

Municipality/Organization: Shrewsbury, Massachusetts

EPA NPDES Permit Number: MAR041158

MassDEP Transmittal Number: W-036325

Annual Report Number & Reporting Period: Year 13
April 1, 2015 – March 31, 2016

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2016)

Part I. General Information

Contact Person: Jeff Howland

Title: Town Engineer

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Email: jhowland@shrewsburyma.gov

Mailing Address: Richard D. Carney Municipal Office Building, 100 Maple Avenue,
Shrewsbury, MA 01545

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: Daniel Morgado

Title: Town Manager

Date: 4/23/2015

Part II. Self-Assessment

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

Current State of the Phase II Program in Shrewsbury:

The Town in the past has budgeted \$5,000 per year for the Phase II Program. This cost does not include money for catch basin cleaning and street sweeping, which is currently budgeted separately with the Town Highway Department. It also does not include funds used for reviews, inspections, research, and reporting for compliance with the permit conditions. Those funds are part of the Engineering Department budget. Occasionally funds have been made available for the Phase II Program from other sources within town budget areas as well.

Town budgets as a whole have been greatly reduced in recent years, and the stormwater program has suffered due to the lack of available funding. Catch basin cleaning is one example in town. Just prior to the issuance of the Phase II Permit, the Town was cleaning 100% of the catch basins within public roadways annually. With each passing year there has been a steady decrease in the amount of catch basins the Town has been able to maintain. During Year One of the permit, the Town was able to clean 60% of the catch basins. By Year Six the Town cleaned 30% of the catch basins annually, and during Permit Year Eight, the Town was only able to clean 4% of the catch basins. During Year 13 the Town was fortunate to be able to clean approximately 47% of the catch basins in town.

While it's clear that an additional funding source is needed to simply maintain the status quo in town, the Town has also been reviewing the potential fiscal impact of the next Phase II Permit. It is apparent that the projected costs cannot be covered within the existing Town budget, and a new revenue source such as a stormwater utility fee will be needed. The Town is strongly considering creating a stormwater utility. A final course of action will be decided once the new permit is fully understood. In the meantime, the Town continues to be proactive and continues to work with a consulting firm to develop a stormwater utility for the Town, and to also evaluate the future stormwater program and assess annual program costs. We estimate spending approximately \$33,000 to complete these tasks, which we continue to find difficult to complete without having the new permit from EPA. We have however conducted cost estimates based upon the Draft MS4 Permit that was issued on September 30, 2014, and we anticipate the cost of compliance to be at least a few million dollars. During Year 12, Shrewsbury submitted a comment letter to EPA regarding various components of the Draft MS4 Permit, and program costs was a major concern of ours.

In addition to exploring funding sources, the Town is also being proactive by recommending changes to the Stormwater Bylaw that would give Shrewsbury more control over construction activities. A revision to the Bylaw was made this year, and it's anticipated that another revised bylaw will be presented as a warrant article at Annual Town Meeting in permit year fourteen.

This past year Shrewsbury was pleased to take part again in the Central Massachusetts Regional Stormwater Coalition group. The group now consists of 28 communities in Central Massachusetts that received funding from the Community Innovation Challenge Grant awarded by the Massachusetts Executive Office of Administration and Finance. Shrewsbury is proud to have served on the CMRSWC Steering Committee since the group's inception, and will continue to remain a major contributor to the Coalition's efforts. Shrewsbury and other communities contributed \$4,000 each to cover a funding gap to keep the group viable this year. Attached is a summary of the Coalition's achievements.

