

Municipality/Organization:	City of Northampton, MA
EPA NPDES Permit Number:	MA041016
MassDEP Transmittal Number:	W-035904
Annual Report Number & Reporting Period:	Year 15 April 1, 2017 – March 31, 2018

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2018)

Part I. General Information

Contact Person: Donna LaScaleia	Title: Director of Public Works
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Mailing Address: 125 Locust Street, Northampton, MA 01060	

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: David J. Narkewicz

Title: Mayor

Date: _____

APRIL 26, 2018

Part II. Self-Assessment

The City of Northampton has completed the required self-assessment and has 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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
1.1	Stormwater Educational Brochure	DPW	General educational brochure developed and distributed by Fall 2004.	General stormwater educational material distributed to approximately 15,000 households, businesses and other mail recipients in Northampton in 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018 Stormwater information also distributed at the DPW office and other public events.	Implement public education activities through the Soak Up the Rain and Pioneer Valley Soak Up the Rain initiatives as a member community in the Connecticut River Stormwater Committee. Distribute educational door hangers when DPW is working on the stormwater system in a neighborhood.
Revised			General educational brochure developed by Spring 2004 and distributed by Fall 2007.		
1.2	Stormwater Educational Information on DPW Website	DPW	Information on the Stormwater Management Program and other public educational material on DPW website.	New information and links to resources continually put on the City's web site.	New information will continue to be put on the City's web site.
Revised					
1.3	Stormwater Educational Outreach to Community School Groups	DPW	Educational Materials Available for use in schools and community groups by Fall 2004	Ongoing curriculum at the Northampton High School on water and watersheds that includes stormwater. Students have conducted limited sampling in past years.	Continue to work stormwater information into curriculums of schools.
Revised			Stormwater information used in classrooms as determined by interest.		

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
1.4	Tributary Signage	DPW	Tributary signage on five bridges in 2005 and 2007		
Revised			Eliminated tributary signage in favor an expanded catch basin labeling program due to cost constraints and greater effectiveness of the catch basin labels for public education (see 2.3 below)		
1.5	Targeted Educational Material	DPW	Additional Educational Outreach as necessary.	Continued program to sell rain barrels to residents. 50 rain barrels were sold in 2017-2018. Continued individual outreach to property owners, engineers, and developers on green infrastructure and Low Impact Development (LID) techniques.	Continue to increase awareness and use of LID and Green Infrastructure practices for new developments and small scale improvements on residential properties (i.e. rain gardens, rain barrels, porous pavement/pavers, and drywell systems)
Revised				Worked with the Connecticut River Stormwater Committee on various public education initiatives including Pioneer Valley Soak Up the Rain and development of 30-second radio spots to run on 3 radio stations in 2018. Implemented a credit program for rain gardens, porous pavement/pavers and dry wells for residential properties as part of the Northampton Stormwater and Flood Control Utility.	

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
2.1	Public Advisory Committee	DPW	Regular Advisory Committee meetings.	The Board of Public Works and the Public Works Commission served as the public advisory committee for the Stormwater Management Program until 2015. Currently, the City Council Committee on City Services provides the advisory role as necessary for the Stormwater Management Program.	Continue to work with the City Council and the Committee on City Services.
Revised					
2.2	Volunteer Water Quality Monitoring	DPW	Water quality monitoring and inspections throughout the City by volunteers.	Visual inspections of priority outfalls completed by DPW staff. Volunteers and staff with the Connecticut River Watershed Council also conducted limited Connecticut and Mill River water quality monitoring.	Continue water quality visual assessments at priority outfalls throughout the City working with volunteers as possible. (see also 3.3 below)
Revised			Water quality visual inspections by DPW employees and volunteers.		
2.3	Storm Drain Labels	DPW	Storm Drain labels on 20% of Catch Basins by Spring 2008	Volunteers labeled 150 (5%) catch basins throughout the City in 2004. 500 additional labels (15%) were installed by the Fall of 2009. 1,700 metal catch basin labels were purchased in February 2014 and approximately 200 catch basin labels are installed each year throughout the City.	Continue to install new metal catch basin labels throughout Northampton.
Revised					
2.4	Community Clean-Ups	DPW	Community Clean-Ups publicized and completed by Spring 2009.	Multiple clean-ups completed in the downtown area, specific city neighborhoods, rail trails, Mill River, and the “Meadows” section of the City near the Connecticut River.	Continue river and neighborhood cleanups throughout the City.
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
3.1	Storm Sewer System Map	DPW	Complete storm sewer map and field verify by Spring 2005.	GIS storm sewer map completed. Updates and revisions to the storm sewer map added as necessary.	Continue to make updates and revisions to the storm sewer map.
Revised					
3.2	Legal Prohibition and Enforcement	DPW	Illicit Connections and Discharges to the Municipal Storm Drain System Ordinance adopted by City Council.	Completed. (Illicit Connections and Discharge to the Municipal Storm Drain System Ordinance adopted by the City Council and signed by the Mayor June 17, 2004.)	Continue to enforce the Illicit Connections and Discharge to the Municipal Storm Drain System Ordinance.
Revised					

