

MAY 03 2017

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Municipality/Organization: Town of Charlton

EPA NPDES Permit Number: MAR041100

MaDEP Transmittal Number: W-036476

Annual Report Number
& Reporting Period: No. 14: May 1, 2016 - April 30, 2017

NPDES PII Small MS4 General Permit Annual Report

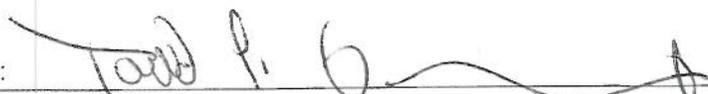
Part I. General Information

Contact Person: Todd Girard Title: Conservation Commission Agent

Telephone #: 508-248-2247 Email: todd.girard@townofcharlton.net

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: Todd P. Girard

Title: Conservation Agent

Date: May 01, 2017

Part II. Self-Assessment

The Town of Charlton has completed the required assessment and determined that our municipality is in compliance with all permit conditions.

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 14	Planned Activities – Next Permit Term
1A	Public Ed for residents.	Board of Selectmen & Town Administrator	Annual article in the Charlton Gazette, Cable Broadcasts	Four articles were published in the Gazette for spring and fall clean up activates (a free paper that is delivered to every address in Charlton) on Household Hazardous Waste Disposal. Articles and events were broadcast on the local cable network. Flyers detailing Hazardous Waste Collection Events were added to the Gazette four times in the year, and placed in Town Hall.	Continue publishing articles on stormwater and broadcasting related events and information on the local cable network. Distribute stormwater education pamphlets at upcoming household hazardous waste collection events.
Revised					
1B	Stormwater Education for students.	Board of Selectmen & Town Administrator	Posters in Public Schools w/ permission. Student participation hours & activities completed.	Science Club Students and local Boy & Girl Scouts participated in Earth Day, Town, Stream, and Farm Clean Up days. The Town continued the Science Club Study group for Stormwater to include the local watershed group Last Green Valley and USACE. Outreach programs were had with the Senior Center quarterly. CMRSC has established educational materials available on the web page	Continue to incorporate students in stormwater education expand to high school or college students and volunteer events and begin tracking participation. Continue Educational outreach with CMRSC.
Revised					
1C	Public Ed community reach out.	Board of Selectmen & Town Administrator	Charlton website posts stormwater info. Record # of website hits.	The Town website was maintained with web links to EPA and other stormwater sites. A total of 8337 hits were recorded on the Conservation Commission web page during the Year 14 reporting period.	Update the website with information on stormwater and continue to record the number of hits to the website.
Revised					

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
1D	Stormwater Education Survey	Board of Selectmen & Town Administrator	Conduct survey in Gazette w/ permission.	Charlton continues to be active with CMRSC and has utilized existing survey data for its portion of stormwater improvements	Publish previously obtained survey and the results in the Gazette as well as on website and a Press Release. Further utilize CMRSC educational materials
Revised					

1a. Additions.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
1E	Distribute Education Flyers	Board of Selectmen & Town Administrator	Hand out Flyers at Hazardous Waste Collection Events.	The local Boy Scout Chapter was recruited to hand out educational flyers at the Household Hazardous Waste Collection Events held in May & October 2016. All 936 participants received a flyer.	Continue to hand out/provide flyers and educational material at Household Hazardous Waste Collection Events, as well as other community events such as the Earth Day cleanup (see BMP 2E).
Revised					

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
2A	Community participation.	Board of Selectmen /Chairman	Establish a Stormwater Panel.	The Stormwater Panel, consisting of: the Building Inspector, Town Planner, Conservation Commission Agent, and Highway Superintendent, meet quarterly throughout the permit year to discuss specific SWMP activities. ConCom and Highway meet approximately monthly to discuss stormwater issues. A Press Release was sent out for the Public Information Session held at the May 2016 Town Selectmen’s Meeting. The Information Session focused on stormwater	Continue to set up advertisements of the Panel’s meetings on the website and in the Town Gazette to increase public awareness, receive input and solicit involvement. Will continue to utilize Central Massachusetts Regional Stormwater Coalition for further community specific tasks

