

Municipality/Organization: Town of Grafton

EPA NPDES Permit Number: W 035459

MassDEP Transmittal Number: (Form BRP WM 08A, 2003, W-035459)

Annual Report Number Year 12
& Reporting Period: May 1, 2014 – April 30, 2015

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2015)

Part I. General Information: *Transmittal Number W 035459*

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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: Tim McInerney

Title: Town Administrator

Date: 4/28/15

Part II. Self-Assessment

The Town of Grafton has made significant progress towards meeting the requirements of the MS4 permit. In 2009, the Town of Grafton adopted stormwater and an illicit discharge bylaws. The Town Conservation Commission (Con Com) and the Department of Public Works (DPW), respectively, have successfully integrated the bylaws and implementation into their operations.

Since 2003, the Town of Grafton has completed several significant housekeeping activities to reduce pollution from municipal sources including: connecting the DPW garage to the Town sewer, moving vehicle washing activities indoors, reducing pesticide applications and controlling fertilizer applications. The roof of the salt/sand storage shed was repaired; currently, the materials are stored under cover. In 2012 the underground fuel storage tank was removed. In 2013, it was replaced with an above ground storage tank that meets the requirements of the Spill Prevention and Control Countermeasure regulations.

The Town has continued the street-sweeping program. During the spring, the Highway Department sweeps the entire town concentrating on industrial/commercial areas first and then moving out to the remaining roadways. The Town performs catch basin cleaning as needed, focusing on infrastructure adjacent to Flint Pond. In areas where road construction is scheduled, the street is swept once prior to construction and once following construction. Material collected as part of the street sweeping plan is disposed of in accordance with the Municipal O&M Plan.

The Town continues to support public education and outreach activities described herein. The DPW reached out to the Sudbury Assabet Concord (SuAsCo) Community Council's Water Quality/Water Quantity Sub-committee to provide some services. In 2012, the Town purchased a suite of educational materials for distribution and display for residents, businesses, and students. Unfortunately, the Town never received the deliverables and has been unable to reach the organization to find out where they might be.

During Year 11, the Town of Grafton continued making strides on its stormwater mapping. The Town hired a subconsultant Tata & Howard to verify existing and map new outfalls and catch basin locations. As of the end of Year 11 and moving into the start of Year 12, all outfalls, catch basins, storm drain manholes, and most of the storm drain piping system has been mapped. The progress made continues to exceed mapping requirements of the current 2003 MS Permit. The stormwater infrastructure map is maintained through PeopleGIS and can be updated in real-time through their software.

The Town has also taken proactive steps to map stormwater infrastructure outside of its current MS4-regulated area. In the upcoming permit years, the Town will maintain the current map and add new structures as needed.

As part of the public outreach program, the Town sent stormwater matters bookmarks to all residences and business establishments in the fiscal 2015 first quarter property tax bill. The bookmarks were distributed to all the students in grades 2-6 at the end of the 2013-2014 school year as part of the summer reading program to get the message out to the younger generation. The bookmarks are

currently available for distribution in the libraries of the middle and high schools.

Watershed groups continue to be active in organizing public events including town-wide clean-up days. The DPW supports clean-up activities by providing trash bags and removal services. On Arbor Day, the Highway Department will, once again, sponsor a planting program involving children's groups.

The Town has started to implement a systematic program to inspect outfalls and identify illicit discharges, although inspections do occur in an un-systematic fashion as part of routine maintenance activities. The Town has entered a contract with a firm to inspect outfalls for dry and wet-weather discharges. The Town is still trying to pursue resources to support conducting the required activities. Ideas for funding and managing the program, proposed in 2012/2013, include implementing an application process and fee for accommodating Sump Pump Discharges. So far, nothing has been approved. Despite the lack of a systematic supported program to inspect outfalls in general, outfalls to the impaired TMDL waterbody, Flint Pond, were identified, inspected, and cleaned in April 2014. No illicit discharges were detected.

In 2012, the Town reached out to the Central Massachusetts Regional Stormwater Coalition (CMRSWC) to take advantage of state funding (the 2013 CIC Grant) to support NPDES MS4 compliance activities. During the Fiscal Years 2013 and 2014, the Town of Grafton was an active participant in the CMRSWC. Unfortunately, the stormwater coalition did not receive state funding for Fiscal Year 2015, so external support will be limited this upcoming year.

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)	Planned Activities
1A	Stormwater Flyer Residents	DPW & SuAsCo	Year 1: distribute flyer to 75% of Town residents.	Flyers continued to be available on a self-service basis at the Town offices.	Include a flyer in the next real-estate tax bill mailing. Add links to any new materials to the Town website as they become available.
Revised			Ongoing program. one mailing per year. Provide links to materials on the Town website.	Links to the materials are also available on the Town website. Bookmarks were issued to public school children and are available at schools and in the library.	
1B	Lesson Plan for 5 th Grade	DPW & SuAsCo	Year 2: Develop, distribute, and teach lessons at one or more 5 th grade classrooms in the community. Met goal.	A copy of the lesson plan is available at the DPW office. Outreach activities for youth groups included Boy Scouts's participation in town clean up days.	Continue reaching out to youth groups in Town and encouraging teaching faculty to include stormwater in the curriculum. Provide stormwater matters bookmarks to grades 2-6 for the summer reading program and make available in the school libraries. Make new materials available to the faculty as it becomes available.
Revised					
1C	Stormwater Flyer Businesses	DPW & SuAsCo	Year 3: Distribute flyer to 50% of Town businesses.	Older flyers continued to be available on a self-service basis at the Town offices.	Include a flyer in the next real-estate tax bill mailing. Add links to any new to the Town website as they become available.
Revised			Ongoing program, one mailing per year. Provide links to materials on the Town website.	Links to the materials are also available on the Town website.	
1D	Stormwater Media Campaign	DPW & SuAsCo	Year 4 requirement Met goal.	Met one-time goal. Materials are currently posted on the town website.	Publish one informational article in the local newspaper when the new permit is issued by the EPA.
Revised					
1E	Stormwater Video	DPW & SuAsCo	Year 5 requirement Met goal.	Met one-time goal. The educational PowerPoint	

