

Municipality/Organization: Town of Ipswich, MA

EPA NPDES Permit Number: MA041199

MaDEP Transmittal Number: _____

Annual Report Number
& Reporting Period: No. 7: April 09 - March 10

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Mr. Richard Clarke Title: Director, Dept. of Public Works

Telephone #: 978-356-6612 Email: rickc@town.ipswich.ma.us

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: Patrick J. McNally

Printed Name: Patrick McNally

Title: Chair, Board of Selectmen

Date: April 26, 2010

Part II. Self-Assessment

The Town of Ipswich has completed the required self-assessment and has determined that our municipality is in significant compliance with the permit conditions. One particularly important achievement associated with BMP ID#5-1 during this permit year was the passage of our Stormwater Management Regulations by the Board of Selectmen on February 1, 2010. The Town has two sets of regulations, one for the Issuance of Connection and Discharge Permits and one for the Issuance of Stormwater Management Permits. A Stormwater Management Permit is required for all proposed development or redevelopment that will alter a certain area of land. The minimum area of disturbance that can be regulated through this bylaw is 10,000 square feet or 50% of the lot size, whichever is smaller. This Stormwater Management Permit addresses developments that are not already under the regulatory jurisdiction of the Planning Board and/or Conservation Commission, thereby minimizing any undue permitting burden on applicants. The Town will work to develop and implement regulations during Permit Year 7.

During this permit year, in meeting the requirements under BMP ID# 3-1, the Town of Ipswich contracted with Coneco Engineers & Scientists, Inc. to develop design plans for the full reconstruction of the downtown section of Central and South Main Streets. The proposed reconstruction project consists of approximately 3,200 linear feet, extending from Mineral Street in the north to Poplar Street at its southern end. During the early design phase, a complete evaluation and mapping program was conducted for the storm drainage system that contributes to the Central and South Main Street drainage system. Based on the results of this evaluation, the proposed reconstruction project includes a new storm drainage system to replace the existing system within the section of Central and South Main Streets. The new system will eliminate the current catchbasin-to-catchbasin drainage system, and includes appropriate manholes and deep-sump catchbasins to collect sediments, and hooded outlets to improve stormwater quality. The project design is currently under review by the Massachusetts Department of Transportation and the Town is actively pursuing federal funding for the construction of this roadway reconstruction project.

As an addition to the Central & South Main Street reconstruction project, the Town also applied for grant funding through the Massachusetts Office of Coastal Zone Management. The grant application sought funding for the design of a water quality unit to address stormwater flow that would discharge from the proposed upgraded storm drain system before its discharge into Farley Brook and ultimately the Ipswich River. The Town's application was not successful, and the Town will consider re-applying for funding for the project in the future.

The Town of Ipswich also completed an investigation into possible illicit discharges into Kimball Brook, a tributary of the Ipswich River. The Massachusetts Department of Environmental Protection (MA DEP) issued a letter to the Town indicating that there were high concentrations of bacteria in the Brook, and requiring the Town to investigate and address any illicit discharges that were identified. Horsley Witten Group, Inc., the Town's consultant, worked with MA DEP to carry out a dry-weather sampling program and performed an illicit discharge detection investigation. During the same time, the Town's sewer department was performing

regular maintenance on the sewer infrastructure within the watershed to Kimball Brook. This work uncovered no significantly elevated bacteria concentrations, and no obvious source or source location of the bacteria. However, we anticipate that the maintenance and repairs to the sewer infrastructure will result in water quality benefits. A full report was provided to MA DEP in September 2009. This work was associated with BMP ID#3-2 of this permit.

In addition, the Public Works Department continues to actively work to integrate stormwater management improvements into all capital improvement projects undertaken by the department.

During this Permit Year, the Public Works Director retired and the new Operations Manager took over as Director. The Operations Manager position has not been filled, but is scheduled to be filled within the upcoming fiscal year (FY11).