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
3.3	Illicit Discharge Detection and Elimination	DPW	Priority screening areas identified and targeted for inspections. Investigation and enforcement of illicit discharges and connections.	Continued visual inspections of priority outfalls. Investigated various public complaints. Follow up investigations to dry weather sampling results and recommendations conducted in 2011 and 2013. One property owner completed a correction of an illicit connection that had been discovered last year and one new illicit connection was discovered and corrected.	Continue to implement IDDE investigation in all drainage areas where previous investigations have shown positive indicators of contamination and where further action and IDDE investigation was recommended. Additional outfall and manhole inspections and sampling, CCTV inspections, dye tests and smoke tests will be used as necessary to locate the sources of contamination and work to correct the problems. Continue to conduct visual inspections at priority outfalls including limited bacteria sampling. Investigation and enforcement of illicit discharges and connections as they are discovered.
3.4	Targeted Educational Outreach	DPW	Conduct annual household hazardous waste collection. Conduct outreach to the public to encourage reporting of illicit discharges.	The annual household hazardous waste collection was publicized and completed on May 20, 2017. 194 Northampton residents or businesses participated and a total of 3,270 gallons of hazardous waste was collected. Information about reporting illicit discharges was in the Stormwater Brochure distributed to residents of the City.	Continue annual household hazardous waste collection. Continue educational outreach to the public for reporting illicit discharge to the storm drain system to the DPW.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
4.1	Erosion and Sediment Control Ordinance	DPW	Erosion & Sediment Control and Post Construction Stormwater Management Ordinance adopted by City Council.	Completed. (Erosion & Sediment Control and Post-Construction Stormwater Management Ordinance adopted by the City Council and signed by the Mayor June 17, 2004.)	Implement the Erosion & Sediment Control and Post-Construction Stormwater Management Ordinance as necessary.
Revised					
4.2	Stormwater Site Plan Reviews	DPW	Procedures for site plan review implemented following adoption of Ordinance.	Reviewed all proposed development projects disturbing over 1 acre for compliance with the Erosion & Sediment Control and Post Construction Stormwater Management Ordinance. Issued stormwater management permits for 7 projects and reviewed all smaller projects applying for planning board permits.	Continue to review all development projects for compliance with the Erosion & Sediment Control and Post Construction Stormwater Management Ordinance.
Revised					
4.3	Stormwater Site Inspections	DPW	Procedures for site inspections implemented following adoption of Ordinance.	Conducted site inspections and responded to public complaints regarding construction sites.	Continue inspections as required for compliance with the Erosion & Sediment Control and Post Construction Stormwater Management Ordinance.
Revised					
4.4	Construction Site Public Participation	DPW	Procedures for receiving information submitted by the public in place following adoption of Ordinance.	Stormwater Management Permit application process is concurrent with Planning Board and/or Conservation Commission review, and the public hearings by these entities serve as the public hearing for each project.	Conduct further outreach to the public on how to identify and report stormwater runoff problems at construction sites.
Revised					