Revised	09/05 – <i>Powerpoint Presentation</i>	DPW & SuAsCo		presentation remains on file in the DPW office.	
1F	Grafton-Specific Stormwater Flyers	DPW	Year 1, 3: Distribute Grafton-specific brochure along with SuAsCo brochures.	Older flyers continued to be available on a self-service basis at the Town offices. Links to the materials are also available on the Town website.	Add links to any new materials to the Town website as they become available.
Revised			Ongoing program, one mailing per year. Provide links to materials on the Town website.		
1G	Coordinate with Businesses and Landscapers	DPW	Coordinate education and the use and sale of slow-release fertilizers.	The Town offices contain self-service educational materials for businesses and landscapers who enter the town offices pursuing support or permits. Links to educational materials developed by others are also available on the Town website.	Continue to provide self-service materials at the Town offices. Add links to any new materials to the Town website as they become available.
Revised					
1H	Stormwater Flyer for Agriculture	DPW	Year 3: Distribute flyers to agricultural owners/properties	Links to the educational materials are available on the Town website.	Coordinate with the Agricultural Commission to add stormwater education to their agenda. Add links to any new materials to the Town website as they become available.
Revised			Provide links to educational materials on the Town website.		
1I	Newspaper Articles	DPW	At least 1 article per year.	Links to past articles are posted on the DPW website.	Publish an educational article in the local newspaper by June 1.
Revised					
1J	Stormwater Info on Town Website	DPW	Ongoing Program to distribute educational materials via the web.	The stormwater and illicit discharge bylaws and other assorted educational materials are available on the Town website.	Continue to update and expand the site with current educational materials as they become available. http://www.grafton- ma.gov/Public_Documents/GraftonMA_dpw/index_DPW
Revised					
1K	Trees and their use in stormwater management	DPW/Tree Warden	Ongoing Program	Grafton continues to participate in the Tree City program. The program	Continue to seek funding to continue this program.

Revised				includes purchasing seeds and saplings and recruiting schoolchildren to plant them as part of Arbor Day activities.	
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1a. Additions

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)	Planned Activities
2A	Stormwater Traveling Display	DPW & SuAsCo	Year 1-5: Stormwater display circulates around the community for a minimum of 3 months; Stormwater display is posted at a minimum of 3 different public locations in the community; Stormwater display is also used in future permit years for posting in public places or at stormwater events	Continued to display poster and flyers at the kiosk at the Town Offices.	Continue to display the educational materials at the Town Offices. Present the new materials to the public at the Annual and any Special Town Meetings.
Revised					
2B	Poster Contest for 5 th Graders	DPW & SuAsCo	Year 2: Poster contest held and entries received, judged, and displayed.	One time event. Met goal.	Continue to encourage faculty to present stormwater matters in their lesson plans during the 2014/2015 school year.
Revised					
2C	Photo Contest for High Schoolers	DPW & SuAsCo	Year 3: Photo contest is held and entries are received, judged, and displayed.	One time event. Met goal.	Continue to encourage faculty to present stormwater matters in their lesson plans during the 2014/2015 school year.
Revised					
2D	Stormwater Summit Event	DPW & SuAsCo	Year 4 requirement. Met.	One-time event in 2006.	None.
Revised					
2E	Stormwater Super Summit Event	DPW & SuAsCo	Year 5 requirement. Met.	One-time event in 2007.	None.

Revised					
2F	Annual Stormwater Public Meeting	DPW	Hold public hearing by February every year.	Not held in February 2015 because there were no significant changes in the plan or program.	Present the requirements of the new permit at the Selectmen's meeting once the EPA has finalized the terms of the new permit.
Revised					
2G	Watershed Group Involvement	DPW & Local Groups	Continue ongoing activities of local watershed groups such as cleanup and monitoring.	Several town organizations hold cleanup events in the Spring. The DPW provides trash bags and pickup services.	Continue the program to support activities with various watershed groups.
Revised					
2H	Involve Local Children's Groups	DPW	Children's groups help distribute or display educational information once per year.	See public outreach item 1K, 2G including Arbor Day, Earth Day, and Tree City activities.	Continue the program for coordinated activities with children's groups.
Revised					
2I	Purchase Land for Conservation	DPW, various Town Agencies	Ongoing Program	Town pursues purchasing Chapter 61A land as availability and funding dictate. Creeper Hill Road property purchased.	Continue with the program as properties and funds are available.
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)	Planned Activities
3A Revised	Illicit Discharge Bylaw	DPW	Develop/Implement Bylaw. Met Goal.	Article 37 adopted May 2009.	Continue to implement bylaw.
3B Revised	Storm Sewer Map	DPW	Map 100% of Outfalls in Urbanized Areas by Permit Year 5	Outfall and infrastructure mapping complete. Mapping is in a GIS-compatible format.	Calculate number of outfalls discharging to waterbodies listed in the original permit application. Initiate consultation with U.S. Fish and Wildlife to determine if the outfalls impact endangered species. Initiate consultation with the National Register of Historic Places to determine if the outfalls impact archaeological resources or Historic Properties of National Significance.
3C Revised	Detection & Elimination Plan	DPW	Year 1: Determine priority areas and discuss plan. Year 1-5: Visually screen 20% of outfalls. Year 4-5: Trace sources of illicit discharges (50% each year). Year 4-5: Remove all sources of illicit discharges (50% each year)	There has been no systematic activity to screen outfalls for illicit discharges. However, during normal operations, suspect observations are recorded and kept by the DPW. To date, one illicit discharge has been identified. In 2014, contracted with a firm to perform outfall monitoring and illicit discharge detection. Contract includes provisions for wet and dry-weather sampling.	Using equipment acquired through partnership with the CMRSWC, identify connections to stormwater infrastructure during the next cleaning cycle and test for possible illicit connections. Work with contractor to conduct program activities.
3D	Education for Public & Businesses	DPW	Year 1, 3: Include illicit discharge education in the community business and Grafton-specific flyers.	Older flyers continued to be available on a self-service basis at the Town offices. Links to IDDE fact-sheet materials are available on the Town website.	Material continue to be available on the Town website.

Revised			Provide links to materials on Town website.		
3E	Education for Municipal Employees	DPW	Year 2-5: Include illicit discharge education.	All current DPW employees are trained to identify illicit discharges.	Continue to train new staff as necessary.
Revised					
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)	Planned Activities
4A Revised	Construction Site Runoff Bylaw	DPW, Planning, & Con Com	Develop & Implement Bylaw. Goal Met.	Article 36, adopted May 2009.	Continue to implement bylaw.
4B Revised	Erosion, Sediment, & Waste Controls	DPW, Planning, & Con Com	Develop & Implement Bylaw	Article 36, adopted May 2009. Refers to MassDEP Stormwater Management Standards and Guidance Documents.	Continue to implement bylaw.
4C Revised	Site Plan Review Procedures	DPW, Planning, & Con Com	Develop & Implement Bylaw	Article 36, adopted May 2009. Refers to MassDEP Stormwater Management Standards and Guidance Documents.	Continue to implement bylaw. Projects are currently reviewed for compliance with local and state bylaws and regulations.
4D Revised	Site Inspection & Enforcement	DPW, Planning, & Con Com	Develop & Implement Bylaw	Approximately 50 site inspections annually. Approximately 5 sites cited with enforcement actions.	Continue to implement bylaw.
4E Revised	Stormwater Hotline	DPW, Planning, & Con Com	Receipt of complaints at DPW	Residents call town emergency services, the Highway Department, and the DPW. Reports are referred to the DPW. Hundreds of calls are received and responded to annually.	Continue the program.
Revised					