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
Revised				permitting standards and was televised. Town is also participating in Central Massachusetts Regional Stormwater Coalition	
2B	SWMP recommendations.	Board of Selectmen/Members	Board of Selectmen considers the recommendations.	The Town Administrator met with the Town Planner and Highway to discuss the progress of the SWMP and upcoming program needs in September 2016. ConCom met throughout the year to discuss stormwater projects, SWMP development and next steps, as well the annual report. Town is also participating in Central Massachusetts Regional Stormwater Coalition	Continue to review SWMP recommendations with the Board of Selectmen, Town Administrator and Stormwater Panel. Seek opportunities to broadcast SWMP updates on local TV and receive public input at meeting. Continue to work with CMRSC
Revised					
2C	Community participation/Household Hazardous Waste collection.	Household Hazardous Waste Committee	Annual Hazardous waste day (depends on funding).	Hazardous Waste Collection Events were held in May and October of 2016. As discussed in BMP IE, the local Boy Scout Chapter was recruited to hand out educational flyers at the event. Flyers will be distributed by Town staff at the May 2016 collection event.	Hold at least two Hazardous Waste Collection Events and recruit students and/or boy scouts to hand out educational stormwater flyers as a part of community service (also refer to BMP 1B).
Revised					
2D	Community participation.	Household Hazardous Waste Committee	Publish the results of Hazardous Waste Collection in the Gazette w/ permission.	Participation in the Hazardous Waste Collection Events was tracked by a tally of cars and resulted in 852 cars for the May and October 2016 events. This information was posted on the town website.	Continue tracking community participation. Establish a method of tracking the amount of hazardous waste collected at events and post information on the Town website.
Revised			Results on website.		

2a. Additions.

2E	Earth Day: Town and Stream Clean Up Activity	BOS, Board of Health, Conservation Commission	Number of volunteers and trash/debris collected. Before and after photos.	The Town hosted a farm cleanup event on April 29 and May 1, 2016 at the Fay Mountain Farm. Volunteers performed maintenance around the farm, including	Continue tracking amount of volunteers participating in the event and trash/debris collected and posting information on Town website.
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Revised				litter removal and tree pruning. The Town planned for Earth Day cleanup activities to be conducted on April 29, 2016. The Town anticipates collecting litter from streams and roadsides that are prone to dumping or accumulation of litter.	Identify specific streams to be cleaned, track streams cleaned and clean new areas each year.
BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
2F	Shoreline Cleanup Annual Event	BOS & Conservation Commission	Number of volunteers and trash/debris collected. Before and after photos.	Seasonally Town performs a four-foot drawdown on the recreational lakes and ponds for residents to conduct shoreline cleanup activities near their property. The following ponds were cleaned: Glen Echo, S. Charlton Reservoir and Baker Pond. Town notifies residents of the activity by posting notices and advertising on the local cable network.	Continue to advertise and support cleanup events. Encourage waterfront residents to clean up areas abutting their property. Utilized newly formed lake and ponds committee
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
3A	Hazardous Waste Education.	Household Hazardous Waste Committee	Annual Hazardous Waste Day (Depending on funding).	Hazardous Waste Collection Events were held in May and October 2016. The events were advertised in the local paper and cable (refer to BMP 1A).	Hold at least two Hazardous Waste Collection Events and distribute education handouts (refer to BMP 1E).
Revised					
3B	Identification of Illicit Connections.	Highway/Gerry Foskett	Will seek appropriation to train majority of DPW employees.	DPW staff members inspect for illicit discharges while performing regular catch basin cleanings. Inspection forms as part of Charlton's SOPs were used to	Annually review training program in-house and incorporate into existing inspection procedures. Use the catch basin inspection form found in the

