

**Municipality/Organization:** Town of Reading

**EPA NPDES Permit Number:** MAR041056

**MaDEP Transmittal Number:** W-040966

**Annual Report Number  
& Reporting Period:** No. 15: April 1, 2017 – March 31, 2018

## NPDES PII Small MS4 General Permit Annual Report

### Part I. General Information

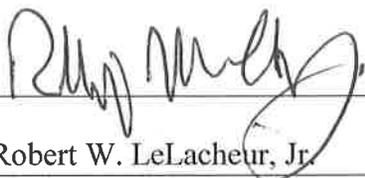
**Contact Person:** Ryan Percival **Title:** Town Engineer

**Telephone #:** (781) 942-9082 **Email:** rpercival@ci.reading.ma.us

**Mailing Address:** 16 Lowell Street, Reading, MA 01867

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:** Robert W. LeLacheur, Jr.

**Title:** Town Manager

**Date:** 4/24/18

## **Part II. Self-Assessment**

The Town of Reading has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions, except for the following provision:

BMP #3 – Present Annual Report to Town Meeting: An annual report identifying the impacts of the new permit was not provided at the Annual Town Meeting in 2017.

**Part III. Summary of Minimum Control Measures**

**1. Public Education and Outreach**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 16</b>
1	Research available public educational materials	Community Services/Public Works	Compilation of educational materials	Continued to research and update collection of public education materials for use in future programs. Worked with Mystic River Watershed Assoc. Stormwater Education collaborative.	Ongoing BMP for research and updating of materials, no additional planned activities
2	Develop a Public Education Plan	Community Services/Public Works	Development of plan	Public Education Plan developed and included in the Town’s Storm Water Handbook	BMP complete. Review and update existing plan, for compliance with new MS4 permit.
3	Present Annual Report to Town Meeting	Public Works	Make presentation	A report identifying the impacts of the new permit, effective July 1, 2018, was not provided at Town Meeting	BMP ongoing, next planned report to be determined based on new permit release date.
4	Implement Public Education Plan	Community Services/Public Works	Meet schedules identified in the plan	Continue Public Education Activities identified in the Public Education Plan. - Continued informational updates utilizing brochures, mailings and press release, modified educational plan to utilize social media i.e., facebook, twitter, ect., maintained Stormwater Hot Line, updated Stormwater page on Towns web site, distributed spring clean-up poster; and established storm water displays at Friends & Family Day Library Day and at Town offices. Gave stormwater presentation at Middle School Science Fair.	Continue with Public Education Activities identified in the Public Education Plan, Town wide events and expand outreach in public schools. Maximize the use of social media in the outreach campaign.  Continue to work with Mystic River Watershed Association Storm water collaborative to develop additional public outreach material including a video PSA. Modify plan for compliance with new MS4 permit.
Revised					

**1a. Additions**

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## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
5	Establish a Stormwater Management Advisory Committee	General Services/Board of Selectmen	Establish Committee	BMP completed in year 1. Committee accomplished all goals. Committee was dissolved and all duties now under direction of Board of Selectman. No activities were planned for year 9.	BMP Complete, no planned activities
6	Comply with Public Meeting Laws for Committee meetings	Public Works	Keep records of postings/advertising	The Water, Sewer and Storm Water Management Advisory Committee was dissolved on June 2007, All power and duties transferred to Board of Selectman which meet weekly. All meetings are duly posted and/or advertised in accordance with State Law	Continue meetings, develop and review new regulations and policies as necessary.
7	Develop a Public Involvement/Participation Plan	Community Services/Public Works	Development of plan	Completed development of the public participation plan.	Continue with public outreach. Modify plan for compliance with new MS4 permit.
8	Solicit volunteers for public participation plan	Community Services/Public Works	Keep records of organizations contacted	Volunteer group performed clearing of trails adjacent to and within conservation areas; continue outreach to businesses for participation in catch basin stenciling/medallions or other volunteer programs.	Continue solicitation for local organizations and groups for public involvement. Expand program for compliance with new permit.
9	If sufficient volunteers are identified, implement plan	Community Services/Public Works	Keep records of public involvement/participation activities	No Reading High School students volunteered to continue the catch basin stenciling program during the reporting period. Eagle Scout project to clear trail and maintain gravel parking in conservation area.	Continue to seek volunteers and High School students and/or Boy Scouts and Girl Scouts to participate in public participation events. Expand program for compliance with new permit.
Revised					

