

Municipality/Organization: Rowley

EPA NPDES Permit Number: MAR041218

MassDEP Transmittal Number: W-03572

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: *Brent Baeslack*

Printed Name: Brent Baeslack

Title: Conservation Agent

Date: April 27, 2017

Part II. Self-Assessment

The Town of Rowley has continued to make progress in our Storm Water Management goals for Year 14 (fourteen). On behalf of the Town I have been participating in meetings, workshops, and training opportunities relating to the proposed requirements for the recently issued revised MS4 General Permit and stormwater issues in general. I have attended the following:

- **Merrimack Valley Planning Com. Stormwater Collaborative of DPW Directors Meetings (ongoing monthly sessions)**
- **MVPC Draft MS4 Permit Informational Presentation by EPA May 2016**
- **Municipal Parking Lot Expansion with stormwater Infiltration Swale project Sept. 2016**
- **MACC Fall Conf. Managing MA Forests: Conservation, Stewardship, and Regulation Oct. 2016**
- **Great Marsh Resiliency Modeling Symposium: Sea Level Rise Essex Nov. 2016**
- **MACC Annual Environmental Conf. Private stormwater maintenance inspection program workshop March 2017**
- **MACC Workshop #205 Effective Erosion and Sediment Controls March 2017**
- **MACC Workshop #206 Stormwater Requirements for Wetlands Protection March 2017**
- **CEI Navigating the New MS4 Stormwater Permit: New Tools March 2017**

Patrick Snow the Highway Surveyor also participates in the MVPC DPW Directors Stormwater Collaborative meetings.

The Town has continued active implementation of the Stormwater Management and Erosion Control Bylaw. The Conservation Commission has reviewed and permitted four applicants under this bylaw within the reporting period. The Commission has also reviewed two project completion requests during the reporting period. The map and database of Stormwater outfalls in our Urbanized Areas is consulted when necessary. The Rowley Board of Health continues their oversight using their regulation under the “Prohibiting Illicit Connections and Discharges to the Municipal Separate Storm System (MS4)”. The Board of Selectmen and Town Meeting continued to support the funding of the Greenscapes Program, a coalition of the Ipswich River Watershed Association, Eight Towns and the Great Marsh Committee, and Salem Sound Coastwatch. Through Greenscapes the Town of Rowley receives public education and outreach materials. The Conservation Dept. maintains the material ready to support public service projects through the Boy Scouts or other civic-minded groups who may wish to volunteer in storm drain stenciling or other water quality related projects. The Conservation Dept. has facilitated the Water Dept. and Highway Dept. in incorporating stormwater management into proposed municipal projects.

**Brent Baeslack
Conservation Agent**

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, 9, 10, 11, 12, 13 & 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1	Homeowners	Sel/ConCom	Pamphlets/local TV	Goal achieved. The Town continued its participation in the Greenscapes program. Year 12 marked the eighth year of participation. Greenscapes provided newsletters and handouts for homeowners, a website, and public workshops. One Stormwater Faire held with Newbury, Newburyport, & Rowley targeting public & youth.	
Revised					
2	Targeting Education	Sel/ConCom/ Board of Health	Workshops/meetings	Goal achieved. The Board of Health continues oversight of the stream monitoring program. Co-operation has been sought with the Parker River Clean Water Association engaged is similar stream monitoring in the watershed.	
Revised					
3	New Development	Sel/ConCom	Participation in project review & approval	Goal achieved. All development that triggers review must comply with Stormwater Mgt. Bylaw regulations. ConCom, Planning Board, and Highway Dept. all work to achieve compliance.	
Revised					
4	Existing Development	Sel/ConCom	Mailings/Meetings	Goal achieved. Participation in Greenscapes program provides pamphlet and email newsletter. Distribution to community members through Town Hall, library and other public site, media outreach, and business locales.	
Revised					
Revised					
Revised					

1a. Additions

1.5	Develop Stormwater website	Sel/ConCom	Website section on stormwater	Goal achieved. Web link on Town website clicks through to Greenscapes website. ConCom pages also provides Stormwater Mgt. Bylaw & Regulations.	