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
Revised			Train DPW staff annually	record conditions of catch basins for follow-up actions. Town is also participating in Central Massachusetts Regional Stormwater Coalition to improve the existing system	SOPs to incorporate illicit discharge inspection information. Town is also participating in Central Massachusetts Regional Stormwater Coalition
3C	Storm Drainage System Map.	Highway and Conservation Commission	Initial Base Map completed	All outfalls within the urban area were field verified using a GPS and compiled on a GIS base map in 2007. A total of 65 outfalls were mapped. Additional mapping was performed in Year 14 locating outfalls discharging into water bodies. Town is also participating in Central Massachusetts Regional Stormwater Coalition for mapping	Review mapping requirements under the new permit (when available) and begin planning to meet funding requirements. Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised					
3D	Illicit Connection Data.	Highway/Gerry Foskett	Use data to assess progress.	Previous outfall inspections did not reveal any obvious illicit discharges. A 2007 study identified 9 outfalls with dry weather flow. A second study in 2008 revisited all 9 outfalls and analyzed water quality data from 5 outfalls exhibiting dry weather flow. No illicit discharges were identified in previous studies and further investigation was not warranted during the permit year. Town is also participating in Central Massachusetts Regional Stormwater Coalition	Continue to monitor outfalls and catch basins and take necessary actions to eliminate illicit discharges.
Revised					

3a. Additions.

3E	Illicit Discharge Ordinance	Planning Board & Consultant	Plan to seek Town meeting approval.	By law was approved at the May 2011 meeting	Town continues participating in Central Massachusetts Regional Stormwater Coalition
Revised					

3F	Outfall Screening Strategy and Inspections for Illicit Discharges.	DPW/ Conservation Commission, Consultant	All outfalls inspected for illicit discharges by end of permit term.	A subwatershed prioritization and approach for IDDE activities was developed in 2007. Dry weather flows were sampled as outlined in BMP 3D. Additional funding was not available in Permit Year 14 to evaluate outfalls outside of the urbanized area.	Review the new permit requirements (when available) related to illicit discharge inspections and begin planning to meet funding requirements. Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised		Consultant			

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
4A	Construction Site Runoff Inspection Checklist.	Building Inspector/ Curt Meskus	Seek approval to develop SW quality checklist.	The checklist previously developed and approved for the building inspector was used for all inspections. Town is also participating in Central Massachusetts Regional Stormwater Coalition	Continue to revise checklist as needed with introduction of new stormwater ordinance or bylaw.
Revised					
4B	Construction Site Runoff Inspection Checklist. Develop Erosion Control Regulation	Building Inspector/ Curt Meskus, Planning Board	Seek approval to implement the checklist. Regulation at Town Meeting.	The Town approved a local bylaw to meet the Phase II requirements in Fall 2010. Town staff met multiple times to update the bylaw prior to review by the Planning Board and Conservation Commission	Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised					
4C	Construction Site Runoff Control Education. Procedure for Public Input	Planning Board/Alan Gordon, Highway & Conservation Commission	Require Erosion Control. Record number of calls regarding site runoff	Developers use the checklist as a reference for inspections of sites. The Highway Dept. and Conservation Commission handle complaints for construction site issues in Town. Numerous calls were received by the	Encourage public involvement by updating the website with whom to contact regarding construction runoff problems. Continue to handle complaints that are received. Town is also participating in Central

Revised				Conservation Commission and all issues were addressed.	Massachusetts Regional Stormwater Coalition
4D	Construction Site Runoff - Site Plan.	Planning Board/Alan Gordon	Require Construction in Phases.	The Site Plan regulations were amended in June 2006 to address construction phasing.	Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised					

4a. No additions at this time.

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 14	Planned Activities – Next Permit Term
5A	Assess Existing Post Construction Runoff Program	Planning Board/Building Inspector	Meet with Board & Inspector to Review	Existing regulatory controls were reviewed in Year 1. The Subdivision regulations were amended in June 2006 to address construction phasing.	Town is also participating in Central Massachusetts Regional Stormwater Coalition
Revised					
5B	Develop stormwater ordinance	Planning Board/Building Inspector	Seek Approval to review Subdivision bylaws	The Town approved a local bylaw to meet the Phase II requirements in Fall 2010. Town staff met multiple times to update the bylaw prior to review by the Planning Board and Conservation Commission	Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
5C	Review stormwater ordinance	Planning Board/ Building Inspector/BOS	Plan to Seek Town Meeting Approval	The Town approved a local bylaw to meet the Phase II requirements in Fall 2010. Town staff met multiple times to update the bylaw prior to review by the Planning Board and Conservation Commission Town is also participating in Central Massachusetts Regional Stormwater Coalition.	Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
5D	Revisit stormwater ordinance	Planning Board/Building Inspector/BOS	Review for any Changes	The Town approved a local bylaw to meet the Phase II requirements in Fall 2010. Town staff met multiple times to update the bylaw prior to review by the Planning Board and Conservation Commission Town is also participating in Central Massachusetts Regional Stormwater Coalition.	Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					

