

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

**Annual Report Number  
& Reporting Period: (15)** 01 April 2017 – 31 March 2018

## NPDES PII Small MS4 General Permit Annual Report

### PART I: GENERAL INFORMATION

**Contact Person:** James Shuris, P.E., MBA Title: Director of Public Works  
& Town Engineer  
**Telephone No.:** (508) 234-3581      **Email:** jshuris@northbridgemass.org  
**Mailing Address:** Northbridge DPW, P.O. Box 88, Whitinsville, MA 01588-0088

**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:** Adam D. Gaudette

**Title:** Town Manager

**Date:** 24 April 2018

## Part II. Self-Assessment

The following are highlights of the major accomplishments during the prior 12-month period for Annual Report No. 15:

**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:** The 2017 – 2018 winter season consisted of twenty-two (22) reportable events with a total snow/ice accumulation of 83.8-inches which required salt and salt/sand mixtures to provide safe roads/sidewalks for over 83-miles of roads and 20-miles of sidewalks. A total of 212-tons of winter sand (and 3,485-tons of road salt) was used during this season as compared to the 2016 – 2017 winter season, whereas 723-tons of winter sand (and 3,211-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, 1,071-tons during 2013 – 2014; 1,300-tons during 2014 – 2015; 535-tons during 2015 – 2016; and 723 tons during 2016 - 2017. Although very problematic and possibly unachievable due to public safety concerns on various excessively steep roads, 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 our membership of the Central Massachusetts Regional Stormwater Coalition (CMRSC), 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 with the assistance of local neighborhood residents in the Linwood section of town.

Blackstone River Watershed Association: hosts and provides annual Earth Day Cleanup events that focus on trash and clean-up efforts near the rivers and tributaries within the Town of Northbridge.

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: After many years, the redevelopment of the existing DPW Facility commenced in July 2017. The project includes the demolition of two (2) existing building structures, the removal of an onsite fueling station, the construction of a new 6,000 sf metal equipment storage/garage and fueling station, and onsite storm water improvements/detention areas in accordance with the latest technologies. The project is scheduled to be completed this summer and will result in improved stormwater-related management.

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; snow 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 & Town Engineer 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 & Town Engineer 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, and with limited staff, we strongly depend on our membership and affiliation with the Central Massachusetts Regional Stormwater Coalition (CMRSC) to assist us in these efforts. 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.

Central Massachusetts Regional Stormwater Coalition (CMRSC) - Administrative Note: In recent years, the Best Management Practices (BMPs) identified in the 2003 Notice of Intent to receive coverage under the MS4 Permit, and on which the Town of Spencer reported, were modified and updated. As a result, not all progress made by the Town was reflected in the reports.

### **Central Massachusetts Regional Stormwater Coalition Coalition Activities in Year 15 (April 1, 2017-March 31, 2018)**

#### **Introduction**

The Central Massachusetts Regional Stormwater Coalition (CMRSC) is an MS4 resource for all 30 member communities.

CMRSWC has three standing sub-committees to allow members to focus efforts on specific issues important to the Coalition. These sub-committees are:

- Education Sub-Committee: responsible for developing and promoting outreach and educational materials required by the MS4 permit. The Education sub-committee is also responsible for planning and scheduling the Annual Meeting, educational workshops, and other forums for discussion of MS4 topics. The committee is CMRSWC's primary liaison to professional organizations and university partnerships.
- Technical Sub-Committee: responsible for managing Coalition's website and shared equipment resources; advising members on relevant technical issues including GIS system maintenance and upgrades.
- Legislative Sub-Committee: serves as the liaison to the Massachusetts Statewide Stormwater Collaborative; responsible for tracking MS4 related legislation and regulations and keeping the legislature and regulatory agencies informed of the concerns of member communities.

The CMRSWC Steering Committee held four meetings during this 12 month reporting cycle. The CMRSWC Annual Meeting was held on November 15, 2017 in Worcester. Members of CMRSWC also attended and actively participated in the Massachusetts Statewide Municipal Stormwater Coalition meetings.

