

Municipality/Organization: Town of Merrimack, NH

EPA NPDES Permit Number: NHR041018

MassDEP Transmittal Number: W-

Annual Report Number Year 7
& Reporting Period: April 1, 2009 – March 31, 2010

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2010)

Part I. General Information

Contact Person: David C. Lent, P.E. Title: Deputy Public Works Director

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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

Title: Deputy Public Works Director

Date: April 30, 2010

Part II. Self-Assessment

The following provides highlights of the Town of Merrimack's activities during year seven of its Small MS4 Stormwater Permit:

Control Measures 1 and 2 – Public Education and Outreach; Public Involvement and participation:

- The Town continues to produce and distribute brochures on stormwater-related issues. Brochure topics include household hazardous waste disposal, water resource protection, solid waste management and lawn care (fertilizer application). The Town adopted single stream recycling this year to encourage increased participation in recycling.
- The Town partnered with Nashua Regional Planning Commission (NRPC) and other MS4 communities in the region to develop a stormwater curriculum and lesson plan for middle school and high school students. The documents were sent to school principals, curriculum coordinators and teachers for their use.
- A feature was added to the Town's website that allows the DPW to track visits specifically to the stormwater section of its website. It also tracks what site(s) visitors were linked from. This information will be useful to increase the traffic to the website.
- Catch basin stenciling continues as part of the catch basin cleaning program to increase public awareness.
- The Town continues to provide assistance to the local watershed groups to encourage water quality monitoring and education.
- The Community Development staff, Planning Board, and Conservation Commission continue to work with developers to identify and secure parcels that have particular benefit to protection of the Town's watersheds. Of particular note this year is a residential subdivision that originally included eight lots requiring substantial ground disturbance just up gradient from the Town's water supply. The Community Development and Public Works Departments negotiated with the developer to develop just four lots that fronted on the existing road by supporting a zoning variance that allowed for reduced frontage. Approximately twenty acres at the rear of the parcel will be sold to the Town as conservation land providing an additional buffer to the water supply. The Conservation Commission has purchased land in the Grater Woods area and the Town negotiated with the developer of a proposed commercial development to purchase and donate additional property in the same area as wetlands mitigation.

Control Measure 3 – IDDE:

Mapping:

- The Town continues to use engineering interns to fill in gaps in the stormwater system mapping. The data base now includes the outfall ID number that each catch basin eventually drains to. This should make it easier to identify possible sources of illicit discharges if they are detected.
- Stormwater atlases were developed for the Highway Division and distributed.
- The Town's wastewater staff is creating a collection system overlay for the GIS to allow easier assessment of possible cross connections.

Outfall Inspection:

- Town staff began revisiting outfalls where dry weather flows had previously been observed. That work will progress as weather allows.

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

- There has been very little development and redevelopment activity during this permit year. The Town employee charged with erosion control

inspections continued monitoring those sites that have some activity as well as looking at post construction compliance. In at least one instance the developer was called back during the project warranty period to repair areas where erosion and sedimentation had been noticed. The source of the sedimentation was not from failure within the new infrastructure built for the Town but from the failure of the residential site contractor to control runoff from his activity.

- Town staff completely rewrote the draft stormwater ordinance and related subdivision and site plan regulations to better address the permit issues as we now understand them. Documents are ready for legal review and adoption.

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

- The Town continued its regular housekeeping activities including regular catch basin cleaning and annual street sweeping.
- Employees receive additional training as appropriate classes become available.

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
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	The Town continued to distribute solid waste, recycling and household hazardous waste brochures. This year “single-stream” recycling was added to increase participation and reduce waste.	Continue updating and distributing brochures.
Revised				Instituted a “My lawn is on a diet” pilot program in the Stump Pond watershed as a joint project with Pennichuck Water Works and the Town of Amherst. The program advocates soil testing and reduced lawn fertilizer use.	
1.2	Classroom education	DPW	Have guided tour program of WWTF and highway garage available to students by end of year 1	Tours were very successful during the first years of the program, but are not part of the school schedule at this time. The stormwater curriculum that Merrimack and other local MS4 Communities contracted for was completed this year and delivered to the local school principals and science teachers in grades 6-12.	DPW staff to follow up with school officials and offer to participate in presentations to relate every day experiences.
Revised				Information on the household hazardous waste program airs regularly. Informational programs on single stream recycling were added this year. Events related to the reduced lawn fertilizer program were also advertised this year.	Continue to develop “fresh” PSA’s.
1.3	Advertisements promoting BMP’s to air on local cable station	DPW	Create slides and secure airtime by fall of 2004. Advertisement to run monthly at a minimum.		
Revised				See BMP 1.1	See BMP 1.1
1.4	Educational pamphlets provided to new residents.	DPW	Distribution of educational materials to begin by end of year 1 and be continuous.		