5a. Additions.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
5E	Develop and implement inspection program, public input procedure	Planning Board/Building Inspector, Conservation Commission	Checklist and O&M Plan by end of year 4. Records of inspections completed and results.	The checklist developed for the building inspector was used for numerous inspections. No complaints were received from the public regarding stormwater management facilities.	Continue to conduct site inspections to ensure BMPs are constructed as designed. Encourage public involvement by updating the website as deemed necessary. Continue to handle complaints that are received.
Revised					

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
6A	Municipal Good Housekeeping: Highway, Storm Drain System Inspection and Maintenance	Highway Gerry Foskett	Catch Basin & Street Sweeping Schedule, Inspect and maintain storm drain system at least annually	All catch basins in Town were cleaned at least once and some areas prone to sediment build up were cleaned twice. All streets were swept one to two times based on accumulation of sediment. DPW maintained a record of cleanings and storm drain system maintenance needs with an inspection form that was completed at the time of cleaning. The Town utilized its Standard Operating Procedures (SOPs) to track cleaning and inspection activities for BMPs.	Utilize SOPs and continue storm drain system inspection and maintenance. Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
6B	Municipal Good Housekeeping: Earth Day	Board of Selectmen, Board of Health Conservation Commission	Seek approval to provide assistance with Earth Day & Stream Clean Up.	The Town hosted farm cleanup events on April 22 and May 1, 2015 at the Fay Mountain Farm. Volunteers performed maintenance around the farm, including litter removal and tree pruning.	Continue soliciting and tracking number of volunteers participating in event and trash/debris collected and post on Town website (refer to BMP 2E). Target streams and other areas known for problems. Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised				The Town planned for Earth Day cleanup activities to be conducted on April 22, 2015. The Town anticipates collecting litter from streams and roadsides that are prone to dumping or accumulation of litter.	
6C	Municipal Good Housekeeping: Highway	Highway Gerry Foskett	Review Cleaning Schedule & Revise if needed.	The Town continued to reuse catch basin cleanings as landfill capping material, as approved by DEP.	Continue to conduct follow-up maintenance activities and/or revise cleaning schedules as appropriate and as funding allows.
Revised			Storm drain system cleaning review.	Cleaning and maintenance needs identified during previous stormwater outfall screening efforts were addressed as resources allowed (see also BMP 6H).	

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
6D	Municipal Highway	Highway Gerry Foskett	Meet with Highway to talk about any updates. Phase II Training Update	ConCom and Highway meet approximately once a month to discuss the progress of the SWMP. Town is also participating in Central Massachusetts Regional Stormwater Coalition. . ConCom provides updates to the Town Administrator at department meetings.	Incorporate new information regarding storm drain system maintenance (e.g., BMP 6C) and incorporate any modifications into training sessions (see BMP 6F below). Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					

6a. Additions.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
6E	Evaluate Municipal Facilities for Stormwater impacts	Highway Gerry Foskett, Consultant	Pollution Prevention Inspection Checklist, Record of Inspections and Maintenance.	Stormwater recommendations outlined in October 14, 2005 report nearing completion. Construction for the new Highway Dept. building has been completed.	Continue to inspect municipal facilities on a regular basis. Clean stormwater structures as per the SOPs.
Revised					
6F	Conduct Town Employee Stormwater Training.	Highway Gerry Foskett	Attendance sheet and copy of program	Informal (in-house) training is conducted on a regular basis for DPW staff for spill prevention and cleanup techniques, as well as other pollution prevention practices.	Continue/update training program and track attendance annually. Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
6G	Develop and implement a SPCC Plan for the Fueling Station.	Highway Gerry Foskett	Copy of SPCC Plan & Records	The SPCC Plan for the Town Fueling Station was developed in 2006 and compliance is ongoing.	Continue compliance with the SPCC Plan requirements and update the plan as necessary.
Revised					
6H	BMP evaluation and O&M Plan	Highway Gerry Foskett	Record of Maintenance and/or Improvements	The Town maintained 17 detention basins in accordance with the Standard Operating Procedures (SOPs) outlined	Continue to track BMP maintenance. Utilize SOPs and O&M Plan when maintaining BMPs.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 14	Planned Activities – Next Permit Term
Revised				in the Operation and Maintenance (O&M) Plan. The detention basins were inspected and maintained as needed: mowed, brush cut, forebays and outfalls cleaned and inspected, and trash removed.	
				The results of the retrofit evaluation for the 15 Town-owned BMPs remained under consideration due to budget constraints.	

