

Year 3 Annual Report

Massachusetts Small MS4 General Permit

Reporting Period: July 1, 2020-June 30, 2021

*****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. Please ONLY report on activities between July 1, 2020 and June 30, 2021 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization: Town of Billerica, MA

EPA NPDES Permit Number: MA041182

Primary MS4 Program Manager Contact Information

Name: Kelley Conway, PE

Title: Town Engineer

Street Address Line 1: DPW - Engineering Division

Street Address Line 2: 365 Boston Road

City: Billerica

State: MA

Zip Code: 01821

Email: kconway@town.billerica.ma.us

Phone Number: (978) 671-1300

Stormwater Management Program (SWMP) Information

SWMP Location (web address): <https://www.town.billerica.ma.us/214/Stormwater-Management>

Date SWMP was Last Updated: October 2020

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

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>

Impairment(s)

- ☒ Bacteria/Pathogens
 ☐ Chloride
 ☐ Nitrogen
 ☒ Phosphorus
☐ Solids/ Oil/ Grease (Hydrocarbons)/ Metals

TMDL(s)

- In State:**
☐ Assabet River Phosphorus
 ☒ Bacteria and Pathogen
 ☐ Cape Cod Nitrogen
☐ Charles River Watershed Phosphorus
 ☐ Lake and Pond Phosphorus
Out of State:
☐ Bacteria/Pathogens
 ☐ Metals
 ☐ Nitrogen
 ☐ 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.

Year 3 Requirements

- ☐ Inspected and screened all outfalls/interconnections (excluding Problem and Excluded outfalls)
☒ Updated outfall/interconnection priority ranking based on the information collected during the dry weather inspections as necessary
☐ Post-construction bylaw, ordinance, or other regulatory mechanism was updated and adopted consistent with permit requirements

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide any additional information, and/or if any of the above year 3 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:

In Permit Year 3, the Town and their stormwater consultant completed outfall investigations to screen outfalls that had not been visited in a previous Permit Year and also attempted to field verify outfalls that could not be located during previous field efforts. 95% of the Town's MS4 outfalls (more than 600 outfalls) have been inventoried and screened as of June 30, 2021 and the outfall inventory was updated as necessary. 35 mapped outfalls have not been screened because they have proved to be difficult to locate or access and require significant extra effort by Engineering Division staff to field verify. The Town will continue to complete field work to locate and screen the few remaining outfalls in Permit Year 4. The updated inventory and ranking for the Town's 640 MS4 outfalls and interconnections is attached.

Billerica's current Stormwater Management Regulations, Chapter 6 of the Board of Health Rules and Regulations, are largely compliant with the 2016 Small MS4 General Permit but it was determined additional clarifications and specifics are needed to meet the more stringent post-construction requirements. The Town updated the Board of Health Rules and Regulations for consistency with the General Permit requirements in

Permit Year 3. The draft update was presented at the June 7, 2021 Board of Health meeting for public and Board comment. The Town was planning to adopt the updated Regulations at the July 2021 Board of Health meeting but they have been continued to a later meeting due to significant COVID-19 impacts. The Board of Health is the enforcing entity of the Regulations, and the Board and the Health Director have been immersed in contact tracing and other COVID-related issues. The updated Regulations are anticipated to be adopted at a Board of Health public meeting in fall of 2021.

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 website:
- ☒ Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- ☒ Provided training to employees involved in IDDE program within the reporting period
- ☒ All curbed roadways were swept at least once within the reporting period
- ☒ Updated system map due in year 2 as necessary
- ☒ 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, provide any additional information, and/or if any of the above annual 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:

Updated information in the attached SSO inventory was reported in Woodard & Curran's July 23, 2021 letter to Kevin Brander, PE, Section Chief of MassDEP's Wastewater Management Program RE: Semi-Annual Report ACOP-NE-10-1N005.

