

**Municipality/Organization:** Town of Merrimack, NH

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**EPA NPDES Permit Number:** NHR041018

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**MassDEP Transmittal Number:** W-

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**Annual Report Number  
& Reporting Period:** April 1, 2008 – March 31, 2009

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## **NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2009)**

### **Part I. General Information**

**Contact Person:** David C. Lent, P.E.    **Title:** Deputy Director of Public Works & Engineering

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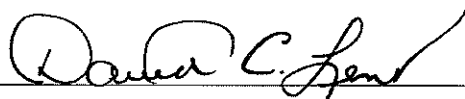
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#### Certification:

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:**



**Printed Name:** David C. Lent, P.E.

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**Title:** Deputy Director of Public Works & Engineering

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**Date:** April 2009

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## Part II. Self-Assessment

The Town of Merrimack is now six years into the Phase II Stormwater program and has achieved great success with respect to compliance. The following provides highlights of the Town's progress during the first permit term:

### Control Measures 1 and 2 - Public Education and Outreach; Public Involvement and Participation:

- The Town regularly produces and distributes informational brochures on stormwater-related issues. Brochure topics include: household hazardous waste disposal and solid waste management. The Town has also had informational surveys and brochures developed for sensitive watersheds within town.
- The Town partnered with the Nashua Regional Planning Commission (NRPC) to develop a lesson plan for 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grade curricula. The program will include discussion of the water cycle and local stormwater impacts that are specific to the Merrimack River. The Town has also conducted student tours of the wastewater treatment facility and highway garages.
- The Town's website was recently overhauled and now can be used as a vehicle for providing stormwater information to the residents of the town. The stormwater section of the site has useful informational and educational links as well as important Town announcements and schedules (i.e., household hazardous waste days and a street sweeping schedule).
- The Town coordinates its catch basin cleaning program with an educational stenciling program. By providing a stencil on each catch basin, designating that it discharges to a waterway, residents may be less likely to dump harmful pollutants.
- The Town provides financial and staff support to many local watershed groups including: The Souhegan River Watershed Association, Lower Merrimack River Local Advisory Committee, Nashua Regional Planning Commission and Baboosic Lake Association. The support of these organizations provides stormwater awareness to residents and creates opportunities to become actively involved in stormwater programs, such as the Merrimack River water quality monitoring program.
- The Town's Greenbelt Program identifies environmentally sensitive areas within town and attempts to obtain properties in these areas to protect the integrity of the watersheds in Merrimack. The program has procured over two hundred acres in the last three years alone.

## **Part II. Self-Assessment (continued)**

### Control Measure 3 – Illicit Discharge Detection and Elimination:

#### Mapping:

- A comprehensive field program was undertaken in the Summer/Fall 2007 to walk along the banks of all water bodies and rivers and streams to locate and inspect stormwater outfalls. The field program consisted of a substantial effort to locate the outfalls and was required because the Town had limited mapping of existing outfalls. As a result, over 400 outfalls were located and the physical features and status of each was recorded on a field inspection sheet. Each outfall was photographed and the data was summarized in three large binders and an electronic database.
- The outfall locations were recorded in the Town's stormwater GIS database. This was followed by driving every street in town to verify the presence/absence of stormwater structures as indicated by the aerial mapping program. The information gathered was used to update the Town's database.
- The field data was then used with the existing as-built drainage drawings to develop the stormwater GIS system. The stormwater GIS is now complete and houses all information gathered during the field program as well as the Town's entire existing drainage mapping.
- The Town also received training on maintaining the stormwater GIS and will be able to continually implement updates as new developments/town construction projects are built or as field crews observe areas that need to be refined.

#### Outfall Inspection:

- During the outfall location program, the presence/absence of dry-weather flow was noted. For each outfall with dry-weather flow (22 locations), a sampling program was conducted in an effort to locate pollutants that would indicate an illicit connection to the drainage system.
- Upon completion of this program the Town noted that no illicit connections to the drainage system were found. To ensure that this success is continued, the Town will enforce their policies that prohibit illicit connections to the drainage system and field crews will make note of any suspicious outfalls that are observed during normal operations.

## **Part II. Self-Assessment (continued)**

### Control Measures 4 and 5 – Construction Site Stormwater Runoff Control; Post-Construction Stormwater Management in New Development and Redevelopment:

- The Town has an erosion control officer that actively monitors construction sites throughout Merrimack. Where required, modifications to construction-phase erosion control measures are made to ensure compliance with regulations. The Town has worked diligently to develop an ordinance that requires construction site sediment and erosion control and addresses post-construction stormwater management. Several drafts of the ordinance were produced during Years 5 and 6, in an effort to develop a document that meets both the intent of the EPA program and the Town's needs. The Town believes that the final draft ordinance that has been produced will be sufficient to meet current and proposed stormwater regulations.

