue with street sweeping program.

6.10 Revised	Establish Maintenance Procedures	Highway, S. Tocci	Calibrate salt spreaders annually.	Salt spreaders calibrated fall 2009.	Calibrate salt spreaders every year.
6.11 Revised	Implement Household Hazardous Waste Program	Environmental, E. Gentile	Collect waste oil, antifreeze, paint, pesticides.	Household Hazardous Waste (HHW) is collected two days per week from May through October. See attached memo from Env. Affairs on results.	BMP Complete. City will continue to operate HHW collection facility.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 7 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 8
7.1 Revised	Check Criteria for Meeting TMDL	Engineering M. Rose	EPA criteria for TMDLs checked.	Participated in MaDEP Advisory Group Sub-committee on the phosphorus TMDL for the Charles River.	Work towards reducing phosphorus load from Newton's brooks and conduits to the Charles River.
Revised					
Revised					
Revised					

7a. Additions –N/A


7b. WLA Assessment – N/A