### 2a. Additions

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### 3. Illicit Discharge Detection and Elimination

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 16</b>
10	Develop outfall map using existing information	Public Works	Map developed	Completed field inspection of GIS stormwater layer mapping conflicts and issues. Completed field verification, to extent practicable of all stormwater mapping. Continued to do quality control of the GIS stormwater infrastructure, correcting issues as found.	BMP Complete, Continue to perform field verification of GIS stormwater mapping as maintenance or improvements are performed on system.
11	Review exiting by-laws to determine if a new by-law is necessary	Community Services/Public Works	Report on adequacy of existing by-laws	A full review was completed.	BMP review of existing by-laws for compliance upon issuance of new MS4 permit complete.
12	If necessary, develop non-storm water by-law	Community Services/Public Works	Write by-law and bring to Town Meeting	The Town previously adopted an IDDE bylaw	Initial BMP complete. No planned activity
13	Develop three year plan to identify and eliminate illicit discharges	Public Works	Plan developed	Plan completed <ul style="list-style-type: none"> <li>- Continued funding of Stormwater Enterprise fund through fees.</li> <li>Increased fee spring 2018 to take effect December 2018</li> <li>- Review existing plan for compliance with new MS4 permit regulations.</li> <li>- Final draft illicit discharge detection and elimination protocol complete.</li> </ul>	BMP Complete, Revise and update final IDDE plan to comply with new MS4 permit as required. Develop new plan for compliance with new MS4 permit.

14	Implement 3-year illicit discharge detection program	Public Works	Complete each phase of the program by dates outlined in plan	- Consultant completed screening of approximately 40% of Town's outfalls to date. All high risk areas screened. No additional outfalls were sampled during this period. Identification and research of 1 potential cross connection to determine cause and removal from system ongoing. Consultant hired FY18 to continue identification and dry weather sampling.	Initial BMP completed.  Sample outfalls during dry weather conditions and continue to develop a wet weather sampling program, anticipated Summer/Fall 2018.  Develop new plan for compliance with new MS4 permit.
Revised					

**3a. Additions**


#### 4. Construction Site Stormwater Runoff Control

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 15</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 16</b>
15	Review existing by-laws and regulations	Community Services/Public Works	Summary report of regulatory review prepared	Review completed.	BMP complete. Revise existing laws and regulations for compliance with new MS4 permit as needed.
16	If necessary, develop new erosion control by-law	Community Services/Public Works	New by-law brought to Town Meeting	Existing regulations previously amended, no new activities were planned. No additional work planned until new MS4 permit is issued.	BMP complete. Review regulations for compliance with new MS4 permit.
17	If necessary, amend existing erosion control regulations	Community Services/Public Works	Regulations amended	Subdivision Regulations were previously amended to expand application of Stormwater Management control. Community Planning & Development Commission promulgated new Stormwater Management and Erosion Control Regulations on August 28, 2017, in response to the newly adopted bylaw	BMP complete. Review regulations periodically to determine need for amendments to meet new stormwater regulations or standards based on new permit requirements. Review regulations for compliance with new MS4 permit.
18	Revise/resubmit by-law if not approved by Town Meeting	Community Services/Public Works	By-law revised and resubmitted to Town Meeting	No planned activities. No new by-laws determined at this time.	Submit new by-laws to Town Meeting for approval as necessary based on new MS4 permit.