### Control Measure 6 – Pollution Prevention and Good Housekeeping in Municipal Operations:

- The Town continues to perform regular housekeeping and pollution prevention activities in the watershed to minimize impacts to stormwater quality, including regular street sweeping, catch basin cleaning and attention to municipal operations.
- The Town regularly sends employees to training sessions and seminars on such subjects as erosion control, drainage and culvert design, wetlands topics, permit training etc. This increases the staff's awareness of stormwater issues and ensures that the most current procedures are being followed.
- The Town recently purchased a new Vector truck for cleaning catch basins. This was required to replace old and failing equipment that was slowing the cleaning process. As a result, catch basin cleaning productivity in town has more than tripled.

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	Informational brochures for trash management and disposal of hazardous waste	DPW	Develop brochure by Spring of 2004, distribute to all residents by fall of 2004	<p>The Town continues to produce and distribute informational brochures for proper household hazardous waste disposal, solid waste management (specific to Merrimack. Brochures are currently available at the Town's transfer station.</p> <p>Also, as a follow-up to the survey the Town sent to residents in the Stump Pond area in Year 5 to promote stormwater awareness and watershed protection techniques, a mailing was sent to these residents in Year 6 on free soil testing. The Towns of Amherst and Merrimack are working with the Pennichuck Water Works to make free soil testing available to residents in the Stump Pond Watershed as part of an outreach program to encourage reduced fertilizer/pesticide use. If this pilot program is successful, the Town may approach the Merrimack Village District and/or lake associations to see if they want to partner in a similar awareness campaign.</p>	<p>Continue to produce and distribute the brochures to Town residents.</p> <p>Copies will be available at Town Hall, DPW, transfer station, Town Library and other Town facilities.</p>

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
1.2	Classroom education	DPW	Have guided tour program of WWTF and highway garage available to students by end of year 1.	<p>Tours were available, but no tours were requested from the schools.</p> <p>The Town continued coordination with the Nashua Regional Planning Commission (NRPC) to develop a stormwater lesson plan for middle school students.</p> <p>A workshop was held in the Summer of 2008 to prepare teachers and to finalize the curriculum. Nine teachers participated in two focus groups regarding curriculum development. The curriculum was further developed in the fall and winter of 2008. Merrimack's continued support has been critical to allow the NRPC to modify the proposed program to ensure that it will be accepted at the state level.</p>	<p>The NRPC will hold a second teacher workshop in the Summer of 2009 to further prepare Merrimack teaching staff to implement the new stormwater lesson plan in the school's curriculum.</p> <p>Tours of the WWTF and highway garage will be conducted if there is interest from the schools.</p>

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
1.3	Advertisements promoting BMPs to air on local cable station	DPW	Create sleds and secure airtime by fall of 2004. Advertisements to run monthly at a minimum.	Information on household hazardous waste disposal airs regularly on the Town's public access station.	Continue to air information on household hazardous waste and air the EPA "After the Storm" video 12 times during Year 6.
1.4	Educational pamphlets provided to new residents.	DPW	Distribution of educational materials to begin by end of year 1 and be continuous	See BMP 1.1	See BMP 1.1

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
1.5	Stormwater information provided on website	DPW	Develop website information, implement fall 2004.	<p>A new town website went live during Year 6. The new site is more user-friendly and has a section dedicated to stormwater. Included in this section are the following links:</p> <ul style="list-style-type: none"> <li>• Household hazardous waste information</li> <li>• Town street sweeping schedule (included in “News” section of website)</li> <li>• A link to the Merrimack Village District (the Town’s water supplier), which includes information on drinking water protection, hazardous waste disposal, alternative cleaning products and landscaping BMPs</li> <li>• A link to the main EPA and NHDES stormwater pages</li> <li>• A link to the EPA “Stormwater Frequently Asked Questions” page</li> <li>• A link to the EPA “Homeowner ‘dos and don’ts”” page</li> <li>• A link to the EPA “Adopt Your Watershed” page, which includes a self-test to determine if Town residents are minimizing their impact on the watershed.</li> <li>• A link to the Souhegan River Watershed Association page, which includes data on water quality for local waterways</li> </ul>	<p><b>BMP Complete</b> – The site will be continually updated as necessary to keep the information on the site current.</p>