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 14	Planned Activities – Next Permit Term
7A	Map outfalls to TMDL Waters	Highway, Conservation Commission	All outfalls mapped to TMDL waters by end of year 4.	All outfalls within the urban area were field verified using a GPS and compiled on a GIS base map in 2007. Additional funding for mapping was not available in Permit Year 13. Town is also participating in Central Massachusetts Regional Stormwater Coalition for further mapping	Continue mapping outfalls and the contributing drainage system with priority to those which contribute to TMDL waters, as budget is available. Town is also participating in Central Massachusetts Regional Stormwater Coalition.
Revised					
7B	Evaluate existing data for TMDL waters to develop BMPs	Conservation Commission	Data sheets , list of potential BMP recommendations	As discussed in BMP 3D, outfalls have been inspected and sampled for illicit discharges. As discussed in BMP 6H,	Evaluate outfall and other water quality data and develop BMPs to address water quality of the TMDL

Revised				<p>The results of the retrofit evaluation for the 15 Town-owned BMPs remained under consideration.</p> <p>The Town and its consultant reviewed the TMDL requirements under the draft Interstate, Merrimack and South Coastal Watershed permit during a September 2011 status meeting for the SWMP.</p>	<p>waters, as budget and staff resources are available.</p> <p>Review the requirements of the new permit (once finalized) and modify SWMP as appropriate.</p>
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7b. WLA Assessment

While several water bodies in Charlton have TMDLs, it is first necessary to locate outfalls and determine their ownership and drainage collection areas before it will be possible to assess waste loads for which the Town of Charlton is responsible and to devise appropriate BMPs. Charlton has mapped the stormwater outfalls within the urban area, evaluated outfalls for the presence of illicit discharges, and conducted an evaluation of retrofit opportunities for BMPs to improve water quality. Further evaluation is needed to determine what BMPs will be both effective and feasible. The Town anticipates reviewing the final permit and the requirements related to TMDLs and impaired water bodies to develop a strategy and BMPs to improve water quality. This strategy will consider the data collection requirements (and timelines) outlined in the permit to develop the most appropriate and cost-effective recommendations.

Part IV. Summary of Information Collected and Analyzed

65 stormwater outfalls were previously mapped and screened for potential illicit discharges within the regulated area: field observations and monitoring data did not reveal any obvious illicit discharges; dry weather flow was present at 9 outfalls; a second study revisited all 9 outfalls and analyzed water quality data from 5 outfalls with dry weather flow; results did not reveal elevated concentrations at any outfall. Additional outfall mapping, inspection and sampling were not performed due to budget constraints.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	No
Annual program budget/expenditures	(\$)	5,000

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	100% homes
Stormwater management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	Yes
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Yes
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	2
▪ community participation	(%)	912 cars
▪ material collected	(tons or gal)	Unknown
School curricula implemented	(y/n)	YES

Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted*	Adopted
Regulatory Mechanism Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				X
▪ Erosion & Sediment Control				X
▪ 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

* Draft bylaws and a warrant article were developed for the May 16, 2011 Town Meeting.

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100%*
Estimated or actual number of outfalls	(#)	65
System-Wide mapping complete	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	-

▪ CADD	(%)	-
▪ GIS	(%)	100%
Outfalls inspected/screened	(# or %)	65
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	N/A
% of population on sewer	(%)	11.8 %
% of population on septic systems	(%)	88.2 %

*100% of outfalls within the urban area have been mapped.

