

Municipality/Organization: Town of Northbridge
EPA NPDES Permit Number: MAR041144
MaDEP Transmittal Number: W-040823

**Annual Report Number
& Reporting Period: (12)** 01 April 2014 – 31 March 2015

NPDES PII Small MS4 General Permit Annual Report

PART I: GENERAL INFORMATION

Contact Person: James Shuris, P.E., MBA Title: Director of Public Works
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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: Theodore D. Kozak

Title: Town Manager

Date: 24 April 2015

Part II. Self-Assessment

The following are highlights of the major accomplishments during the prior 12-month period for Annual Report No. 12:

Waste motor oil recycling: Since 2008, waste oil recycling continues to be conducted on a weekly basis (excluding January and February) by the Blackstone Valley Regional Recycling Center that is operated by the Town of Douglas on a regional basis. This facility is located behind the Northbridge Main Fire Station at 93 Main Street, Whitinsville, MA.

Winter road sand reduction: A extremely significant and demanding 2014 – 2015 winter season with a total snow/ice accumulation of 109-inches and thirty-six (36) events and a mid-winter season shortage of road salt required substantially larger quantities of winter sand to provide safe roads/sidewalks for over 83-miles of roads and 20-miles of sidewalks. A total of 1,300 tons of winter sand (and 2,059 of road salt) was used during this season as compared to the 2013 – 2014 winter season whereas 1,071 tons of winter sand (and 5,270 tons of road salt) was used. Historically, 2,231 tons of sand was used during the 2002 – 2003 winter season; 1,046 tons during 2003 – 2004; 2,065 tons during 2004 – 2005; 1,432 tons during 2005 – 2006; and 100 tons during 2006 – 2007; 50-tons during 2011 – 2012; 700-tons during 2012 – 2013 and 1,071-tons during 2013 – 2014. Although very problematic, our goal remains to completely eliminate the use of winter sand.

Public Education and Outreach: This element of the program has primarily made use of cable TV notices posted on the Town's local access channel. Notices have provided tips on lawn care including use of fertilizers and other lawn products, car washing, proper disposal of pets' wastes, proper disposal of motor oils and solvents, maintenance of storm drains and detention basins and similar environmentally responsible practices. These cable notices run continuously throughout the year and are seasonally adjusted for the time of year. In addition, the Town has partnered with the Blackstone River Watershed Association to post links to the association's educational information. The following publications are available:

- A Homeowner's Guide to Protecting Water Quality in the Blackstone River Watershed
- A Small Farm Owner's Guide to Protecting Water Quality in the Blackstone River Watershed
- A Horse Owner's Guide to Protecting Water Quality in the Blackstone River Watershed
- The Best Development Practices Guidebook

Household Hazardous Waste Collection Event: Due to a lack of funds this event was not performed during this time. Future plans will be based on available funds.

Public Involvement and Participation: The Town routinely assists in picking-up and disposing of trash and refuse left within the public ways throughout the Town.

Illicit Discharge Detection and Elimination: No reports were received and no evidence of illicit discharges was observed. Periodic checks along stretches of the Blackstone and Mumford Rivers revealed no signs of discharges.

Construction Site Storm Water Runoff Control: A number of active projects continue in the Town. Particular emphasis has been given to insure that the various projects are aggressively complying with the erosion control provisions of their project approvals. Frequent site visits are conducted by the Planning Department, DPW and Town consultants, particularly during and following storm events to insure that all erosion control and storm water measures are in place. As problems are identified, appropriate project management personnel contact has been made with appropriate project management to relate deficiencies and seek corrections. The Planning Board utilizes outside consultants to perform periodic inspections and document compliance with requirements. We are requiring compliance with the "General Construction Permit" and require that developers submit a copy of their Notice of Intent required under the General Permit. Additionally, we are requiring them to submit an erosion control operations and maintenance plan prior to start of work on the project.

Post-Construction Stormwater Management in New Development and Redevelopment: A local Stormwater Management By-Law, developed by the Northbridge Planning Board was adopted by the Town at the spring annual town meeting on May 6, 2008. This By-Law establishes a local Stormwater Authority. The Stormwater Authority finalized the implementation of regulations for the program. Additionally, the Planning Board approved Post-Construction Stormwater Management provisions and Stormwater Management Disturbance By-Laws at the 2011 Fall Town Meeting.

The Best Development Practices Guidebook has been completed and includes a set of guidelines for developers, designers and project reviewers intended to improve the quality of development. The Guidebook describes the required and preferred design & construction practices relating to stormwater management, erosion & sediment control, landscape design, and site planning.

