

Year 1 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: May 1, 2018-June 30, 2019

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

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.

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: na

City: Ludlow State: MA Zip Code: 01056

Email: jgoodreau@ludlow.ma.us Phone Number: (413) 583-5625

Fax Number: N/A

Stormwater Management Program (SWMP) Information

SWMP Location (web address): http://www.ludlow.ma.us/reports/dpw/reports/stormwater_management_plan

Date SWMP was Last Updated: 6/30/2019

If the SWMP is not available on the web please provide the physical address and an explanation of why it is not posted on the web:

Part II: Self Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4.

Impairment(s)			
<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			
TMDL(s)			
<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
			<input type="button" value="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.

Year 1 Requirements

- Develop and begin public education and outreach program
- Identify and develop inventory of all known locations where SSOs have discharged to the MS4 in the last 5 years
 - The SSO inventory is attached to the email submission
 - The SSO inventory can be found at the following website:
- Develop written IDDE plan including a procedure for screening and sampling outfalls
- IDDE ordinance complete
- Identify each outfall and interconnection discharging from MS4, classify into the relevant category, and priority rank each catchment for investigation
 - The priority ranking of outfalls/interconnections is attached to the email submission
 - The priority ranking of outfalls/interconnections can be found at the following website:
- Construction/ Erosion and Sediment Control (ESC) ordinance complete
- Develop written procedures for site inspections and enforcement of sediment and erosion control measures
- Develop written procedures for site plan review
- Keep a log of catch basins cleaned or inspected
- Complete inspection of all stormwater treatment structures

Annual Requirements

- Annual opportunity for public participation in review and implementation of SWMP
- Comply with State Public Notice requirements
- 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
- All curbed roadways have been swept a minimum of one time per year

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

Annual Requirements

*Public Education and Outreach**

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

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

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

Annual Requirements

*Public Education and Outreach**

- Distribute 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
- Distribute an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- Distribute 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

- Increase 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)

Potential structural BMPs

- Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the
- nitrogen removal by the BMP consistent with Attachment 1 to Appendix H. Document 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 in each each annual report

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

Annual Requirements*Public Education and Outreach**

- Distribute 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 and phosphorus-free fertilizers
- Distribute an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- Distribute 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

- Increase 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)

Potential structural BMPs

- Any structural BMPs listed in Attachment 3 to Appendix F already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus
- removal by the BMP consistent with Attachment 1 to Appendix H. Document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP in each each annual report

Lake and Pond Phosphorus TMDL

- Begin Phase 1 Lake Phosphorus Control Plan (LPCP)

Use the box below to input additional details on any unchecked boxes above or any additional information you would like to share as part of your self assessment:

In regards to public review of the SWMP, it is currently posted online which satisfies the MA Small MS4 Permit requirements for public participation. The SWMP currently states that a notice is to be posted to a DPW Agenda. This is no longer necessary and will be removed from the SWMP and updated in the following yearly reports.

Currently, the town sweeps all streets and parking lots, curbed and uncurbed, once per year. Streets in critical areas and in the downtown area are swept twice per year. The Town's street sweeping schedule will be updated to include sweeping of Town-owned parking lots twice per year.

The annual message in the fall encouraging the proper disposal of leaf litter will occur this October. It will be done through the Town of Ludlow's cable access channel. An informational flyer is posted on the Town website, for residents, regarding proper disposal of leaf litter.

Town-Owned BMPs from Attachment 3 to Appendix F will be noted and the phosphorus/nitrogen removal will be tracked. The Town of Ludlow is aware of this measure and progress will be updated in the following annual report.

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:

N/A

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 the reporting period: 20

Below, report on the educational messages completed during the first year. 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:

Post pollution prevention document for businesses on Town website.

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 Additional Information.

Message Date(s): June 2019

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:

Post Stormwater Management for Developers document on Town website.

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 Additional Information.

Message Date(s):

June 2019

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:

Post Construction Stormwater Tips document on Town website.

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
Additional Information.

Message Date(s): June 2019

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:

Post Stormwater Pollution Prevention for Industrial Sites 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
Additional Information.

Message Date(s): June 2019

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: Maintaining BMPs at Industrial Facilities

Message Description and Distribution Method:

Post Maintaining your BMPs document on Town website.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

This document has been posted on the Town of Ludlow website, under the Department of Public Works
Additional Information.

Message Date(s): June 2019

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:

Post Overall Stormwater Pollution Prevention Guide for Homeowners document on Town website.

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
Additional Information.

Message Date(s): June 2019

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:

Post Stormwater Pollution Education: Fertilizing the Lawn document on Town website. Distribute 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):

The "Fertilizing the Lawn" document has been posted on the Town DPW website, under additional information and will be posted as an announcement on the local cable access station. The document will remain on the Town DPW website year-round.