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 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
01	Pamphlet Mailings	Water & Sewer	# Pamphlets Mailed	Two pamphlets mailed to approximately 11,000 subscribers of municipal water/sewer utilities.	Continue mailing pamphlets.
Revised					
CMRSWC	Training Sessions	Engineering – CMRSWC	# Training Sessions	Shrewsbury attended a “Funding Your Stormwater Program” training session.	
Revised					

1a. Additions

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
04 Revised	Water Monitoring & Sampling	Health Dept.	Sample Data	Samples for E. Coli & Total Coliform bacteria were taken on a weekly basis during the bathing season in Lake Quinsigamond	
CMRSWC Revised	Training Sessions	Engineering Dept.	# Training Sessions	Shrewsbury attended a “Funding Your Stormwater Program” training session.	
CMRSWC Revised	Social Media	Engineering – CMRSWC	Active Accounts	Shrewsbury and the CMRSWC continue to use the Twitter account for education and outreach: @MAStormH2O	
Revised					
Revised					
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 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
05	Local Ordinance	Engineering Dept.	Bylaw Adopted	Local Bylaw adopted at Annual Town Meeting in May 2007. Revised at Annual Town Meeting May 2015.	Possible revisions to Bylaw and additional regulations.
Revised					
06	Storm Sewer Map	Engineering Dept.	GIS Map	GIS Map under production to show additional drainage utility components such as catch basins and manholes.	
Revised					
14	Grease Trap Inspection Program	Water & Sewer Dept. & BOH	Grease Traps Inspected	Continued to inspect grease traps. Regulations were revised to include internal grease traps.	
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 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
05	Local Ordinance	Engineering Dept.	Bylaw Adopted	Local Bylaw adopted at Annual Town Meeting in May 2007. Revised at Annual Town Meeting May 2015.	Possible revisions to Bylaw and additional regulations.
Revised					
08	Mass Stormwater Policy	Engineering Dept.	# Projects Reviewed	8 Projects submitted to the Conservation Commission and/or Planning Board were reviewed.	Continue to review new applications.
Revised					
09	Site Plan Reviews	Engineering Dept.	Bylaw Adopted	Reviewed 10 construction projects with >1 acre disturbance.	Continue to review projects.
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 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
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Revised					
08	Mass. Stormwater Policy	Engineering Dept.	# Projects Reviewed	8 Projects submitted to the Conservation Commission and/or Planning Board were reviewed.	Continue to review new applications.
Revised					

5a. Additions

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
10	Catch Basin Cleaning	Highway Dept.	Catch Basins Cleaned	A total of 2,373 catch basins were cleaned, approximately 47% of all catch basins.	Continue to clean catch basins.
Revised					
11	Street Sweeping	Highway Dept.	Streets Swept	All Public streets were swept.	Continue to sweep streets.
Revised					
18	Yard Refuse Disposal	Highway and BOH	Collection Days	The Town had 7 curbside collection events of yard refuse for each residence, and offered self-disposal at the maintenance garage facility	Continue to collect yard refuse and compost waste at the Shrewsbury landfill facility.
Revised					

6a. Additions

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 13 (Reliance on non-municipal partners indicated, if any)	Planned Activities
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Revised					
08	Mass Stormwater Policy	Engineering Dept.	# Projects Reviewed	8 Projects submitted to the Conservation Commission and/or Planning Board were reviewed.	Continue to review applications.
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2015 through March 31, 2016)

Programmatic

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

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	
Stormwater management committee established	(y/n)	
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	

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

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	
Estimated or actual number of outfalls	(#)	
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	
Illicit discharges identified **	(#)	
Illicit discharges identified (Since beginning of permit coverage)	(#)	
Illicit connections removed **	(#); and (est. gpd)	
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	
% of population on sewer	(%)	
% of population on septic systems	(%)	

Construction

(Preferred Units) Response

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

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	
Site inspections (for proper BMP installation & operation) completed **	(# or %)	
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	
Low-impact development (LID) practices permitted and encouraged	(y/n)	

Operations and Maintenance

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

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

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	
• % Roads swept with vacuum sweepers **	%	

Reduction (since beginning of permit coverage) in application on public land of:
 (“N/A” = never used; “100%” = elimination)

▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented	(y/n)	

	(Preferred Units)	Response
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized **	(y/n or %)	
Manual control spreaders used **	(y/n or %)	
Zero-velocity spreaders used **	(y/n or %)	
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/l _n mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/l _n mi. or %)	
% of salt/chemical pile(s) covered in storage shed(s)	(%)	
Storage shed(s) in design or under construction	(y/n or #)	
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	
Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	

Water Conservation Kits For Sale

- **Where:** Shrewsbury Water Dept. Office, Shrewsbury Town Hall
- **Hours:** 8 am - 4:30 pm Monday through Friday
- **Cost:** \$3 or \$6 per kit.

