

**Year 4 Annual Report**  
**New Hampshire Small MS4 General Permit**  
**Reporting Period: July 1, 2021-June 30, 2022**

*\*\*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, 2021 and June 30, 2022 unless otherwise requested.*

**Part I: Contact Information**

Name of Municipality or Organization:

EPA NPDES Permit Number:

**Primary MS4 Program Manager Contact Information**

Name:

Title:

Street Address Line 1:

Street Address Line 2:

City:

State:

Zip Code:

Email:

Phone Number:

**Stormwater Management Program (SWMP) Information**

SWMP Location (web address):

Date SWMP was Last Updated:

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)**

Bacteria and Pathogen     
  Chloride     
  Lake and Pond 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 4 Requirements

Developed a report assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover, made it available as part of the SWMP, and:

- No updates were recommended
- Updates were recommended. The anticipated date or date of completion for updates is/was:

Estimated updates by June 30, 2027. See below for more details.

Developed a report assessing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist, made it available as part of the SWMP, and:

- No updates were recommended
- Updates were recommended. The anticipated date or date of completion for updates is/was:

Estimated updates by June 30, 2027. See below for more details.

Identified a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious cover

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

The memorandum report assessing current street design and parking lot guidelines and other local requirements within the City that affect the creation of impervious cover and the feasibility of making green infrastructure practices allowable has been shared with Planning. Planning is in the process of reviewing the recommendations provided as part of another effort to update the City's Zoning Ordinance. There are no planned subdivision updates at this time. Updates are estimated to be completed by June 30, 2027.

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:

- 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
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Enclosed all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- 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:

**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:

### Chloride Impairment

- Completed the Salt Reduction Plan due in Year 3, updated if necessary
  - The Salt Reduction Plan is attached to the email submission
  - The Salt Reduction Plan can be found at the following website:

<https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>

*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:

### Phosphorus Impairment

#### 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)

##### *Phosphorus Source Identification Report*

- Completed the Phosphorus Source Identification Report
  - The Phosphorus Source Identification Report is attached to the email submission

- The Phosphorus Source Identification Report can be found at the following website:

<https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>

#### *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:

This is an appendix to the Phosphorus Impairment Plan (see additional details below) located at <https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>

*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:

The City has prepared a combined Phosphorus Source Identification Plan and Lake Phosphorus Control Plan (LPCP) titled Phosphorus Impairment Plan. These were combined due to the many overlapping requirements and because all of the LPCP waterbodies are within the watershed of the Merrimack River, which is impaired for phosphorus, but does not have a TMDL.

### **Solids, Oil and Grease (Hydrocarbons), or Metals Impairment(s)**

#### Annual Requirements

##### *Good Housekeeping and Pollution Prevention for Permittee Owned Operations*

- Increased street sweeping frequency of all municipal owned streets and parking lots to a schedule that targets areas with potential for high pollutant loads

*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:

Increased Street Sweeping - The City has impairments for lead (Black Brook-Hardy Brook), iron (Little Cohas-Unnamed Brook, South Perimeter Brook) and aluminum (Merrimack River) only. Increased sweeping was determined not to be necessary in these areas as they are not observed to accumulate more sediment and debris than other areas within the City.

### **Lake and Pond Phosphorus TMDL**

- Defined the scope of the Lake Phosphorus Control Plan (LPCP). *Please select one of the following:*
  - The PCP scope is the entire area within our jurisdiction discharging to the impaired waterbody
  - The PCP scope is the urbanized area portion of our jurisdiction discharging to the impaired waterbody
- Calculated baseline phosphorus, allowable phosphorus load, and phosphorus reduction requirement

*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:

The LPCP scope is defined as the portion of the urbanized area that discharges through the City's MS4 outfalls (e.g., outfall catchment areas). The City has prepared a combined Phosphorus Source Identification Plan and Lake Phosphorus Control Plan (LPCP) titled Phosphorus Impairment Plan. These were combined due to the many overlapping requirements and because all of the LPCP waterbodies are within the watershed of the Merrimack River, which is impaired for phosphorus, but does not have a TMDL. This plan will be updated to incorporate the remaining LPCP components due in year 5.