Revised	Stormwater information provided on website.	DPW	Develop website information, implement fall of 2004.	Beginning this year the Town is able to document the number of times that the stormwater section of the DPW website is accessed. It is also possible to determine the path that users took to link to the stormwater site. The Department can use this information to make the stormwater link more noticeable on other web pages. The site was accessed a total of 1667 times during the permit year with a low of 33 views in June 2009 and a high of 301 views in September 2009.	Add links to interactive stormwater related sites to increase response.
1.5 Revised					
Revised					

1a. Additions

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
2.1	Storm drain stenciling	DPW	Stencil designed by Year 1, 80% of catch basins stenciled by end of year 2. Stencil program to run annually.	Re-stenciling continues as necessary.	Repaint stencils as they fade.
Revised					
2.2	Volunteer program for stream cleanup and water quality monitoring.	Community development	Work of Souhegan and Lower Merrimack local advisory committees to be monitored by Town. Monitoring data to be included in annual report to EPA.	The Town continued to provide financial support for water quality testing by the advisory committee volunteers. Data is available on the groups' websites as well as being published in local weekly newspapers. Laboratory testing is performed in house at the Merrimack WWTF.	The 2010-11 Town budget includes continued funding for the testing programs.
Revised					
2.3	Greenbelt Program	Community Development	Greenbelt program is included in the Town's master plan. The Town actively encourages private participation.	The Town continued to negotiate to acquire properties in sensitive areas of town for conservation purposes. Specific accomplishments for the permit year are listed above in the self assessment.	Town staff and boards will continue to negotiate with developers and others to acquire properties to protect the watershed.
Revised					
2.4	Support watershed organizations	Community Development	Town will continue to solicit applicants for appointment with the local watershed organizations	See 2.2	See 2.2
Revised					

Revised						
2.5	Develop system for public communication	DPW	Appoint contact person and establish communication methods by fall 2004	The Deputy Public Works Director and Assistant Planner have been designated as contacts for stormwater related issues.	The Town will continue to facilitate multi media communication with the public on stormwater issues.	
Revised						

2a. Additions

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
3.1 Revised	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.	Outfalls and receiving waters were previously mapped. Storm drain systems were added in prior years. Data is being field verified by interns and maintenance staff and corrected and updated as necessary. Wastewater collection system and water distributions system overlays are being developed. Overlays were added this year to delineate shoreland protection areas, floodplains, and soils.	The Town will add pertinent data as it becomes available.
3.2 Revised	Storm sewer bylaw	DPW	Storm sewer bylaw in place by year 3	Existing regulations prohibited illicit connections and discharges to the storm sewer system. During the current year, amendments were proposed to the subdivision regulations to be more consistent with the stormwater ordinance.	Continue to enforce regulations.
3.3 Revised	Qualitative observation of discharge at outfalls	DPW	100% of major outfalls from developed areas screened for pollutants by the end of Year 2	BMP complete. Stared reinspecting outfalls previously identified as having dry weather flows.	Continue monitoring outfalls.
3.4 Revised	Dry weather screening of outfalls	DPW	100% major outfalls from developed areas are screened for dry weather pollutants by end of Year 1.	BMP complete.	Continue monitoring outfalls for dry weather flows.
3.5	Develop program for the elimination of illicit discharges, if applicable.	DPW	Eliminate all known illicit discharges by end of Year 5.	No illicit discharges have been identified based upon the outfall screenin program.	Continue to monitor outfalls and respond as necessary.

Revised							
Revised							

3a. Additions

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
4.1 Revised	Preparation of Town Ordinance to Address: BMP erosion and sediment controls for all new construction, preparation of SWPPP's for land disturbances greater than one 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 the permit year, staff completed a total rewrite of the ordinance and provided for legal review prior to presenting it to the appropriate boards.	It is anticipated that this document as revised will meet the standards of the current and proposed permits.
4.2 Revised	Develop procedures for site inspections, enforcement and penalties for non-compliance.	Community Development	Summarize inspections and violations.	Town inspection staff provided regular inspection of construction projects. Minor violations were resolved with the site contractor. No violations occurred requiring assistance from NHDES.	Continue current inspection and enforcement.
4.3 Revised	Appoint a contact person and establish communication methods by fall 2005	Community Development	Develop system for public communication (reporting violations) and track reports.	See BMP 2.5	See BMP 2.5
Revised					
Revised					
Revised					