Pollution Prevention and Good Housekeeping in Municipal Operations: In 2013, a feasibility study, conceptual design and environmental permitting effort have been completed for the redevelopment of the existing DPW Facility located at II Fletcher Street and all local environmental permits were favorably received to construct a 19,000 sf DPW Facility with an estimated total project cost of \$7.8M. However, due to the cost of the project, the Town has decided not to move forward with this project. As a result, the DPW developed an alternate \$3.1M plan which was placed on the 2014 Spring Town Meeting Warrant which also failed. The DPW continues to seek alternate design plans and continues to provide routine "day-to-day" pollution prevention and good housekeeping operations measures.

Central Massachusetts Regional Stormwater Coalition (CMRSC): In 2013, the Town of Northbridge became a member of a 30-Community Coalition in an effort to prepare and/or implement pro-active measures to meet current and future stormwater management needs regulated under the USEPA's MS4 Permit. Pro-active measures will include collaborative education and training; regionalized data management systems including mapping and inspections; development of standardized policies and procedures;

training of municipal personnel; addition of mapping tools; provide equipment such as tablets and water quality tools; grant funding research/opportunities; identify future compliance challenges and their implementation. A list of Good House Keeping and Pollution Prevention items identified include: cleaning catch basins; sweeping streets, road salt/sand management; show removal procedures; develop and inspection and maintenance plan; evaluation of alternative vehicle washing options; develop and implement maintenance schedules of BMPs; employee training programs; review and updating of town recycling programs; management program for fertilizer and pesticide application; maintenance and repair programs for municipal vehicles; sump pump discharge policies; and municipal SWPPP. The CMRSC will also move forward to address an Illicit Discharge Detection and Elimination (IDDE) Program to include outfall mapping; catch basin mapping; map structural BMPs; route mapping; illicit discharge prohibition ordinances; incorporate information into public education; identify municipal department to take stormwater related inquiries; develop employee training program to identify discharges; identify discharges elimination of identified illicit discharges; bylaw of non-stormwater discharges into storm sewer system; program to evaluate and report on conditions after illicit material is removed; develop stormwater management program web-based GIS system; and IDDE plan and implementation activities. The Town continues to be part of this effort.

The Town will work closely with (and rely on) the CMRSC and their student co-op staff to move forward with stormwater-related recommendations and measures utilizing the scheduled availability of consultant and/or WPI student/co-op resources.

General Comments and Observations: James Shuris, P.E., MBA was hired as the Director of Public Works in August 2011. Former DPW Highway Superintendent, Robert Van Meter resigned in March 2014 and Jamie C. Luchini was hired in June 2014. The Director of Public Works and DPW Highway Superintendent continue to concentrate their efforts to provide the best management approaches to all storm water related issues. Understanding that this program requires a significant level of Town-related efforts will continue to be a challenge given the current level of in-house resources. Therefore, we continue to promote intern-type college-and/or vocational-level project based participation with local universities and/or vocational schools. Local volunteers will also be solicited as necessary. This work will include inventory, observation and/or recordkeeping of stormwater systems and the analysis of same. The Town of Northbridge is fully committed to meet the terms of the NPDES permit and implementing the Stormwater Management Plan.

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 12 (Reliance on non-municipal partners indicated, if any)	
1-1 Revised	Business/industry contacts	DPW	Number of contacts	CMRSC (Central Massachusetts Region Stormwater Coalition)	
1-2 Revised	Community Organizations	DPW	Number of contacts	Local watershed association continues to be active with river and stream cleanup efforts.	
1-3 Revised	School contact	DPW	Number of student contacts	High school environmental group has been performing water testing and stream monitoring.	
1-4 Revised	DELETED				
1-5	Household hazardous waste collection	DPW/Recycling Committee	Number of pounds collected	No funds available for this program. The Town continues to seek funds.	

1a. Additions

1-6	Pollution Prevention Tips on Cable TV	DPW	Number of notices per year: Notices run continuously. Approximately 10 notices rotate.	DPW has posted pollution prevention tips on local cable channel. Various tips, seasonally appropriate are run on cable year round. The Town plans to run a DVD entitled “Liquid Assets” to educate the public (received from the CMRSC).	