Construction

Number of construction starts (>1-acre)	(#)	58
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100
Site inspections completed	(# or %)	Numerous
Tickets/Stop work orders issued	(# or %)	0
Fines collected	(# and \$)	0
Complaints/concerns received from public	(#)	16

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100% regulated design, build, maintain
Site inspections completed	(# or %)	100%
Estimated volume of stormwater recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1-2
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	2-4
Total number of structures cleaned	(#)	

Storm drain cleaned	(LF or mi.)	
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	(\$)	
Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1-2
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	1-2
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Landfill
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	1 owned
Vacuum street sweepers specified in contracts	(y/n)	
Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Anti-/De-Icing products and ratios	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized	(y/n)	no
Manual control spreaders used	(y/n)	yes
Automatic or Zero-velocity spreaders used	(y/n)	no
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	Yes
Storage shed(s) in design or under construction	(y/n)	

Central Massachusetts Regional Stormwater Coalition
2003-MS4 Permit
Coalition Activities in Year 14 (April 1, 2016-March 31, 2017)

Introduction

The Central Massachusetts Regional Stormwater Coalition (CMRSWC) is an MS4 resource for all member communities. In 2017, total membership reached 31 towns. In December 2016, CMRSWC created four 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 for audiences targeted in the 2016-MS4 permit. The committee is the primary liaison to the WPI Project Centers and other university partnerships.
- Program Sub-Committee: responsible for planning and scheduling Annual Meeting, Steering Committee Meetings, educational workshops, and other forums for discussion of MS4 topics.
- 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 September 20, 2016 in Holden. CMRSWC's Needham MS4 Technical Training Workshop and Stormwater Video were featured at the Annual Meeting of the Statewide Collaborative on September 27, 2016 at the Massachusetts Department of Environmental Protection central region office in Worcester. Members of CMRSWC attended and actively participated in the Massachusetts Statewide Stormwater Collaborative meetings.

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

Municipal Stormwater Technical Assistant Project

The CMRSWC was awarded a \$50,000 Municipal Stormwater Technical Assistance Contract Grant from the Massachusetts Department of Environmental Protection to provide technical assistance support and materials designed to help regulated communities in Massachusetts begin to cost-effectively comply with the requirements of the 2016 MS4 Permit. The grant funded the Needham MS4 training workshop, educational and training videos, and stormwater templates.

Needham Workshop

On June 29, 2016, CMRSWC and the Fuss & O'Neill project team held an MS4 training workshop at the Needham Public Services Administration Building. This site was selected because it contains several features that provided participants hands-on training and exposure to actual operations and conditions affected by the new MS4 permit requirements. These features include new SWPPP regulated activities, outfalls discharging to an on-site stream, vegetated swales, infiltration basins, catchbasin and manholes, gravel surface parking area, and more.

The program targeted new or inexperienced public works professionals, stormwater coordinators, and other municipal staff responsible for their community's NPDES Phase II Stormwater Permit Minimum Control Measures 3, 4, 5, and 6. The program included classroom presentation, site visits, and hands-on experience on the following MS4 topics:

- Outfall inspections and water quality sampling – safety, tools, protocols, hits
- Mapping stormwater system attributes – paper versus GIS
- Stormwater BMPs and LID – construction, operations, and maintenance
- SWPPPs – site characteristics

Millbury Workshop

CMRSWC held a second workshop for Coalition members on October 28, 2016 at the Millbury Public Works Facility. The program targeted public works professionals, stormwater coordinators, and other municipal staff responsible for the NPDES Phase II Stormwater Permit Minimum Control Measures 3, 4, 5, and 6.

The MS4 Training Workshop emphasized hands-on training on the following topics:

- IDDE – review of CMRSWC IDDE template and inspection form
- BMPs and LID–BMP retrofits; BMP & LID construction, O&M
- SWPPPs – using CMRSWC template to develop a facility-specific SWPPP

The Workshop included a Vendor Fair with products and services that support MS4 compliance. There were scheduled presentations by Environmental K9 Services, People GIS, and Civil View drone services.