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)	Planned Activities
5A Revised	Post-Construction Site Runoff Bylaw	DPW, Planning, & Con Com	Develop & Implement Bylaw	Article 36, adopted May 2009.	Continue to implement bylaw.
5B Revised	Structural & Non-Structural BMPs	DPW, Planning, & Con Com	Develop & Implement Bylaw	Article 36, adopted May 2009. Refers to MassDEP Stormwater Management Standards and Guidance Documents for BMP list.	Continue to enforce compliance with stormwater BMP requirements for projects in the Town. The DPW reviews plans prior to construction and then reviews the as-built condition before a project is accepted. Before a project is accepted, the DPW inspects sites to verify that the stormwater facilities function as designed.
5C Revised	Long-Term O&M	DPW, Planning, & Con Com	Develop & Implement Bylaw	Article 36, adopted May 2009. Refers to MassDEP Stormwater Management Standards and Guidance Documents.	Continue to implement bylaw.
5D Revised	Structural BMP Implementation Procedures	DPW, Planning, & Con Com	Develop & Implement Bylaw	Article 36, adopted May 2009. Refers to MassDEP Stormwater Management Standards and Guidance Documents.	Continue to implement bylaw.

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)	Planned Activities
6A	Municipal Employee Training	DPW	Develop a comprehensive Municipal Operations and Maintenance Plan to include training protocols.	All DPW staff is currently trained in stormwater management.	Train new staff as needed.
Revised					
6B	Maintenance & Inspection Procedures	DPW	Develop a comprehensive Municipal Operations and Maintenance Plan to include activities, schedules and procedures.	Annual programs are in place to clean catch basins and sweep streets. The streets are swept in the spring and fall. Catch basins are cleaned at least once per year starting in the spring. Known problem areas are addressed more often. Records for these activities are kept with the Highway Superintendent.	Continue with the program.
Revised					
blank					

6C	Municipal Pollutant Source Reduction	DPW	Develop a comprehensive Municipal Operations and Maintenance Plan to include BMPs to reduce municipal pollution sources	In 2003, Grafton hired a consultant to assess the Municipal Operations in the Town with respect to Stormwater. The assessment recommended: -Connecting the DPW garage to the sewer. This task was accomplished in 2010. -Performing vehicle washing indoors. As of 2010, this is routine procedure. -BMPs for the sand/salt piles. The storage shed was rehabilitated; the materials are now completely covered. -The underground fuel storage tank was removed in 2012. The above ground storage tank will be constructed in 2013. -Assess pesticide and fertilizer operations. As of 2012, pesticide applications were limited to treatment of catch basin sump water. Fertilizer applications (where necessary) are limited to 10/10/10 organic applied at a rate of 3 pounds per 1000 SF. Note that all major tasks had been completed as of April 2013.	Continue to encouraging “Do not Dump” catch basin castings and drain covers. The Town has materials to and will continue to mark catch basins with a “Do Not Dump” message.
Revised					
6D	Waste Disposal Procedures	DPW	Develop a comprehensive Municipal Operations and Maintenance Plan to include BMPs to reduce municipal pollution sources	Materials are collected and properly disposed of by a licensed 3 rd party.	Continue with the program.
Revised					

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)	Planned Activities
7A	Residential and Commercial Education	DPW	Provide links to materials on the Town website.	Met goal, refer to items 1A, 1C.	Expand educational materials on Town website as they become available.
Revised					
7B	Outfall Inspection and Testing	DPW		Outfalls inspected in accordance with the municipal schedule and cleaned as-needed. No testing conducted. The one municipal outfall identified at Flint Pond was inspected and contributing structures were cleaned out in April 2015.	Continue to monitor the outfall to Flint Pond and the contributing infrastructure.
Revised					
7C	Illicit Discharge Elimination	DPW		No illicit discharges identified. Began discussions with Town agencies to fund this program. Ideas for funding include applications and fees for Sump Pump Discharge hookups.	Continue to monitor the outfall to Flint Pond outfall and the contributing infrastructure. Continue reviewing methods to fund and implement this program.
Revised					
7D	Municipal Operations Prioritized	DPW		Street sweeping and catch basin cleaning activities conducted according to municipal schedule. The schedule is kept at the Highway Superintendent's Office.	Continue ongoing maintenance activities.
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

The TMDL for Flint Pond indicates that the pond is impaired for turbidity as a result of excess phosphorus loading. The TMDL indicates that stormwater contributions of phosphorus must be reduced by 52 % to meet the waste load allocation (WLA) of the TMDL.

Regular street sweeping and catch basin cleaning provide a reduction in phosphorus loading. In 2015, the Town will evaluate the total phosphorus reduction from existing BMPs and discuss potential improvements to meet the WLA allocation. Neither fertilizers nor pesticides were applied in any buffer to a resource area.

Note that turbidity levels at the next downstream water body (Lake Ripple) were monitored during the summer of 2014. Records of measurements are kept at the DPW. Measurements indicate that turbidity is not an issue at this location downstream.

Part IV. Summary of Information Collected and Analyzed

No information collected and/or analyzed.

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering May 1, 2014 through April 30, 2015)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	No
Annual program budget/expenditures **	(\$)	\$11,000+/-
Total program expenditures since beginning of permit coverage	(\$)	\$166,000+/-
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General Fund

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)	No
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	Yes
Shoreline cleaned since beginning of permit coverage	(mi.)	1.25 (annually)
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	2
▪ community participation **	(# or %)	10%
▪ material collected **	(tons or gal)	10 Tons (est.)
School curricula implemented	(y/n)	Bookmarks issued to schoolchildren

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	(#)	300
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	100%
Mapping method(s)		
▪ Paper/Mylar	(%)	0%
▪ CADD	(%)	15%
▪ GIS	(%)	100%
Outfalls inspected/screened **	(# or %)	0
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	0
Illicit discharges identified **	(#)	3
Illicit discharges identified (Since beginning of permit coverage)	(#)	1
Illicit connections removed **	(#); and (est. gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	0
% of population on sewer	(%)	61%
% of population on septic systems	(%)	39%

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	25+/-
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	>50
Tickets/Stop work orders issued **	(# or %)	3+/-
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	100's