## 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	Storm Drain Stenciling	DPW	Stencil designed by Year 1, 80% catch basins stenciled by end of Year 2, stencil program to run annually	<p>Stenciling and repainting of stencils that have faded continues. The Town currently coordinates the catch basin cleaning program with the catch basin stenciling program. Approximately 1,434 catch basins were cleaned during Year 6. It is estimated that approximately 2,500 of the Town's catch basins have been stenciled to date.</p> <p>It should be noted that a new vehicle was purchased at the end of Year 5 to replace old, failing equipment and there was a dramatic increase in production as a result (only 405 CBs were cleaned during Year 5).</p>	<p>Continue coordination of catch basin cleaning and stenciling. Catch basin stencils that have faded will be repainted as necessary.</p>
2.2	Volunteer program for stream cleanup and water quality monitoring	Community Development	<p>Work of Souhegan and Lower Merrimack local advisory committees to be monitored by the Town.</p> <p>Monitoring data to be included in annual report to EPA.</p>	<p>Merrimack's continued support enabled water quality monitoring along the Souhegan and Merrimack Rivers. Data can be found at the following website:  <a href="http://www.souheganriver.org/results.html">http://www.souheganriver.org/results.html</a></p> <p>The data is also included in The Merrimack Journal, a publication that is distributed weekly to every household. Additionally, the Town's Conservation Commission sponsors a water quality testing program (water clarity, chlorophyll and phosphorus) for the Naticook and Baboosic Lakes. Copies of the test results are available upon request at the Town Hall.</p>	<p>Continue association and support of watershed groups and the sampling program.</p>

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
2.3	Greenbelt Program	Community Development	Greenbelt program is included in master plan; the Town is actively encouraging private participation	The Town continued to obtain properties in sensitive areas of Town through the Greenbelt Program for conservation purposes. Land obtained during Year 6 included a 30-acre donation of natural stream network and wetland area. Preserving this parcel will help protect water quality in a wetland that is tributary to the Merrimack River.	The Town boards will continue to work to acquire parcels to protect the watershed.
2.4	Support watershed organization	Community Development	Town will continue to solicit applicants for appointment with the local watershed organizations	The Town continues to support local watershed organizations such as the Souhegan River Watershed Association, Lower Merrimack River Local Advisory Committee, Baboosic Lake Association and the Nashua Regional Planning Commission. Currently the Town provides funding to support the organizations and donates staff time to attend meetings and support the various programs sponsored.	The Town will continue to provide funding and staff time to support the local watershed associations.
2.5	Develop system for public communication	DPW	Appoint Contact person and establish communication methods by fall 2004	The Town established a contact person for the receipt of complaints and notices relative to stormwater violations in Year 5. This person's direct phone line serves as the stormwater phone line and is posted on the Town's website to facilitate communication with the public.	<b>BMP Complete</b> – The Town will continue to facilitate open communication with the public for stormwater issues.

### 3. Illicit Discharge Detection and Elimination

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
3.1	Preparation of Master Drainage Map (delineation of municipal storm sewer system, drainage basins, outfalls and receiving waters)	DPW	Master Drainage Map is prepared by end of Year 4. Map is modified as needed annually.	The Town reviewed all drainage as-built drawings and have incorporated these plans into the stormwater GIS. All information (from existing mapping and field investigations) is now entered into the stormwater GIS.  The Town has been trained in the GIS software and will continually update the stormwater mapping as new information becomes available (i.e., through field inspections or to input new construction).	<b>BMP Complete</b> – The Town will provide updates to the GIS as information becomes available.
3.2	Storm sewer bylaw	DPW	Storm sewer bylaw in place by Year 3.	<b>BMP Complete</b> - Review of the existing subdivision regulations and ordinances for the Town was conducted. The regulations currently prohibit illicit connections to the storm sewer system.	<b>BMP Complete</b> - Continue to enforce existing regulations.
3.3	Qualitative observation of discharge at outfalls	DPW	100% major outfalls from developed areas are screened for pollutants by end of Year 2.	<b>BMP Complete</b>	<b>BMP Complete</b>

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
3.4	Dry Weather screening of outfalls	DPW	100% major outfalls from developed areas are screened for dry weather flow pollutants by end of Year 1.	<b>BMP Complete</b>	<b>BMP Complete</b>
3.5	Develop program for the elimination of illicit discharges, if applicable	DPW	Eliminate all known illicit discharges by end of Year 5, first permit period.	No illicit discharges were identified during the outfall screening program.	<b>BMP Complete</b> - The Town will continue to monitor its stormwater outfalls as necessary. In the event that an illicit discharge to the drainage system is located, appropriate and standard industry practices will be utilized to identify and remove the source.