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
5.1	BMP Strategies	DPW	Adopt or change City regulations to create a consistent post-construction runoff control strategy.	Completed. Post-construction runoff control strategy defined and adopted as part of Erosion and Sediment Control and Post-Construction Stormwater Management Ordinance adopted June 2004. The DPW worked with the Northampton Planning Board to consistently apply stormwater management standards and respond to public concern regarding stormwater impacts from smaller, infill development projects.	The DPW will continue working with the Northampton Office of Planning and Sustainability, the Northampton Planning Board and the Pioneer Valley Planning Commission to consistently revise requirements for stormwater management in all relevant municipal ordinances. Continue to maintain a consistent post-construction runoff control strategy. Conduct outreach to developers to educate about preferred LID BMPs.
Revised					

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
5.2	Runoff Control Performance Standards	DPW	Post-Construction runoff control performance standards incorporated into an Ordinance.	Completed. Performance standards developed and incorporated into the Erosion and Sediment Control and Post-Construction Stormwater Management Ordinance, which was adopted in June 2004.	Enforce compliance with post-construction runoff control performance standards through site plan review and site inspections. Continue to define the preferred structural and non-structural BMPs.
Revised					
5.3	Structural BMP Inspection and Maintenance	DPW	Develop inspection schedules and a maintenance enforcement mechanism for structural stormwater controls throughout the city.	All development projects over 1 acre since 2004 with approved Stormwater Management Permits have been required to complete a legally binding Stormwater Operation, Maintenance, and Inspection Agreement as a condition of the permit. Inspections of the BMPs are conducted on an on-going basis. As part of the new Stormwater and Flood Control Utility, a Credit and Incentive Policy has been implemented starting July 1, 2014 to provide credits for stormwater BMPs that have been operated and maintained in good working condition. Property owners will be required to provide documentation of the condition and maintenance status of BMPs for the proposed credits.	Continue inspections of the stormwater BMPs throughout the City.
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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
6.1	Drainage System Operation & Maintenance Program	DPW	Operation and maintenance (O&M) program implemented.	Implemented stormwater O&M activities including street sweeping, catch basin inspection and cleaning, water quality unit inspection and cleaning, limited drain line inspection and cleaning, and drain system repairs.	Continue to implement O&M activities and identify ways to further reduce the discharge of pollutants through the storm drain system.
Revised					
6.2	Employee Training	DPW	Employee training completed	DPW employees attended training workshops on Stormwater Good Housekeeping and Illicit Discharge Detection and Elimination. Instructional videos are being developed by a consultant from these training workshops to use for future training of additional DPW employees.	Trainings for DPW employees using the instructional videos for Good Housekeeping and Illicit Discharge Detection and Elimination.
Revised					
6.3	Pollution Prevention BMPs	DPW	Pollution prevention BMPs identified and prioritized.	Construction of stormwater improvements as part of the Hinckley Street, Chesterfield Road and Hampton Avenue roadway reconstruction projects.	Identify and implement additional pollution prevention BMPs for DPW properties, road projects, and activities as well as other Municipal properties and parking lots.
Revised					

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) *Not Applicable*

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities –
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

n/a

Part V. Program Outputs & Accomplishments

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2017 through March 31, 2018)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed	(y/n)	Y
Annual program budget/expenditures **	(\$)	\$200,000+
Total program expenditures since beginning of permit coverage	(\$)	\$2,000,000+
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		Utility

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	85%
Stormwater management committee established	(y/n)	N
Stream teams established or supported	(# or y/n)	N
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	Y
Shoreline cleaned since beginning of permit coverage	(mi.)	-
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	1
▪ community participation **	(# or %)	194
▪ material collected **	(tons or gal)	3,270 gallons
School curricula implemented	(y/n)	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					X
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X
Accompanying Regulation Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination					X
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	326
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	95%
Mapping method(s)		
▪ Paper/Mylar	(%)	-
▪ CADD	(%)	-
▪ GIS	(%)	100%
Outfalls inspected/screened **	(# or %)	5%
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	85%
Illicit discharges identified **	(#)	1
Illicit discharges identified (Since beginning of permit coverage)	(#)	19
Illicit connections removed **	(#); and (est. gpd)	2
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	10
% of population on sewer	(%)	80%
% of population on septic systems	(%)	20%