Revised						
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4a. Additions

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
5.1	Revision to Town Site Plan and Subdivision regulations. Review regulations to address structural BMP's for land disturbances for greater than one acre and perpetual maintenance BMP's.	Community Development	Regulations to be revised and adopted by fall 2004.	Additional revisions were proposed during the current permit year to provide consistency with provisions of the stormwater ordinance.	Present revisions to the Planning Board for adoption.
Revised					
5.2	Develop procedures for review of structural BMP's.	Community Development	To be part of revised regulations by fall of 2004	Included in BMP 4.1	See BMP 4.1
Revised					
5.3	Promote open drainage systems and groundwater recharge through infiltration systems	Community Development	To be part of revised regulations by fall of 2004	Included in BMP 4.1 The DPW has designed a stormwater system upgrade project that includes infiltration to reduce the discharge that currently flows directly to the Souhegan River.	It is the Department's intent to use this project as a demonstration of the Town's commitment to reducing runoff directly to surface waters and to providing groundwater recharge when conditions allow.
Revised					
5.4	Develop procedures for site inspection and enforcement.	Community Development	Internal inspection procedures in place by fall of 2004.	Site inspection procedures have been followed for several years and are reinforced in the ordinance.	See BMP 4.1
Revised					
Revised					
Revised					

5a. Additions

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
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 O&M program and good housekeeping measures. The following were accomplished during the current permit year:</p> <ul style="list-style-type: none"> • 100% of streets were swept • 1459 catch basins were cleaned and inspected • Sand/salt spreaders were recalibrated prior to winter storm use • Vehicles are maintained and washed inside the highway garage where floor drains connect to the sanitary sewer system • Spill kits are maintained and employees are trained in their use • An IPM program is in use by the parks maintenance staff to reduce fertilizer and pesticide/herbicide use. The division foreman is a licensed pesticide applicator. 	Continue the existing program.
Revised					

6.2	Implement employee training to include: vehicle maintenance, building maintenance, oil and anti-freeze recycling policy, calibration of sand/salt spreaders, hazardous waste material storage, spill response and prevention, and erosion and sedimentation control.	DPW	Employee training program to be developed by end of Year 1, and conducted annually for all DPW employees.	Key department staff attendee stormwater workshops with EPA and NHDES staff as speakers. Reorganized the Nashua Regional Stormwater Coalition to provide shared training opportunities. DPW continues to maintain a training spreadsheet to track employee training needs and provides training as funding, time appropriate programs are available.	Continue training programs as in the past and identify additional needs.
Revised					
Revised					
Revised					
Revised					
Revised					

6a. Additions

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
	Not Applicable				
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2009 through March 31, 2010)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	
Annual program budget/expenditures **	(\$)	
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		

Education, Involvement, and Training

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

Legal/Regulatory

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

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	
Illicit connections removed **	(#); and (est. gpd)	
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	
% of population on sewer	(%)	
% of population on septic systems	(%)	

Construction

	(Preferred Units)	Response
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 (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	
Low-impact development (LID) practices permitted and encouraged	(y/n)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	
Qty of structures cleaned **	(#)	
Qty. of storm drain cleaned **	(%, LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**		(\$)
• Hourly or per basin contract rate **		(\$/hr or \$ per basin)
• Disposal cost**		(\$)
Cleaning Equipment		
• Clam shell truck(s) owned/leased		(#)
• Vacuum truck(s) owned/leased		(#)
• Vacuum trucks specified in contracts		(y/n)
• % Structures cleaned with clam shells **		(%)
• % Structures cleaned with vacor **		(%)

	(Preferred Units)	Response
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)	
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or In mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of:
 (“N/A” = never used; “100%” = elimination)

▪ Fertilizers	(lbs. or %)
▪ Herbicides	(lbs. or %)
▪ Pesticides	(lbs. or %)
Integrated Pest Management (IPM) Practices Implemented	(y/n)

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized **	(y/n or %)	
Manual control spreaders used **	(y/n or %)	
Zero-velocity spreaders used **	(y/n or %)	
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/in mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/in mi. or %)	
% of salt/chemical pile(s) covered in storage shed(s)	(%)	
Storage shed(s) in design or under construction	(y/n or #)	
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	
<ul style="list-style-type: none"> • Treatment units induce infiltration within 500-feet of a wellhead protection area 	# or y/n	