Message Date(s): 2018

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:

Post Dog Waste and Surface Water Quality document on Town website. Provide educational material on pet waste and surface water quality to dog owners at time of issuance and renewal of dog licenses. The message will remain on the town website and will be available throughout the year. The message will encourage the proper management of pet waste.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

The "Dog Waste and Surface Water Quality" document has been posted on the Town DPW website, under additional information. This 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): 2018/2019

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:

Post links to EPA and DEP General Stormwater Information on 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 Additional Information.

Message Date(s): June 2019

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:Hazardous Waste Collection Day

Message Description and Distribution Method:

Host a hazardous waste collection day.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

A Hazardous Waste Collection Day was held in 2018. The Town is attempting to contact local recycling facilities to encourage residents to dispose of hazardous waste at these locations.

Message Date(s): 2018

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: Maintenance of Septic Svstems in Impaired Water Bodv 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.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations

Measurable Goal(s):

To educate septic system owners during septic system inspections, the proper maintenance document has been posted on the Town of Ludlow website, under the Department of Public Works Additional Information.

Message Date(s): June 2019

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:

Distribute an annual message 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 Additional Information. A public service announcement will be sent out in the fall through the local cable access channel.

The Connecticut River Stormwater Committee has also reported, from this same flyer, there have been 325 flyers distributed at 12 of the regions larger home & garden centers, 104 Facebook impressions and 347 impressions from the PVPC regional e-newsletter.

Message Date(s): June 2019 and Oct. 2018

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:

Ludlow is a member of the Connecticut River Stormwater Committee and therefore participates in MS4 measures completed by this organization in addition to the Towns own NOI.

BMP: Why should you care as a professional landscaper? Better land care practices.

Message Description and Distribution Method:

The Connecticut River Stormwater Committee has developed a personalized mailing with input from UMass Cooperative Extension, highlighting how lawn care practices can contribute to contaminated storm flows, promoting two best practices (leave grass clippings where they fall, test your client's soil with link to UMass soil testing services).

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

Reached 127 landscaping companies in the region.

Message Date(s): May 15, 2019

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:

Ludlow is a member of the Connecticut River Stormwater Committee and therefore participates in MS4 measures completed by this organization in addition to the Towns own NOI.

BMP: Why should you care as a professional landscaper? Better leaf litter practices.

Message Description and Distribution Method:

The Connecticut River Stormwater Committee has developed a personalized mailing with input from UMass Cooperative Extension, explaining MS4 permit objectives and three recommended BMPs (use of a mulching mower, composting if client has ability, keeping leaves off driveway and roadways).

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

Reached 26 landscaping companies in the region

Message Date(s): October 26, 2018

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:

Ludlow is a member of the Connecticut River Stormwater Committee and therefore participates in MS4 measures completed by this organization in addition to the Towns own NOI.

BMP:Think Picking up Spike's Poop is Gross? Try Swimming in It.

Message Description and Distribution Method:

Connecticut River Stormwater Committe has posted this poster and social media post that highlights what happens with dog waste that is left on the ground.

Targeted Audience: Residents

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

FB Impressions: 4,396

Posters Distributed: 125

Message Date(s): June-July 2019

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:

Ludlow is a member of the Connecticut River Stormwater Committee and therefore participates in MS4 measures completed by this organization in addition to the Towns own NOI.

BMP:Get Wise About Your Lawn

Message Description and Distribution Method:

Flyer, tri-fold brochure, and social media post that highlights problem with fertilizers and seeks to normalize practice around 4 bmps (test your soil, leave clippings where they fall, choose the right fertilizer, mow high). Also mentions restrictions on phosphorous use.

Targeted Audience: Residents

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

FB impressions: 6,507

Impressions from PVPC regional e-newsletter: 386

Message Date(s): May 2019

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:

Ludlow is a member of the Connecticut River Stormwater Committee and therefore participates in MS4 measures completed by this organization in addition to the Towns own NOI.

BMP:How to soak up the rain around your home and garden

Message Description and Distribution Method:

Connecticut River Stormwater Committee organized a workshop at Hadley Garden Center with interactive elements to promote understanding about stormwater and to stimulate thinking about building stormwater BMPs around the home and garden

Targeted Audience: Residents

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

63 people from around the region participated in 90-minute workshop; participants took soak up the rain porous paving and rain garden lawn signs at end of workshop

Message Date(s): March 2, 2019

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:

Ludlow is a member of the Connecticut River Stormwater Committee and therefore participates in MS4 measures completed by this organization in addition to the Towns own NOI. Opportunity arose and decided that good way to continue promoting soak up the rain effort.