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 %)	20+/-
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)	1-2/yr
Qty of structures cleaned **	(#)	2400+/-
Qty. of storm drain cleaned **	(%, LF or mi.)	250 LF
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	200 Tons
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	see hourly rate
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	~ \$24/hr
• Disposal cost**	(\$)	~ \$9/ton ~ 200 tons every 2 or 3 years.
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1
• 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)	1-2/yr
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	700 Tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	see hourly rate
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	~\$24/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 %)	70%
▪ Herbicides	(lbs. or %)	N/A
▪ Pesticides	(lbs. or %)	90%
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	80% 20%
Pre-wetting techniques utilized **	(y/n or %)	Yes
Manual control spreaders used **	(y/n or %)	No
Zero-velocity spreaders used **	(y/n or %)	No
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/l _n mi. or %)	0% change
Estimated net reduction or increase in typical year sand application rate **	(±lbs/l _n mi. or %)	No sand used
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	Construction complete

100% of salt/chemical pile(s) covered in storage shed(s) by May 2013	(y/n)	Yes

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	None
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	None
Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	1

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From: acadia94 [mailto:acadia94@verizon.net]
Sent: Tuesday, April 28, 2015 8:05 AM
To: DPW
Subject: Additional EarthDay Cleanup Trash for pick up

Good morning,

I had previously contacted you requesting pick up of bagged trash at various sites in Grafton from the Blackstone River Watershed Associations's annual EarthDay Cleanup (10 towns, 180 volunteers, over 200 bags trash!) held Sunday, April 19th.

A volunteer just did some additional cleaning up along Pleasant Street between the old and new bridges past the utility line work. She left a total of 6 white bags for pickup.

Thank you!!

Susan L. Thomas
Project Coordinator
Blackstone River Watershed Association
www.thebrwa.org
susan.thomas@thebrwa.org
508-278-5200

CMRSWC CIC Grant FY2014 Summary of Activities

Year 12: April 1, 2014 – March 31, 2015

In Year 12, the Town of Grafton continued to be an active participant in the Central Massachusetts Regional Stormwater Coalition (the Coalition). The Coalition's work in Year 12 was funded by a \$80,000 fiscal year 2014 (FY2014) Community Innovation Challenge (CIC) grant from the Massachusetts Executive Office of Administration and Finance. This grant was supplemented by a contribution of approximately \$4,000 from each of the 28 participating Towns, including Grafton.

Overview of the Coalition

The FY2014 Coalition included 28 towns: Auburn, Boylston, Charlton, Dudley, Grafton, Hardwick, Holden, Hopkinton, Leicester, Millbury, Monson, Northbridge, Northborough, Oxford, Palmer, Paxton, Rutland, Shrewsbury, Southbridge, Spencer, Sturbridge, Upton, Uxbridge, Ware, Webster, West Boylston, Westborough, and Wilbraham.

The Coalition was officially formed in FY2012 with 13 members, expanding to 30 in FY2013. Its FY2014 work expanded efforts initiated in previous years to comply with requirements anticipated in the new Massachusetts MS4 Permit when it becomes final, which is expected sometime in 2016 or 2017. The Coalition's FY2014 efforts were facilitated by the consulting firms of Tata & Howard, Inc., and Verdant Water, supported by vendor PeopleGIS. However, the Coalition members themselves continue to be responsible for putting the tools developed by the Coalition to use.

The Coalition was honored as a recipient of the first Annual "Best Stormwater Idea in New England", also known as a STORMY Award (*see image below*). This honor was bestowed by the New England Stormwater Collaborative, a joint effort of the New England Water Environment Association (NEWEA), the New England Chapter of the American Public Works Association (APWA), and the New England Water Works Association (NEWWA). A representative from the Town of Uxbridge accepted this honor at a ceremony in Worcester, MA on April 1, 2015.



Figure 1: CMRSWC's "STORMY Award" for Collaborative Efforts in Stormwater Management

The Coalition's Partnerships in Central Massachusetts

The Coalition continues to be actively engaged with many water quality agencies and organizations and is committed to sharing the knowledge it has developed for the benefit of other communities. These efforts are discussed in following sections as they relate to the following organizations:

- Massachusetts Department of Environmental Protection (MassDEP)
- United States Environmental Protection Agency (USEPA)
- Other Massachusetts Stormwater Coalitions
- New England Water Environment Association (NEWEA)
- Massachusetts Municipal Association (MMA)

Additional organizations and entities are mentioned elsewhere throughout this Annual Report, reflecting the wide network of knowledge and experience that the Coalition has tapped into.

Massachusetts Department of Environmental Protection (MassDEP)

The Coalition continued its partnership with the MassDEP in FY2014, formally including budget in its FY2014 CIC Grant Application to support and assist in development of the stormwater-focused Interactive Qualifying Project (IQP) with four students at the Worcester Polytechnic Institute (WPI). Kickoff for this partnership began in September 2014 with a meeting at MassDEP's office in Worcester, MA. The IQP completed in fall 2014 was the fourth such project the Coalition has done in conjunction with MassDEP and WPI.

This IQP included activities that will benefit all Coalition towns, especially Holden, Millbury, and Southbridge, all of which volunteered for an intensive evaluation. Representatives from these three towns worked with the WPI students to compile a detailed summary of the full cost of their stormwater programs. The cost evaluation was developed in conjunction with the Coalition's consultants, and included not just line items budgeted by public works (or highway) departments, but also staff labor, operations and maintenance tasks, waste disposal fees, reprographics and media, legal counsel, site plan reviews, construction and post-construction inspections, and other tasks. Some of these activities are core components of a town's stormwater program, but may be managed or budgeted by planning departments, conservation commissions, boards of health, code enforcement, or other entities and therefore not generally included in assessments.

The comprehensive report prepared by the WPI IQP students was presented to their university sponsors in December 2014 and can be downloaded at: www.centralmastormwater.org/pages/CRSC_documents/Attachment_B_WPI_Cost_Analysis_of_the_2014_MA_MS4_DraftPer.pdf. The findings of this report were also presented by the students to the 495/MetroWest Partnership in spring 2015. The framework used by the WPI students for the cost evaluation features into the ongoing stormwater program cost task discussed under *Coalition Activities in Year 13* (located at the end of this narrative.)

In addition to the stormwater program cost component, the Fall 2014 WPI students performed water quality monitoring in Coalition Communities.

Earlier in Year 12, a different team of WPI IQP students did inspection and mapping work in several Coalition towns, including Upton, MA, shown below, under the supervision of the Towns and consultants. Data from these activities was entered directly into the online mapping and inspection system.



Figure 2: The Coalition's Spring 2014 WPI IQP Student Team Inspecting and Mapping Stormwater Infrastructure in Upton, MA

The Coalition appreciates the ongoing dedication of MassDEP to work with our members so closely and collaboratively.

United States Environmental Protection Agency

The Coalition continued collaboration with technical assistance staff in USEPA Region 1, with the goal of benefiting from knowledge and experience of the agency's staff and from its network.