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	7
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	12
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	\$0
Complaints/concerns received from public **	(#)	3

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	70%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	70%
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Y
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	<1
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1
Qty of structures cleaned **	(#)	1,075
Qty. of storm drain cleaned **	(%, LF or mi.)	0%
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	62 tons
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	n/a
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	-
• Disposal cost**	(\$)	\$6,083
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1
• Vacuum truck(s) owned/leased	(#)	1
• Vacuum trucks specified in contracts	(y/n)	N
• % Structures cleaned with clam shells **	(%)	100%
• % Structures cleaned with vector **	(%)	0%

	(Preferred Units)	Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	2
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	n/a
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Compost & Landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$60,000 (estimate)
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	-
• Disposal cost**	(\$)	n/a
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	2
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	0
• % Roads swept with rotary brush sweepers **	%	100%
• % Roads swept with vacuum sweepers **	%	0

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Y

	(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	Granular Sodium Chloride (NaCl) treated with liquid magnesium chloride/organic based performance enhancer (PROMELT ULTRA 2000—24% MgCl, 15.9% P)
Pre-wetting techniques utilized **	(y/n or %)	Y
Manual control spreaders used **	(y/n or %)	Y
Zero-velocity spreaders used **	(y/n or %)	N
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/l _n mi. or %)	0
Estimated net reduction or increase in typical year sand application rate **	(±lbs/l _n mi. or %)	0%

% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Y

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	N
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	N
Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	0

Attachments

Two MS4 Permit Compliance Workshops for Connecticut River Stormwater Committee Members

Westfield State University, Scanlon Hall, Living Room

**Wednesday,
November 8, 2017
8:30 to 11 a.m.**

Good Housekeeping

Learn about both the specific components and scope of the Stormwater Pollution Prevention Plan (SWPPP) and the control measures required under the MS4 permit for maintenance garages, public works yards, transfer stations, and other waste handling facilities where potential pollutants are exposed to storm water.

Best practices to be covered will include:

- Vehicle storage, fueling, and washing
- Storage of materials (salt & sand, petroleum products, and any other potential stormwater pollutants)
- Spill prevention and response
- Municipal facilities inspections as part of the SWPPP
- Catch basin inspection, cleaning, and maintenance
- Collection and recording of required data

**Thursday,
November 9, 2017
8:30 to 11 a.m.**

Illicit Discharge Detection and Elimination (IDDE)

Learn about IDDE program requirements, how to detect and recognize illicit discharges and sanitary sewer overflows, and use of procedures and equipment.

The training will cover:

- IDDE program overview and key components
- Field screening of outfalls for dry weather flow
- Sampling and source tracking dry weather flows
- System vulnerability factors
- Sampling wet weather flows (where there is a minimum of 1 system vulnerability factor)
- Data collection and recording



Workshops are made possible with funding from
the Baker-Polito Administration's
Community Compact Cabinet's
Efficiency and Regionalization Grant Program

**Registration by November 1 is required. Call Mary Mazik
or Paula Delskey at 413-781-6045.**

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Catalyst for Regional Progress

pvpc

WRIGHT-PIERCE  **70**
Engineering a Better Environment 1947 - 2017

Workshops are made possible with funding from
the Baker-Polito Administration's
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Efficiency and Regionalization Grant Program

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Connecticut River Stormwater Committee

Annual Report

April 1, 2017 to March 31, 2018

The Connecticut River Stormwater Committee

The Connecticut River Stormwater Committee is an intergovernmental compact of 17 municipalities that is organized to collaborate in meeting NPDES MS4 permit requirements for stormwater education and outreach (Minimum Control Measure #1). Facilitated and staffed by the Pioneer Valley Planning Commission, the Committee also works together to meet other permit compliance activities where appropriate and needed. Member communities are shown in Table 1 below.