BMP:Think Blue - Fowl Water

Message Description and Distribution Method:

The Think Blue website has posted this video on social media explaining that stormwater pollution carries trash, oil cigarette butts, and dog waste

Targeted Audience: Residents

Responsible Department/Parties: State-wide Think Blue MA for Connecticut River Coalition

Measurable Goal(s):

Facebook impressions: 358,297

YouTube impressions: 292,655

Message Date(s): June 23 to June 30, 2019

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:

Ludlow is a member of the Connecticut River Stormwater Committee and therefore participates in MS4 measures completed by this organization in addition to the Towns own NOI. Decided that good way to introduce residents in region to stormwater issues generally.

BMP:15 to the River

Message Description and Distribution Method:

The PVPC has posted this video posted on social media that highlights how rain and contaminated stormwater are largest source of water pollution and how quickly these flows get to the river; with what you can do to help

Targeted Audience: Residents

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

YouTube views: 285

See: <https://www.youtube.com/watch?v=nvnGgWg-mSE&t=3s>

Message Date(s): December 2018

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:

Ludlow is a member of the Connecticut River Stormwater Committee and therefore participates in MS4 measures completed by this organization in addition to the Towns own NOI. Decided that good way to introduce residents in region to stormwater issues generally.

BMP:Best Practices with Residential Geese

Message Description and Distribution Method:

The Connecticut River Stormwater Committee created a personalized mailing developed with input from Mass Fish and Wildlife on BMPs for managing geese.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Connecticut River Stormwater Committee

Measurable Goal(s):

None yet. See note below.

Message Date(s):

Mailing Planned for September 2019

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:

Ludlow is a member of the Connecticut River Stormwater Committee and therefore participates in MS4 measures completed by this organization in addition to the Town's own NOI. This message had been planned for the June-July time frame, but meaningful long-term solution on how to manage geese not yet established. Stormwater Committee had several exchanges with Mass Fish & Wildlife in order to devise recommendations and is currently seeking good technical assistance resource for these landowners in the region with goose problems.

Add an Educational Message

MCM2: Public Participation

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

The Town of Ludlow's SWMP has been posted to the town website for public review. There have been no updates to the SWMP during this reporting period.

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

Describe any other public involvement or participation opportunities conducted during the reporting period:

Future goals for the Town involving the public, include: holding a public cleanup in the Spring of every reporting year, and documentation of any public discussions/comments about the stormwater bylaws or new requirements. These opportunities are from both the NOI and SWMP documents.

Our municipality participated in the Massachusetts Statewide Municipal Stormwater Coalition (Statewide Coalition). The Statewide Coalition presented on the Think Blue Massachusetts public awareness campaign and regional collaboration on stormwater at the following public events:

- Metrowest/495 Partnership (October 4, 2018)
- MetroWest Stormwater Roundtable hosted by MetroWest Regional Collaborative (MWRC)
- Metropolitan Area Planning Council (MAPC) (November 20, 2018)
- Massachusetts Municipal Association (MMA) Meeting & Trade Show (Jan 18-19 2019)
- New England Water Environment Association Annual Conference (Jan 28 2019)
- Massachusetts Association of Conservation Commissions Annual Conference (March 2, 2019)
- New England American Public Works Association Spring Conference (April 17, 2019)
- Ecotarium Earth Day activities (April 16-19 2019)
- New England Water Environment Association Spring Meeting (June 4, 2019)

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

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

Below, report on the total number of SSOs identified in the MS4 system and removed to date. At a minimum, report SSOs identified since 2013.

Total number of SSOs identified: 12

Total number of SSOs removed: 12

MS4 System Mapping

Describe the status of your MS4 map, including any progress made during the reporting period (phase I map due in year 2):

MS4 map has been completed and is attached to the IDDE Document.

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.

- The outfall screening data is attached to the email submission
- The outfall screening data can be found at the following website:

N/A

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

Number of outfalls screened: N/A

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

Percent of total outfalls screened: N/A

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.

- The catchment investigation data is attached to the email submission

The catchment investigation data can be found at the following website:

N/A

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

Number of catchment investigations completed this reporting period: N/A

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

Percent of total catchments investigated: N/A

Optional: Provide any additional information for clarity regarding the catchment investigations below:

N/A

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.

The illicit discharge removal report is attached to the email submission

The illicit discharge removal report can be found at the following website:

N/A

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: N/A

Number of illicit discharges removed: N/A

Estimated volume of sewage removed: N/A [UNITS]

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.

Total number of illicit discharges identified: N/A

Total number of illicit discharges removed: N/A

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

N/A

Employee Training

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

This reporting period, the SWMP Team Coordinator held a team training and reviewed the following video:
https://www.youtube.com/watch?v=DSLjLJh_Voc

This training will happen annually and updates will be recorded in the following annual report.

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: 11

Number of inspections completed: 11

Number of enforcement actions taken: 0

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

Ordinance Development

Describe the status of the post-construction ordinance required to be complete in year 2 of the permit term:

This ordinance was established before MS4 permitting began. No updates have been made.