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8, 9, 10, 11, 12, 13 & 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5.1	Activities/public participation – Stream clean-up & monitoring	ConCom changed to Board of Health	Organize stream clean up day/ develop monitoring program	Goal achieved. The Board of Health is running the stream monitoring program in collaboration with Parker River Clean Water Association. Volunteers receive training and monitoring sessions throughout the year.	
Revised					
5.2	Activities/public participation – Volunteer monitoring	ConCom changed to Board of Health	Establish volunteer watershed teams	Local residents and volunteers are working with the Board of Health and Parker River Clean Water Association a watershed protection group.	
Revised					
5.3	Activities/public Participation	Highway	Identify storm drainage systems	Goal achieved. The storm drains have been identified and most of the drains in the urbanized areas have been stenciled by Boy Scouts as a Community Service Project as needed. Needs current updating due to weathering	
Revised	Storm Drain Stenciling	ConCom	Stencil storm drains		
5.4	Adopt a Stream Program – Adopt a stream	ConCom changed to Board of Health	Recruit Volunteers	The state de-activated the program so the Board of Health focused on working with volunteers on the stream team monitoring program in conjunction with Parker River Clean Water Assoc.	
Revised					
6.1	Involvement/public opinion – Watershed Organization	ConCom changed to Board of Health	Establish watershed organization from stream monitoring group	Goal met. Board of Health is formally overseeing the stream team monitoring program with Parker River Clean Water Assoc.	
Revised					
6.2	Involvement/public opinion	ConCom changed to Board of Health	Organize to encourage public participate	Goal met. Board of Health publicizes this volunteer stream monitoring program.	
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8, 9, 10, 11, 12, 13 & 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
7	Develop Storm Water System Map	Highway	Complete sub-basin drainage maps	Goal met. The Board of Selectmen contracted with Merrimack Valley Planning Commission to prepare a stormwater system map. Map was completed in the summer of 2008.	
Revised					
8	Develop storm water bylaw to prevent illicit discharges	Selectmen/ConCom	Draft bylaw	Goal met. The November 5, 2007 Special Town Meeting adopted the Stormwater Management and Erosion Control Bylaw. The state Attorney General approved it on November 20, 2007 Regulations were developed shortly thereafter.	
Revised					
9	Develop & implement plan to detect & address non storm water discharges	Board of Health	Complete plan and distribute to volunteer groups	Goal met. The Board of Health adopted a Regulation Prohibiting Illicit Discharges to the Municipal Separate Storm Sewer System on January 7, 2008. The regulation went into effect on February 1, 2008.	
Revised					
10	Educate public employees, businesses, public, etc. on illegal discharge & improper disposal of waste	Highway	Workshops, flyers and posters	Goal met. The Town continues to use Greenscapes to educate the public on the illegal discharge and improper disposal of waste. Additionally, door hangers and flyers developed by the Conservation Commission are used to accomplish this goal.	
Revised					
Revised					
Revised					

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8, 9, 10, 11, 12, 13 & 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
12	Develop Bylaw requiring erosion & sediment controls	ConCom	Adopt bylaw	Goal met. The Town adopted a Stormwater Management and Erosion Control Bylaw on November 5, 2007. Additionally, the Town already has an. earth removal bylaw, which addresses soil transport & volume disturbance.	
Revised					
13	Requirements for construction site waste control	Planning, Health & ConCom	Prepare guidelines for site operators	Goal met. The Town's Stormwater Management and Erosion Control Bylaw addresses this goal. All three departments require waste to be managed through permit requirements. The ConCom Agent generally reviews special permits and site plans to ensure guidelines are met. Health Department issues dumpster permits & portable toilet permits	
Revised					
14	Procedures for site inspection and enforcement	ConCom Planning	Implement site inspections and enforcement	Stormwater bylaw addresses this goal. Provides regulations & enforcement capabilities Conservation Department preforms site inspections.	
Revised					
15	Site Plan Review Procedure	Planning	Participation in review and approval process for new sites	Goal met. A comprehensive site plan review currently takes place. Stormwater runoff considerations are part of that review process. Planning Board will memorialize current practice in a written procedure. Conservation Dept. comments on site plan applications.	
Revised					
16	Identify BMPs for specific construction sites	ConCom Planning	Prepare checklist for site review process	Goal met. Stormwater Bylaw and site plan reviews require evaluations of specific BMPs for the site. Further review of projects occurs with technical consultants.	
Revised					
17	Public Input Procedures	Selectmen	Engage watershed organizations in project planning	Goal met. Through the Town's continued participation in Greenscapes and the local stream monitoring program, this goal has been met.	
Revised					
18	Construction site operator training	Highway	Workshop/Flyer	Highway Department implements best management practices and uses the stormwater management and erosion control bylaw in its practices	

19	Preservation of natural vegetation	ConCom	Identify sensitive areas in planning/review process	Goal met. ConCom reviews all plans and offers recommendations, and, in some cases town's Wetlands Bylaw may apply, if not within jurisdiction of the state Wetlands Protection Act. Vegetated buffers are incorporated in development projects where appropriate.	
20	Good housekeeping	ConCom	Perform site inspection	ConCom Agent, Building Inspector and Health Agent conduct site inspections. ConCom Agent as cited BMP #13, is the department head responsible for the enforcement and implementation of the Stormwater Bylaw. Specific requirement of permit.	
21	Spill Prevention	Fire Dept.	Identify designated materials storage sites	Goal met. Fire Chief has a list of entities that store hazardous materials in Town. The Town is a member of the Northern Essex Regional Emergency Planning Committee, which enables the Town to receive updated information on hazardous materials in the area.	