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	Procurement/Development of educational material	DPW Director	Procure or adapt four brochures for distribution and posting in subsequent permit years.	The Town has undertaken education by means of presentations to the Board of Selectmen in support of passing two sets of Stormwater Regulations. In addition, press coverage was solicited and an article about stormwater management and the regulations was published in the local newspaper. Finally, the Town has developed a Stormwater Management website link from its DPW webpage to provide information about the Bylaw regulations.	Reconsideration will be given to a comprehensive public education campaign in partnership with other public or non-profit agencies within the Town and the watershed. A targeted public education campaign focused on the implementation of stormwater management regulations will be developed and implemented in this permit year.
Revised			Will post through existing stormwater webpage with link through Cons. Commission		
				The Town continued several additional educational programs. The Town publishes an Annual Recycling Calendar, and the Ipswich Recycling Committee contributes a weekly column to the local newspaper on issues of environmental concern. The DPW also provides news releases to the local news media regarding issues of household waste management, recycling and stormwater.	Continue to provide public information on environmental issues that impact water quality.

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	Conduct joint Household Hazardous Waste and Oil/Paint Collection Day	Board of Health, with DPW Director	Conduct one joint day annually and an additional oil-based paint (plus tires, batteries, fluorescent bulbs) collection day conducted by DPW alone.	Conducted one joint collection day and one DPW collection day in the Permit year. The DPW also continued a mercury recovery program. The Town also initiated single stream curbside pickup recycling to encourage more participation.	Household hazardous waste collection days are scheduled annually in the Spring and Fall.

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	Map outfalls and receiving waters	DPW Director with Utilities Director	Develop system for informing all public departments of changes in MS4 resulting from new development or re-dev.; field verify Ipswich Coastal Pollution Control Committee mapping and Parker River Watershed Outfall Mapping.	BMP completed in Year 4. See prior reports. In addition, as part of the design for the reconstruction of a portion of Central and South Main Streets, a complete assessment of the storm drain system, including contributing systems, was completed. The assessment included mapping and inspections of approximately 200 structures along with connectivity. Furthermore, existing conditions survey was completed by the Town’s contractors for the downtown area surrounding and within High Street, County Street, Liberty Street, and Washington Street; for various spot locations within the Neck area; along Linebrook Road (between Central St. and Route 1); and within the Mitchell Road, Avery Street, and Dornell Street area. Altogether, 103 drain manholes, 384 catch basins, 19 inlets, and 48 outlets/outfalls were surveyed.	Incremental mapping of comprehensive drainage system to include catch basins, manholes, and other drainage assets will be incorporated into future major capital projects.
3-2 Revised	Detect and eliminate illicit discharges	DPW Director	Develop Illicit Discharge Detection and Elimination Plan; dry weather discharge evaluation of the top priority area.	A detailed illicit discharge investigation was performed for the Kimball Brook watershed in response to a MA DEP notice, and a final report was provided to DEP in September 2009.	Additional priority sub-basins will be identified for infrastructure mapping and condition assessment, including determination of illicit connections or discharges. This is a continuous program expected to be completed over several years.

3-4	Develop Bylaw Prohibiting Illegal Dumping of Non-SW into MS4	DPW Director	Develop Draft By-law.	A Stormwater Management Bylaw was passed at Fall Town Meeting on October 20, 2008. This bylaw prohibits illicit discharges to the MS4.	Complete.
Revised					
3-5	Develop Regulations and Policies to Enforce By-law	DPW Director	Policies and Regulations	Regulations for the Issuance of Connection and Discharge Permits were adopted in February 2010 to regulate all connections to the MS4.	Complete.
Revised					