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

As outlined in our Year 2 and 3 Annual Reports, the MS4 Permit requires the City to achieve a significant reduction in phosphorus loads (50-71%) to waters with phosphorus TMDLs, a significant portion of which comes from existing privately developed properties and Interstate 93 that discharge to the City's MS4 or directly to surface waters. The City has control of 41% of the land in its LPCP MS4 catchment areas. These existing private properties are currently not subject to stormwater permits and are not regulated to reduce their share of phosphorus contributions to TMDL waters. Instead, the City is responsible for achieving phosphorus reductions from these private developments because these developments are located within Manchester's MS4. The City continues to recommend a state or federal level stormwater permit for existing large commercial, industrial and institutional properties located within TMDL watersheds, similar to that in Vermont or that proposed for the Charles River Watershed in Massachusetts, with the same phosphorus or more stringent reduction requirements that the MS4 permitted communities are required to achieve to help mitigate impacts from existing development.

### 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:

Changes in impairments from the NOI include:

1. Crystal Lake-Town Beach (NHLAK700060703-02-01): no longer impaired for dissolved oxygen (DO) saturation
2. Melody Pines Day Camp Beach (NHLAK700060703-02-03): no longer impaired (DO and DO saturation)
3. Massabesic Lake (NHLAK700060702-03): wasn't included on the NOI, however, is impaired for DO, DO saturation, cyanobacteria, non-native aquatic plants and pH
4. McQuesten Brook (NHRIV700060803-16): no longer impaired for DO; new impairment for E. coli added
5. Merrimack River (NHRIV700060802-14-02): wasn't included on the NOI (extremely small portion of the river in Manchester), however, is impaired for aluminum, DO saturation, pH, E. coli
6. Merrimack River (NHRIV700060803-14-02): new impairment for phosphorus

The City maintains an ongoing online GIS database of dry weather inspection results, which includes the identification and location of any new outfalls and any impairments of the receiving water. These new outfalls are also incorporated into the updated outfall priority ranking included in the IDDE Plan. Based on the work completed through Year 4, the City has 691 MS4 outfalls, including 32 that discharge to a long culverted stream (e.g., watercourse that has been enclosed underground). These long culverted streams were originally mapped as part of the drainage network, but have been clarified as long culverted streams with outfalls mapped where the stormwater drainage network connects to the long culverted stream.

## 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:Septic System Outreach**

Message Description and Distribution Method:

EPD leaves "Get Pumped" magnets and brochures at the WWTF front desk for septic haulers to take and distribute to their customers. In conjunction with Septic Smart Week (September 20 to 24, 2021), a post was made to the Urban Ponds Facebook page on 9/21/2021.

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Number of materials distributed (This reporting period, 10 of 10 magnets and 2 of 50 brochures have been picked up). Number of people reached, engagements, and likes to Facebook post (632 people reached, 1 like for post on 9/21/2021).

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:

Education to septic owners was not specifically called out in the NOI, but does apply to a small percentage of City residents.

#### **BMP:Scoop the Poop Pet Waste Management Summer Message**

Message Description and Distribution Method:

The Scoop the Poop pledge was published in the Sunday edition of the Union Leader and posted on the Manchester Urban Ponds Facebook page on 8/13/2021 and 4/28/2022. The posting included a link and QR code to take the Scoop the Poop pledge. The Scoop the Poop fact sheet is permanently posted at the Manchester Urban Ponds Kiosks. Scoop the Poop messages were posted on several digital billboards throughout the City for a period of 30 days. The City also distributes an education fact sheet with dog license registration forms.

Targeted Audience:

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Readership for Union Leader (166,000 people). Number of people reached, engagements, and likes to Facebook posts (632 people reached, 5 engagements, 15 likes). Number of Kiosk postings (10 postings). Number of Scoop the Poop pledges (10 pledges). Billboard posting for 30 days (18,000 vehicles per day).

Message Date(s): Ongoing (fact sheets, kiosks), 7/25/2021 (newspaper article), 8/13/2021 and 4/28/2022 (Facebook posts), 3/15/2022-4/14/2022 (billboards)

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:Rake it or Leave it Leaf Litter Fall Message**

Message Description and Distribution Method:

An article outlining proper disposal of leaf litter was published in the Sunday edition of the Union Leader on 10/17/2021. The information was posted on the Manchester Urban Ponds Facebook page on 10/08/2021. The Rake it or Leave it - Leaf Litter fact sheet is permanently posted at the Manchester Urban Ponds Kiosks. Rake it or Leave it messages were posted on several digital billboards throughout the City for a period of 60 days.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Readership for Union Leader (166,000 people). Number of people reached, engagements, and likes to Facebook posts (632 people reached, 1 engagement, 3 likes). Number of Kiosk postings (10 postings). Billboard posting for 60 days (18,000 vehicles per day).