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	
2-1 Revised	Volunteer stream cleanup	DPW/Conservation Commission	Number of participants	In Fall 2009, the Middle school environmental performed river and pond clean-up.	
2-2 Revised	Volunteer stream monitoring	DPW/Conservation Commission	Number of volunteer hours partnership with BRWA	Cable TV solicitation for volunteers was run in the past – without success. No direct organizational contact made to date	
2-3 Revised	Stormwater video	DPW/Conservation/ Cable TV	Complete Jan 2005	The video “After the Storm” has been shown on local cable tv several times.	
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 12 (Reliance on non-municipal partners indicated, if any)	
3-1 Revised	Storm sewer map	DPW	Complete 2009	Participated in the states MassGIS buy-up program for 2009 aerial of Northbridge. In preparation, certain drainage structures were marked in the field to assist in the completion of the storm drain mapping.	
3-2 Revised	Map updates	DPW	Complete 2006	Undocumented drainage structures continue to be marked for easy identification. The last arerial photography was performed in 2009.	
3-3 Revised	Stormwater By-Law	Planning/DPW	Complete 2006 Complete 2008	Stormwater By-law as adopted locally and the Planning Board held public hearing on stormwater management regulations	
3-4 Revised	Non-storm discharges	DPW	Complete 2006		
	Illicit connection By-Law	DPW	Complete 2006		
Revised					

3a. Additions

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	
4-1 Revised	Sedimentation & Erosion Control Guide	Building/Planning Depts.	Complete 2008 Adoption & Compliance	Existing Erosion Control Zoning By-Law was reviewed and amended. Copies of similar documents from other municipalities were reviewed for comparison.	The Town continues to implement the Best Development Practices Guidebook that was completed in 2009.
4-2 Revised	Erosion Control By-law	Building/Planning Depts.	Update d in 2011 Adoption & Compliance	Existing By-Law was reviewed and identified for update and revision.	Prepare Erosion Control By-Law revisions for Town Meeting action continues.
4-3 Revised	Inspection & Enforcement	Building/Planning Depts.	Number of inspections	Most of the project sites are inspected on a weekly basis and/or more often as conditions warrant. Inspections are performed by the Planning Department (consultant), Conservation Commission and DPW.	Continue site inspections to document existing conditions and to recommend/direct corrective actions as needed.
Revised					The Best Development Practices Guidebook that was completed in 2011 remains a guide/resource..

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 12 (Reliance on non-municipal partners indicated, if any)	
5-1 Revised	Develop Guidebook	Building/Planning Depts/ConCom/DPW/BOH.	Completion & Enforcement	The Best Development Practices Guidebook was completed in 2011.	
5-2 Revised	By-law Revisions	Building/Planning Depts.	Adoption	The Stormwater Management By-Law was adopted by Town Meeting as well as the adoption of Post-Construction Stormwater Management provisions and Stormwater Management Disturbance By-Laws.	
Revised					

5a. Additions

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 12 (Reliance on non-municipal partners indicated, if any)	
6-1 Revised	Employee Education	DPW	Number of man-hours of training	Development of standard operating procedures continues through the CMRSC.	
6-2 Revised	SPCCP Update	DPW	To Be Determined	Funding not provided to complete update. We will continue to seek appropriate funding to do so.	
6-3 Revised	Motor oil recycling	DPW	Number of gallons Approx 110 Gal	All used motor oil from Department activities continue to be recycled. This quantity has been added to the oil collected by the Recycling Committee.	
6-4 Revised	Reduce winter sand use	DPW	Average tons per storm @ 36 Tons	Total use of sand was increased by 53% when compared to last winter season due to a significantly difficult winter and a mid-winter shortage of road salt.	Winter 2014 – 2015 Salt: 2,059 Tons (36 events) Sand: 1,300 Tons (36 events)
6-5 Revised	Construct vehicle wash facility	DPW/Town Meeting	Complete 2016 Complete 2016	The Town Meeting did not approve two (2) separate articles (i.e. 2012 & 2103) for necessary funding for the redevelopment of the existing DPW Facility at 11 Fletcher Street.	The DPW will continue seeking these redevelopment funds.
6.6 Revised	Seek alternatives to provide sufficient DPW Facility	DPW	2015	The DPW Director and the Building, Planning & Construction Committee will continue to pursue a “scaled-down” version of a redeveloped DPW Facility/Site.	The DPW Director and the Building, Planning & Construction Committee continue to seek an alternative “scaled-down” redevelopment project in 2015.

6a. Additions

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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 12 (Reliance on non-municipal partners indicated, if any)	
7-1 Revised	Stream monitoring	DPW/Conservation/BOH	Completion date TBD: Two (2) times per year.	To date, the DPW does not possess sufficient staff to do so and no volunteers have come forward. Therefore, the DPW will work closely with the CMRSC to do so.	
7-2 Revised	Locate MS4 discharges	DPW	Completion date:: January 2004 July 2006	In 2006 approximately 200 additional drainage structures were located and the DPW will continue to work closely with the CMRSC to continue this task.	This effort will be included in BMP ID# 3-2 above as well.
7-3 Revised	Survey agricultural activities	DPW/Conservation	To Be Determined	In 2004, the Town made contacts with eight (8) agricultural property owners. The Town will continue this effort utilizing the CMRSC resource.	The Town will provide educational information to agricultural property owners to inform them of their impact on stormwater utilizing CMRSC resources.
7-4 Revised	Septic system survey	DPW/Board of Health	Completion Date: N/A	Board of Health relies on Title V inspection guidelines	
Revised					

7a. Additions

7b. WLA Assessment

No data available at this time.