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	Revise Site Plan Review Bylaw	Planning Director	Draft amendment to the Site Plan Review section of the Zoning By-law for review of projects > 1 acre.	See BMP 3-4. The Town opted to pursue a comprehensive stormwater management Bylaw that incorporates all three major Bylaw and regulatory enforcement requirements of the NPDES General Permit. A Stormwater Management Bylaw was passed at Fall Town Meeting on October 20, 2008. This Bylaw prohibits illicit discharges to the MS4 and requires management of construction phase and post-construction phase stormwater runoff for alteration down to a floor of 10,000 s.f. or 50% of a lot, whichever is less.	The Planning Board intends to revise their regulations to make the stormwater standards consistent with the Stormwater Bylaw.
Revised		Planning Board intends to draft a Bylaw that will address projects of < 1 acre as well.			
4-2	Improve Site Plan Review Process	DPW Director	Draft revised process and tracking tool.	No additional activity this period. BMP was essentially complete after Year 4.	Continue to implement the new process and improve upon as experience provides opportunities.
4-3	Procedures for Receipt of Public Information	Planning Director	Review existing procedures for consideration of improvements or compliance with Phase II.	No additional activity this period.	To be determined.
Revised					

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	Post-Construction Run-off Bylaw	Planning Director	Complete Draft by-law by end of Permit Year 2. Develop associated regulations and guidance in year 3.	Bylaw Passed in Permit Year 6. Stormwater Regulations for the Issuance of Stormwater Management Permits were adopted in February 2010.	The Town will begin implementing these regulations in permit year 8.
5-2.1	DPW Review of Structural BMPs	DPW Director	Draft procedure for evaluation of BMP's from O& M perspective.	The Board of Selectmen delegated to the DPW the responsibility for administering the new Stormwater Management Permit Program and the Connection and Discharge Permit Programs. Therefore, the DPW will be responsible for reviewing all proposed BMPs within these applications. The Regulations include the provision of an O&M plan for review by the DPW, and specify that the owner is responsible for O&M as an ongoing condition of permit issuance.	The DPW will continue to review all BMPs within Stormwater Management Permit Program in accordance with the Stormwater Bylaw and Regulations.
Revised					
5-2.2	Establish Funding Mechanism for O&M of structural BMPs.	DPW Director	Investigation of potential funding mechanisms.	The Stormwater Advisory Committee included a member of the Finance Committee to have better communication about stormwater finance issues. Stormwater Management Permits will require detailed O&M plans for which the applicant/owner will be responsible.	Under the new Stormwater Management Permit Program, applicants will be required to implement O&M plans as on-going conditions of approval.
Revised					

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	Educate Municipal Employees	DPW Director	Annual Stormwater Training Sessions	Rick Clarke, DPW Director (Operations Manager at the time), and David Standley, Conservation Commission and Stormwater Advisory Committee Chair, attended a workshop entitled “Stormwater Regulation Changes Coming to Massachusetts” on April 23, 2010, hosted by Merrimack Valley Planning Commission. Rick Clarke also attended a stormwater seminar on October 28, 2009, hosted by CDM and entitled, “Strategic Approaches to Meeting EPA Requirements.”	DPW Director and Operations Manager will look for opportunities to attend local MA stormwater seminars, including seminars on upcoming MA Stormwater Regulations and Stormwater Financing options.
6-2	Develop and Implement Municipal Operations Stormwater Plan	DPW Director	Develop and Adopt the plan by the end of Permit Year 2.	The Operations Manager (now DPW Director) focused efforts on improving management at municipal operations, including site maintenance. The DPW Director contracted with NECE to survey and map a portion of the stormwater drainage infrastructure to augment and improve upon previous mapping performed from aerial photography. See BMP ID#3-1 for more details.	The Town will continue to map the drainage infrastructure, perform condition assessments, and revise operating plans in accordance with findings. The Town intends to continue contracting with a consultant to prepare a comprehensive municipal drainage infrastructure map over the next year, and develop a GIS-based database system to track and plan municipal catch basin cleaning and other drainage infrastructure maintenance requirements throughout town.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

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
	Not Applicable – No TMDL’s have been approved for any Waters within the Town of Ipswich.				
Revised	<i>A Draft Report for bacteria/pathogen TMDLs in the Ipswich River Basin has recently been submitted for review and comment to USEPA. Implications of the TMDL will be addressed in the next 5-year permit program.</i>				The Town will work with regulators and watershed stakeholders to develop appropriate goals for the next five year permit term.