The Town-wide "Good Housekeeping and Pollution Prevention Operations and Maintenance Plan" developed in Permit Year 2 includes maintenance procedures for Town facilities and MS4 infrastructure, which are implemented to the maximum extent practicable.

In Permit Year 3, the Town inspected some municipal BMPs and completed maintenance as needed. During outfall investigations, partial BMP inspections are completed to determine the condition of the BMP outlet. School detention basins are mowed regularly and the School Maintenance Department anticipates establishing a routine BMP inspection program in Permit Year 4. Billerica continues to improve the BMP inventory in PeopleGIS and has identified public/private ownership for many BMPs. The Town anticipates developing a GIS-based inspection form in Permit Year 4 that will help streamline inspection results and any corrective actions needed/taken as the inspection program is enhanced and implemented in future Permit Years.

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

** 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:

A message regarding proper maintenance of septic systems was posted on the Town's Facebook page on August 4, 2021 which was intended to meet the Year 3 public education requirement.

Phosphorus (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) encouraging the proper use and disposal of grass clippings and encouraging the proper use of slow-release and phosphorus-free 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)

Potential structural BMPs

Any structural BMPs already existing or installed in the regulated area by the permittee or its agents was tracked and the phosphorus 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 phosphorus removed in mass per year by the BMP were documented.

- ☐ The BMP information is attached to the email submission
- ☒ The BMP information can be found at the following website:

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:

Street Sweeping: In Permit Year 3, the Highway Division swept all paved municipal streets and parking lots at least once. Approximately a third of streets within the Concord River watershed were swept twice. Due to weather conditions and staffing issues due to COVID-19, the Highway Division could not complete all streets a second time. The Town continues to work towards increasing sweeping frequency for all streets in the Concord River watershed to meet the downstream Merrimack River phosphorus impairment requirements.

BMPs: Because phosphorus load removal has not historically been calculated for stormwater BMPs and design reports are difficult to locate for older projects, the Town estimated phosphorus removal for municipal BMPs in the Concord River watershed that were in the current GIS mapping using preliminary catchment delineations, basin volume derived from LiDAR, surficial geology, and other readily available data. These estimates proved to be inaccurate. It should be noted that these BMPs were installed prior to the issuance of the General Permit. The Town identified a few additional municipal BMPs that have been installed since the Permit issuance date during development of this annual report that are not currently in the GIS mapping. This information will be tracked for these BMPs in Permit Year 4 based on stormwater reports and design calcs (if available), as well as for new BMPs installed within the Concord River watershed.

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:

Billerica's NOI listed water quality impairments and TMDLs for the Town's receiving waters based on the 2014 303(d) List. The Town evaluated changes to the impairments and/or receiving waters based on the final 2016 303(d) List and the analysis is included in the Town's Permit Year 2 Annual Report and available in the Town's SWMP.

During outfall investigations completed in Permit Year 3, the Town added 1 new outfall to the MS4 mapping and removed 17 outfalls from the MS4 mapping because they are a different type of drainage structure (e.g., culvert, BMP inlet). These modifications removed the following receiving waters from what was listed in the NOI:

- Tributary/Wetland to Jones Brook
- Wetland to Unnamed Tributary to Lubbers Brook (as listed in Permit Year 1 Annual Report)

This did not change any impairments or TMDLs listed in the NOI and Permit Year 2 receiving water update.

Billerica updates the drainage system mapping as needed as field work is completed and discrepancies are found.

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:**

*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: Education and Outreach to Residents and Businesses: 2020 Water Quality Report

Message Description and Distribution Method:

The Town's 2020 Drinking Water Quality report included two pages dedicated to stormwater. Information within the report includes an overview of the NPDES MS4 program; general stormwater management topics, leaf litter and yard waste disposal, proper pet waste management, and fertilizer use. The Water Quality report was mailed out to all Billerica properties with water accounts. Copies of the report were also available to visitors of municipal offices.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Copies of the drinking water quality report were distributed to all Billerica addresses that receive a water bill (16,743 reports mailed to residents and businesses).