Many members of the Coalition attended the USEPA's October 2014 workshops on the 2014 Draft Massachusetts MS4 Permit, and several attended the formal public hearing on this draft permit on November 19, 2014 at the Leominster Public Library. At this public hearing, Coalition members spoke about the need for the final Permit to focus on provisions that maintain (and improve) water quality, not those that cause administrative burden without demonstrated benefits. Our comments at this hearing also requested USEPA's assistance in educating community leaders, such as selectmen and Town Administrators, about the increased need for multiple town departments and staff members to work together to comply with expanded provisions, such as illicit discharge detection and elimination (IDDE) and good housekeeping. The Coalition submitted formal comments on the 2014 Draft Massachusetts MS4 Permit, which can be found at http://www.centralmastormwater.org/pages/CRSC_documents/MS4PermitComments.

The Coalition reached out to USEPA's Newton Tedder to suggest ways to present the drivers of expanded stormwater management to town leaders and decision makers at the "Roofs, Roads, Runoffs and Regulations: New Standards for Treating Stormwater and Drinking Water" session of the Massachusetts Municipal Association's Annual Conference in Boston on January 23, 2015. The approach resulted in an effective update to these leaders (who may be concerned about the scope and financial impacts of the proposed permit)- one that empowered them to serve as stormwater outreach resources in their own communities.

The Coalition continued to communicate with USEPA Region 1's Kyra Jacobs and Gina Snyder during Year 12. Ms. Jacobs is a connection to agency staff who work to protect water resources, and has been a positive advocate of the importance of stormwater management in accomplishing this goal. We will continue to engage with Ms. Jacobs as competitive grants for regional MS4 compliance work may become available from the agency in the near future. Ms. Snyder has served as an ongoing resource for the Coalition and its consultants about agency resources, most

recently the approval of easy-to-use field kits for ammonia, which we purchased and distributed in Year 12. We appreciate the support of these agency staff.

Other Massachusetts Stormwater Coalitions

The Coalition continues to coordinate with “sister” groups with a similar stormwater focus that are also funded at least in part by CIC Grants. These include:

- The Merrimack Valley Stormwater Collaborative (coordinated by the Merrimack Valley Regional Planning Commission);
- The Neponset Valley Regional Stormwater Collaborative (coordinated by the Metropolitan Area Planning Council); and
- The Northern Middlesex Stormwater Collaborative (coordinated by the Northern Middlesex Council of Governments)

Administrators from each of these groups are invited to attend Coalition Steering Committee meetings. Further, the Coalition coordinated with each of these “sister” coalitions during preparation of its comments on the 2014 Draft Massachusetts Small Municipal Separate Storm Sewer (MS4) Permit to ensure consistency in suggestions and revisions submitted to the US EPA.

Members of the Coalition were invited to attend training sessions the Merrimack Valley Stormwater Coalition hosted in March and April 2015. We shared digital versions of the Coalition’s stormwater inspection forms with both the Neponset Valley Regional Stormwater Collaborative and the Northern Middlesex Stormwater Collaborative, and the latter has also benefitted from the structure of the online mapping and inspection system we developed and implemented in Years 10 and 11.

New England Water Environment Association (NEWEA)

The Coalition was pleased to receive a \$2,000 competitive grant from the NEWEA Humanitarian Assistance & Grants Committee in September 2014. This grant was used to purchase a second Nonpoint Source hands-on educational EnviroScape model (www.enviroscapecom/nonpoint-source.html) for use by Coalition members (the first was purchased in Year 10 with funds from the first CIC Grant).

The photo below was taken at the Coalition’s October 7, 2014 training workshop for CMRSWC communities, and shows Todd Girard (Conservation Agent in Charlton, MA) demonstrating to other members how the EnviroScape table can be used as an education tool for kids of all ages, as well as adults. This train-the-trainer format increases confidence of our members to do outreach on the topic of stormwater pollution prevention in their own communities.



Figure 3: CMRSWC Members Learn How to Demonstrate Stormwater Pollution Prevention Using the Coalition's Nonpoint Source EnviroScape model

With the purchase of this second model, the CMRSWC can make this popular resource more readily available across the substantial geographic spread of our 28 municipal members. The presence of second unit also allows towns to easily demonstrate the impacts of stormwater pollution and ways to prevent it, showing the resulting differences in water quality when Best Management Practices (BMPs) are installed on one unit, but not on the other unit. One model is stored in Charlton, MA, and the other stored in Shrewsbury, MA to facilitate any member town having easy access to the tool.

The NEWEA grant award exceeded the Coalition's application, so remaining funds will be used to replenish the consumable materials used in the demonstration, including food coloring, baking soda, clay, and sponges.

Massachusetts Municipal Association (MMA)

Members of the Coalition have been active in the MMA for years, including Robin Craver, Town Administrator for Charlton, MA and an active Coalition leader, who serves on MMA's Policy Committee on Energy and the Environment. This Committee formulates policy related to stormwater, water quality, water supply, wetlands, coastal areas, and other related environmental issues and represents a way for the Coalition to learn from (and share) ideas around the Commonwealth.

In Year 12, the Coalition participated on the "*Underwater: Financing New Regulations*" session at MMA's Annual Conference in Boston on January 24, 2015, discussing how regionalization can be appropriate for stormwater management.

Finally, the Coalition coordinated with MMA during preparation of its comments on the 2014 Draft Massachusetts Small Municipal Separate Storm Sewer (MS4) Permit to ensure consistency in suggestions and revisions submitted to the US EPA.

Tasks Included in this Annual Report

In the following sections, descriptions of the technical tasks and resources made possible by the CIC grant funding have been separated into sections that mirror the six Minimum Control Measures (MCM's) in the 2003 Massachusetts Small MS4 Permit.

One of the more innovative tools developed by the Coalition- one that spans across multiple MCM's- is the integrated online mapping and inspection database, hosted by PeopleGIS. The database is cloud-

based, and can be accessed by all 28 member communities through a desktop or tablet computer. Below is a screen shot of the platform showing the extent of the 28 Coalition communities.