Indoor (\$6 each) and outdoor (\$3 each) water conservation kits are now on sale at the Water Department in the Shrewsbury Town Hall.

Kits for Shrewsbury Residents only.



The Spirit of Shrewsbury Oak Street Expo will be held on Saturday **September 26, 2015** from 10:00am to 4:00 pm at the Oak Middle School, 45 Oak Street. Please stop by the Water Conservation Booth to receive free complimentary water saving devices and items.



Don't forget to conserve water during the summer months. The Town has implemented a mandatory water use restriction during the months from May 1 to September 30.

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Town Wide Water Meter Replacement

The Shrewsbury Water Department has contracted with **East National Water, LLC of Palmer, MA**, to change out Five Thousand (5,000) residential meters in various areas of Town. The meter replacement is free of charge and is **mandatory**.

Notification/Appointment cards will be sent out starting the month of April to residents, to begin the project. Information will be on the notification cards on how to set up appointments with **East National Water**. The company will be working throughout the Town in **Blue** and **White** vans with the company name identified on the vehicles. Employees will also have Town issued identification cards listing them as Town Contractors.

The time to change out the meter in your home will be approximately one hour. If you have any questions regarding this matter, you may call the Shrewsbury Water Department at 508-841-8506. Thank you in advance for your cooperation.

Water Conservation Do's and Don'ts



- | | |
|---|--|
| <ul style="list-style-type: none"> Do Only wash full loads of laundry and spread out wash cycles. Do Look for leaky faucets and running toilets. Repairing a dripping faucet can save up to 150 gallons of water a week. Do Purchase water-saving products such as toilets, shower heads, aerators, hose nozzles, and other efficient household items. Do Store water in the refrigerator instead of letting the tap run for cold water. Do Remove weeds from your lawn regularly. Weeds compete with plants for nutrients and water. | <ul style="list-style-type: none"> Don't Hand-wash your car. Instead, take it to a car wash, where recycled water is used. Don't Leave the sink running while brushing your teeth or utilize a bathroom aerator to slow the flow of water when brushing your teeth. Don't Take long showers. Keeping showers under 5 minutes can save up to 1,000 Gallons of water per month. Don't Use the toilet as a waste basket for Tissue, Band-Aids, etc. Don't Over-water lawns and landscaping. If watering is necessary, do it during the evening to reduce evaporation from the sun. Products like moisture meters can help measure this. |
|---|--|

Source: AM Conservation Group, Inc.

Where Does Your Household Rank?

Check your current water bill. If your family's quarterly water use is higher than the target numbers listed below, your household needs to make a greater effort to conserve water.

Target Quarterly Residential Water Use								
No. of People in Household	1	2	3	4	5	6	7	8
Target Quarterly Water Use (in gallons)	5,931	11,862	17,793	23,724	29,655	35,586	41,517	47,448

If your family's quarterly water usage is equal to or lower than the target numbers in the chart above, keep up the good work! You are doing your part to conserve water at home, and your family meets or beats the State's 65 gallons per person per day water use goal.

Drug – Free Drains

Every day the average adult uses nine personal care products that contain 126 unique compounds that could end up in our water. In addition to traces of products like shampoo, toothpaste, sunscreen, and cosmetics, minute amounts of prescription and over-the-counter drugs also make their way into water. They should be limited or prevented from entering our environment.