Message Date(s): Ongoing (fact sheets, kiosks), 10/17/2021 (newspaper article), 10/8/2021 (Facebook post), 10/1/2021-11/30/2021 (billboards)

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:Green Grass Clippings/Fertilizer Spring Message**

Message Description and Distribution Method:

An article outlining proper disposal of grass clippings and proper application of fertilizer was published in the Sunday edition of the Union Leader on 4/10/2022. The Green Grass Clean Water fact sheet is permanently posted in the Manchester Urban Ponds Kiosks. Green Grass messages were posted on several digital

billboards throughout the City for a period of 30 days.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Readership for Union Leader (166,000 people). Number of Kiosk postings (10 postings). Billboard posting for 30 days (18,000 vehicles per day).

Message Date(s): Ongoing (fact sheets, kiosks), 4/10/2022 (newspaper article), 3/31/22-4/30/22 (billboards)

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: Catch Basin Cleaning Message Share**

Message Description and Distribution Method:

A message to keep storm drains clear was posted on the Manchester Urban Pond Facebook feed on 8/22/2021.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of people reached, engagements, and likes to Facebook posts (632 people reached, 2 engagements, 5 likes).

Message Date(s): 8/22/2021 (Facebook post)

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:

Catch basin cleaning education was not included as a message in the NOI, however, has been added to increase awareness of the function of the drainage system and importance of keeping it functional to prevent flooding.

### **BMP: Hazardous Waste and Yard Waste Message**

Message Description and Distribution Method:

Posts about Manchester's Hazardous Waste and yard waste drop off locations and hours were made to the Urban Ponds Facebook page on 10/9/2021, 4/8/2022, and 5/13/2022. A post on proper disposal of Christmas

trees was made to the Urban Ponds Facebook page on 1/1/2022. Yard Waste messages were posted on several digital billboards throughout the City for a period of 30 days.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of people reached, engagements, and likes to Facebook posts (632 people reached, 2 engagements, 2 likes). Billboard posting for 30 days (18,000 vehicles per day).

Message Date(s): 10/9/2021, 4/8/2022, 5/13/2022 (Facebook posts), 4/15/2022-5/15/2022 (billboards)

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:Solid Waste and Recycling Message**

Message Description and Distribution Method:

Solid and Yard Waste Composting brochures were sent to customers with water bills between 2/1/2022 and 4/30/2022. A post on America Recycles Day was made to the Urban Ponds Facebook page on 11/15/2021.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of people reached, engagements, and likes to Facebook posts (632 people reached, 1 like). Number of brochures sent with water bills (25,000)

Message Date(s): 11/15/2021 (Facebook post), 2/1/2022 through 4/30/2022 (brochures with water bills)

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:General Lake/River Health Messages**

Message Description and Distribution Method:

General fact sheets about lake/river health are permanently posted at the Manchester Urban Ponds Kiosks. Fact sheets include information about waterbody clean ups, the Urban Ponds Restoration Program, and threats to water quality. The 2022 Urban Ponds Newsletter outlines similar information and was distributed by email

to local press, project partners, the mayor and Board of Aldermen, and volunteers. The newsletter was also posted to the Urban Ponds Facebook page (3/23/2022, 3/30/2022, 4/5/2022). Multiple other posts were made to the Urban Ponds Facebook page including posts about invasive species (7/14/2021, 7/29/2021, 8/6/2021) and the Urban Ponds Restoration Program and Clean Up Days (11/1/2021, 11/16/2021, 11/20/2021, 3/16/2022, 4/15/2022, 4/21/2022, 4/22/2022, 4/23/2022, 4/27/2022, 4/23/2022, 4/27/2022, 4/30/2022, 5/6/2022, 5/7/2022, 5/9/2022, 5/12/2022, 5/15/2022, 5/19/2022, 6/1/2022, 6/3/2022, and 6/4/2022).

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of people reached, engagements, and likes to Facebook posts (632 people reached, 151 engagements, 305 likes) and emails sent (154 emails). Number of Kiosk postings (10 postings).

Message Date(s): 7/14/2021, 7/29/2021, 8/6/2021, 11/1/2021, 11/16/2021, 11/20/2021, 3/16/2022, 3/23/2022, 3/30/2022, 4/5/2022, 4/15/2022, 4/21/2022, 4/22/2022, 4/23/2022, 4/27/2022, 4/23/2022, 4/27/2022, 4/30/2022, 5/6/2022, 5/7/2022, 5/9/2022, 5/12/2022, 5/15/2022, 5/19/2022, 6/1/2022, 6/3/2022, and 6/4/2022 (Facebook posts), Ongoing (fact sheets, kiosks)

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:General Stormwater Pollution Messages**

Message Description and Distribution Method:

General information on stormwater pollution in Manchester was permanently posted at the Manchester Urban Ponds Kiosks. Fact sheets posted at the kiosks are entitled “Just Remember,” “What Can You Do to Reduce Stormwater Runoff and Pollution,” and “Watersheds and the Basics of Stormwater.” An article on managing ice during the winter was posted to the Manchester Urban Ponds Facebook page on 1/1/2022. Messages on Vehicle Maintenance and Salt Usage were posted on several digital billboards through the City for a period of 60 days each.

