

Municipality/Organization: Town of Merrimack, NH

EPA NPDES Permit Number: NHR041018

MassDEP Transmittal Number: W-

Annual Report Number

Year 14

& Reporting Period:

April 1, 2016 – March 31, 2017

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2017)

Part I. General Information

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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: Dawn Tuomala

Title: Deputy Director of Public Works/Town Engineer

Date: April 6, 2017

Part II. Self-Assessment

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

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

- The Town continues to distribute the stormwater educational brochure to new residents, and copies are available at various locations around Town Hall. Topics can include using winter salt wisely, judicious fertilizer and pesticide use, household hazardous waste collection, and water resource protection.
- The message board located at the Transfer Station, and the Town website and Facebook page are used to promote recycling and Household Hazardous Waste days. The town is currently proposing an electronic message board to promote recycling at the transfer station.
- The Community Development Department 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.
- Public Works staff participated in a public event for children in April by demonstrating the stormwater table to educate on the impacts of pollution to the groundwater.

Control Measure 3 - Illicit Discharge Detection and Elimination

- The Town continued the engineering intern program to assist in checking the stormwater mapping system. The accuracy of the inventory continues to improve and is updated as discrepancies or Stormwater system changes occur.
- The Town continues to perform dry weather flow inspections.

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

- Town staff continued to monitor active and inactive projects to ensure that erosion control measures remain in place and/or the projects are stabilized.
- Public Works and Community Development Department continued to enforce the regulations contained in the Stormwater Ordinance for applicable projects.
- The Town has been working on a plan to reduce the amount of pavement and increase the runoff treatment along Executive Park Drive.

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 14 all public streets and school and municipal lots were swept, and more than 1812 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. Operators renewed their Green Sno Pro certifications.

- Employees continue to receive training and are reminded in staff meetings of the importance of maintaining sound operations.
- Public Works officials participated in both the Manchester and Nashua Stormwater Coalition meetings.
- Construction for a Public Works sewer extension/drainage improvement project adjacent to Naticook Lake was completed in October. The \$1.1M project brings sewer to 53 parcels that currently have septic systems, most of which are within 250' from the lake. Connections to the new sewer are required by October, 2016. Drainage improvements from the project will reduce the amount of untreated stormwater runoff into Naticook Lake.
- Reconstructed over 70 catch basins and improved 5 miles of roadside drainage swales. Maintained and cleaned detention basins and drainage easements.
- Two red listed bridges were rebuilt in Town, work included eliminating erosion from around the bridges and bank stabilization work.
- Public Works officials regularly attended the Nashua Regional Planning Commission Regional Solid Waste Management meetings as voting members. The Household Hazardous Waste program is managed for the District at these meetings.

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 14 (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 brochure was updated in 2011. It now includes information on household hazardous waste collection, fertilizer and pesticide use, road salt use, and water resource protection; along with agency contacts for DPW, MVD, and NHDES.	Continue updating brochure as needed and find new/better ways to distribute the information.
Revised				Brochures for Single Stream Recycling and hazardous waste disposal are available to residents on-line and in the Public Works office.	
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 first years of the program, but are not part of the school schedule at this time.	DPW staff coordinating with School officials to look for outreach opportunities. Grades 1-3 participate in our Public Works Week coloring contest which discusses the impacts of stormwater.
Revised				The Wastewater treatment staff participated in Clean Water Week, offering tours of the facility.	
1.3	Advertisements promoting BMP's to air on local cable station	DPW	Create slides and secure air time by fall of 2004. Advertisement to run monthly at minimum.	Information on the household hazardous waste program and the single stream recycling program airs regularly.	Continue to develop 'fresh' public service announcements.
Revised					
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
Revised					

1.5	Stormwater information provided on website.	DPW	Develop website information, implement fall of 2004.	Stormwater information is located on the website.	Continue to update information and add new material as necessary.
Revised					

