

Year 5 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: July 1, 2022-June 30, 2023

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form. Also ensure any websites included on this form are to publicly accessible sites

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed. Please ONLY report on activities between July 1, 2022 and June 30, 2023 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization: Town of Ludlow

EPA NPDES Permit Number: MAR041014

Primary MS4 Program Manager Contact Information

Name: James Goodreau

Title: Assistant Town Engineer

Street Address Line 1: 198 Sportsmen's Road

Street Address Line 2: N/A

City: Ludlow

State: MA

Zip Code: 01056

Email: jgoodreau@ludlow.ma.us

Phone Number: (413) 583-5625

Stormwater Management Program (SWMP) Information

SWMP Location (publicly available web address): <https://www.ludlow.ma.us/235/Stormwater-Management-Information>

Date SWMP was Last Updated: Sep 28, 2023

If the SWMP is not available on the web please provide the physical address:

N/A

Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4. Make sure you are referring to the most recent EPA approved Section 303(d) Impaired Waters List which can be found here: <https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state>

<u>Impairment(s)</u>			
<input checked="" type="checkbox"/> Bacteria/Pathogens	<input type="checkbox"/> Chloride	<input type="checkbox"/> Nitrogen	<input type="checkbox"/> Phosphorus
<input type="checkbox"/> Solids/ Oil/ Grease (Hydrocarbons)/ Metals			
<u>TMDL(s)</u>			
<i>In State:</i>	<input type="checkbox"/> Assabet River Phosphorus	<input type="checkbox"/> Bacteria and Pathogen	<input type="checkbox"/> Cape Cod Nitrogen
	<input type="checkbox"/> Charles River Watershed Phosphorus	<input checked="" type="checkbox"/> Lake and Pond Phosphorus	
<i>Out of State:</i>	<input type="checkbox"/> Bacteria/Pathogens	<input type="checkbox"/> Metals	<input checked="" type="checkbox"/> Nitrogen
			<input type="checkbox"/> Phosphorus
			Clear Impairments and TMDLs

Next, check off all requirements below that have been completed. **By checking each box you are certifying that you have completed that permit requirement fully.** If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.

Annual Requirements

- Provided an opportunity for public participation in review and implementation of SWMP and complied with State Public Notice requirements
- Kept records relating to the permit available for 5 years and made available to the public
- The SSO inventory has been updated, including the status of mitigation and corrective measures implemented
 - This is not applicable because we do not have sanitary sewer
 - This is not applicable because we did not find any new SSOs
 - The updated SSO inventory is attached to the email submission
 - The updated SSO inventory can be found at the following publicly available website:

- Updated system map due in year 2 as necessary
- Provided training to employees involved in IDDE program within the reporting period
- Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- All curbed roadways were swept at least once within the reporting period
- Enclosed all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities

- Updated inventory of all permittee owned facilities as necessary
- O&M programs for all permittee owned facilities have been completed and updated as necessary
- Implemented all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implemented program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Inspected all permittee owned treatment structures (excluding catch basins)

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

SWMP has been posted online; however, the Town did not receive any comments from the public.

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- Annual message was distributed encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- Permittee or its agents disseminated educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time
- Provided information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

This is not applicable because there are no septic systems present

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Nitrogen (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- Distributed an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers
- Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Structural BMPs

- Completed the evaluation of all permittee owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d or identified in the Nitrogen Source Identification Report, including: *(select the items of the evaluation that have been completed below)*

- Next planned infrastructure, resurfacing, or redevelopment activity planned for the property (if applicable) OR planned retrofit date
- Estimated cost of redevelopment or retrofit BMPs
- Engineering and regulatory feasibility of redevelopment or retrofit BMPs
- Completed a listing of planned structural BMPs and a plan and schedule for implementation
- The BMP list and implementation schedule is attached to the email submission
- The BMP list and implementation schedule can be found at the following publicly available website:

- Any structural BMPs listed in Attachment 3 to Appendix F already existing or installed in the regulated area by the permittee or its agents was tracked and the nitrogen removal by the BMP was estimated
- consistent with Attachment 3 to Appendix F. The BMP type, total area treated by the BMP, the design storage volume of the BMP, and the estimated nitrogen removed in mass per year by the BMP were documented.

- No BMPs were installed
- The above referenced BMP information is attached to the email submission
- The above referenced BMP information can be found at the following publicly available website:

Total estimated nitrogen removed in lbs/year from the installed BMPs: 742

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Roads in high traffic areas were swept at least twice within the reporting year, but not all municipal owned streets and parking lots were swept twice.

An evaluation of all permittee owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d or identified in the Nitrogen Source Identification Report was completed after the close of the Year 5 Reporting Period but prior to the submission of this Annual Report. This evaluation included consideration of next planned infrastructure or retrofit, estimated cost of redevelopment or retrofit BMPs, and engineering and regulatory feasibility of redevelopment or retrofit BMPs. This evaluation resulted in a listing of planned structural BMPs and a plan and schedule for implementation, which have been included as an attachment to the email submission of the Annual Report.

