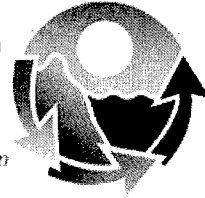


# Horsley Witten Group

*Sustainable Environmental Solutions*

30 Green Street • Newburyport, MA • 01950  
Phone - 978-499-0801 • Fax - 978-499-0602 • [www.horsleywitten.com](http://www.horsleywitten.com)



APR 30 2009

April 28, 2009

Ms. Glenda Velez – CIP  
U.S. Environmental Protection Agency – CIP  
One Congress Street, Suite 1100  
Boston, MA 02114-2023

Re: Town of Ipswich, MA – NPDES Annual Report No. 6

Dear Ms. Velez:

Enclosed please find the NPDES Phase II Small MS4 General Permit Annual Report (Permit Year 6) for the Town of Ipswich, Massachusetts. As required, the report has been signed and certified by an authorized representative of the community. This report is being submitted concurrently to the Massachusetts Department of Environmental Protection.

Questions pertaining to the report may be directed to Robert Gravino, Public Works Department Director, at 978-356-6612.

Respectfully,

HORSLEY WITTEN GROUP, INC.

A handwritten signature in black ink, appearing to read 'Elizabeth S. Baker', with a long horizontal flourish extending to the right.

Elizabeth S. Baker  
Senior Environmental Planner

cc: Robert Gravino, Ipswich Public Works Department

Enclosure

**Municipality/Organization:** Town of Ipswich, MA

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**EPA NPDES Permit Number:** MA041199

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**MaDEP Transmittal Number:** W-035827

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**Annual Report Number  
& Reporting Period:** No. 6: April 08 - March 09

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## NPDES PII Small MS4 General Permit Annual Report

### Part I. General Information

Contact Person: Mr. Robert Gravino

Title: Director, Dept. of Public Works

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Telephone #: 978-356-6612

Email: robertg@town.ipswich.ma.us

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#### 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: \_\_\_\_\_

*Ingrid F. Miles*

Printed Name: Ingrid F. Miles

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Title: Chair, Board of Selectmen

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Date: April 27, 2009

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## **Part II. Self-Assessment**

The Town of Ipswich has completed the required self-assessment and has determined that our municipality is in compliance with the permit conditions. One particularly important achievement during this permit year was the Stormwater Management Bylaw at the October 2008 Town Meeting. This bylaw prohibits illicit discharges, requires a Stormwater Management and Discharge permit for all direct connections to the Municipal Separate Storm Sewer System (MS4), and requires a Stormwater Management Permit for all proposed development or redevelopment that will alter a certain area of land. The maximum area of disturbance that can be regulated through this bylaw is 10,000 square feet or 50% of the lot size, whichever is smaller. The Stormwater Management Permit addresses developments that are not already under the regulatory jurisdiction of the Massachusetts Department of Environmental Conservation Commission, thereby minimizing any undue permitting burden on applicants. The Town will work to implement regulations during Permit Year 7.

In addition to passing the Stormwater Management Bylaw, the town funded a new Operations Manager position in the Public Works Department. This position has been filled by a civil engineer experienced in municipal stormwater management and will assist the Director in carrying out the municipal Stormwater Management Program. The Public Works Department is currently working to integrate stormwater management improvements into all capital improvement projects undertaken by the town. For example, a road reconstruction project on Central Street that is currently in the final design phase has been expanded to include and improvements to the underlying stormwater infrastructure.

Several of the other Best Management Practices (BMPs) were dependent upon final form of the by-laws, and could not have been only partially addressed within this permit period (e.g. development of regulations). Additional information regarding the Town to implement this permit is provided in the following Annual Report.

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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities -- Permit Year 7
1-1  Revised	Procurement/Development of educational material	DPW Director	Procure or adapt four brochures for distribution and posting in subsequent permit years. Will post through existing stormwater page with link through Cons. Commission	The Town has undertaken education by means of public meetings and presentations to the Board of Selectmen, the Finance Committee, and Town Meeting in support of passing a Stormwater Bylaw. In addition, press coverage was solicited and several articles about stormwater management and the bylaw were published in the local newspaper.	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.
				The Town continued several additional educational programs. The Town publishes an Annual Recycling Calendar. In the calendar, information is provided regarding household hazardous waste days, program improvements such as the boat shrink wrap recycling program, the trial evaluation of a single stream recycling program, a mercury recycling program, and other general information regarding appropriate management of household wastes. The Ipswich Recycling Committee contributes a weekly column to the local newspaper on issues of environmental concern. Finally, the DPW 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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
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 initiated a mercury recovery program.	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 6 (Relyance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
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.	Incremental mapping of comprehensive drainage system to include catch basins, manholes, and other drainage assets will be incorporated into future major capital projects, including an upcoming repaving and stormwater improvement project along Central Street downtown.
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.	Illicit discharges were formally prohibited through passage of local Stormwater Management Bylaw. Preliminary inspections were performed in the Kimball Brook sub-watershed in Fall 2008.	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. The Kimball Brook sub-watershed will be one focus area in this permit year.
3-4 Revised	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.
3-5 Revised	Develop Regulations and Policies to Enforce By-law	DPW Director	Policies and Regulations	A preliminary detailed outline of the regulations was drafted by MAPC for the Stormwater Committee along with actual draft regulations. Comments were drafted by several members of the committee.	Regulations will be drafted for adoption within the next permit year. A consultant has been contracted by the DPW to work with the Stormwater Committee toward this end.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) - Permit Year 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities - Permit Year 7
4-1	Revise Site Plan Review By-law	Planning Director	Draft amendment to the Site Plan Review section of the Zoning By-law for review of projects > 1 acre. PB intends to draft by-law that will address projects of < 1 acre as well.	See BMP 3-4. The Town opted to pursue a comprehensive stormwater management by-law which incorporates all three major by-law 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 Town will be implementing this bylaw in permit year 7.
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.