Table 1: Connecticut River Stormwater Committee Member Communities

Member Community	Committee Representatives and Departments
Agawam	Tracey DeMaio, Department of Public Works
Belchertown	Steve Williams, Department of Public Works
Chicopee	Quinn Lonczak, Department of Public Works
East Longmeadow	Bruce Fenney, Department of Public Works
Easthampton	Dan Murphy, Department of Public Works
Granby	Dave Derosiers, Highway Department
Hadley	Marlo Warner, Department of Public Works
Holyoke	Michael McManus, Department of Public Works
Longmeadow	Mario Mazza and Peter Vancini, Department of Public Works
Ludlow	Jim Goodreau, Department of Public Works
Northampton	Doug McDonald, Department of Public Works
Southwick	Randall Brown, Department of Public Works
South Hadley	Melissa LaBonte, Department of Public Works
Springfield	Kevin Chaffee, Planning/Conservation
West Springfield	Jim Czach and Connor Knightly, Department of Public Works
Westfield	Casey Berube and Joe Kietner, Department of Public Works
Wilbraham	Tonya Basch, Department of Public Works

* Member that joined Committee this year.

Education and Outreach over the Past Year

The Connecticut River Stormwater Committee has moved forward several education and outreach activities under the 2003 permit. At the same time, the delayed start of the 2016 MS4 permit has provided time for the Stormwater Committee to lay further groundwork for its education and outreach program over the longer term. This includes developing a draft matrix of education and outreach activities for the next permit term, participating in the state-wide stormwater coalition education and outreach subcommittee to procure a consultant to develop a state-wide education and outreach campaign, and most recently, meeting with students from Worcester Polytechnic Institute

who are working with MassDEP to prepare a repository of stormwater education and outreach materials for use by MS4 permittees.

The narrative below summarizes the work of the Connecticut River Stormwater Committee during the 2017-2018 reporting year, which includes the following:

1. Produced 30-second radio spot as part of continued Soak up the Rain stormwater education campaign that will run on 3 stations throughout the Pioneer Valley in April 2018
2. Designed website for Connecticut River Stormwater Committee and began developing content
3. Worked with state-wide coalition on procuring services to help with design and materials for state-wide education program
4. Continued to lead urban tree planting project in Chicopee, Holyoke, and Springfield
5. Continued to lead project in Holyoke to reduce urban flows into Day Brook

In addition to these public education and outreach activities described in fuller detail below, members of the Stormwater Committee have joined PVPC in other MS4 permit related activities, including:

- Conducting a series of two training workshops for municipal staff that were videotaped and organized into specific modules that can now be used for subsequent annual training required by the new permit. Designed in consultation with consultant Wright Pierce, topics covered elements under the "good housekeeping" and the "illicit discharge detection and elimination" categories of the stormwater permit. Funding for these workshops was provided in part by the Massachusetts Department of Administration and Finance's Efficiency and Regionalization grant. The videos have already been shared with other MS4s in the state and are being loaded to YouTube for easy access by any other MS4 in Massachusetts who wishes to use them. Going forward, Connecticut River Stormwater Committee members have decided to use the video training modules as part of annual events where trainees from the region come together, watch the video modules, and then engage in discussion and problem solving. This will provide for more meaningful engagement than trainees watching videos on their own. Such an annual training event might also include field visits to learn about specific and/or sampling techniques. PVPC will plan to host these events as part of its Stormwater Committee work.
- Reviewing and updating municipal land use code in nine communities to meet new construction, and development and redevelopment standards within the 2016 federal stormwater permit. Funding for the code review was provided by the Massachusetts Department of Administration and Finance's Efficiency and Regionalization grant. A 10th stormwater committee member community elected to undertake code review through a fee for service arrangement with PVPC. This work included review and update of provisions for control of illicit discharges, erosion and sediment control, stormwater management permitting, subdivision regulations, and zoning. A detailed checklist with recommended code language was developed as part of this work to facilitate review in additional communities going forward.