Lake and Pond Phosphorus TMDL

Completed the written Lake Phosphorus Control Plan (LPCP), including: *(select the items in the LPCP that have been completed)*

- Planned nonstructural controls
- Planned structural controls
- O&M program for structural controls
- Implementation schedule
- Cost of implementation

The LPCP: *(select one of the following options)*

- is attached to the email submission
- can be found at the following publicly available website:

Below, calculate your current phosphorus export rate by first filling out the individual phosphorus loading components (labeled [A], [B], [C], and [D]) and then computing your current phosphorus export rate using the equation provided.

Baseline phosphorus export reduction required from LPCP Area 48.22
(lbs/year) [A]:

Documented the nonstructural control measures implemented during **this reporting period** and their phosphorus reduction

total phosphorus reduction from all nonstructural controls this reporting period **(lbs/year) [B]:**

- No nonstructural control measures were implemented
- The nonstructural control measures information is attached to the email submission
- The nonstructural control measures information can be found at the following publicly available website:

- Documented the structural control measures implemented during **this reporting period and all previous years**, including location, phosphorus reduction in weight/year, and date of last completed maintenance and inspection for each control

total phosphorus reduction from all structural controls installed this reporting period and all previous years (**lbs/year**) [C]:

- No structural control measures were implemented
 The structural control measures information is attached to the email submission
 The structural control measures information can be found at the following publicly available website:

Phosphorus load increase due to development incurred since baseline loading was 0 calculated in **lbs/year** [D]:

Current phosphorus export rate from the LPCP Area in **lbs/year** [=A-(B+C)+D from above]: 46.13

- I certify under penalty of law that all source control and treatment Best Management Practices being claimed for phosphorus reduction credit have been inspected, maintained and repaired in accordance with manufacturer or design specification. I certify that, to the best of my knowledge, all Best Management Practices being claimed for a phosphorus reduction credit are performing as originally designed.

- All municipally owned and maintained turf grass areas are being managed in accordance with Massachusetts Regulation 331 CMR 31.00 pertaining to proper use of fertilizers on turf grasses

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

A written LPCP has been completed including planned structural controls, O&M program for structural controls, implementation schedule, and cost of implementation. This LPCP was completed after the close of the Year 5 reporting period but prior to the submission of this Annual Report. The LPCP has been included as an attachment to the email submission of the Annual Report.

No known development has occurred that would impact the calculated baseline loading.

Optional: Use the box below to provide any additional information you would like to share as part of your self-assessment:

Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?

- Yes
 No

If yes, describe below, including any relevant impairments or TMDLs:

Two additional existing outfalls that had not previously been shown in GIS mapping was identified during site investigations. The corresponding catchment areas for these outfalls were drawn in and the nearby catchment areas were re-delineated. The outfall list and catchment areas were redrawn after the Year 5 reporting period had ended but prior to submission of the Year 5 Annual Report.

Prior to the Year 5 Annual Report, previous changes include:

1. Adding E. Coli and Water Chestnut as impairments for Chicopee River (MA36-24) based on updates made to the 303d list.
2. One additional existing outfall and corresponding catchment that had not previously been reported was identified and added.

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education

Number of educational messages completed during this reporting period: 32

Below, report on the educational messages completed during this reporting period. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.

BMP:Pollution Prevention for Businesses

Message Description and Distribution Method:

Pollution prevention document for businesses is posted on the town website. Provides an overview of pollution prevention and information on source reduction, reuse/recycling, and energy recovery as three methods of accomplishing pollution prevention.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Pollution Prevention Businesses"

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Stormwater Management for Developers

Message Description and Distribution Method:

Stormwater management document for developers is posted on the Town website. The document encourages wise site selection, careful development, and the use of Low Impact Development (LID) practices. The document also addresses perceived barriers of cost, cold weather impacts, drinking water quality, and public safety.

Targeted Audience: Developers (construction)

Responsible Department/Parties: DPW Construction

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Developers"

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Construction Stormwater Tips

Message Description and Distribution Method:

Construction Stormwater Tips document is posted on the Town website. The document includes a diagram that portrays various methods of preventing pollution and reducing stormwater runoff during construction.

Targeted Audience: Developers (construction)

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Construction"

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Stormwater Pollution Prevention for Industrial Sites

Message Description and Distribution Method:

Stormwater Pollution Prevention document for industrial sites is posted on the Town website. This document addresses erosion prevention, sediment control, and runoff management; dust control; and eliminating unauthorized non-stormwater discharges. It also describes the need for a Stormwater Pollution Prevention Plan, a spill prevention and response procedure, employee training, and proper salt storage.

Targeted Audience: Industrial facilities

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Stormwater Pollution Prevention for Industrial Sites"

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Going Green with Stormwater - Rain Gardens

Message Description and Distribution Method:

Going Green with Stormwater - Rain Gardens document is posted on the Town website. This document includes information about the benefits of a rain gardens and how to create them.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Going Green Rain Gardens"

Message Date(s): August 2022 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Builder's Guide to Low Impact Development

Message Description and Distribution Method:

Builder's Guide to Low Impact Development is posted on the the Town website. This document provides information about Low Impact Development (LID) and LID site planning and design concepts.