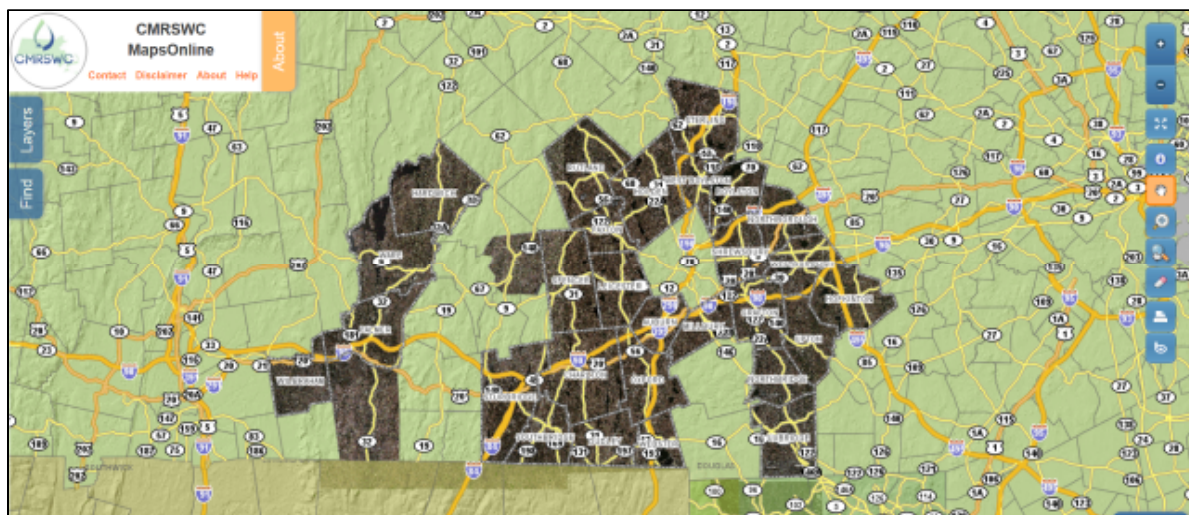


Figure 4: CMRSWC's Online Mapping and Inspection Platform

We were pleased to see the increased use in Year 12 by Coalition members of this resource, both in terms of inspections of existing infrastructure (such as outfalls) and mapping additional infrastructure, such as catch basins and pipe (a linear feature added in Year 11). Newer Coalition communities (those that joined in FY2013) continue to upload GIS shapefiles to the platform, managing their stormwater system infrastructure information in one location.

An investment in Year 12 intended to increase use of the online mapping and inspection platform was the purchase of new Samsung tablet devices for each community that are faster, allowing data to load more quickly than the ASUS tablets purchased in FY2012. We believe that the mapping and inspection tool will be used increasingly as town staff members become comfortable with the platform, realize how easy it is to use, and see how it facilitates compliance and documentation.

As noted in last year's report, this platform does not fit into just one of the MCM's. It aids communities with public education and outreach (MCM 1), as surveying is a highly-visible activity that will generate questions, and is an engaging demonstration to school groups. The integrated mapping and inspection database documents evidence of potential illicit discharges or the absence thereof (MCM 3), aids construction site stormwater control (MCM 4) by allowing for evaluation of how much sediment is contained in a sump, and makes good housekeeping (MCM 6) easier by collecting data on how often catch basins are cleaned. Other tasks and tools of the project connect to the integrated mapping and inspection database, which was designed to serve the needs of the Coalition communities well beyond the 2003 Massachusetts Small MS4 Permit. Each of the online forms is fluid- they will continue to be revised, as needed, to meet the goals of the Coalition members and future Massachusetts MS4 Permit requirements.

Minimum Control Measure 1: Public Education and Outreach

Year 12 activities included routine meetings of the Coalition's Steering Committee, a day-long refresher training workshop (and FY2014 Kickoff Meeting) on October 7, 2014, and a workshop on November 12, 2014 to educate members about the 2014 Draft Massachusetts Small Municipal Separate Storm Sewer (MS4) Permit and identify concerns. Grafton participated in at least one training workshop, reviewed deliverables, and served other key roles as described in this Annual Report.

An exciting tool for public education that was rolled out in Year 12 is the Coalition's Twitter account, [@MAStormH2O](#). As of the date of this report, the Coalition's account has 67 followers, including other stormwater coalitions around the country. Information tweeted (or retweeted) by the Coalition in Year 12 addressed such water quality topics and issues as:

- Sustainable infrastructure resources
- APWA's Public Works Week outreach activities
- Pet waste management
- Available webinars and training events
- Erosion control practices
- Green infrastructure
- Appropriate fertilizer application
- Environmentally-friendly best management practices for snow and ice control
- Drought and innovative water recycling/reclamation efforts
- Proposed changes to definition of Waters of the US
- USEPA's "WaterSense" program
- The role of public education in developing successful stormwater funding programs.

Many of our member communities and regional agencies follow [@MAStormH2O](#) and retweet our information, greatly expanding the audience reached by the message. We anticipate using this tool in the future to quantify the size of the audience reached by each message, and evaluating the success of the message.

In Year 12, the Coalition expanded its efforts to educate the public and other communities about its work. This includes the following presentations and events, listed in chronological order:

- On May 16, 2014, Robert McNeil from Millbury, MA and a consultant presented on the Coalition's work at the 5th Annual Water Resources Strategies Symposium, hosted by the Massachusetts Coalition for Water Resources Stewardship in Marlborough, MA, with a presentation entitled *"30 Towns Collaborating for Cost Savings, Efficiency in MS4 Compliance and Water Quality"*.
- On August 7, 2015, the Coalition's outreach to other stormwater coalitions was demonstrated in a presentation entitled *"CMRSWC: Resources to Get the Most out of Your CIC Grant Funding"*, given at the Community Innovation Challenge (CIC) Stormwater Symposium. We were invited by the Massachusetts Executive Office of Administration and Finance to present at this event, which it hosted in Worcester, MA.
- On September 19, 2015, John Woodsmall from Holden, MA gave a presentation called *"MA MS4 Permits: A Municipal Perspective – Implementing Stormwater Programs"* at the Environmental Business Council's Water Resource Management Program.
- On September 22, 2014, representatives from the Coalition (including Hopkinton, Shrewsbury, and a consultant) attended the Local Government Advisory Committee's "Protecting America's Waters" Workgroup, held in Worcester, MA, and commented on the record about the importance of encouraging appropriate long-term maintenance of stormwater Best Management Practices. The Coalition submitted formal comments to the USEPA on its Proposed Rule to clarify the definition of Waters of the United States (WOTUS) in the Clean Water Act.

- On January 24, 2015, the Coalition participated on a panel session entitled “*Underwater: Financing New Regulations*” at MMA’s Annual Meeting in Boston. This session focused on new and established financing tools to ensure compliance with these requirements through means such as property surcharges, stormwater utilities, low-interest loans, principal forgiveness and regional stormwater opportunities.
- On January 26, 2015, the Coalition presented its work in a session entitled “*MS4 Compliance: Common Threads (and opportunities) in New England Permits*” at NEWEA’s Annual Meeting in Boston, MA. This session, which was well-attended, highlighted the tools developed by the Coalition (and other groups) that can be used to provide cost-effective solutions to regional stormwater management challenges.

Several Coalition members have chosen to use some of their “one-on-one” time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

In Year 12, Grafton continued to utilize water quality monitoring kits from the World Water Monitoring Challenge program (www.worldwatermonitoringday.org), purchased by the Coalition in Year 10. These kits “build public awareness and involvement in protecting water resources around the world by engaging citizens to conduct basic monitoring of their local water bodies”. Several communities used this in Year 12 to work with teachers in their local school department or district to do outreach to elementary and middle-school aged students. The kits continue to be stored in Spencer and Shrewsbury for distribution to the Coalition members.