#### **MS4 Workshops and Technical Training (Minimum Control Measures 3, 4, 5, and 6)**

##### ***Best Management Practices Technical Tour***

On October 25, 2017, CMRSWC sponsored a technical tour and workshop for DPWs, Highway, and other staff in member communities responsible for the operations and maintenance of local roads, drainage, sidewalks, parking lots, and other public infrastructure. The tour was led by a team from Fuss & O'Neill and took attendees from 14 communities on a "road trip" to visit sites at Dennison Lubricants (Worcester), Tufts Veterinary School (North Grafton), and several Mass DCR sites. At each site, participants had the opportunity to learn about the BMPs in use at the site from a variety of staff from DCR and Mass DOT, as well as engineers and project owners. A lunch program offered additional opportunities to discuss stormwater management techniques. Handouts, presentation materials, and video footage of the tour are being offered to CMRSWC members through the website.

##### ***Videos and Templates (Minimum Control Measures 1, 3, 4, 5, 6)***

As a follow-up to the Best Management Practices Technical Tour, 12 new CMRSWC videos were produced that feature the various BMPs visited on the tour, presentations from the day, and additional detailed footage recorded at the BMP sites after the event.

## *Department of Conservation and Recreation Education and Outreach Materials (Minimum Control Measures 1 and 2)*

As part of the Stormwater BMP Technical Tour, Kelley Freda from the Department of Conservation and Resources presented participants with stormwater education and outreach materials available from DCR. She distributed a packet of various brochures targeting a diverse audience. These materials are available from the DCR website [www.mass.gov/dcr/watersupply](http://www.mass.gov/dcr/watersupply)

### **Worcester Polytechnic Institute Water Resource Outreach Center (Minimum Control Measures 1 and 2)**

Worcester Polytechnic Institute's (WPI) Massachusetts Water Resource Outreach Center (WROC) is dedicated to assisting Central and Eastern Massachusetts municipalities and watershed associations with their water resource needs through student project collaboration. CMRSWC has been working with the WPI-WROC and MassDEP on Interactive Qualifying Projects (IQPs) since 2012.

The CMRSWC and MassDEP sponsored a 2017 WPI-WROC project called "Stormwater Management Educational Materials for Central Massachusetts Municipalities." Municipalities are required to distribute educational materials on stormwater issues to comply with the MS4 permit; "the ultimate objective being to increase knowledge and change behavior of the public so that pollutants in stormwater are reduced." The project team used public surveys and questionnaires to assess the public's understanding of stormwater and stormwater runoff. The results showed that most people do not understand what stormwater is, how it gets into our waterbodies and the impacts it has on water quality and public health. Focusing on increasing awareness of the importance of protecting our water among our elementary school student population, the WPI students developed a stormwater toolkit featuring an activity book and stickers for children. The activity book includes opportunities for parents to participate and ask questions.

Building on the previous work for educational materials, the 2018 student team worked with stormwater experts at MassDEP, MA Department of Education representatives and school teachers from Shrewsbury and Holden to develop a 5<sup>th</sup> grade watershed curriculum that meets the new Massachusetts Next Generation science standards. Components of the curriculum include the water cycle, watersheds, stormwater runoff and other environmental features that demonstrate to children how runoff and contaminants affect water quality. The students will be presenting their findings on May 1, 2018 at 4:00 p.m. at the MassDEP Central Regional Office in Worcester.

More information is available at: <http://wp.wpi.edu/wroc/>

### **EnviroScape Nonpoint Source Pollution Model (Minimum Control Measures 1 and 2)**

**The CMRSWC owns two 3D EnviroScape® Watershed/Nonpoint Source models which are available for use by our members.**

**These models provide a hands-on, interactive demonstration of the sources and effects of water pollution and ways to prevent pollution.** The CMRSWC sponsored a booth at the EcoTarium's Earth Day Celebration in April using the model to teach about stormwater education. Several member communities including Holden, Charlton, Framingham, Hopkinton, Lunenburg, Palmer, Shrewsbury, Auburn, & Dudley have used the EnviroScape model for presentations at Earth Day festivals, school programs, scouting events, and public works open houses.

### **Member Needs Survey**

In March 2018, CMRSWC contracted with Fuss & O'Neill to develop a technical needs survey that measured the concerns of member communities with respect to compliance with the updated MS4 General Permit for Stormwater Discharges (which is currently stayed pending judicial review). The survey served as a follow-up to the first coalition member survey in the fall of 2016 and asked members to rank certain programs/tasks that CMRSWC could support to assist members in complying with the MS4 Permit. The survey also requested that respondents identify the CMRSWC tools, resources, and events that they made use of during 2017 or provide feedback on why they chose not to take advantage of such tools or events.