19	Enforce new by-laws or regulations	Community Services	Keep records of enforcement	<p>Stormwater management (SWMP) and record keeping are required on all conservation, site plan, special permit and subdivision submittals.</p> <ul style="list-style-type: none"> <li>- Inspected and monitored private construction activities for compliance with SWMP.</li> <li>- Received record drawings of private stormwater devices to update database.</li> <li>-Continued requiring annual reporting of all stormwater O &amp; M for all developments.</li> <li>-Implemented requirement for annual reporting of stormwater O &amp; M for all new private sites permitted</li> </ul>	<p>Continue enforcement of erosion control program through existing regulations.</p> <p>Continue to monitor private stormwater management devices for compliance with approved SWMP.</p> <p>Continue to update database of all privately owned regulated stormwater management devices.</p> <p>Continued to require the establishment of approved stormwater O &amp; M plan for all developments and site improvements.</p>
Revised					

**4a. Additions**

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

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 14</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 15</b>
20	Review existing by-laws and regulations	Community Services/Public Works	Summary report of regulatory review prepared	Review completed. No additional work required until new MS4 permit is issued.	BMP complete. Review existing laws and regulations for compliance with new MS4 permit.
21	If necessary, develop post-construction runoff by-law	Community Services/Public Works	New by-law brought to Town meeting	The Town has incorporated compliance with the DEP Stormwater Management Policy into its Subdivision Rules and Regulations, Site Plan Rules and Conservation Commission Rules and Regulations. A new by-law was adopted by the Town. Continued requiring annual reporting of all stormwater O & M for all developments	BMP complete. No planned activities
22	Inventory existing BMPs that are under Town jurisdiction	Public Works	All BMPs inventoried	Inventory of BMP's previously completed via ACAD mapping. Conversion to GIS database ongoing. Updated inventory for new BMP's installed.	Ongoing updating and field verification of BMP inventory as necessary. Continue to update GIS mapping and database for new BMP installed.
23	Develop five-year O&M plan for Town-owned BMPs	Community Services/Public Works	O&M Plan written	Completed, O&M plan developed for identified BMP's. Updated plan for newly installed BMP's. Completed revised draft O&M plan for Town owned properties based on anticipated new MS4 permit requirements.	Continue to monitor and update O&M plan based on field verification and changes in inventory as necessary. Modify plan as needed to comply with new MS4 permit.
23A	River Stabilization	Public Works	River erosion control and stabilization	Consultant completed hydraulic model report for the Aberjona and Saugus River and prepared a listing of recommended improvements for flood prevention and stream stabilization. Report was presented to Town officials. Proposed capital improvement plan developed in final report.	BMP Complete. No additional work planned until proposed improvements are funded.

23B	Aberjona River Watershed BMP Development Study	Public Works	Implement pollution BMP (s) within basin	Town incorporated recommended BMP (604B grant within the Aberjona Basin) into future park and playground improvement.	BMP complete no additional work planned until project is funded in Town's Capital Improvement Program
24	Begin implementation of five-year O&M Plan	Public Works	Records of O&M activities maintained in accordance with O&M schedule	Implemented O&M plan and recorded maintenance and repair activities. Repaired damaged drainage structures, cleaned conduits and dredged swales as permitted subject to available funding. Constructed Bond Street and Grove Street drainage improvements, utilized leaching basins where applicable.	Prepare additional drainage repair and waterway restoration contracts funded in Capitol Plan. Install storm water treatment devices where possible in proposed projects. Update plan as required to comply with new Ms4 permit.