Grafton continued to utilize the Enviroscapes models focused on non-point source pollution education (<http://www.enviroscapes.com/nonpoint-source.html>). One model was purchased by the Coalition in Year 10 and the second was purchased in Year 12 with a grant from NEWEA. These tools are hands-on, visual trainers to demonstrate the importance of good housekeeping and low-impact development for pollution prevention, with the objective of maintaining water quality in our communities.

The Coalition continued to expand its educational website, www.CentralMAStormwater.org, focused on providing information about the project to a number of audiences, including the general public, educators, and kids.

Minimum Control Measure 2: Public Involvement and Participation

In Year 12, Grafton continued to utilize several presentations on stormwater management, with content focused on educating elected officials and municipal department heads about the requirements of the 2003 Small MS4 Program, changes likely in the anticipated 2014 Massachusetts MS4 Permit, and the financial impact these potential changes may have on Massachusetts communities.

Minimum Control Measure 3: Illicit Discharge Detection and Elimination

The Coalition provided training at a workshop on October 7, 2014 on SOP 10, “Locating Illicit Discharges”, intended to define the types of illicit discharges that may be observed in the Coalition communities and provide guidance on tools that can be used to identify each. At this same workshop, training was provided on the Coalition’s Illicit Discharge Detection and Elimination (IDDE) Documentation Packet, which specifies how illicit discharges are detected and what department or person is responsible for eliminating them. Identifying and removing illicit discharges, and ensuring that they are not reconnected, remains a substantial challenge to many MS4 communities. The October 2014 training workshop included a comprehensive review of many types of illicit discharges, and an interactive discussion with attendees

about how several examples would presently be managed in their own community. Many Coalition communities began this inter-community discussion in Year 12, with others planning it for Year 13.

On May 23, 2014, the Town of Millbury hosted a demonstration by Environmental Canine Services (www.ecsk9s.com) and invited Coalition members, MassDEP, and other communities to observe. ECS uses two highly-trained dogs (see photos below) to detect the presence of human sewage (both fecal bacteria and metabolic byproducts) very low levels in water at outfalls and catch basins, without interference from non-human sources of bacteria. This interesting approach represents an accurate, quick, and cost-effective screening tool for locating illicit discharges. Water quality samples were collected to evaluate the observations noted by the dogs. Inspections were documented in the Coalition's online mapping and inspection system, with forms that have been updated to allow our communities to use this innovative approach to IDDE.



*Figure 5: Environmental Canine Services, LLC,
Performing a Demonstration of Innovative IDDE Approaches in Millbury, MA*

Several Coalition members have chosen to use some of their “one-on-one” time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

In Year 12, Grafton continued to utilize the two Leica surveying devices (purchased by the Coalition in Year 10) that can be used to map new structures with very high accuracy, using connection to a military-grade Real Time Kinematic (RTK) satellite network. In Year 12, Grafton received a new tablet device. The Leica and tablets can be used to directly access the online mapping and inspection system: the Leica is the most valuable for mapping outfalls, catch basins, pipe, drain manholes, BMPs, and other components of the MS4, while the tablet computers will be most valuable for ongoing inspection of the structures. These two activities serve as the foundation of IDDE. The Leica units rotate between the 28 Coalition communities on a schedule, with formal handoff between Towns documented.

In Year 12, the Coalition purchased new ammonia field kits (CHEMetrics K-1510 kits) and provided two kits to each member community. These were approved by USEPA in Year 11 for stormwater outfall monitoring and are easier to use than ammonia monitoring tools purchased in Year 10. In Year 11, the Coalition began the process of rotating two full sets of water quality kits and meters around the 28 Coalition communities, including Grafton, on a schedule that follows the use of two Leica devices; this rotating schedule continued in Year 12. The objective of this approach was that inspection and mapping activities completed with the Leica may result in a list of outfalls or structures for which screening-level monitoring should be completed. The Coalition provided refresher training on the water quality kits at the workshop on October 7, 2014. The Towns of Millbury and Oxford are hosting the two sets of water

quality kits and meters, and have taken responsibility of replacing reagent packets as they become depleted.

In Year 12, the Coalition finalized a review of industrial facilities located in each member community, including facilities that applied for coverage under the USEPA's Multi-Sector General Permit (MSGP) program, and the compliance status of each. The objective of this activity was to connect data from the two permit programs, consistent with the anticipated 2014 Massachusetts MS4 Permit.

Minimum Control Measure 4: Construction Site Stormwater Runoff Control

Construction activities- including erosion control, stormwater pollution prevention, and appropriate management of waste materials- are covered in the Stormwater Best Management Practices (BMP) Toolbox, development of which began in Year 10 and which was finalized in Year 11. The Stormwater BMP Toolbox was written to inform the general public about the importance of managing private construction projects responsibly. The Coalition provided training on this topic at a workshop on October 7, 2014.

Several Coalition members have chosen to use some of their "one-on-one" time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

Minimum Control Measure 5: Post-Construction Stormwater Management in New Development and Redevelopment

In Year 12, Grafton continued to use the Stormwater Best Management Practices (BMP) Toolbox, developed as a Draft in Year 10 and finalized in Year 11. This tool compiles the stormwater post-development tools currently permitted and encouraged for small development or redevelopment, specifically single-family homes and limited commercial renovations that have a small development footprint. The Stormwater BMP Toolbox provides technical data, design factors, and construction limitations with these BMPs in non-technical language.

The objective was to provide the average property owner with easy-to-understand information that encourages them to select low-impact stormwater management tools for their properties, construct them safely, and maintain them for long-term benefit. The BMPs in the Toolbox are consistent with the requirements of the current Small MS4 Permit, the Massachusetts Stormwater Handbook, and other current guidance documents. The Coalition provided training on this topic at a workshop on October 7, 2014.

Several Coalition members have chosen to use some of their "one-on-one" time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

Minimum Control Measure 6: Pollution Prevention and Good Housekeeping in Municipal Operations

In Year 12, Grafton continued to utilize the Stormwater Pollution Prevention Plan (SWPPP) template in the form of a word processing document. This document was developed in Year 10 and addresses elements common to all SWPPPs, including storage of materials, site inspection practices, water sampling, training, spill prevention and cleanup, Standard Operating Procedures for a number of activities, and other sections. The Coalition provided training on the SWPPP Template at a workshop on October 7, 2014. The SWPPP template covers many types of municipal properties. This includes highway department garages and public works yards- where salt is stored and vehicle maintenance or storage is completed- as well as

parks, golf courses, and cemeteries, where fertilizers and pesticides may be applied and lawn mowing activities may result in small spills. The SWPPP template includes built-in instructions to make it as simple as possible for each community to develop a SWPPP for a property, simply by deleting text that doesn't apply.