Message Date(s):

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 and Outreach to Residents: Pet Waste Education

Message Description and Distribution Method:

A brochure discussing proper pet waste management and its connection to stormwater pollution, including a reference to the Town's "Regulation of Dogs" General By-law (Article VII, Section 2), was given with dog license issuances and renewals.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

2,500 pet waste management brochures were distributed with dog licenses in Permit Year 3.

Message Date(s): 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 and Outreach to Residents: Lawn Care, Yard Waste, and Fertilizer Use

Message Description and Distribution Method:

Information on lawn maintenance, yard waste collection, and proper fertilizer use including phosphorus-free options is advertised on the "Lawns and Landscape Fact Sheet" document on the Town's Stormwater Management webpage, the DPW Twitter and Facebook pages, and the Town's Nextdoor webpage. Waste Management distributes a "collection guide" to applicable residents that includes the schedule for yard waste collection including information on proper disposal. In addition, a flyer on proper leaf litter disposal is posted on the Town's Public Works webpage.

Targeted Audience: Residents

Responsible Department/Parties: DPW

Measurable Goal(s):

The Lawns and Landscape Fact Sheet document and leaf litter flyer are available to all visitors of the Town's Stormwater Management and Public Works webpages.

The "collection guide" was mailed to all residents receiving trash pick up.

The social media posts reached the following:

-Facebook Fertilizer post: 75 engagements and 1,059 people reached, including 1 comment, 13 likes, and 2 shares;

-Twitter Lawn Care post: 3 engagements, including 2 likes and 1 retweet;

-Town Nextdoor Yard Waste Collection post: 8 likes.

Message Date(s): Website materials: Ongoing
Facebook Fertilizer post: May 13, 2021
Twitter Lawn Care post: April 13, 2021
Nextdoor Yard Waste Collection post: October 23, 2020

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 and Outreach to Residents: ThinkBlue Messaging

Message Description and Distribution Method:

The Town is a member of the Northern Middlesex Stormwater Collaborative (NMSC), which participated in the Think Blue Massachusetts educational advertisement campaign during Permit Year 3. Think Blue Massachusetts shared a "Fowl Water" video across YouTube, Instagram, and Facebook educating the public in member communities on stormwater runoff. The video includes information on proper management of pet waste. A post-campaign survey was distributed to analyze the impact of the advertising campaign.

Targeted Audience: Residents

Responsible Department/Parties: DPW

Measurable Goal(s):

In 2021, the post-campaign survey illustrated that 16% of respondents recalled seeing the "Fowl Water" video and were more likely to know that stormwater pollution ends up in local waterways. The 2021 ad campaign for the Town received 70,133 impressions across Facebook, Instagram, and YouTube.

Message Date(s): May 17th to July 4th, 2021

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 and Outreach to Residents: School Education Program

Message Description and Distribution Method:

Typically, staff from the Wastewater Division conduct annual visits to school classrooms, from elementary schools to colleges, to educate and inform students about water quality and stormwater pollution. However, school visitor restrictions as a result of COVID-19 resulted in the inability to conduct these visits in person. Wastewater staff were able to provide tours for residents during Permit Year 3. Additionally, the Town's Water Resource Recovery Facility Superintendent created an educational video for the local high school about career options in water resources.

Targeted Audience: Residents

Responsible Department/Parties: DPW

Measurable Goal(s):

3 tours were provided in Permit Year 3 and attended by 6 to 10 people in each tour. The video was given to the Town high school to show to any classroom students who may be interested in viewing.