Targeted Audience: Developers (construction)

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Builders Guide Low Impact Development"

Message Date(s): August 2022 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Stormwater Pollution Prevention for Homeowners

Message Description and Distribution Method:

Stormwater Pollution Prevention guide for homeowners is posted on the Town website. This document highlights ways homeowners can reduce stormwater pollution, including picking up after their dogs and using proper practices and materials when: working on the lawn and garden, using chemicals and salts, washing cars and boats, repairing automotives, and maintaining swimming pools and hot tubs.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Stormwater Pollution Prevention for Homeowners"

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Education for Residents on Lawn Fertilizing

Message Description and Distribution Method:

Fertilizing the Lawn document posted on the Town website notes the impact lawn fertilizers can have on the environment and provides tips for the proper use of fertilizers to reduce this impact. Distributed an annual message in the Spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Fertilizers". The website message is available year round, and the local cable access station runs the message in the Spring.

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Dog Waste and Surface Water Quality

Message Description and Distribution Method:

Dog Waste and Surface Water Quality document is posted on the Town website that raises awareness of the pollution pet waste can cause to waterways and detail proper disposal of pet waste. The message will remain on the Town website and will be available throughout the year. The message encourages the proper management of pet waste. Educational material on pet waste and surface water quality is provided to dog owners at the time of issuance and renewal of dog licenses.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Pet Waste". The message will remain on the Town DPW website year-round to encourage the proper management of pet waste. The Town Clerk has educational materials on pet waste and surface water quality available to dog owners at time of issuance and renewal of dog licenses.

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:EPA & DEP General Stormwater Information

Message Description and Distribution Method:

Links to EPA and DEP General Stormwater Information are posted on the town website.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

The EPA and DEP links have been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information.

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Safe Hazardous Waste Disposal

Message Description and Distribution Method:

The Town is to provide information and resources to residents seeking to safely dispose of hazardous waste.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

The Town directed residents to nearby facilities to encourage residents to dispose of hazardous waste properly. A link to the DEP's website on safely managing hazardous household products has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information.

Message Date(s): June 2018 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

The previous BMP included an in-person hazardous waste collection day. Since this event is no longer being held, this was updated to say that the Town will direct residents to nearby facilities to properly dispose of hazardous waste.

BMP:Maintenance of Septic Systems in Impaired Water Body Catchment

Message Description and Distribution Method:

Provide information on proper maintenance to owners of septic systems within any catchment that discharges to the Chicopee River (MA36-24), which has a fecal coliform impairment. A document is posted on the Town website and includes a diagram that provides guidelines for the proper use and maintenance of a septic system.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Septic Smart"

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Annual Leaf Litter Disposal Message

Message Description and Distribution Method:

A document is posted on the Town website that encourages mulching, composting, and proper local disposal of leaf litter to reduce contamination of waterways. Annual message distributed in the Fall (August/September/October) encouraging the proper disposal of leaf litter.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Leaf Litter". A public service announcement was run on the local cable access channel in the Fall.

Message Date(s): June 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Stormwater Management for Small Businesses

Message Description and Distribution Method:

A stormwater management document for small businesses is posted on the Town website highlighting low impact development practices that collect, slow down, spread out, and filter stormwater into the soil.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Slow the flow"

Message Date(s): September 2020 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Anti-icing BMPs

Message Description and Distribution Method:

An anti-icing BMP document is posted on the Town website. This document includes proper mixing and treatment methods for anti-icing.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Anti-Icing"

Message Date(s): 2021- ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Stormwater Pollution Prevention for Small Residential Construction Sites

Message Description and Distribution Method:

A stormwater pollution prevention document has been posted on the Town website for small residential construction sites. This documents includes a diagram with 10 steps to prevent stormwater pollution on a small residential construction site, as well as information regarding the EPA's Construction General Permit (CGP) Small Residential Lot Stormwater Pollution Prevention Plan (SWPPP) Template.

Targeted Audience: Developers (construction)

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Pollution Prevention-Small Construction Sites"

Message Date(s): 2021 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Oil Spills From Your Vehicle

Message Description and Distribution Method:

A document has been posted on the Town website highlighting the importance of checking for oil leaks in vehicles, containing spills when working on vehicles, and proper disposal of motor oil.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Oil Spills"

Message Date(s): 2021 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

Reducing water pollution from motor oil is pertinent to the Town of Ludlow's overall Stormwater Management Plan, and specific messaging related to proper vehicle maintenance and repair practices, and disposal of used oil was determined to be an important supplement to the public education and outreach originally outlined in the NOI.

BMP:Put Waste in its Place for Clean Water

Message Description and Distribution Method:

A waste management document for businesses has been posted on the Town website providing a list of practices for properly storing and disposing of trash in a manner that will reduce pollution to waterways.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Put Waste In Its Place"

Message Date(s): 2021 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

Waste management for businesses is pertinent to the Town of Ludlow's overall Stormwater Management Plan, and specific messaging related to proper storage and disposal of trash was determined to be an important supplement to the public education and outreach originally outlined in the NOI.

BMP:Maintaining BMPs at Industrial Facilities

Message Description and Distribution Method:

Post Maintaining your BMPs document on Town website.

Targeted Audience: Industrial facilities

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Spill Prevention Industrial"

Message Date(s): 2019 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Washing your Car

Message Description and Distribution Method:

A document has been posted on the Town website highlighting practices to reduce water pollution when washing vehicles.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works Stormwater Management Information: "Wash Car"

Message Date(s): 2021 - ongoing

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

Reducing water pollution caused by car washing is pertinent to the Town of Ludlow's overall Stormwater Management Plan, and specific messaging related to car washing practices that reduce water pollution was determined to be an important supplement to the public education and outreach originally outlined in the NOI.