Part IV. Summary of Information Collected and Analyzed

Summarize the results of information or data, if any, that were collected and analyzed during Permit Year 7, but were not included elsewhere in the annual report or requires further elaboration. Information and data could include results/trends from any storm or receiving water quality monitoring, assessment of particular BMP performance, or financial impact of program implementation.

During the development of the Stormwater Management Bylaw, a certain amount of effort was expended by members of the Stormwater Committee to compile examples of stormwater permit fees being charged in other Massachusetts communities. This information was useful in the development of the accompanying regulations. The regulations included fees for applications for Stormwater Management Permits (\$300.00) and for Connection and Discharge Permits (\$100 for each connection from one- and two-family residential buildings and \$200 for connections from all other buildings or sites). These fees were set at a rate to support the administrative processing and basic technical review that would be required for the Department of Public Works to administer these permits. These fees will be reviewed once the permit program has been underway for a year.

During the past several years through the development of the Bylaw and regulations, a significant amount of education was provided to the Board of Selectmen and the Finance Committee on the topic of stormwater management, including the regulatory framework, the program cost implications, and the scientific basis. The Stormwater Committee incorporated members of the Finance Committee and the Shellfish Committee in order to finalize the Stormwater Management Bylaw and bring it to successful adoption at Town Meeting, and to develop the regulations and bring them to the Board of Selectmen for successful adoption in February, 2010.

DEP performed bacteria sampling in the area of Kimball Brook in Ipswich, and notified the Town that the water body is out of compliance with the Clean Water Act and required further investigation on the part of the Town to identify the source of the bacteria contamination. The Stormwater Committee Chairman performed a visual survey of outfalls to Kimball Brook in November 2008, and a preliminary report was submitted to DEP in January 2009. The Town continued to fulfill its obligations for investigating this issue, and submitted a final report to DEP in September 2009. The report did not identify any specific sources, illicit connections, or source locations contributing to elevated bacteria concentrations in the Brook. However, concurrently with this investigation, the Sewer Department, through a contractor, was performing regular maintenance inspections and repairs in the Kimball Brook watershed area. The Town anticipates that this work will support an improvement in water quality in Kimball Brook in the future.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures	(\$)	

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Y
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	2/yr
▪ community participation	(%)	
▪ material collected	(tons or gal)	
School curricula implemented	(y/n)	

Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted	Adopted
Regulatory Mechanism Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				X
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				X
Accompanying Regulation Status (indicate with "X")				

▪ Illicit Discharge Detection & Elimination				X
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				X

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened	(# or %)	
Illicit discharges identified	(#)	
Illicit connections removed	(#) (est. gpd)	
% of population on sewer	(%)	
% of population on septic systems	(%)	

Construction

Number of construction starts (>1-acre)	(#)	
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	
Site inspections completed	(# or %)	
Tickets/Stop work orders issued	(# or %)	
Fines collected	(# and \$)	
Complaints/concerns received from public	(#)	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections completed	(# or %)	
Estimated volume of stormwater recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	1
Total number of structures cleaned	(#)	100%
Storm drain cleaned	(LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		
Cost of screenings disposal	(\$)	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	
Vacuum street sweepers specified in contracts	(y/n)	

Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers	(lbs. or %)	

▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	

Anti-/De-Icing products and ratios	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized	(y/n)	
Manual control spreaders used	(y/n)	
Automatic or Zero-velocity spreaders used	(y/n)	
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	
Storage shed(s) in design or under construction	(y/n)	