In Year 12, Grafton continued to utilize the 15 Standard Operating Procedures (SOP's) developed by the Coalition in Year 10, and intended to provide guidance on activities required or encouraged by the 2003 Massachusetts Small MS4 Permit. The Coalition provided training on these SOP's at a workshop on October 7, 2014. These SOPs addressed such diverse activities or needs as outfall inspection (both dry weather and wet weather), catch basin cleaning, erosion and sedimentation control, oil/water separator maintenance, use and storage of pesticides and fertilizers, and many more. The group developed standard forms and methodologies for these procedures, many of which were incorporated into the Integrated Online Mapping and Inspection System, described in following paragraphs.

In Year 12, Grafton continued to utilize two presentations developed in Year 10 on pollution prevention in stormwater management, with content focused on educating employees of public works, engineering, conservation, planning, highway, and other similar municipal departments on the requirements of the 2003 Small MS4 Program. The Coalition provided training on how to use these presentations to educate a variety of staff members at a workshop on October 7, 2014. One presentation is focused on using the SWPPP Template and the responsibilities of municipal personnel to implement requirements of the SWPPP, and the second training presentation provides explanation and insight on the 15 SOP's described previously.

In Year 12, Grafton continued to utilize a Sump Pump Discharge Policy developed in Year 10 that provides a framework for the member communities to respond to needs to remove sump pumps from the sanitary sewer system without causing property damage or creating a hazardous condition for the public. The Coalition provided training on the Sump Pump Discharge Policy at a workshop on October 7, 2014. The Policy discusses considerations related to potential contamination and reduction in capacity of the storm drain system when sump pumps are permitted to connect to the drainage system, and lays out a situational approach to provide flexibility in administering a policy. The Policy includes guidance for when such a connection should be considered, what information the municipality can request from a residential or commercial property to guide in its decision, and outlines the responsibilities of the property owner.

In Year 12, Grafton continued to utilize a Salt/Sand Benchmarking tool developed in Year 10 to guide member communities in calibrating deicing equipment. The Benchmarking tool calculates the present loading rate of chloride (per lane-mile) presently applied by its salt trucks and other municipal vehicles, regardless of the compound (e.g.: sodium chloride, green salt, calcium chloride) or form (e.g., solid or liquid, mixed with sand), and in evaluating alternative application methods and materials to current practices.

Several Coalition members have chosen to use some of their "one-on-one" time (currently underway; see *Coalition Activities in Year 13* at the end of this narrative) to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

Coalition Activities in Year 13 (April 1, 2015 – March 31, 2016)

The following are some, but not all, of the work presently underway by the Coalition in Year 13:

- *Administration.* The long-term goal of the Coalition when it formed in FY2012 was to become self-sustaining. The Coalition's Steering Committee has reached out to similar organizations around the country, and is presently evaluating three funding mechanisms. The Coalition's leadership is committed to keeping the momentum developed in recent years, and sharing the resources for the improvement of water quality in New England. The Coalition plans to finalize its long-term plans in June 2015.
- *Funding.* The Coalition maintains a strong network of partners, and will continue to evaluate funding sources that become available, including competitive USEPA grants dedicated to MS4 communities as well as 319 and 604(b) grants appropriate for community-wide water quality projects.
- *One-on-One Consulting Time.* As noted previously, each of the 28 Coalition communities has been allocated one-on-one time with the group's consultants. Each town has chosen the MCM or tasks that benefit it most strongly. This may include refresher training on water quality kits and meters, development of public outreach materials, review of stormwater enforcement tools, updates to IDDE Programs, or other related services. This focused effort lets each town optimize its investment in the Coalition.
- *Understanding Stormwater Program Costs.* In Year 13, the Coalition is expanding on the WPI IQP program to quantify the actual (albeit rough) cost of all 28 participants' existing stormwater programs. The current costs will be scaled up to match the anticipated provisions of the future Massachusetts MS4 Permit and will serve as the foundation for ongoing discussions about how each community will fund future stormwater programs. This is the first time many of these towns will have performed a community-wide review of these costs, which tend to be managed within many departments. We will follow this with a focused workshop on mechanisms to develop sustainable stormwater program funding mechanisms.
- *Public Outreach and Education.* Coalition members will present at the 6th Annual Water Resources Strategies Symposium on May 12, 2015, hosted by the Massachusetts Coalition for Water Resources Stewardship, sharing information on stormwater program costs and ways to create regional efficiencies. The Coalition is purchasing copies of the "Water Blues, Green Solutions" documentary (<http://waterblues.org/about>) for each member town, on DVD. We are also considering re-allocating funding to the development of Coalition-specific outreach materials. Finally, the Coalition plans to increase its use of Twitter as a measurable outreach tool.
- *IDDE.* The Coalition is developing competitive pricing for its members that wish to use Environmental Canine Services to perform IDDE evaluations. The catchment delineation tool initially developed during the WPI IQP Fall 2013 project will be revised, modified, finalized, and distributed for use by Coalition towns. The Request for Proposals (RFP) developed in Year 10 (for a third-party firm to perform many of the field or inspection services defined in the 15 SOP's, including outfall inspection (dry weather and/or wet weather), water quality monitoring, catch basin inspection, and other related tasks) will be re-evaluated in Year 13 if a final Massachusetts MS4 Permit is issued.

- *Good Housekeeping.* The Coalition is coordinating an on-site demonstration of calibrating deicing equipment at a member community's highway facility. This active demonstration will provide a real-life example of the benchmarking process developed in Year 10 and encourage members to calibrate their own equipment, with a goal of reducing pounds of chloride per lane mile. The Coalition is in the initial phases of considering approaching MassDEP and USEPA with a proposal to develop a pilot project for beneficial reuse of catch basin cleaning materials, and/or developing such a pilot project through a grant.

Central Massachusetts Regional Stormwater Coalition
 FY2014 Kickoff Meeting Workshop
 October 7, 2014 @ 10:00 AM
 Holden Municipal Building, 1196 Main Street, Holden, Massachusetts

Name	Municipality	Email Address
Matthew S. Marro	Sterling	mmarro@sterling-ma.gov
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Aubrey Strause	Verdant Water	aubrey@verdantwater.com

Central Massachusetts Regional Stormwater Coalition
FY2014 Kickoff Meeting Workshop
October 7, 2014 @ 10:00 AM
Holden Municipal Building, 1196 Main Street, Holden, Massachusetts

[illegible]

Central Massachusetts Regional Stormwater Coalition
 Massachusetts Draft MS4 Permit Workshop
 November 12, 2014 @ 10:00 AM
 Selectman's Meeting Room, 100 Maple Avenue, Shrewsbury, Massachusetts

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