As there are still many issues to be worked out relative to code, including updating of the Massachusetts Stormwater Standards so that they better relate to the new MS4 permit requirements, and development of model language and procedures to help with off-site mitigation for redevelopment projects, PVPC staff has recommended that communities not immediately adopt code changes developed under this project. PVPC has noted that these

updates are not required to be in place until Year 2 of the permit effective date. PVPC staff is currently working with other members of the state-wide coalition of stormwater coalitions to fold these changes into a state-wide resource package on code updates, including a model bylaw, and the guidance being developed on off-site mitigation.

- Procuring services regionally of Wright Pierce to provide integrated stormwater system mapping and data collection to meet requirements of the new 2016 permit. Seven stormwater committee members—Agawam, Belchertown, Granby, Ludlow, Northampton, South Hadley, and Southwick – are participating in this work. Research conducted in concert with communities prior to this procurement showed significant cost savings in collaborating on this work rather than going it alone.

To date, project work has entailed development of the mapping interface with stormwater infrastructure, and development of forms to ensure that all data required in the new permit (outfall screening and sampling, manhole inspections, catch basin cleaning, etc.) can be captured in the field during inspections and then uploaded to reference with geographically specific locations within Arc GIS mapping of the storm system for analysis in defining priority catchments and annual reporting to EPA.

1. Aired Soak up the Rain radio spot

The Stormwater Committee produced a 30-second radio spot to air, starting April 2. The Soak up the Rain spot is narrated by a local radio personality and calls on people to take notice and take action. It will air 183 times in a three-week period on three different radio stations in the region, covering all Stormwater Committee member communities. It will be aired at peak and non-peak listening hours to reach a variety of different audiences. The 30-second spot reads as follows:

When stormwater flows across yards, driveways or parking lots, it picks up leaked car oil, lawn chemicals, litter and animal waste.

This contaminated water ends up in the Connecticut River.

Help keep our river clean. Don't let rain run – soak it up.

Redirect downspouts to your lawn. Use a rain barrel. Create a rain garden or install porous pavement.

Brought to you by the Connecticut River Stormwater Committee, a coalition of 17 Pioneer Valley communities.

Learn more at soakuptherain.pvpc.org



Radio stations in the region that will air the Soak up the Rain radio spot.

It is hoped that interested listeners will follow the reference to the soak up the rain web page and the Committee will be able to make some determination of the spot's effectiveness by counting the increase in clicks on the web site. Results will provide some direction to the Committee as it continues to develop its 5-year education and outreach program under the new 2016 permit.

Production of the radio spot follows on an unsuccessful 4-month effort toward adapting a stormwater video from West Michigan Environmental Action Council. Members had researched stormwater messaging videos, selected the West Michigan video, engaged a local video producer for the adaptation, and worked out the terms of an agreement with the West Michigan group. The problem arose, when the local video producer learned that the Michigan group had no high resolution video file from which to work. Given that the Connecticut River Stormwater Committee members had talked about more than website use of the adapted video, a low resolution file was not adequate. It was surprising that without a high resolution file of the video, the West Michigan group would take the conversation so far. Nonetheless, this was an important lesson in learning what the right first question is to ask when talking about video adaptation.

2. Designed website for Connecticut River Stormwater Committee

While each stormwater committee member continues to maintain and update stormwater information on each of their municipal websites, there is a need to promote stormwater information on a regional Connecticut River website. The regional stormwater website will provide one website reference for forthcoming publications and media outreach work. Links can be made from the local municipal websites to the regional website and vice versa.

Design of the Connecticut River stormwater website includes “portals” for exploring the site in two ways: as an audience enumerated in the MS4 permit (resident, business, developer, industry) and as someone interested in learning more about a specific stormwater best practice important to water quality issues in the region: lawn and yard care, pet waste management, car care, soak up the rain, turf management, and septic system care. Committee members have been talking too about the importance of finding ways to include materials for educators (stormwater curriculum lessons), and agriculture (perhaps connecting to resources through the Extension Program at the University of Massachusetts, Amherst, and any nonpoint source nitrogen reduction initiatives that may emerge).

Content for the website is currently under development by PVPC. It is expected that additional content will be available through the statewide coalition if stormwater coalitions, which has just hired Water Words that Work to outline a state-wide education and outreach Think Blue campaign with development of some associated materials.