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

In addition to the Needham training workshop, the Municipal Stormwater Technical Assistance Contract Grant funded the following stormwater videos, new templates, updates of existing CMRSWC templates, and referenced additional online resources associated with various stormwater management topics to assist regulated communities.

Long-Format Stormwater Videos

- MS4 workshop from June 29, 2016
- Questions, concerns, and contributions from workshop participants
- Stormwater Utility options presented by municipal finance expert Mark Abrahams
- The success of Franklin, MA in considering stormwater BMPs and LID in their public works projects

Short-Format Classroom Videos

- Outfall inspections and water quality sampling – safety, tools, protocols, hits
- Mapping stormwater system attributes – paper versus GIS
- BMPs – construction, operations, and maintenance
- SWPPPs – site characteristics

Short-Format Videos Targeting Information on Specific MS4 Requirements

- Exterior salt and sand storage
- Proprietary systems for stormwater management
- Vegetated swales
- Outfall screening
- Tablet tools
- Stormwater infiltration basins
- Introduction to water quality testing procedures and tools
- Public works facility SWPPPs

Underscoring the value of the videos and templates developed by CMRSWC, in advance of the Millbury Technical Training Workshop participants were asked to review the MS4 training videos on CMRSWC's website. These videos provided background on the permit requirements, which facilitated the field training component of this workshop. CMRSWC MS4 templates were used and referenced for the SWPPP and IDDE program elements.

Worcester Polytech Institute Worcester Community Project Center (Minimum Control Measures 1 and 2)

From September 27, 2016 Statewide Stormwater Collaborative Minutes: Andrea Briggs of DEP provided a review of WPI Student projects, and an overview of the program. Andrea facilitates the program. In 2012 WPI and DEP approached the CMRSWC to pair students with communities who need assistance. Since that time WPI has created a new center called the Water Research Outreach Center (WROC), which is a Worcester Project Center. They also have a Boston Project Center. There are three ways through WPI that students can help cities and towns. WPI project timeline is structured in 4 quarters. A, B, C and D term. During the A term they prepare to work (e.g. learning the permit); during the B term the students are available full time to the communities. This past summer the student group looked at cost estimates for municipalities and created a permit summary. Andrea showed 5-minute educational video on stormwater and the connection to local resources, which is posted on the town of Holden webpage. WPI students in attendance introduced themselves and the projects they have been working on. Project #1 involves developing a methodology to help communities estimate cost and hopefully to compare to EPA's cost estimators. Project #2 involves developing an education and outreach campaign to educate municipalities and looking to conduct education and outreach to communities. Andrea described how the partnership between the state and WPI has been very beneficial. Holden has had at least 3 projects now.

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. The students participated in a craft fair at Union Station in Worcester where they surveyed attendees on logo schemes for their stormwater project branding.

Member Needs Survey

In September 2016, CMRSWC developed a technical needs survey that measured the concerns of member communities with respect to the issuance of the 2016-MS4 General Permit for Stormwater Discharges. The survey also asked members to rank certain programs and tasks that CMRSWC could support to assist members in complying with the MS4 Permit.

Coalition members ranked their needs as follows:

1. Provide Comprehensive Training Programs
2. Continue Standardization of Templates and Forms
3. Provide Web-Based Tools That Support GIS Mapping

Coalition members ranked their compliance concerns as follows:

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

Conclusion

More than 40 representatives, including CMRSWC members, from MS4 communities participated in the MS4 Workshop in Needham. More than 35 CMRSWC members participated in the Millbury Workshop. The production of 16 videos targeting specific MS4 topics and training opportunities expands the learning opportunities to anyone with access to the web.

The enhanced MS4 templates and information sources on developing IDDE plans, SWPPPs, bylaw review, and LID, which are accessible on the Coalition's website, provide relevant tools to communities implementing their MS4 program with local staff and resources. They are just as relevant to MS4 communities choosing to partner with associations or consultants in the implementation of their MS4 requirements.

CMRSWC members receive ongoing value from the Coalition's workshops, field training, video library, and templates. CMRSWC membership provides consistency to an MS4 constituency subject to routine staff changes, questionable access to funding, and ongoing regulatory demands.