

Municipality/Organization: Town of Merrimack, NH

EPA NPDES Permit Number: NHR041018

MassDEP Transmittal Number: W-

**Annual Report Number
& Reporting Period:**

**Year 8
April 1, 2010 – March 31, 2011**

**NPDES PII Small MS4 General Permit
Annual Report
(Due: May 1, 2011)**

Part I. General Information

Contact Person: Kyle Fox, PE

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Town Engineer

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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: _____

Kyle Fox

Printed Name: Kyle Fox

Title: Deputy Director of Public Works / Town Engineer

Date: April 29, 2011

Part II. Self-Assessment

The following provides highlights of the Town of Merrimack's activities during year eight 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 message board located at the Transfer Station and the Town website are used to promote recycling and Household Hazardous Waste days.
- The Town's single stream recycling program saw recycling rates increase from 10% to 20% over the past year.
- 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. Over the past year, negotiations have taken place to purchase a formerly proposed 8 lot subdivision adjacent to the Town's water supply as Conservation property.

Control Measure 3 – Illicit Discharge Detection and Elimination

- The Town continued the engineering intern program to assist in checking the stormwater mapping system. The database inventory is nearly complete, with a complete double check for errors and omissions remaining. The completed, checked version will allow for creating flow areas for the discharge points, making it easier to track illicit discharge sources.
- The Town's wastewater staff is continuing in the creation of a sewer collection system layer for the GIS system.
- The Town continues to perform dry weather flow inspections of outfalls.

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

- Two new subdivision projects began construction in the fall of 2010. Department staff held a preconstruction meeting with each developer, discussing among other things the importance of maintaining the elements described in the SWPPP documents. While performing construction inspections, Town staff reviews in-place erosion control measures to verify they remain in good working order.
- Town staff continued to monitor "inactive" projects to ensure that erosion control measures remain in place and/or the projects are stabilized.
- The Town completed the restoration of a drainage system outfall near the Souhegan River that was damaged by flood rains. The area has been stabilized and drainage improvements completed to protect the area from future flood events.

- Town staff completed a new version of the draft stormwater ordinance for the Town and has received comments from Town Counsel. The document will be submitted to the Council for adoption in spring 2011.
- The Town contracted to perform drainage improvements in the Currier Drive area. The \$1.1M project includes a closed drainage system with bituminous curbing, outletting to a detention pond. The project will help to protect abutting wetland areas and the nearby Souhegan River. Construction began in fall 2010 and will complete in summer 2011.
- The Town contracted to perform drainage improvements in the Woodland Drive area. The \$0.7M project includes a closed drainage system with bituminous curbing, outletting to a storm chamber system. The original outlet for the existing drainage system was the Souhegan River as a direct outfall. All storm flow now goes through catch basins with 3' sumps and the storm chambers to infiltrate into the ground, prior to having the opportunity to flow to the river.

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. In Year 8 all public streets and school and municipal lots were swept, and 1095 catch basins were cleaned.
- The Highway Division of Public Works continues to calibrate all spreaders prior to the winter season and after mechanical changes are made to the vehicle hydraulic systems.
- Employees continue to receive training, as appropriate classes become available, and are reminded in staff meetings of the importance of maintaining sound operations.
- The Department of Public Works is participating with NHDES and the Merrimack Village District in a sodium and chloride study committee with the purpose of identifying contributors to increased levels of pollutants into the groundwater aquifers.

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 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1.1 Revised	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, single-stream recycling and household hazardous waste brochures.	Continue updating and distributing brochures.
1.2 Revised	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 Wastewater Treatment staff participated in Clean Water Week, offering tours of the facility.	DPW staff to contact school officials and offer to participate in presentations to relate every day experiences, including use of “storm-water table”.
1.3 Revised	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.	Information on the household hazardous waste program and the single stream recycling program airs regularly.	Continue to develop “fresh” PSA’s.
1.4 Revised	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

1.5	Stormwater information provided on website.	DPW	Develop website information, implement fall of 2004	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.	Add links to interactive stormwater related sites to increase response.
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1a. Additions

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (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 of the Lay Lake (Baboosic Lake), Souhegan Watershed Association (SWA – Souhegan river), and Lower Merrimack River Local Advisory Committee (LMRLAC). 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 2011-12 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. Merrimack voters approved an April 2011 Warrant to approve dedication of 50% of LUCT funds to the Conservation Fund up to \$1,000,000.	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, 2.3	See 2.2, 2.3
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 8 (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 updated as changes occur.	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.	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.	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 Revised	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 screening program.	Continue to monitor outfalls and respond as necessary.

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 8 (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 / DPW	Complete Ordinance and implement as allowable under state law.	During the permit year, staff completed a total rewrite of the ordinance and recently received Counsel opinion on the draft version. The draft ordinance will now go to Town Council for review and adoption.	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 / Code Enforcement / DPW	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

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 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.1 Revised	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.	The subdivision Regulations are scheduled for a complete review/rewrite in 2011 to address consistency with the draft stormwater ordinance. Plans submitted to the Planning Board require owner/engineer signature stating that there will be no adverse impact from development runoff.	Present revisions to the Planning Board for adoption.
5.2 Revised	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
5.3 Revised	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 and implemented a stormwater system upgrade project that includes infiltration to reduce the discharge that currently flows directly to the Souhegan River. The DPW has designed a closed drainage project with multiple outlets on conservation land to promote discharge closer to the source runoff.	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.
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

5a. Additions

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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 8 (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, sidewalks, and municipal and school lots were swept • 1095 catch basins were cleaned and inspected • Sand/salt spreaders were recalibrated prior to winter storm use • All Town 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. • Developed system to make brine solution and a trailer to apply brine to roadways to reduce sodium chloride use on roadways. • Maintained highway garage SWPPP. 	Continue the existing program(s).
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 attend stormwater workshops with EPA and NHDES staff as speakers. DPW continues to maintain a training spreadsheet to track employee training needs and provides training as funding, time and 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 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities
Revised	Not Applicable				
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

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

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, 2010 through March 31, 2011)

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 ln 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 **	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand
(also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	
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/ln mi. or %)
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln 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
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n