Due to our increased use of these products and greater analytical sensitivity, very tiny amounts of compounds and drugs can be detected in conventional treatment plant outflow and end up in creeks, streams, and rivers. While there is no evidence these traces pose a risk to human health, scientists can sometimes find interference with aquatic organisms, and studies continue. Meanwhile, it's prudent to control what we put into water, and everyone's help is important.

In addition to following product recommendations for use and disposal and decreasing use when possible, you can help keep water clean by simply not flushing unused medication down the toilet! Controlling what goes down the drain is the easiest and most effective way to protect the environment, and you can start today! Source: www.wef.org



Keep Toxic Chemicals out of your Water.

Instead of using potentially hazardous chemicals, use safe, nontoxic alternatives. There are many 'green' cleaning products available or you can make your own out of common household products like vinegar, borax, soap, and lemon juice.

If you do use hazardous chemicals, leftover products should be brought to a recycling center or hazardous waste collection site.

Test Your WaterSense! Find all these Easy Ways to Save Water

1. What generally accounts for the greatest use of household water?
a) *washing machine*, b) *dishwasher*, c) *shower*, d) *landscaping*.
2. How many gallons does the average washing machine use per load?
a) *8 gallons*, b) *25 gallons*, c) *41 gallons*, d) *64 gallons*.
3. *True or False*. Taking a bath saves more water than taking a shower?
4. How many gallons of water are wasted in an average home each year due to leaky household pipes? a) *3,000 gallons*, b) *5,000 gallons*, c) *9,000 gallons*, d) *11,000 gallons*.



Answers:

1. **d** – Landscaping. Up to 50 percent of household water consumption goes toward outdoor use.
2. **c** – 41 gallons. High-Efficiency machines can use less than 30 gallons a load.
3. **False** – It usually takes about 70 gallons to fill a bath tub; while a 5 minute shower uses 10–25 gallons.
4. **d** – 11,000 gallons. Toilets and faucets are common culprits.

Source: www.environmentalnationalgeographic.com

Water Conservation is a Year Round Goal

Are you ready to conserve water the entire year? Water conservation is at its peak importance in the summer – when most states are dealing with hot temperatures and droughts. But steps should be taken year-round to save water, including:

- "Winterize" your pipes by insulating plumbing, especially in unheated areas like garages. Frozen water creates cracks and bursts, leading to water waste.
- Check for leaks after thaws. Changes in temperature causes pipes to expand and contract, creating cracks.
- Locate your master water shut-off valve. If a water pipe does break, it's important to know how to shut it off to prevent flooding and water loss.
- Track water usage on your water meter and monthly bills.
- Keep a bucket in the shower to catch excess water and use it to water plants.
- Install covers on pools and hot tubs to reduce evaporation.
- Use a broom instead of a hose to clean driveways and sidewalks.

Keep Fats, Oils and Grease OUT of the Pipes

Fats, oils, and grease poured down the kitchen sink can cause serious problems. Over time, grease can build up and block sewer pipes. Even a partially clogged pipe can cause sewage to back up into your home or overflow into streets. Common sources: Meat Fats, Lard, Cooking Oil, Shortening, Margarine, Food Scraps, Sauces, Dairy and Butter.

Do's

- Do** Scrape food scraps into the trash
- Do** Catch food scraps with a strainer in the sink drain then empty it into the trash or compost bin.
- Do** Pour grease into steel cans, let it harden; then throw it in the trash.
- Do** Minimize the use of your garbage disposal.

Don'ts

- Don't** Pour grease down sink drains or toilets.
- Don't** Use cloth towels or rags to scrape oil or grease off plates and utensils because grease will drain to the sewer when you wash the towels.
- Don't** Run hot water over dishes, pans, fryers or griddles to wash oil and grease down the drain. As the grease cools down, it can still harden and stick to pipes.

Water Conservation Kits For Sale

- **Where:** Shrewsbury Water Dept. Office, Shrewsbury Town Hall
- **Hours:** 8 am - 4:30 pm Monday through Friday
- **Cost:** \$3 or \$6 per kit.