Message Date(s): 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 and Outreach to All Audiences: Stormwater Webpage

Message Description and Distribution Method:

The Town's comprehensive Stormwater Management webpage discusses stormwater runoff, pollution, and the Town's Stormwater Management Program, including details on Billerica's efforts to complete each MCM. The webpage has links to the Town's SWMP, Permit Year 2 Annual Report, NOI, stormwater bylaws and regulations, the Think Blue MA "Fowl Water" video, an educational guide for developers on stormwater management and green development, and other stormwater-related documents (such as pet waste management, lawn care, and automobile maintenance). The Stormwater Management webpage was updated in Permit Year 2 to provide information about all aspects of the Town's MS4 program and may be updated moving forward as the SWMP is implemented. Additional stormwater-related messages are also provided on other Town webpages, including proper septic system maintenance information found on the Board of Health FAQ page.

Targeted Audience: All Audiences

Responsible Department/Parties: DPW

Measurable Goal(s):

There were 445 page hits on the stormwater webpage during Permit Year 3.

Message Date(s): 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 and Outreach in Municipal Offices

Message Description and Distribution Method:

Numerous municipal offices have stormwater brochures and messages pertaining to each department's area of interest. The Town Clerk's Office has brochures on cleaning up pet waste, and not disposing into storm drains as part of dog licensing registration. The Board of Health has information about construction site stormwater mitigation measures and how to install controls. The Conservation Commission has brochures on what household items can pollute the rivers and streams if not used correctly. DPW Engineering has multiple brochures, books, post cards, and posters that have been developed to date for topics related to stormwater.

Targeted Audience: All Audiences

Responsible Department/Parties: DPW

Measurable Goal(s):

These brochures are available to all visitors of the municipal offices.

Message Date(s): DPW

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 and Outreach to Residents: Septic System Maintenance

Message Description and Distribution Method:

A message regarding proper septic system maintenance, including not flushing wipes, was posted to the DPW Facebook page on August 4, 2021. This message was intended to meet the Permit Year 3 education requirement.

Information about proper septic system maintenance is also included in the Board of Health Frequently Asked Questions webpage.

Targeted Audience: Residents

Responsible Department/Parties: DPW

Measurable Goal(s):

The post received 6 likes and 2 shares.

Additional educational information is available to all visitors of the Board of Health webpage.

Message Date(s): Facebook post: August 4, 2021
Board of Health webpage: 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 and Outreach to Residents: Leaf Litter

Message Description and Distribution Method:

The Billerica DPW posted a message on Twitter with a "Be a Leaf Hero" graphic suggesting tips to properly dispose of leaf litter and help keep waterways healthy.

Targeted Audience: Residents

Responsible Department/Parties: DPW

Measurable Goal(s):

The Twitter post received 4 likes and could be viewed by all followers of the DPW account.

Message Date(s): October 29, 2020

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 and Outreach to Developers (Construction)

Message Description and Distribution Method:

Two brochures were customized in Permit Year 3 for developers, including EPA's "10 Steps to Stormwater Pollution Prevention on Small Residential Construction Sites" and DCR's "General Construction and Site Supervision Stormwater Tips", which discuss proper construction site procedures and pollution prevention, SWPPPs, and reference Billerica's Stormwater Management By-Law.

Targeted Audience: Developers (construction)

Responsible Department/Parties: DPW

Measurable Goal(s):

The brochures are available at the Board of Health Permitting office.

Message Date(s): 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:

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) is available for public review and input on the Town's website. Social media posts related to stormwater topics included a link to the Town's stormwater webpage.

As part of development of the updated Board of Health Rules and Regulations, a Board of Health public meeting was held on June 7, 2021 where public input was solicited.

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:**

Household hazardous waste (HHW) drop-off events were hosted on October 17, 2020 and May 15, 2021. Approximately 17.47 tons of HHW was collected from the two drop off events.

The Town holds monthly waste oil drop off days on the 3rd Saturday of every month from 9 AM to 1 PM. In Permit Year 3, a total of approximately 415 gallons of waste oil was dropped off from a total of 100 residents.

Waste Management provided yard waste collection during the spring and fall with the regular curbside trash and recycling removal (October 26 - December 4, 2020 and April 26 - May 21, 2021). Christmas trees are also accepted during a drop off week after Christmas and during regular curbside collection from January 11 - 15, 2021.