BMP:Think Blue Connecticut River Website

Message Description and Distribution Method:

The Think Blue Connecticut River website is at the core of all regional messaging about stormwater. The website at www.thinkblueconnecticutriver.org does the following:

- ♦ Covers major areas of messaging about reducing polluted stormwater flows, including lawn and yard care, pet waste management, car care, controlling soil erosion, soaking up the rain, and septic system care
- ♦ Addresses the key 4 audiences plus educators
- ♦ Serves as the "landing place" for information on nearly all social media messaging

Targeted Audience: Residents, business/institutional/commercial, developers, and industrial

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

A total of 5,625 people visited the Think Blue Connecticut River website during Year 5 and spent an average of 19 seconds on viewing pages on stormwater best practices. Beyond the web analytics reported below on specific messages, there were the following views of the general audience pages on the Think Blue Connecticut River website:

Residents views = 89; Businesses and Institutions views = 69; Developers views = 49; Industries views = 39; and Educators views = 37.

Message Date(s): July 1, 2022 through June 30, 2023

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

As indicated in previous annual reports, the website was not mentioned in the NOI and SWMP, but it is central to all messaging in the region, providing additional information and resources on key topics.

BMP:Nip Bottles – Residents

Message Description and Distribution Method:

Connecticut River Stormwater Committee members identified messaging on nip bottles as a priority at the start of the permit term. As such, the group conducted a robust, multi-faceted messaging campaign with materials developed in Year 4. Connecticut River Stormwater Committee members launched the campaign to reduce nip bottles litter in Year 5 in order to capture the largest audience possible, including students that come to the region for university studies.

The campaign included the following:

- ◆ Message displayed on internal and external signs on PVTA buses servicing the region in both English and Spanish, including 6 exterior queen panels with two running out of each PVTA garage (UMass, Springfield, and Northampton) Panels were switched during January break from UMass to include one additional panel out of the other two garages. All panels included a QR code to link to more information on the Connecticut River Think Blue website.
- ◆ Web page on Connecticut River Think Blue website with additional information on nip bottle litter to which all messaging provided links.
- ◆ Social media mini ad campaign targeted to zip codes in member municipalities on Facebook and Instagram that linked to information on Connecticut River Think Blue web page.
- ◆ Press release to local media, which yielded at least three news stories in print and televised media.

Targeted Audience: Residents/all audiences in the Connecticut River Stormwater Committee region

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

PVTA bus messages

Exterior signs, estimated by PVTA to provide 1,465,974 impressions

Interior signs, estimated by PVTA to provide 90,264 impressions

Total impressions during period messages run = 1,556,238

Facebook and Instagram message

Reached 69,888 people in the region, with 1,084 clicks and 63 shares

Think Blue Connecticut River web page on litter / nip bottles

Visits = 868 with average time spent viewing information at 2 minutes and 34 seconds

Message Date(s): PVTA bus ads - early October 2022 to early February 2023

Facebook and Instagram ads – December 20 to January 1 = 12 days

Press release issued – December 20, 2022

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

One adjustment made to increase reach of campaign includes translation of PVTA bus panels ads into Spanish. Furthermore, the SWMP had indicated messaging would occur in Year 4, but the messaging was pushed to Year 5 in order to reach a wider audience (when area colleges back in session).

BMP:Better Management of Runoff from Parking Lots (formerly installation of Hooded Catch Basins) -

Message Description and Distribution Method:

Messaging to this audience has been further developed from Year 4 to Year 5. In Year 4, a letter went to municipalities for use with large parking lot owners that recommended retrofits of conventional catch basins with deep sump hooded catch basins. This year, the Committee decided to broaden the messaging to include promotion of low impact development retrofit approaches. As such, an updated letter went to Connecticut River Stormwater Committee members for use in reaching out to property owners with large parking lots. Also, an op-ed piece was written and then published by Business West, the most prominent publication in the region.

Targeted Audience: Business, institutions, commercial, and industrial facilities

Responsible Department/Parties: : PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

Business West has a readership of some 30,000. See the following link to the publication’s readership demographics: <https://businesswest.com/wp-content/uploads/2018/06/READERSHIP.pdf>

Message Date(s): Op-ed published June 26, 2023

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

To optimize engagement with this audience, decided to add preparation and submission of an article to Business West. Furthermore, the messaging in the article prepared in Year 5 went beyond idea of recommending installation of hooded catch basins to also recommend retrofits with planted green infrastructure facilities in parking lots.

BMP:Low Impact Development Strategies and Technologies - Developers

Message Description and Distribution Method:

On behalf of the Connecticut River Stormwater Committee, PVPC partnered with the Center for Watershed Protection and the Neponset River Watershed Association to develop and coordinate four training workshops for the development / construction community. The aim of the workshops was to provide construction-focused stormwater pollution prevention information to companies who engage in land-disturbing activities in participating towns.