### 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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
5-1	Post-Construction Run-off By-law	Planning Director	Complete Draft by-law by end of Permit Year 2. Develop associated regulations and guidance in year 3.	See BMP 3-4. The Town opted to pursue a comprehensive stormwater management by-law which incorporates all three major by-law 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 Town will begin implementing this bylaw in permit year 7.
5-2.1 Revised	DPW Review of Structural BMPs	DPW Director	Draft procedure for evaluation of BMP's from O&M perspective.	During permit year 6, after over a year of instituting a new 100% salt policy for winter road treatment, Ipswich DPW reevaluated this practice. The DPW decided to incorporate a small proportion of sand back into the road treatment due to the high cost of salt and observations of deterioration of the sidewalks due to salt. DPW Operations Manager also reviewed street sweeping procedures with staff to improve sweeping efficiency.	Town will continue to look at ecological or other habitat impacts associated with use of up to 100% salt for road treatment. Depending on availability of staff, Town also plans to develop a GIS mechanism to track the amount of sediment removed during catch basin cleanings in order to more efficiently prioritize cleanings in the future. Over the next several years, Town also plans to perform comprehensive review of road treatment materials and needs to reduce overall use of such materials each winter.



5-2.2 Revised	Establish Funding Mechanism for O&M of structural BMPs.	DPW Director	Investigation of potential funding mechanisms.	This issue has been combined with development of the comprehensive by-law. The Stormwater Management Bylaw includes a provision that authorizes the Board of Selectmen to recommend the formation of a stormwater utility at Town Meeting.	Town, through the stormwater committee's work to draft the stormwater regulations, will further evaluate overall stormwater management program costs to comply with the NPDES permit requirements and implement the new local bylaw.
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**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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities - Permit Year 7
6-1 Revised	Educate Municipal Employees	DPW Director	Annual Storm Water Training Sessions	Ipswich DPW purchased ArcGIS software and the new Operations Manager attended GIS training. Operations Manager also reviewed street sweeping procedures with staff to improve sweeping efficiency.	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 Town hired an Operations Manager for the Public Works Department. This is a new position that is intended to focus partially on managing stormwater issues, including management at municipal operations, and compliance with NPDES Phase II.	The Town will continue to map drainage infrastructure, perform condition assessments, and revise operating plans in accordance with findings. The Town intends to contract with consultant to prepare a comprehensive municipal drainage infrastructure map within the next three years, as funds are available. Town will also revisit the previously purchased Asset Management system to evaluate the functionality. Over future years, Ipswich will continue to improve this system, or move to a more user friendly system to manage municipal stormwater operations, if needed.

**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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities - Permit Year 7
Revised	<p>Not Applicable - No TMDL's have been approved for any Waters within the Town of Ipswich.</p> <p><i>A Draft Report for bacterial/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></p>			<p>The Town will work with regulators and watershed stakeholders to develop appropriate goals for the next five year permit term.</p>	

#### 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 6, 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 will be useful in the development of the accompanying regulations.

During the past several years through the development of the bylaw, 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.

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 is continuing to fulfill its obligations for investigating this issue before August 1, 2009.

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

**Programmatic**

Stormwater management position created/staffed	(y/n)	Partial
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)	Y
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)	N

**Legal/Regulatory**

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

▪ 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	(%)	100%
▪ GIS	(# or %)	50%
Outfalls inspected/screened	(#)	0
Illicit discharges identified	(#)	0
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)		
<ul style="list-style-type: none"> <li>▪ Fertilizers</li> <li>▪ Herbicides</li> </ul>	(lbs. or %)	
	(lbs. or %)	

<ul style="list-style-type: none"> <li>▪ Pesticides</li> </ul>	(lbs. or %)	
Anti-/De-Icing products and ratios	% NaCl % CaCl <sub>2</sub> % MgCl <sub>2</sub> % 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)	