The Town partners with the Central Massachusetts Mosquito Control Project for restoration and maintenance of approximately 17,975 feet of wetlands and ditches, as well as cleaning 74 culverts. Brush, tires, and other accumulated debris were removed from culverts and streams. Efforts also included insertion of larvicides into 3,136 Town catch basins.

Billerica's annual 'Clean Up, Green Up' event occurred on April 24, 2021 with residents and volunteers collecting two 20 yard containers of trash that were disposed of. The Town's Beautify Billerica group also organized a cleanup around the Locke Middle School on July 11, 2020.

OARS, a local organization whose mission is to protect, improve and preserve the Assabet, Sudbury, and Concord Rivers and their watersheds, held the 34th annual river cleanup along the Concord River in Billerica from September 25-27, 2020. More than 70 volunteers helped pick up trash and debris from the watershed during the event.

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:

Number of SSOs removed:

MS4 System Mapping

Optional: Provide additional status information regarding your map:

The Town continues to refine the MS4 GIS mapping as the IDDE Program is implemented and field investigations are completed.

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

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

Number of outfalls screened:

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

Percent of outfalls screened:

Optional: Provide additional information regarding your outfall/interconnection screening:

In Permit Year 3, the Town and their stormwater consultant completed outfall investigations to screen outfalls that had not been visited in a previous Permit Year and also attempted to field verify outfalls that could not be located during previous field efforts. 605 of the Town's MS4 outfalls have been inventoried and screened as of June 30, 2021 and the outfall inventory was updated as necessary. This is 95% of the MS4 outfalls. 35 mapped outfalls have not been screened because they have proved to be difficult to locate or access and require extra effort by Engineering Division staff to field verify. The Town will continue to complete field work to locate and screen the remaining outfalls in Permit Year 4. The updated inventory and ranking for the Town's 640 MS4 outfalls and interconnections is attached.

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 website:

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

Number of catchment investigations completed this reporting period: 18

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

Percent of total catchments investigated: 3

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

Billerica begin catchment investigations in Permit Year 3 and completed two days of field work on June 22, 2021 (dry weather key junction manhole inspections) and July 2, 2021 (wet weather outfall sampling). The Town intends to continue investigations in Permit Year 4 and future Permit Years. The data included herein will be part of an overall summary document developed in Permit Year 4 for both Year 3 and Year 4 catchment investigations.

On June 22, 2021, 20 catchments were investigated during dry weather conditions and 25 key junction manholes were screened. Of the 25 manholes, 6 had dry weather flow and were sampled. 1 of the manholes had 2 inlets with flow and therefore was sampled twice. No manholes had water quality results that met EPA's criteria for a likely sewer input. 1 additional manhole had flow but sampling was completed only once at another manhole in the catchment, as both had the same source of flow. Based on the information collected, 13 catchments should be considered successfully screened and complete because they either had no flow or had flow but in-situ testing results were below benchmark.

An initial analysis of System Vulnerability Factors was completed to determine outfalls that require wet weather sampling. 11 outfalls were visited and wet weather outfall screening and sampling was completed. It should be noted that the rain stopped partway through the work day on July 2, 2021, so 4 outfalls visited were dry and sampling could not be completed. Of the outfalls sampled, most had E. coli and phosphorus levels above EPA benchmarks. This is expected for wet weather nonpoint source pollution and may not be indicative of a sanitary input to the drain or SSOs because the surfactants levels were all non-detect or below EPA benchmarks.

In accordance with the Town's MS4 Catchment Investigation Procedures (December 2019), outfall catchments that do not include a junction manhole (e.g., the catchment may be small and only contain a number of individual catch basins) do not require dry weather key junction manhole inspections; the dry weather screening completed at the catchment's outfall fulfills the intent of the manhole inspection requirement when screening does not indicate the presence of a potential illicit discharge. For catchments that meet this criteria and do not require wet weather screening, the catchment investigation is considered complete. For catchments analyzed in Permit Year 3, 5 fell into this category.