#### 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	Preparation of Town Ordinance to address: BMP erosion and sediment controls for all new construction, preparation of SWPPPs for land disturbances greater than 1 acre, building setbacks from waters of the state and disposal of discarded materials	Community Development	Complete ordinance and implement as allowable under State law	During Years 5 and 6 the Town worked to develop a final draft ordinance that meets both the intent of the EPA program and the Town's needs. The Town believes that the final draft ordinance that has been produced will be sufficient to meet current and proposed stormwater regulations.	It is anticipated that this final draft will adequately meet the standards of current and proposed future stormwater program and will be adopted during Year 7.
4.2	Develop procedures for site inspection, enforcement and penalties for non-compliance	Community Development	Summarize inspections and violations	The Town's inspection staff continued regular site inspections on new construction. The Town's Erosion Inspector monitored 42 sites in Year 6. No violations required pursuit with the NHDES.	Continue to enforce the current procedures for site inspection and enforcement.
4.3	Appoint a contact person and establish communication methods by fall of 2005	Community Development	Develop system for public communication (for reporting violations) and track reports	See BMP 2.5.	See BMP 2.5

### 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	Revision to Town Site Plan and Subdivision review regulations to address: Structural BMPs for land disturbances for greater than 1 acre, and perpetual maintenance BMPs	Community Development	Regulations to be revised and adopted by fall of 2004.	See BMP 4.1	See BMP 4.1
5.2	Develop procedures for review of structural BMPs	Community Development	To be part of revised regulations by fall 2004.	See BMP 4.1	See BMP 4.1
5.3	Promote open drainage systems and groundwater recharge through infiltration systems	Community Development	To be part of revised regulations by fall 2004.	See BMP 4.1	See BMP 4.1
5.4	Develop procedures for site inspection and enforcement	Community Development	Internal inspection procedures in place by fall of 2004.	See BMP 4.1	See BMP 4.1

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	Prepare Operations and Maintenance program for storm sewer system	DPW	33% of structures are cleaned and inspected each year. O&M plan developed by end of Year 3. Plan to be revised as necessary.	<p>The Town continued its current operations and maintenance program and good housekeeping measures. The following was accomplished in Year 6:</p> <ul style="list-style-type: none"> <li>• Street sweeping – 100% of streets were swept</li> <li>• Catch basin cleaning – 1,434 cleaned</li> <li>• Salt continues to be stored in a new covered shed and salt use is limited in sensitive areas of Town</li> <li>• All sand/salt spreaders were recalibrated for appropriate application rates prior to starting winter operations</li> <li>• Vehicles are washed inside the DPW garage and rinse water drains to the Town sewer system</li> <li>• Vehicle maintenance is performed inside the DPW garage; employees are trained on spill procedures and spill kits are readily available</li> <li>• Park maintenance continues with minimized use of herbicides, pesticides and fertilizers</li> </ul>	Continue existing program.

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
6.2	Implement employee training program to include: vehicle maintenance, building maintenance, oil recycling policy, calibration of salt spreaders, hazardous waste material storage, spill response and prevention and erosion control for new construction	DPW	Employee training program to be developed by end of Year 1, and conducted annually for all DPW employees.	<p>Training for staff members continued. The following relevant courses were presented:</p> <ul style="list-style-type: none"> <li>• UNH Technology Transfer courses attended: Drainage, Drainage, Drainage-(1 attendee); Culvert Installation and Maintenance (3 attendees); Managing Highway Departments (2 attendees); Local Road Maintenance (2 attendees)</li> <li>• Erosion Control Seminar (1 attendee)</li> <li>• Wetland Permit Training (2 attendees)</li> <li>• Wetland Mitigation Training (1 attendee)</li> <li>• New Hampshire Alteration of Terrain Permit Training (1 attendee)</li> <li>• Shoreline Protection Training (2 attendees)</li> <li>• Stream Crossing Standard Training (1 attendee)</li> </ul>	Individual training through seminars will continue as opportunities to attend appropriate courses become available.



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 6 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 7
	<b>Not Applicable</b>				

7a. Additions


7b. WLA Assessment

**Part IV. Summary of Information Collected and Analyzed**  
N/A