Indoor (\$6 each) and outdoor (\$3 each) water conservation kits are now on sale at the Water Department at the Shrewsbury Town Hall.

Kits for Shrewsbury Residents only.



GARDEN HOSE TIMER are available for purchase for \$5.00.



Conserve water, time and energy with this easy to set Garden Hose Timer. Automatic yard watering without the waste is made easier. Set the timer to water early in the morning during times of least evaporation and when it doesn't interfere with your schedule. By setting the timer, you won't over water the yard. The timer will automatically shut off when it has completed the water cycle. Ideal for watering the lawn, garden and micro-watering hanging baskets and potted plants. It is made of durable plastic hosing and a brass connector.

Town Wide Water Meter Replacement Update

The Shrewsbury Water Department has contracted with **East National Water, LLC of Palmer, MA**, to change out Five Thousand (5,000) residential meters in various areas of Town. The meter replacement is free of charge and is **mandatory**. At this point, approximately 4,000 of the 5,000 meters targeted for replacement have been completed.

Information will be on the notification cards on how to set up appointments with **East National Water**. The company will be working throughout the Town in **Blue** and **White** vans with the company name identified on the vehicles. Employees will also have Town issued identification cards listing them as Town Contractors. We ask for your cooperation in setting up appointments so that the project can be completed in a timely fashion.

Notice of water rate increase

Effective January 1, 2016, the Board of Selectmen implemented an increase in the current water rates. This increase is primarily necessary to generate increased revenue to handle the capital improvement program and additional regulatory compliance costs associated with our Water Management Act Permit.

The new rates are as follow:

Rate	Range	Current	Effective for Billings after January 1, 2016
Residential & Condominiums	Minimum (0 to 5,000 Gallons)	\$21.00	\$24.00
	5,001 to 25,000 Gallons/Thousand	\$3.40	\$3.70
	25,001 to 60,000 Gallons/Thousand	\$6.30	\$6.90
Commercial	Minimum (0 to 5,000 Gallons)	\$36.00	\$40.00
	5,001 to 25,000 Gallons/Thousand	\$2.80	\$3.30
	25,001 to 50,000 Gallons/Thousand	\$3.80	\$4.30
	Over 50,000 Gallons/Thousand	\$3.80	\$4.30
Apartments	Flat Rate/Thousand	\$4.25	\$4.50
Residential Lawns	Minimum (0 to 5,000 Gallons)	\$21.00	\$24.00
Residential Summer			
Apartment Lawns	0 to 60,000 Gallons/Thousand	\$6.30	\$6.90
Commercial Lawns			
Condominium Lawns	Over 60,000 Gallons/Thousand	\$10.00	\$14.00

Where Does Your Household Rank?

Check your current water bill. If your family's quarterly water use is higher than the target numbers listed below, your household needs to make a greater effort to conserve water.

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Target Quarterly Water Use (in gallons)	5,931	11,862	17,793	23,724	29,655	35,586	41,517	47,448

If your family's quarterly water usage is equal to or lower than the target numbers in the chart above, keep up the good work! You are doing your part to conserve water at home, and your family meets or beats the State's 65 gallons per person per day water use goal.



North Street and Vista Drive water main replacement was completed by Ricciardi Brothers, Inc., in early Spring. J.H. Lynch and Sons completed full depth paving and sidewalks in October.

Stringer Dam water main replacement is scheduled to begin in early November.

Colton Lane Pump Station was completed in October and is in full functional operation.

Upcoming Spring 2016 construction projects slated for sewer/water/drain are Oakland Ave. (water), section of Lake Street (water and drain), and Janet Circle Area (water).



Tips for Saving Water

Prevent leaks by shutting off faucets firmly – replace worn washers and fixtures. Check toilets for leaks and consider installing a water saving device. Wash full loads of laundry and dishes. Remember, running water wastes 3 – 5 gallons per minute.