Coalition members ranked their needs as follows:

1. Maintain the CMRSWC Website with Available Tools and Templates
2. Provide Written IDDE Program Template and Training
3. Provide NOI/SWMP Template and Training

Coalition members ranked their compliance concerns as follows:

1. Preparation of NOI and SWMP
2. Performing Outfall Inspections
3. Performing Outfall Inventory Ranking
4. Meeting TMDL Requirements
5. Developing Written Catchment Investigation Procedures
6. Designing and Constructing BMP Retrofits
7. Designing and Maintaining SWPPPs
8. Identifying and Removing Illicit/Illegal Discharges
9. Developing a Written IDDE Program
10. Mapping the Storm Sewer System

### **Statewide Stormwater Coalition Grant Award**



CMRSWC announced at its January 8<sup>th</sup> Steering Committee Meeting a \$200,000 grant from the State to the Statewide Stormwater Coalition to develop and implement a statewide stormwater education and outreach campaign. The project will provide stormwater education materials to communities across the state, including CMRSWC member communities. The funds, issued through the Commonwealth's Fiscal Year 2018 "MS4 Municipal Assistance Grant Program," recognize the important work of stormwater coalitions and regionalized stormwater management. Materials will be made available in July 2018.

**Conclusion**

Working as a group, CMRSWC collectively protects regional water resources while assisting communities with meeting requirements of the MS4 permit in an efficient and cost-effective manner. Member communities continue to benefit from the use of CMRSWC tools, resources, and events to continue to implement their MS4 program with local staff and resources.

**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 15 (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 15 (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 Complete Jan 2005	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		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 15 (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 aerial 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 Illicit connection By-Law	DPW DPW	Complete 2006 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 15 (Reliance on non-municipal partners indicated, if any)
4-1 Revised	Sedimentation & Erosion Control Guide	Building/Planning Depts.	Complete 2008 Adoption & Compliance	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 15 (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 15 (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 @ 9.6 Tons	Total use of sand was decreased by 71% when compared to last winter season due to a significantly difficult winter and a mid-winter shortage of road salt. Winter 2017 – 2018 Salt: 3,485 Tons (22 events) Sand: 723 Tons (22 events)
6-5 Revised	Construct vehicle wash facility	DPW/Town Meeting	Complete 2016 Complete 2016	The May 2016 Town Meeting approved a \$2.5M article for a “scaled-down” version of an improved DPW Facility located at our existing DPW Facility, 11 Fletcher Street location. The improved DPW Facility will provide a contained/inside area with proper drainage technologies for vehicle wash operations.
6.6 Revised	Seek alternatives to provide a sufficient DPW Facility	DPW	2018 (tentative project completion date)	The DPW Director & Town Engineer, Building, Planning & Construction Committee developed a “scaled-down” version of an acceptable and affordable \$2.5M DPW Facility improvements at our existing DPW Facility/Site. The DPW Director & Town Engineer, Building, Planning & Construction Committee are in the process of completing the construction of a “scaled-down” version of an improved DPW Facility/Site.

6.7	“Scaled-Down” DPW Redevelopment Project	DPW	2018	At the May 2016 Annual Spring Town Meeting and Ballot approved a \$2.5M “Scaled-Down” DPW Facility Project	The DPW Director & Town Engineer, Building, Planning & Construction Committee are in the process of completing the construction of a “scaled-down” version of an improved DPW Facility/Site.

**6a. Additions**

6.8	“Scaled-Down” DPW Redevelopment Project	DPW	DPW	The construction activities for this project commenced in July 2017 and is expected to be completed by May 2018.	As of 31 March 2018, the project is substantially complete and includes improved site drainage and storm water technologies.

**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 15 (Reliance on non-municipal partners indicated, if any)
7-1	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.
Revised				



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. In 2004, the Town made contacts with eight (8) agricultural property owners. The Town will continue this effort utilizing the CMRSC resource.	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	•

● **In-Place Legal/Regulatory**

	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	•
• Estimated percentage of construction starts adequately regulated for erosion and sediment control	• 100%	•
• 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	• 100CY	•
• 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. There was a significant reduction in use of sand, and a slight increase in the use of salt versus last year. Approximately <58%> less sand was used and approximately +12% salt was used as compared to the prior year	92% NaCl 0% CaCl <sub>2</sub> 8% Sand	
Pre-wetting techniques utilized. Liquid CaCl <sub>2</sub> applied at spinner discharge of spreader	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. Mixed sand/salt is stored in covered storage shed	Yes	
Estimated net reduction in typical year road sand application (5-year average)	98%	