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, 9, 10, 11, 12, 13 & 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
24	Evaluate existing drainage structures	Highway	Inventory existing catch basins & other treatment facilities	Goal met. The stormwater map and stormwater outfall database for the urbanized areas provide the information on the existing catch basins and outfalls by MVPC.	
Revised					
25	Develop and implement strategies which include structural & non-structural management practices	Highway	Prepare Best Management Practices Checklist	Highway Department will prepare the BMP checklist	
Revised					
26	Develop bylaw on post construction runoff from new development	ConCom	Adopt bylaw	Goal met. The Town's Stormwater Management and Erosion Control Bylaw 2007 addresses this goal.	
Revised					
27	Plan to implement BMP's in design	Planning	Participation in design of redevelopment projects	Highway Department currently works with Planning Board in stormwater runoff on redevelopment projects.	
Revised					
30	Establish Goals for Storm Water Runoff Quantity and Quality	ConCom	Incorporate standards in plan approval	Goal met. This criteria is implemented through the project review and site inspection required by the stormwater bylaw and Planning Board permit modeling.	
Revised					
31	Coordinate BMP with upstream and downstream municipalities	ConCom	Coordinate water quality goals with Georgetown and Ipswich	Goal met. ConCom Agent has engaged with the regional planning agency on coordinating BMPs consistent with EPA requirements. Through the Town's participation in the Parker River Clean Water Monitoring Program, we are making progress in this goal. PRCWA is working in Newbury and Georgetown	
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 8, 9, 10, 11, 12, 13 & 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
32	Inventory all municipal operations which may contribute to storm water runoff water quality	Highway	Prepare a list of municipal operations.	Highway Department has list. Highway Department will work with ConCom agent on making a computerized database	
Revised					
34	Employee Training	Highway	Workshops/Posters	Highway Department supervisor has provided verbal instruction and training. Supervisor has provided re-training when necessary. Public outreach flyers are available.	
Revised					
36	Storage Facility Management	Fire Department	Inventory Stored Materials	Fire Chief has identified buildings containing stored materials. Fire Chief has a list of all materials stored in buildings on his list. He conducts an annual review, to reconcile the data he has with the businesses to confirm if they are still actively in business or have closed.	
Revised					
39	Spill Response Plan	Fire Department	Prepare plan and distribute to affected departments	Fire Chief has a spill response plans in place dealing with certain types of hazardous waste disasters. These include the manner in which the Town addresses the response to spills of hazardous materials. “Fire Chief will distribute it to the relevant Town departments. Chief is chairman of the Local Emergency Planning Commission, which oversees hazardous spills.	
Revised					
Revised					
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 8, 9, 10, 11, 12, 13 & 14 (Reliance on non-municipal partners indicated, if any)	Planned Activities
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, 2016 through March 31, 2017)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	No
Annual program budget/expenditures **	(\$)	0
Total program expenditures since beginning of permit coverage	(\$)	0
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		NA

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	50%
Stormwater management committee established	(y/n)	No
Stream teams established or supported	(# or y/n)	Yes
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	NA
Shoreline cleaned since beginning of permit coverage	(mi.)	NA
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	2
▪ community participation **	(# or %)	130-160
▪ material collected **	(tons or gal)	1,997 gal/lbs
School curricula implemented	(y/n)	No

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			X		X
▪ Erosion & Sediment Control			X		X
▪ Post-Development Stormwater Management			X		X
Accompanying Regulation Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination			X		X
▪ Erosion & Sediment Control			X		X
▪ Post-Development Stormwater Management			X		X

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	Urban 100%
Estimated or actual number of outfalls	(#)	61
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	45%
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	100%
Outfalls inspected/screened **	(# or %)	10
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	61
Illicit discharges identified **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	0
Illicit connections removed **	(#); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	0
% of population on sewer	(%)	0%
% of population on septic systems	(%)	100%

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	1
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	40
Tickets/Stop work orders issued **	(# or %)	3
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	1

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	12
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	yes
Low-impact development (LID) practices permitted and encouraged	(y/n)	yes

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	1/yr.
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1/yr.
Qty of structures cleaned **	(#)	493
Qty. of storm drain cleaned **	(%, LF or mi.)	493
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	90-100 tons
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	compost

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	8326.77
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	16.89/hr
• Disposal cost**	(\$)	0
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	2
• Vacuum truck(s) owned/leased	(#)	0
• Vacuum trucks specified in contracts	(y/n)	No
• % Structures cleaned with clam shells **	(%)	100%
• % Structures cleaned with vector **	(%)	0%

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1/yr.
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	1/yr.
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	60-80 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	compost
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	7150.00
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	110/hr
• Disposal cost**	(\$)	0
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	No
• % Roads swept with rotary brush sweepers **	%	100%
• % Roads swept with vacuum sweepers **	%	0%

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	NA

▪ Herbicides	(lbs. or %)	NA
▪ Pesticides	(lbs. or %)	NA
Integrated Pest Management (IPM) Practices Implemented	(y/n)	No

	(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	100% NA NA NA NA NA 66%
Pre-wetting techniques utilized **	(y/n or %)	No
Manual control spreaders used **	(y/n or %)	Yes 100%
Zero-velocity spreaders used **	(y/n or %)	No
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	0%
Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	0%
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	Yes
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Yes

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	No
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	Yes
Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	No