Targeted Audience: Residents

Responsible Department/Parties: DPW-EPD

Measurable Goal(s):

Number of people reached, engagements, and likes to Facebook posts (632 people reached, 3 likes). Number of Kiosk postings (10 postings). Billboard posting for 60 days each message (vehicle maintenance and salt usage) (18,000 vehicles per day)

Message Date(s): Ongoing (fact sheets, kiosks), 1/1/2022 (Facebook post), 6/1/22-7/31/22 (vehicle maintenance billboard) and 12/1/2021-1/30/2022 (excess salt usage billboard)

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 SWMP is published on Manchester's website (<https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>) and available for public review.

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:**

The SWMP webpage provides a link to an EPD phone number and email encouraging residents to provide any comments/concerns on the current SWMP. No comments were received in Year 3.

### 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 City identified and investigated a number of data gaps in its stormwater drainage infrastructure mapping (e.g., missing piping and connectivity). Through these efforts, the City identified and performed dry weather screening for another 195 MS4 outfalls.

All field investigations and identification of data gaps are performed using an online GIS platform that allows changes identified in the field to be recorded directly into an online GIS, including more accurate outfall locations, identification of new outfalls, catch basins and pipes, and relabeling of structures misidentified as outfalls. The City will continue to investigate data gaps in Year 5.

## **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 total outfalls/ interconnections screened **to date**.*

Percent of outfalls screened:

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

The City located and screened another 195 outfalls/interconnections this period, found as part of its investigations to address data gaps in the mapping. In cases where an outfall could not be found, or was inaccessible, the upgradient catch basin or manhole was inspected for dry weather flows as a proxy for the outfall. The City has a number of long culverted streams where stormwater drainage networks discharge directly into the culvert at a junction structure such as a manhole or catch basin. These junction structures into the culverted stream are mapped as outfalls. The City has attempted to screen all known 691 outfalls/interconnections to date. Five locations were inaccessible and will be revisited during Year 5 to attempt to find a proxy.

## **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:

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

Percent of total catchments investigated:

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

The City has begun catchment investigations, including dry weather inspections of key junction structures and wet weather sampling of outfalls with known SVFs in the catchment area (based on record reviews completed to date), however, has not completed full catchment investigations for any one catchment area yet. The City is continuing its review of records to identify all potential catchment areas with SVFs, while progressing with sampling in areas with identified SVFs. The SVF analysis is included in the appendix to the IDDE Plan on the City's website at (<https://www.manchesternh.gov/Departments/Environmental-Protection/Stormwater/Stormwater-Management-Program>).

### **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:

Apartments on West River Drive. Initial dry weather outfall screening performed in Year 3 revealed elevated ammonia and E. Coli, with borderline surfactants and the catchment area was prioritized for further investigation. Further investigations performed in Year 4 (May 19, 2022) confirmed elevated ammonia, surfactants and E. Coli coming from the Colonial Apartments property with evidence of wipes in a private catch basin on the property. The City sent a Notice of Illegal Discharge or Connection to the management company on June 23, 2022. The management company responded immediately and is in the process of finding and removing the source of the connection using CCTV. The removal will be reported in the next annual report.

The removal report for the illicit discharge to DOU-109404 was included with the Year 2 report.

### **Employee Training**

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

Employee training was conducted on June 13, 2022 at the Manchester Highway Department offices at 475 Valley Street. Training focused on water pollution, MS4 permit requirements, IDDE program requirements, illicit discharge investigations, sanitary sewer overflows, good housekeeping, erosion and sediment controls, operations and maintenance, and management of street wastes. Sixteen city employees from DPW-EPD attended the training. A training log is included in the Illicit Discharge Detection Plan posted on the City's Stormwater website.

Employee training was conducted on June 17, 2022 at the Bridge Street Maintenance Center. Training focused on Water Pollution, MS4 Permit Requirements, and the Stormwater Pollution Prevention Plan. Three city employees from DPW-EPD, Highway Division, and Parks and Recreation attended the training.