Central Massachusetts Regional Stormwater Coalition

The Central Massachusetts Regional Stormwater Coalition (CMRSWC) is a group of 28 communities, including the Town of Shrewsbury, designed to protect water quality, by reducing stormwater pollution from small **Municipal Separate Stormwater Sewer Systems (MS4)**.

The Coalition was formed in response to an upcoming MS4 Permit issued by the United States Environmental Protection Agency (USEPA). The level of effort required by the MS4 Permit presented several obstacles for many communities including staff constraints and capital purchases.

Rather than undertaking the task of reducing stormwater pollution individually, the Coalition seeks to save on resources by bringing local communities together and creating universal standards for use by all of its members.

The CMRSWC has developed:

- ◆ Training, educational and outreach materials for town personnel, volunteers, residents, and others;
- ◆ A template of a plan to reduce stormwater pollution;
- ◆ Standard operation procedures;
- ◆ A stormwater best management practices (BMPs) toolbox;
- ◆ A website to aggregate information on Coalition's management efforts; and much more.



The CMRSWC will continue to address stormwater management in an innovative manner through collaboration.

WaterSense Toilet Rebate

The Shrewsbury Water Conservation Project is offering toilet rebate for residents. Residents approved for the **\$35 rebate** will receive a Town-issued check to be mailed to the billing address listed for their water account (Limit 1 toilet rebate per residential water account).

Rebate is good for toilets carrying the "WaterSense" label issued by the Environmental Protection Agency and toilet must have been installed by a licensed plumber.

Rebate applications must be post-marked within 90 days of purchase and received by **June 25, 2016**.

Rebate forms can be downloaded at the Town website under Water Department. Once completed, mail to: Shrewsbury Water Department, Attention: Rebates, 100 Maple Avenue, Shrewsbury, MA. 01545.

Applicant is responsible for disposal of old toilets using a bulk waste sticker from the PAYT program. Visit <http://www.shrewsbury-ma.gov/PAYT> for more information.

HOW TO GET YOUR REBATE

1. Return the following to the Shrewsbury Water Department:
 - a. Completed Rebate Form
 - b. Copy of Proof of Purchase
 - c. Copy of Plumbing permit
 - d. Verification of "WaterSense" label
2. Request must be received by June 25, 2016.
3. Allow 6-8 weeks for processing.





TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5398

MEMORANDUM

Date: April 29, 2016

To: Brad Stone, Town Conservation

From: John Knipe, Jr., Superintendent of Streets

Re: Storm Water Permits

From April 28, 2015 through April 26, 2016 the following is an estimate of man-hours related to storm water management activities:

Street Sweeping-	1,676 hours
Catch Basin Cleaning drainage outlets-	483 hours

Total of 2,373 catch basins cleaned or 47% of total catch basins	
Detention Basin Activities-	356 hours

During this period all streets were swept and we cleaned approximately 47% of the catch basins and waterway outlets in town.

With current staffing levels and limited funding we found it difficult to clean all the catch basins.

We awarded a 3 yr contract to clean est. 2,000 catch basins at an estimated \$30,260 for fy 2016 (year 2). Work to be completed this fiscal year.

cc: Daniel J. Morgado, Town Manager

**Central Massachusetts Regional Stormwater Coalition
FY2014/2015 Summary of Activities
Year 13: April 1, 2015 – March 31, 2016**

In Year 13, the Town of Shrewsbury continued to be an active participant in the Central Massachusetts Regional Stormwater Coalition (the Coalition). The Coalition's work in Year 13 (which overlaps municipal fiscal years 2014 and 2015) was funded entirely by contributions of approximately \$4,000 from each of the 28 participating Towns, including Shrewsbury.

Overview of the Coalition

The FY2014/2015 Coalition included 28 towns: Auburn, Boylston, Charlton, Dudley, Grafton, Hardwick, Holden, Hopkinton, Leicester, Millbury, Northborough, Northbridge, Oxford, Palmer, Paxton, Rutland, Shrewsbury, Southbridge, Spencer, Sterling, 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. The FY2016 Coalition will be comprised of 31 towns with the recent additions of Framingham, Lunenburg, and Marlborough.