Workshops were held live on-line in June and promoted through stormwater networks in the region and through statewide organizations, including the Homebuilders Association of Massachusetts and NAIOP, the Commercial Real Estate Development Association. The series has also been edited by the Center for Watershed Protection as an on-demand, self-paced series available through the Neponset Stormwater Partnership website. These trainings were made possible through an MS4 Municipal Assistance Grant provided to PVPC by MassDEP. One of the resources highlighted at the training workshops included a green infrastructure stormwater management facility library of specifications developed by Rob Roseen of Waterstone Engineering with guidance from Connecticut River Stormwater Committee members under a MassDEP 604b grant to PVPC. See: https://thinkblueconnecticutriver.org/wp-content/uploads/2023/05/PVPC-GI-Design-Standards_FINAL-2023.04.25.pdf

Targeted Audience: Developers

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

65 people attended virtual workshops

Post workshop survey that indicated that 76% of attendees received information from the training that strengthened their knowledge or provided them with new tools to do their job.

32 people downloaded the library of a green infrastructure stormwater management facility library of specifications.

Message Date(s): June 2023

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

The workshop had been planned for Year 4, but we had hoped that the new development standards from the draft Massachusetts Stormwater Handbook could be part of the workshop if postponed to Year 5. Also, the one workshop identified in the SWMPP became a series of four workshops thanks to the MS4 Assistance Grant provided by MassDEP.

BMP: Better Management of Runoff from Parking Lots (formerly installation of Hooded Catch Basins) -]**Message Description and Distribution Method:**

Given the refinements in BMP Better Management of Runoff from Parking Lots - Businesses above, the message to industrial facility managers was also broadened, in this case to include lined green infrastructure facilities. Letters signed by the Committee Chair and Co-chair went to all 140 multi-sector general permit holders in member communities.

Targeted Audience: Industrial facilities

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

Letters sent to all 140 multi-sector general permit holders in member communities

Message Date(s): June 2023

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

The letter had been planned initially for Year 4, but was sent in Year 5.

BMP: Proper Disposal of Leaf Litter - Residents

Message Description and Distribution Method:

PVPC updated messaging used previously based on Be a Leaf Hero social media posts developed by the Cape Cod Commission, but now customized for the Connecticut River Stormwater Committee. For Year 5, messaging included slides displayed by local cable access television stations, a regionally posted social media message, and a flyer for posting on member webpages. All three messaging elements promoted linking to a series of tips and more in-depth content on the Think Blue Connecticut River website. The flyer included a link to locations for proper disposal of leaves and yard waste. See website page at: <https://thinkblueconnecticutriver.org/be-a-leaf-hero/>. The content seeks to promote better practices with leaf litter and build understanding about potential contamination of stormwater with leaf litter. PVPC also updated a PDF document for member communities use on their municipal websites.

Note too that an attempt was made to run a paid social media ad in October, but social media consultants reported the message was rejected because it was deemed a "social issue." This is similar to problems encountered in other pre-election periods.

Targeted Audience: Residents

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

Local cable access television message went to 17 stations in the region.

Regional Facebook message drew 12 shares.

Analytics for the Think Blue Connecticut River website page on Be a Leaf Hero, indicates that there were a total of 213 views of the Leaf Hero landing page with average time spent by visitors on that resource page at 3 minutes and 25 seconds, and 193 clicks to download posted PDF resources.

Message Date(s): Local cable access television message - aired during several weeks starting mid October to early November.

PVPC Facebook message - posted October 24

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

Messaging on leaf litter made use of local cable access television rather than paid advertising to local radio and then augmented this messaging with a flyer and regionally posted social media all of which included a “call to action.”

BMP:Importance of Soil Test, Proper Use of Fertilizers, Disposal of Grass Clippings - Residents

Message Description and Distribution Method:

A 30-second radio message ran for 3 weeks in April with a total of 216 messages aired in the region on WRSI, WHMP, and Lazer 99.3.

The radio message read as follows:

It’s lawn care season!

So remember, what you put on your lawn and garden can wash with the next rainstorm to our rivers and lakes.

Here’s two tips for better lawn care:

- One: Test your soil! Find out what your lawn needs before spending money on product. UMass Extension offers testing.
- Two: Leave grass clippings where they fall! When mowing, this will put nutrients back into your lawn naturally.

Healthy lawns, healthy waters.

Brought to you by the Connecticut River Stormwater Committee.

Learn more at Think Blue Connecticut River.org

In addition, a paid social media message ran on Facebook and Instagram and continued to promote the idea of keeping lawns safe for families. The “Learn More” link provided in the social media post connects to the Think Blue Connecticut River web page on lawn and yard care, which lays out important best practices and links to useful resources, including soil testing services at the University of Massachusetts – Amherst. The link to Think Blue Connecticut River is: <https://thinkblueconnecticutriver.org/lawn-and-yard-care/>.

Targeted Audience: Residents

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

The radio message reached a total estimated audience of 65,000 people per week.

Facebook and Instagram ads reached 58,529 individuals who match “gardening,” “home improvement,” or “do it yourself” identifiers in Connecticut Stormwater Committee zip codes. 1,025 people clicked on the “Learn More” button to go the Think Blue Connecticut River landing page on lawn care. Social media consultants noted that there is a greater diversity of click rates for the 25+ age demographics and a more even gender split compared to previous stormwater messages, which generally skewed toward women.

Analytics for the Think Blue Connecticut River website page on lawn care, indicate that there were a total of 1,035 views on the website landing page, with average time spent by visitors on that resource page at 1 minute and 54 seconds, and 47 downloads of posted resources.