The number of catchment investigations completed this reporting period reported above includes the 13 catchments successfully completed and the 5 catchments with no junction manholes. The percent of total catchments investigated assumes each MS4 outfall (640 total) has its own catchment, though the initial catchment delineations in the GIS mapping is not yet as refined as this.

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 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:

Number of illicit discharges removed:

Estimated volume of sewage removed: 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:

Total number of illicit discharges removed:

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

There was one documented illicit discharge of motor oil from a broken motor bike to the storm drain in front of 3 Christina Avenue on May 6, 2021. The catch basin was inspected by the Town and the Highway Division and Fire Department investigated the discharge and confirmed the presence of motor oil adjacent to the storm drain. No oil was reported at the outfall. According to the Town Board of Health, the amount discharged was less than a quart of oil. The Director of Public Health issued a warning letter to the current resident of the property advising that the activity constitutes a violation of Town Stormwater Bylaws and may be subject to fines for future offenses.

Employee Training

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

A live, virtual training was completed by the Town's stormwater consultant for multiple Town employees on June 3, 2021. The training provided an overview the Town's IDDE program, and discussed how to recognize and report illicit discharges and SSOs. 14 town employees attended the training, including representatives from DPW, Highway, WWTF, and Schools.

The Northern Middlesex Stormwater Collaborative (NMSC) held a training on April 27, 2021 for member communities. The training topics included municipal good housekeeping practices and oil spill prevention, control, and countermeasures. 32 town employees attended the training, including representatives from DPW, Highway, WWTF, Schools, and the Fire Department. Town representatives also attended the NMSC meeting on March 5, 2021 that discussed the then-proposed General Permit modifications, annual report expectations, and municipal good housekeeping and GIS best practices. Representatives from the Town typically attended other NMSC and statewide stormwater coalition meetings held in Permit Year 3.

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: 8

Number of inspections completed: 303

Number of enforcement actions taken: 1

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

As-built Drawings

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

Number of as-built drawings received: 13

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

Chapter 6 of the Board of Health Rules and Regulations, Stormwater Management Regulations, require submission of as-built drawings and long-term operation and maintenance. 2 final as-built drawings were received in Permit Year 3, and 11 additional as-built drawings were submitted during Permit Year 3 but are still under review and are not yet finalized.

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:

Preparation for the Street Design and Parking Lots Report has not yet begun as this requirement is due in Permit Year 4.

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:

Preparation for the Green Infrastructure Report has not yet begun as this requirement is due in Permit Year 4.

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:

Preparation for the Retrofit Properties Inventory has not yet begun as this requirement is due in Permit Year 4.

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: 3,159

Number of catch basins cleaned: 3,159

Total volume or mass of material removed from all catch basins: 378.8 tons

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

Total number of catch basins: 4,793

If applicable:

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

In Permit Year 3, the Town focused cleaning efforts on basins that had not been previously inspected or were more than 40% full during the previous cleaning(s). Both clam shell and vacuum cleaning methods were used. Additional structure cleanings, drain line jetting, and hydro-vac services are completed on an as-needed basis as part of routine drainage infrastructure O&M.

Street Sweeping

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

☐ Number of miles cleaned:

☐ Volume of material removed: [Select Units]

☒ Weight of material removed: 652 tons

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: 4

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

Outfalls and catch basins on-site were cleaned as needed.

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:

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:

COVID-19 Impacts

Optional: If any of the above year 3 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 4 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree ☒

- Develop a report assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover
- Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist
- Identify a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas

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)

Provide any additional details on activities planned for permit year 4 below:

The Town acknowledges the General Permit Year 4 requirements and will complete as many activities as possible based on funding and staff availability.

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Part V: Certification of Small MS4 Annual Report 2021

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:

Abdul Alkhatib

Title:

Director of Public Works

Signature:

Date:

*[Signatory may be a duly authorized
representative]*