Part IV. Summary of Information Collected and Analyzed

In 2011, the Town completed a GIS based map of the stormwater collection system. Development of the map made use of existing record drawings and other documentation. Our records indicate that approximately 80% of the system is identified on the map. As resources become available through the CMRSC GIS locating equipment has been procured that will be used to locate undocumented stormwater collection system components. Particular emphasis was placed on identifying outfalls not currently documented. With the Town of Northbridge’s recent membership with the Central Massachusetts Regional Stormwater Coalition (CMRSC), the timeline to implement these activities should improve so as to meet current and future stormwater management needs regulated under the USEPA’s MS4 Permit.

**Part V. Program Outputs & Accomplishments (OPTIONAL)
Programmatic**

Stormwater management position created/staffed	Not at this time	
Annual program budget/expenditures	No fixed amount allocated	

Education, Involvement, and Training

Estimated number of residents reached by education program(s). <i>Primarily by Cable TV notices</i>	70%	
Stormwater management committee established	No	
Stream teams established or supported	None	
Shoreline clean-up participation or quantity of shoreline miles cleaned	None	
Household Hazardous Waste Collection Days		
▪ days sponsored	Collection event held in September 2007	Future intent is to conduct such events on an annual basis.
▪ community participation	200 families	2007
▪ material collected	N/A	
School curricula implemented	No	

Legal/Regulatory

In Place
Prior to
Phase II Under
Review Drafted Adopted

Regulatory Mechanism Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				X
▪ Erosion & Sediment Control	X		Under Review and/or Revisions	
▪ Post-Development Stormwater Management		X		
Accompanying Regulation Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination (included in bylaw)				X
▪ Erosion & Sediment Control	X	X		
▪ Post-Development Stormwater Management		X		

Mapping and Illicit Discharges

Outfall mapping complete	80%	
Estimated or actual number of outfalls (<i>Estimated</i>)	134	
System-Wide mapping complete	80%	
Mapping method(s)		
▪ Paper/Mylar		
▪ CADD		
▪ GIS. <i>Paper maps and record drawings used to develop stormwater map.</i>	80%	
Outfalls inspected/screened	None	
Illicit discharges identified	None	
Illicit connections removed	None	
% of population on sewer (<i>estimated</i>)	82%(9,940)	
% of population on septic systems (<i>estimated</i>)	18%(3,353)	

Construction

Number of construction starts (>1-acre) – REVISED	1	
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Estimated percentage of construction starts adequately regulated for erosion and sediment control	90%	
Site inspections completed. <i>On the average all sites are inspected weekly.</i>	100%	
Tickets/Stop work orders issued	0	
Fines collected	0	
Complaints/concerns received from public	0	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control.	N/A	
Site inspections completed	N/A	
Estimated volume of stormwater recharged	N/A	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	1/yr	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	1/yr	
Total number of structures cleaned (<i>Approximate number</i>)	750	
Storm drain cleaned (<i>Not documented</i>)	N/A	
Qty. of screenings/debris removed from storm sewer infrastructure	150CY	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)	Stockpiled awaiting beneficial use decisions.	
Cost of screenings disposal	N/A	

Average frequency of street sweeping (non-commercial/non-arterial streets)	1/yr	
Average frequency of street sweeping (commercial/arterial or other critical streets)	3/yr	
Qty. of sand/debris collected by sweeping	N/A	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)		

Cost of sweepings disposal	N/A	

Anti-/De-Icing products and ratios. <i>There was a significant reduction in use of salt, and increase in the use of sand versus last year. Approximately 61% less salt was used and approximately +21% sand was used as compared to the prior year</i>	92% NaCl 0% CaCl ₂ 8% Sand	
Pre-wetting techniques utilized. <i>Liquid CaCl₂ applied at spinner discharge of spreader</i>	N/A	
Manual control spreaders used	Yes	
Automatic or Zero-velocity spreaders used	No	
Estimated net reduction in typical year salt application	None	
Salt pile(s) covered in storage shed(s).	Yes	
Storage shed(s) in design or under construction. <i>Mixed sand/salt is stored in covered storage shed</i>	Yes	
<i>Estimated net reduction in typical year road sand application (5 year average)</i>	98%	