As-built Drawings

Describe the status of the measures the MS4 has utilized to require the submission of as-built drawings and ensure long term operation and maintenance of completed construction sites required to be complete in year 2 of the permit term:

The town of Ludlow currently requires as-built submissions for all subdivision projects. Expanding this requirement to satisfy all construction projects will be addressed and noted in future annual reports.

Street Design and Parking Lots Report

Describe the status of the street design and parking lots assessment due in year 4 of the permit term, including any planned or completed changes to local regulations and guidelines:

In progress. Report follow-up will be included in the next annual report.

Green Infrastructure Report

Describe the status of the green infrastructure report due in year 4 of the permit term, including the findings and progress towards making the practice allowable:

In progress. Report follow-up will be included in the next annual report.

Retrofit Properties Inventory

Describe the status of the inventory, due in year 4 of the permit term, of permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas and report on any properties that have been modified or retrofitted:

In progress. Report follow-up will be included in the next annual report.

MCM6: Good Housekeeping

Catch Basin Cleaning

Describe the status of the catch basin cleaning optimization plan:

Plan has been established and implemented. It is within the SWMP document.

If complete, attach the catch basin cleaning optimization plan or the schedule to gather information to develop the optimization plan:

- The catch basin cleaning optimization plan or schedule is attached to the email submission
- The catch basin cleaning optimization plan or schedule can be found at the following website:

In the SWMP MCM 6 BMP 5

http://www.ludlow.ma.us/reports/dpw/stormwater/stormwater_mgmt_plan-062819.pdf

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: 0

Number of catch basins cleaned: 13

Total volume or mass of material removed from all catch basins: 7 [CY]

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

Total number of catch basins:

2,404

If applicable:

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

This has not been encountered during this reporting period.

Street Sweeping

Describe the status of the written procedures for sweeping streets and municipal-owned lots:

Currently, the town sweeps all streets and parking lots, curbed and uncurbed, once per year. Streets in critical areas and in the downtown area are swept twice per year. The Town's street sweeping schedule will be updated to include sweeping of Town-owned parking lots twice per year.

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

- Number of miles cleaned: 140
- Volume of material removed: 900 [CY]
- Weight of material removed: 1215 [TONS]

If applicable:

For rural uncurbed roadways with no catch basins, describe the progress of the inspection, documentation, and targeted sweeping plan:

Rural uncurbed roadways are swept once per year. If the road is within a high TMDL concentration zone, it will be swept twice per year.

Winter Road Maintenance

Describe the status of the written procedures for winter road maintenance including the storage of salt and sand:

Winter road maintenance Standard Operating Procedures have been completed. These include: inventory of equipment used for salting/plowing, sand, salt, anti-icing, and pre-wetting quantities, and operating procedures for these applications.

Inventory of Permittee-Owned Properties

Describe the status of the inventory, due in year 2 of the permit term, of permittee-owned properties, including parks and open spaces, buildings and facilities, and vehicles and equipment, and include any updates:

The current inventory the Town of Ludlow has for permittee-owned properties includes: DPW equipment/vehicles and parks/open spaces. Inventory of other permittee-owned property is currently being completed and will be reported in the following reporting period.

O&M Procedures for Parks and Open Spaces, Buildings and Facilities, and Vehicles and Equipment

Describe the status of the operation and maintenance procedures, due in year 2 of the permit term, of permittee-owned properties (parks and open spaces, buildings and facilities, vehicles and equipment) and include maintenance activities associated with each:

O&M procedures for these permittee-owned properties are in progress and will be reported in upcoming Year 2 report.

Stormwater Pollution Prevention Plan (SWPPP)

Describe the status of any SWPPP, due in year 2 of the permit term, for permittee-owned or operated facilities including maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater:

SWPPP has not been completed, but will be provided in the upcoming Year 2 annual report.

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

Number of site inspections completed: N/A

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

N/A

O&M Procedures for Stormwater Treatment Structures

Describe the status of the written procedure for stormwater treatment structure maintenance:

O&M procedures for stormwater treatment structures has not been completed and will be updated in the Year 2 annual report.

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 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:

N/A

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:

N/A

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 2 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree

Annual Requirements

Provide any additional details on activities planned for permit year 2 below:

For the Year 2 reporting period, important goals for the Town of Ludlow include: continuing the IDDE annual training program, increasing public awareness of the SWMP and other awareness in regards to stormwater pollution, beginning the SWPPP, taking inventory of Town BMPs and nitrogen removal tracking, and beginning catchment investigations per the outfall rankings completed. Any updates to the SWMP or other reporting material will be posted to the following annual report.

Part V: Certification of Small MS4 Annual Report 2019

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:

Date:

[Signatory may be a duly authorized representative]