Message Date(s): Radio ad ran for 3 weeks in April
Paid Facebook and Instagram message ran from June 12 to June 22

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Proper Management of Pet Waste – Residents

Message Description and Distribution Method:

Pet waste messaging in Year 5 occurred at time of licensing and during the summer. Messaging is based on the “Think picking up Spike’s poop is gross? Try swimming in it,” and aimed at driving people to the pet waste pick up pledge on the Think Blue Connecticut River website. Paid placement social media messages at both time of licensing and summer targeted people in Connecticut Stormwater Committee zip codes who had identifiers that match “pets at home” and “dog walking.”

At time of licensing:

Messaging included a slide for use by local cable access television stations, a paid social media message, and an e-mail message to municipal clerks/dog officers providing materials for use in the licensing process. Materials provided to municipal clerks and licensing officers was based on a survey done in Year 3 about what might be the most effective methods for messaging through their licensing process. The cable access message was simplified based on feedback from cable tv stations on the fall leaf litter messages. This message also focused specifically on communicating that pet waste should be put in a trash bin. Public works officials on the committee had stressed the importance of this point because they are frequently finding bagged pet waste in catch basins.

Summer:

Summer messaging involved running paid placement on Facebook and Instagram around the Labor Day weekend

Targeted Audience: Residents

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

During time of licensing

Local cable access television message went to 17 stations in the region.

Paid social media messaging on Facebook and Instagram reached 41,936 people in Stormwater Committee communities with 1,028 individuals clicking on the “Pledge” button to go to the Pick Up Poop pledge on the Think Blue Connecticut River website.

Summer

Paid social media messaging on Facebook and Instagram reached 53,264 people in Stormwater Committee communities with 943 individuals clicking on the “Pledge” button to go to the Pick Up Poop pledge on the Think Blue Connecticut River website.

Analytics for the Think Blue Connecticut River website, indicate that there were another 195 people that went to the pet waste landing page on the Connecticut River Think Blue website with average time spent by visitors on that resource page at 2 minutes and 4 seconds.

Message Date(s): During time of licensing

Facebook ad ran for 12 days, from February 22 to March 6

The cable access message went to 17 local stations

Summer

The social media message ran on Facebook and Instagram for seven days, from September 5 through 12. The aim had been to have the message run before and during the Labor Day weekend, but approvals from Facebook and Instagram were slow in coming.

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

The NOI/SWMP indicated pet waste messaging only in summer months as PVPC understood that messaging under the Appendixes could be combined. EPA has indicated that additional messaging to dog owners “at time of licensing” is required. Messaging at time of licensing was added, starting in Year 2, along with additional messaging on pet waste during “stay at home” orders with the pandemic (given the increased visibility of associated problems). This change was made to provide additional messaging.

BMP: Proper Septic System Care - Residents

Message Description and Distribution Method:

PVPC again timed messaging on septic system care to coincide with EPA’s Septic Smart Week, from September 18 to 25, with a Facebook ad and regional post to its Facebook page. These posts provide a link to a great infographic on septic system maintenance developed by Whatcome County Public Works and Health Department.

Targeted Audience: Residents

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

The Facebook ad reached 47,536 people whose interest matches “Septic Tank” in Connecticut Stormwater Committee zip codes. There were 838 clicks on the ad’s “Learn More” button which links to the Think Blue Connecticut River website septic system landing page.

The regional Facebook post drew a total of 8 “shares,” including member communities.

There were a total of 782 views of the Think Blue Connecticut River website septic system landing page with people spending an average of 1 minute and 48 seconds. Analytics indicate that there were 199 clicks to download information.

Message Date(s): The Facebook ad ran between September 18 and 25, 2022

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

The NOI/SWMP indicated septic system messaging would be done in Year 3 only as MS4 permit language in Appendix H was not entirely clear on the timing of this message. EPA has since indicated that septic system messaging must occur each year and the Connecticut River Stormwater Committee adjusted accordingly, starting in Year 2.

BMP: Proper Disposal of Leaf Litter - Businesses

Message Description and Distribution Method:

This year, PVPC issued a letter to reach the landscaper and landcare business and commercial audience with best practices messaging on disposal of leaf litter. Signed by the Committee Chair and Co-chair, the letter promoted several key best practices:

- ◆ Keep leaves off of driveways and roadways where they can easily wash into storm drains and contribute to higher nutrient flows during the fall season.
- ◆ Use a mulching mower. By mulching the leaves into turf areas, you avoid having to rake/blow and bag and you offer a way to manage autumn leaves while providing clients with free fertilizer. Mulched leaves recycle nutrients and reduce the overall need for applied fertilizer, which can help to reduce nutrient loading for local rivers, streams, and lakes.
- ◆ Alternatively, if your client has an existing compost pile, you can recommend that they consider allowing you to add leaves to the pile. Leaves provide a critically important element (carbon) to the composting process, making for a more soil enriching product to be used in the next growing season. Be sure compost piles are located away from streams, lakes, or storm drains as these decomposing materials and nutrients could easily reach these water resources.