**5a. Additions**

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## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 14</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 15</b>
25	Evaluate Town's current good housekeeping practices	Public Works	Report prepared on good housekeeping practices	Evaluation completed, continue implementation and monitoring Town's practices. No new practices developed during reporting period.	BMP completed. Continue to monitor Town's practices. Review practices and recommend improvements as necessary to meet new MS4 permit.
26	Develop written O&M plan to formalize Town's practices	Public Works	O&M Plan developed	Written O&M plan previously developed no updates determined.	Update O&M plan as needed and to comply with new MS4 permit.
27	Implement O&M Plan	Public Works	Records of O&M activities maintained	Continued activities of final O&M plan.	Continue activities of O&M plan update plan as needed to comply with new MS4 permit.
28	Sweep all Town owned streets and parking lots once per year	Public Works	All streets and parking lots swept, records maintained	All Town owned parking lots and streets were swept during the reporting period and records were kept.	Continue street sweeping a minimum of once per year.
29	Clean all Town owned catch basins once per year	Public Works	All catch basins cleaned, records maintained	60% of accessible Town owned catch basins were cleaned and records were kept utilizing new CB application. Repaired 41 damaged and/or inaccessible catch basins during year. No unknown catch basins were identified. Finalized and began use of catch basin cleaning GIS application.	Continue catch basin cleaning a minimum of once per year. Identify damaged catch basins for repair. Continue use of catch basin GIS application and make modifications from prior year suggestions.
30	Provide one household hazardous waste drop off per year	Community Services/Public Works	Household hazardous waste drop-off conducted	Household hazardous waste drop-offs were conducted on June 2017 and September 2017	Two household hazardous waste drop-offs are planned - June 2018 and August 2018
31	Provide used oil drop-off at the Public Works Garage at least 10 hours per week	Public Works	Used oil drop-off maintained, records of used oil maintained	Used oil drop-off at the Public Works garage is held Monday-Friday 7:30 AM-2:30 PM and Saturdays 9:00 AM-12:00 PM	Used oil drop-off expected to continue during the same hours as last year

32	Recycle Town generated tires, batteries, scrap metal, used oil	Public Works	Identified materials recycled, records kept	The Town recycled all its used tires, vehicle batteries, scrap metal, electronics and used oil in accordance with various contracts with recyclers. Town continued expanded recycling program to weekly pickup off all recycling. Town previously expanded recycling to include Styrofoam, textiles and is researching recycling of other products.	The Town intends to continue to seek avenues to expand and improve its recycling programs
33	Plastic Bag Bylaw	Public Works	Eliminate the use of non-recyclable plastic bags.	Town adopted bylaw Fall 2017, effective March 10, 2018.	Continue enforcement
Revised					

**6a. Additions**

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**7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year 14</b> (Reliance on non-municipal partners indicated, if any)	<b>Planned Activities – Permit Year 15</b>
Revised					

**7a. Additions**


**7b. WLA Assessment**

No TMDLs have been established for any of the receiving waters.

**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, 2010 through March 31, 2011)

**Programmatic**

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	Y
Annual program budget/expenditures **	(\$)	\$560,960
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		Enterprise

**Education, Involvement, and Training**

Estimated number of property owners reached by education program(s)	(# or %)	100%
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	Y
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 **	(#)	2
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	406 (vehicles)
School curricula implemented	(y/n)	Y

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

**Mapping and Illicit Discharges**

	(Preferred Units)	Response
Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	450
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	100%
Mapping method(s)		
▪ Paper/Mylar	(%)	0%
▪ CADD	(%)	100%
▪ GIS	(%)	100%
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit) (all inspected – number rep. amount screened)	(# or %)	40%
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	9 (1 pending further review)
Illicit connections removed **	(# ); and (est. gpd)	
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	8

% of population on sewer	(%)	97%
% of population on septic systems	(%)	3%

### Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	3
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	100%
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	2

### 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 %)	100%
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Y
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

### Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	1 time/yr
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1 time/yr
Qty of structures cleaned **	(#)	1,993
Qty. of storm drain cleaned **	(%, LF or mi.)	1,000
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	2200 Tons
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$50,000
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	
• Disposal cost**	(\$)	
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	owned
• Vacuum truck(s) owned/leased	(#)	owned
• Vacuum trucks specified in contracts	(y/n)	N
• % Structures cleaned with clam shells **	(%)	99%
• % Structures cleaned with vector **	(%)	1%

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1 time/yr
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	2 times/yr
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	300 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	(#)	1
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	N
• % 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 %)	
▪ 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 <sub>2</sub> % MgCl <sub>2</sub> % CMA % Kac % KCl % Sand	32% CaCl <sub>2</sub>
Pre-wetting techniques utilized **	(y/n or %)	Y
Manual control spreaders used **	(y/n or %)	Y
Zero-velocity spreaders used **	(y/n or %)	N
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)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Y

### 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	