The Year 13 work of the Coalition focused on implementation and preparation.

- The implementation aspects included eight hours of one-on-one time, in which each member was provided with dedicated time from consultants that could be used for whatever was most needed. Many towns asked for a review and update of their Illicit Discharge Detection and Elimination (IDDE) Plans, while others chose to have a "Field Day" training, where they received refresher training on the use of the field screening kits and/or the online mapping and inspection system.
- The preparation aspects included work to both understand the technical components of the pending (at the time) Massachusetts MS4 Permit as well as how they will continue to afford the new Permit.
 - The group hosted a September 3, 2015 workshop by Keith Reading of Raftelis Financial Consultants, who has assisted more communities develop a stream of dedicated funding for stormwater management than anyone else. The objective was not to force the concept of a "stormwater utility", but to get community leaders thinking of stormwater funding as an enterprise, similar to how many already manage sanitary sewer funds. A copy of the presentation is attached.
 - The Coalition continues work on a Stormwater Program cost assessment for member towns, with most already being delivered. This task looks at what the community is actually spending on stormwater management, including staff labor (across many departments and positions), operations and maintenance, equipment costs (rental and depreciation), and third party vendors and consultants.

On April 15, 2015, a meeting of all member communities was held in Charlton, MA to develop a potential scope for FY2016 and determine how the group would be funded and administered going forward. An update for all member communities was also presented at a meeting on September 3, 2015 prior to the stormwater funding workshop.

Coalition members themselves continue to be responsible for putting to use the tools developed by the Coalition.

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 FY2014/2015, most recently announcing the receipt of a \$50,000 Stormwater Technical Assistance grant from the department. This grant will be used to develop training elements and outreach tools that target new or expanded elements in the new permit, and that can be used by communities across the Commonwealth.

MassDEP staff continue to attend CMRSWC Steering Committee events and make themselves available for technical assistance. The Coalition appreciates the ongoing dedication of MassDEP to work with our members so closely and collaboratively.

In FY2016, the CMRSWC hopes to develop another Interactive Qualifying Project (IQP) with students from the Worcester Polytechnic Institute (WPI). One potential concept for a FY2016 project is to work with MassDEP stormwater and solid waste staff to develop a streamlined method to determine appropriate beneficial reuse of street sweepings and/or grit from catch basin cleaning activities, thereby turning a material that can be costly to dispose into a source of revenue to our members.

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. We appreciate the support of these agency staff, and believe this positive communication resulted in some modifications to the new MA MS4 permit (released on April 4, 2016) that make it more reasonable while still benefiting and protecting water quality.

Other Massachusetts Stormwater Coalitions

The Coalition continues to coordinate with "sister" groups with a similar stormwater focus. These include:

- The Merrimack Valley Stormwater Collaborative (coordinated by the Merrimack Valley Regional Planning Commission);
- The Neponset Stormwater Partnership (coordinated by the Metropolitan Area Planning Council and the Neponset River Watershed Association);

- The Northern Middlesex Stormwater Collaborative (coordinated by the Northern Middlesex Council of Governments);
- The Connecticut River Stormwater Committee (through the Pioneer Valley Planning Commission); and
- The Southeastern Massachusetts Stormwater Collaborative (coordinated by the Southeastern Regional Services Group)

Many members of these groups were invited to attend the September 2015 stormwater funding workshop, and the facilitators of these different collaboratives have made the effort to inform the other groups of events they're hosting.

Importantly, these separate regional groups met twice in Year 13- on June 23, 2015 and September 17, 2015- to compare notes on activities in progress and share ideas on future collaborations. This statewide partnership will be expanding in Year 14.

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 is the Chair of 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.

Tasks Included in this Annual Report

In the following sections, descriptions of the technical tasks and resources performed by the CMRSWC in Year 13 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.