Targeted Audience: Businesses/institutions/commercial facilities

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

Letter – sent to 145 landscaping companies in the region

Message Date(s): Letter – sent October 17, 2022

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Importance of Soil Test, Proper Use of Fertilizers, Disposal of Grass Clippings - Businesses

Message Description and Distribution Method:

For spring messaging on best landcare practices, PVPC prepared an updated letter that went to 145 landscaping companies operating in the region. The letter, signed by the Connecticut River Stormwater Committee Chair and Co-chair, continued to emphasize two important strategies:

1. Leave grass clippings where they fall. Of course, you want to leave things nice and neat for your clients, but let them know that grass clippings left on the lawn will decompose, returning valuable nutrients back into the soil. This will save them money by reducing the need for applied fertilizer and promote a healthier lawn. To make best use of this free, natural fertilizer: mow high according to the grass species and use of the turf, do not remove more than 1/3 of the blade per mowing event, and mow when grass is dry.

2. Test your client's soil. A soil test lets you know more specifically what your client's lawn and garden need for nutrients so that you don't waste time and money. UMass Extension provides soil testing services. See: <http://umass.edu/soiltest>

If a soil test shows your client's lawn needs nutrients, go for slow-release fertilizers. These products more effectively deliver what plants need and don't wash off as easily as chemical fertilizers. Also, take the time to understand how much and when and where to apply fertilizers.

Targeted Audience: Business/institutions/commercial facilities

Responsible Department/Parties: PVPC staff and Connecticut River Stormwater Committee members

Measurable Goal(s):

Letter – sent to 145 landscaping companies in the region

Message Date(s): Letter - sent April 20, 2023

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

BMP:Proper Management of Pet Waste – Businesses

Message Description and Distribution Method:

An article was written and distributed to Business West for publication. When the article did not get published in the September 4 issue, PVPC worked for publication through other news outlets. WWLP covered the messaging on its digital news feed, pointing to resources on the Think Blue Connecticut River website, including a design template for a humorous 12x18” sign, quotes for sign production and hardware, and a pet waste message for business to share on social media.

Targeted Audience: Businesses/institutions/commercial facilities

Responsible Department/Parties: PVPC staff and member municipalities

Measurable Goal(s):

WWLP, Channel 22 News, is an NBC affiliate with a large audience in Western Massachusetts. For more information see: <https://www.wwlp.com/about-us/>

Message Date(s): September 12, 2023

Message Completed for: Appendix F Requirements Appendix H Requirements

Was this message different than what was proposed in your NOI? Yes No

If yes, describe why the change was made:

For Year 5, the SWMP indicated that municipalities would send out a letter to property owners with problem pet waste locations. Identifying these properties proved problematic and would have involved high levels of effort and large mailings for member communities. Running an article seemed a more reasonable alternative in reaching this audience.

Add an Educational Message

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) during this reporting period:

The Stormwater Management Program (SWMP) has been posted to the Town's website. The Town will address any questions or comments from the public regarding the development and implementation of the SWMP.

Was this opportunity different than what was proposed in your NOI? Yes No

Describe any other public involvement or participation opportunities conducted **during this reporting period:**
A Town wide community cleanup day took place on May 6, 2023.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Check off the box below if the statement is true.

- This SSO section is NOT applicable because we DO NOT have sanitary sewer

Below, report on the number of SSOs identified in the MS4 system and removed during this reporting period.

Number of SSOs identified: 0

Number of SSOs removed: 0

MS4 System Mapping

Optional: Provide additional status information regarding your map:

Two existing outfalls that had not been previously shown on GIS mapping were identified and added to the map after the Year 5 reporting period but prior to the submission of this Annual Report. The corresponding catchment areas of these outfalls as well as the adjacent catchment areas were re-delineated. Minor adjustments to storm drain linework were made based on review of historic plans and site investigations.

Screening of Outfalls/Interconnections

If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses. Please also include the updated inventory and ranking of outfalls/interconnections based on monitoring results.

- No outfalls were inspected
- The above referenced outfall screening data is attached to the email submission
- The above referenced outfall screening data can be found at the following publicly available website:

Below, report on the number of outfalls/interconnections screened during this reporting period.

Number of outfalls screened: 0

Below, report on the percent of outfalls/interconnections screened to date.

Percent of outfalls screened: 21

Optional: Provide additional information regarding your outfall/interconnection screening:
5 outfalls were screened after the Year 5 reporting period but prior to the submission of this Annual Report.
The reported percent of outfalls screened to date includes these 5 outfalls.

Catchment Investigations

If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.

- No catchment investigations were conducted
- The catchment investigation data is attached to the email submission
- The catchment investigation data can be found at the following publicly available website:

Below, report on the number of catchment investigations completed during this reporting period.

Number of catchment investigations completed this reporting period: 2

Below, report on the percent of catchments investigated to date.

Percent of total catchments investigated: 5

Optional: Provide any additional information for clarity regarding the catchment investigations below:
Two catchment investigations were completed during the Year 5 reporting period. Dry weather investigations were completed for three additional catchments; however, these three catchment investigations require follow up in the form of wet weather testing or further investigation and therefore have not been recorded as completed in this reporting period.

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- No illicit discharges were found
- The illicit discharge removal report is attached to the email submission
- The illicit discharge removal report can be found at the following publicly available website:

Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed during this reporting period.

Number of illicit discharges identified: 0

Number of illicit discharges removed: 0

Estimated volume of sewage removed: 0 gallons/day

Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed since the effective date of the permit (July 1, 2018).