One important facet of this regional Connecticut River stormwater website is building the connection between enjoying and appreciating the resource and connecting to action. As such, PVPC will be working with its current Connecticut River US website, maintained in partnership with the Connecticut River Conservancy, to draw stronger lines between getting out on the resource and taking action for stormwater. The Connecticut River US website has information on paddling, trails, and water quality.



Design of Connecticut River Stormwater website that is in development.

3. Collaborated with state-wide stormwater coalition of coalitions

On behalf of Connecticut River Stormwater Committee members, PVPC has been active on the larger coalition of state-wide stormwater coalitions committee and the group's education and outreach subcommittee. The group was successful in applying for and receiving a \$200,000 MS4 assistance grant to lay the groundwork for a state-wide stormwater outreach campaign. The campaign will help to define messaging, lay out a plan of work to meet education and outreach permit requirements, and develop a selection of materials for use by coalitions and municipalities. Water Words that Work was just selected as the project consultant at the end of March. PVPC staff is excited by the prospect of working with such a talented consultant that has developed state-wide stormwater campaigns in several states already. At the same time, staff is hopeful that the 5-year education and outreach framework it has been developing with Connecticut River Stormwater Committee members can be further refined with consultant input.

The following two projects, while specific to certain municipalities, are expanding awareness regionally about stormwater. They also serve to build capacity and know-how in planning, design, and construction of better stormwater management practices. Each project has its own outreach and education component.

4. Continue to lead urban tree planting project in Chicopee, Holyoke, and Springfield

PVPC continues to lead an effort to promote urban tree planting in the region's 3 major cities in partnership with the US Forest Service, Massachusetts Executive Office of Energy and Environmental Affairs, the Valley Opportunity Council, Nuestras Raices, ReGreen Springfield, Conway School of Design, Mass DCR, and the Cities of Chicopee, Holyoke, Springfield. Aimed at reducing stormwater flows to combined sewer areas and promoting greater climate resilience, the project involves an integrated community outreach process involving multiple neighborhood workshops and workshops for public works officials. Once completed, the project will provide the following major deliverables:

- installation of 2,200 trees on local streets and yards
- final engineering design for a green streets in each municipality
- model stormwater tree rebate ordinance

The project is made possible thanks to a \$239,000 grant award to PVPC from the US Forest Service under the State and Private Forestry FY15 Northeastern Area Landscape Scale Restoration Program.

5. Continue to lead project in Holyoke to reduce urban flows into Day Brook

Through an EPA Urban Small Waters Grant, PVPC is developing a green infrastructure plan for Day Brook in Holyoke, which flows from west to east, remaining above-ground from Anniversary Hill Park and Community Field before being conveyed underground beneath the City and routed through the Waste Water Treatment Plant.

In this past year, the project completed work to increase awareness about this "secret stream" running unseen through the urban landscape. Conducted largely by project partner Enchanted

Circle Theater, awareness work this year followed a six-week lesson series that engaged third and fifth graders in learning about stormwater and producing artwork for use in a mural and “storywalk” about Day Brook.

The mural, which relates the unseen journey of Day Brook in Holyoke, was unveiled at a ribbon cutting event at Community Field in June. The event for the mural included stormwater learning stations, including rain gardens in a cup activities. The storywalk unveiling occurred at the Sullivan School in September as part of Arts in Education Week. Students participated in the unveiling and then spent time being stormwater detectives on the school grounds, working in teams to check off items on a treasure hunt list. The story walk, conceived as movable artwork that tells the story of Day Brook in a series of six panels, has been installed for periods of time at the Sullivan School, Community Field, City Hall, and the Public Library.



Students enjoyed the thrill of unveiling the Day Brook story walk at the Sullivan School in Holyoke. The story walk incorporated student artwork and words telling the history of Day Brook.



Local media provided good coverage of the story walk unveiling.



As part of the story walk unveiling event, a student records finding a storm drain in the stormwater detectives treasure hunt on school property in photo above. In photo at right, Sullivan School Principal John Breish talks with students about a pipe draining storm flow from the school's roof.