In Year 13, we observed that Coalition members expanded use of this resource, primarily by beginning the process of mapping linear infrastructure (like pipes and culverts) and doing more catch basin inspections using the tools. Both of these tasks are key to preparing to increase mapping and to perform the catchment evaluation process included in the 2016 MA MS4 Permit.

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 13 activities included routine meetings of the Coalition's Steering Committee.

In Year 13, the Coalition purchased copies of the "Water Blues, Green Solutions" documentary (<http://waterblues.org/about>) for each member town, on DVD.

An exciting tool for public education continues to be the Coalition's Twitter account, @MAStormH2O. As of the date of this report, the Coalition's account has 96 followers, including other stormwater coalitions around the country. Information tweeted (or retweeted) by the Coalition in Year 13 addressed such water quality topics and issues as:

- Stormwater infrastructure funding
- Nutrient credits and trading
- Sharing public service announcements (PSA's) developed by our member communities and partners
- Impact of leaking sanitary sewers on stormwater and water quality
- Low Impact Development (LID) workshops and training courses held by partners in or near our member communities

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 13, 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 12, 2015, Robin Craver (Charlton, MA) presented at the 6th Annual Water Resources Strategies Symposium, hosted by the Massachusetts Coalition for Water Resources Stewardship, sharing information on stormwater program costs and ways to create regional efficiencies.
- On May 15, 2015, a Coalition consultant did a presentation to the New England Interstate Water Pollution Control Commission (NEIWPCC) at its Board meeting in Bolton, MA.
- On June 26, 2015, Robin Craver (Charlton, MA) and a Coalition consultant did a presentation to the Central Massachusetts Regional Planning Commission at its Summer Legislative Breakfast, in Worcester, MA.
- On July 13, 2015, a Coalition consultant did a presentation to the National Association of Clean Water Agencies at its Summer Conference in Providence, Rhode Island.
- On November 18, 2015, Robin Craver (Charlton, MA) and a Coalition consultant did a presentation at the "Community Stormwater Solutions" conference, hosted at Worcester Polytechnic Institute by the Massachusetts Watershed Coalition.

Several Coalition members chose to use some of their "one-on-one" to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

In Year 13, Shrewsbury 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 13 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.

Shrewsbury continued to utilize the two 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 13 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. These tools are shared with our statewide partners, upon request.

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 3: Illicit Discharge, Detection and Elimination

Several Coalition members chose to use some of their "one-on-one" time to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

In Year 13, Shrewsbury 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. 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.

Minimum Control Measure 4: Construction Site Stormwater Runoff Control

Several Coalition members chose to use some of their "one-on-one" time 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

Several Coalition members chose to use some of their "one-on-one" time 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

Several Coalition members chose to use some of their "one-on-one" time to expand their efforts on this MCM. Updates will be provided in future Annual Reports.

In Year 13, Shrewsbury 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 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 13, Shrewsbury 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. 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.

Coalition Activities in Year 14 (April 1, 2016 – March 31, 2017)

The following are some, but not all, of the work presently underway by the Coalition in Year 14:

- *Administration.* The long-term goal of the Coalition has always been to be self-sustaining, and this was made a reality in Year 13. The Coalition's Steering Committee drafted a bylaw in Year 13 that will govern how the group makes future decisions. The group will add three new communities in Year 14, continuing to be fully self-funded. 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.
- *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.
- *Public Outreach and Education.* We are implementing development of training and outreach tools, made possible through a \$50,000 MassDEP Stormwater Technical Assistance grant. We are also considering developing of Coalition-specific outreach materials using FY2016 funding. 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 screening-level assessments. 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 14 to match the 2016 MA MS4 Permit. Improving the knowledge of IDDE components by many town departments will likely be a substantial component of FY2016 work.
- *Good Housekeeping.* The Coalition may coordinate 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 developing an IQP project with Worcester Polytechnic Institute and MassDEP to develop a pilot project for beneficial reuse of catch basin cleaning materials.