### **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:

Number of inspections completed:

Number of enforcement actions taken:

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

The City completed 16 plan reviews for development/redevelopment projects with land disturbance. The City performed 173 site inspections and reviewed 75 inspection reports prepared by third party inspectors.

When performing construction site inspections, the City discusses any observed issues with the Contractor at the time of the inspection. These are resolved through the inspection process, limiting the need for formal enforcement actions. Of the 173 site inspections performed by the City, minor issues were noted during 6 of the inspections and resolved with the Contractor. There were no major issues observed during this period.

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

### **Ordinance or Regulatory Mechanism**

Date update was completed (due in year 3):

Storm Water Ordinance updated 6/30/21 and approved November 2021  
 Storm Water Regulations Manual updated 6/30/21 and signed 9/17/21.  
 Subdivision and Site Plan Review Regulations updated 6/3/21.  
 Standard Specifications revised 6/30/21.

### **As-built Drawings**

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

Number of as-built drawings received:

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

### **Retrofit Properties Inventory**

Below, list the permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas (at least 5):

1. Memorial High School and Southside Middle School
  2. Manchester School of Technology
  3. Jewett Street Elementary School
  4. Green Acres Elementary and Henry McLaughlin Middle School
  5. Highland-Goffe's Falls School
- The full list of properties evaluated and identified for retrofit opportunities is included as an appendix to the Phosphorus Impairment Plan.

## **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: Number of catch basins cleaned: Total volume or mass of material removed from all catch basins:  

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

Total number of catch basins: 

*If applicable:*

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

Two consecutive routine inspections have not occurred to date. The City cleans its catch basins by Ward and there are approximately 11,000 catch basins in the City (7,623 in the MS4 and the remainder in the combined sewer area). Catch basins in the combined sewer area are also inspected and cleaned as part of the on-going program. The City is beginning its second round of cleaning in Year 5. Note that the City has a list of priority structures located in close proximity to its urban ponds that are inspected and cleaned on a more frequent cycle.

### **Street Sweeping**

*Report on the number of miles swept **during this reporting period** below.*

Number of miles cleaned: 

*Report either the volume or weight of street sweeping materials collected **during this reporting period** below.*

Volume of material removed:

Weight of material removed:

### **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: 

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 website(s):

<https://www.manchesternh.gov/Departments/Environmental-Protection/Pond-Restoration/Water-Quality-Data>

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:

Water quality testing of five Manchester ponds is performed under the State's Volunteer Lake Assessment Program (VLAP). VLAP establishes a volunteer-driven lake sampling program to assist NHDES in evaluating lake water quality, and provides volunteer monitors and lake residents with reports on lake health. Ponds tested under the program include Crystal Lake, Dorrs Pond, Nutt Pond, Pine Island Pond and Stevens Pond, which are monitored for alkalinity, Chlorophyll-a, Chloride, Color, Conductivity, Total Phosphorus, Transparency, Turbidity and pH. Annual reports of the monitoring results are posted on the City's and NHDES's websites.

### **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:

-MCM3: SSOs - All 11 SSOs reported are associated with the CSO system and will be addressed with the City's CSO program.

-MCM3: Screening of Outfalls - The City has visited all 691 known MS4 outfall locations through Permit Year 4. If an outfall could not be found, the upgradient structure was inspected for the presence of illicit discharge indicators and dry weather flows. Five locations that were inaccessible will be revisited in Year 5 to locate a proxy.

-MCM6: CB Cleaning - The reported number of catch basins inspected and cleaned under MCM6 includes catch basins within and outside of the City's MS4. The City has approximately 11,000 catch basins that it cleans on a rotating cycle. Approximately 7,600 of these are part of the MS4.

-MCM6: Street Sweeping - The reported miles of streets swept represent lane miles and include City streets within and outside of the City's MS4 and also accounts for multiple sweepings of the same road.

-Other Stormwater Programs - The City has prepared a prioritized list of maintenance and repair projects using information collected from its MS4 drainage infrastructure inspection and cleaning program and from other City initiatives to inspect and evaluate culverts and channels. The list includes: stormwater piping and outfalls in need of jetting to remove sediment; repairs to damaged catch basins, culverts, outfalls and headwalls; culvert replacements; and channel maintenance needs. Proper maintenance of these structures can help prevent erosion, flooding and road damage that can impact water quality and cost more to address once they become a problem.

## **COVID-19 Impacts**

*Optional:* If any of the above year 4 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 5 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 5 below:

## 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:

Frederick J. McNeill

Title:

Chief Engineer - EPD

Signature:



Date:

09/28/22

*[Signatory may be a duly authorized representative]*