Total number of illicit discharges identified: 0

Total number of illicit discharges removed: 0

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

Employee Training

Describe the frequency and type of employee training conducted **during this reporting period:**

Staff reviewed training information provided by Central Massachusetts Regional Stormwater Coalition & Fuss & O'Neill on municipal stormwater IDDE. This was reviewed on March 9, 2023.

MCM4: Construction Site Stormwater Runoff Control

Below, report on the construction site plan reviews, inspections, and enforcement actions completed during this reporting period.

Number of site plan reviews completed: 10

Number of inspections completed: 10

Number of enforcement actions taken: 0

Optional: Enter any additional information relevant to construction site plan reviews, inspections, and enforcement actions:

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

Ordinance or Regulatory Mechanism

Date update was completed (due in year 3): The bylaw has proposed language as of 2021, which is under review but has not yet been adopted.

Website of ordinance or regulatory mechanism: <https://www.ludlow.ma.us/DocumentCenter/View/909/Zoning-Bylaw-Text-PDF>

As-built Drawings

Below, report on the number of as-built drawings received during this reporting period.

Number of as-built drawings received: 1

Optional: Enter any additional information relevant to the submission of as-built drawings:

Street Design and Parking Lots Report

Below, describe any changes made or planned to be made to local regulations and guidelines based on the report completed in Year 4:

Recommendations were made for changes to local regulations and guidelines in the Ludlow Street Design Parking Lot and GI Assessment Memo completed in Year 4 that are under review but have not yet been adopted.

Green Infrastructure Report

Below, describe progress towards making green infrastructure practices allowable based on the report completed in Year 4:

Recommendations were made for changes to local regulations and guidelines in the Ludlow Street Design Parking Lot and GI Assessment Memo completed in Year 4 that are under review but have not yet been adopted.

Retrofit Properties Inventory

Below, list remaining permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas (must maintain a minimum of 5 sites in inventory until less than 5 sites remain):

486 Chapin Street - Veterans Park Elementary School
 24 Center Street - Hubbard Memorial Library
 167 Howard Street - Whitney Park
 211 Highland Avenue - John F. Thompson Memorial Swimming Pool
 499 Center Street - Island Pond Cemetery

Below, list all properties that have been modified or retrofitted with BMPs to mitigate impervious area that were inventoried as part of 2.3.6.d of the permit. Non-MS4 owned properties that have been modified or retrofitted with BMPs to mitigate impervious area may also be listed, but must be indicated as non-MS4.

A list of the properties inventoried as part of 2.3.6.d of the permit has been included as an attachment to the email submission of the Annual Report. This list includes both MS4 owned and Non-MS4 owned properties. The MS4 owned properties are located on the DPW Yard, which has been noted in the "Location" column.

MCM6: Good Housekeeping

Catch Basin Cleaning

Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins during this reporting period.

Number of catch basins inspected: 50

Number of catch basins cleaned: 31

Total volume or mass of material removed from all catch basins: 15 cubic yards

Below, report on the total number of catch basins in the MS4 system.

Total number of catch basins: 2,613

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

Town has not encountered catch basin sumps more than 50% full during two consecutive cleanings.

Street Sweeping

Report on street sweeping completed *during this reporting period* using one of the three metrics below.

- Number of miles cleaned: 130
- Volume of material removed: [Select Units]
- Weight of material removed: [Select Units]

Stormwater Pollution Prevention Plan (SWPPP)

Below, report on the number of site inspections for facilities that require a SWPPP completed during this reporting period.

Number of site inspections completed: 1

Describe any corrective actions taken at a facility with a SWPPP:

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- Not applicable
- The results from additional reports or studies are attached to the email submission
- The results from additional reports or studies can be found at the following publicly available website(s):

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above. If any of the above year 5 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

Activities Planned for Next Reporting Period

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 6 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4
- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all curbed streets at least annually
- Continue investigations of catchments associated with Problem Outfalls
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Review inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; update if necessary
- Review O&M programs for all permittee owned facilities; update if necessary
- Implement all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implement program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Enclose all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Review as-built drawings for new and redevelopment to ensure compliance with post construction bylaws, regulations, or regulatory mechanism consistent with permit requirements
- Inspect all permittee owned treatment structures (excluding catch basins)
- Identify additional permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas so that the permittee maintains a minimum of 5 sites in their inventory, until such a time when the permittee has less than 5 sites remaining

Provide any additional details on activities planned for permit year 6 below:

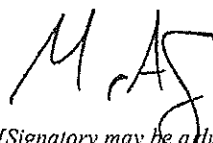
Part V: Certification of Small MS4 Annual Report 2023

40 CFR 144.32(d) 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, I certify that 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.

Name:

Title:

Signature: 
[Signatory may be a duly authorized representative]

Date:

Note: When prompted during signing, save the document under a new file name.

Annual Report Submission	
<i>Please submit the form electronically via email to both EPA and MassDEP by clicking on one of the links below or using the email addresses listed below. Please ensure that all required attachments are included in the email and not attached to this PDF.</i>	
EPA: stormwater.reports@epa.gov	MassDEP: Stormwater.DEP@mass.gov

Paper Signature:
If you did not sign electronically above, you can print the signature page by clicking the button below.

Optional: If you did not sign electronically above, you may lock the form by clicking the "Lock Form" button below which will prompt you to save the locked version of the form. Save this locked version under a new file name.