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (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 time/funds permit.	
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.	The Town continues 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 newspapers. Laboratory testing is performed at the Merrimack WWTF.	The 2016-2017 Town approved budget includes continued funding for the testing programs.
Revised				The Town is a stakeholder in the Upper Merrimack and Pemigewasset River Watershed Study (began in 2007), funded in part by grants from EPA and NHDES.	
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 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 watersheds.
Revised					

2.4	Support watershed organizations	Community Development	Town will continue to solicit applicants for appointment with the local watershed organizations.	See BMP 2.2;2.3	See BMP 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 Community Development 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					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3.1	Preparation of Master drainage map.	DPW	Master Drainage map is prepared by 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 verified by interns and maintenance staff and corrected /updated as necessary. Wastewater collection system and water distribution system layers are being updated as changes occur.	The Town will add pertinent data as it becomes available. Upgrade GIS system to allow for real-time updates and recording of inspection data.
Revised					
3.2	Storm sewer bylaw	DPW	Storm sewer bylaw in place by year 3.	Existing regulations prohibited illicit discharges to the storm sewer system.	Continue to enforce regulations.
Revised					
3.3	Qualitative observation of discharge at outfalls	DPW	100% of major outfalls from developed areas are screened for dry weather pollutants by end of year 1.	BMP Complete.	Continue monitoring outfalls.
Revised					
3.4	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.
Revised					
3.5	Develop program for the elimination of illicit discharges, if applicable	DPW	Eliminate all known illicit discharges by end of year 5.	BMP Complete.	An illicit discharge was found this year coming from an old house that was refurbished and was not properly connected to the sewer system.
Revised					

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4.1	Preparation of Town Ordinance to address: BMP erosion and sediment controls for all new construction, preparation of SWPPP's for land disturbances greater than 1 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.	PW and CDD reviewed 6 project submittals with greater than 20,000 SF of disturbance. Review of weekly inspection reports for applicable projects and site inspections are ongoing.	Staff has continued to monitor all plan submittals for Ordinance applicability and inspect ongoing construction. Emphasis being placed on post-construction stormwater plans, including inspection/monitoring and maintenance schedules.
Revised					
4.2	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 are resolved with the site contractor.	Continue current inspection and enforcement.
Revised					
4.3	Appoint a contact person and establish communication methods by fall of 2005.	Community Development	Develop system for public communication (reporting violations) and track reports.	See BMP 2.5	See BMP 2.5
Revised					

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (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 of BMP's.	Community Development	Regulations to be revised and adopted by fall 2004.	The rewrite of the Subdivision Regulations is in progress by staff from Community Development and Public Works. Revised regulations will reinforce/conform to the Stormwater Ordinance. The parking regulations in the subdivision/site plan regulations was changed to allow for less impervious area for parking - adopted by Planning Board on 3/26/13.	
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	Included in 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 Current regulations, staff, and the Planning Board encourage on site infiltration and 'LID'. Multiple submittals this year have included rain gardens, on-site infiltration, etc.	Included in BMP 4.1
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 Emphasis being placed on post-construction stormwater plans, including inspection/monitoring and maintenance schedules.
Revised					

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14 (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.	The Town continued its current O & M program and good housekeeping measures. The following were accomplished during permit year 10: • 100% of public streets, sidewalks, and municipal and school lots were swept. • More than 1000 of approximately 5100 catch basins were cleaned and inspected. • Sand/salt spreaders were calibrated prior to winter operations. • Highway Division developed and implemented a brine system for application of road salt. • 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. • Integrated Pest Management Program (IPM) in place for parks maintenance staff to reduce fertilizer and pesticide/herbicide use. • Maintained highway garage SWPPP.	Continue the existing program(s).
Revised					

6.2	Implement employee training to include vehicle maintenance, building maintenance, oil and antifreeze recycling, calibration of sand/salt spreaders, hazardous waste material storage, spill response and prevention, and erosion and sediment 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					

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 14 (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

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, 2014 through March 31, 2015)

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 vector **	(%)	

	(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 ** (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/lb mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/lb 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	