City of Nashua, NH
2017 NPDES Phase II Small MS4
General Permit No. NHR041021

2021 Annual Report

July 1, 2020 to June 30, 2021

City of Nashua
Public Works Division
9 Riverside Street
Nashua, NH 03062
(603) 589-3120

City of Nashua

2017 New Hampshire Small MS4
General Permit No. NHR041021

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

Certification

Authorized Representative

The authorization letter is:

☐ Attached to this document (document name listed below):

☒ Publicly available at the website:

https://www.epa.gov/npdes-permits/regulated-ms4-new-hampshire-communities

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Small MS4 Authorization

The following annual report is intended to document on the activities undertaken over the reporting period from July 1, 2020 – June 30, 2021 in accordance with the Notice of Intent. NOI can be found at the following (document name or web address):

https://www.epa.gov/npdes-permits/regulated-ms4-new-hampshire-communities

Compliance activities have been identified and described in the City of Nashua's Stormwater Management Plan (SWMP) and Illicit Discharge Detection and Elimination Plan (IDDE). A copy of the SWMP and IDDE are publicly available on the City's website at www.nashuanh.gov/1456/Stormwater-Management.

Self-Assessment

Introduction

During this reporting period, the City worked with a consultant to develop an Integrated Plan as the City moves forward with the next phase of a Long Term Control Plan. A comprehensive and integrated planning approach to the City's wastewater and stormwater obligations offers the opportunity for identifying cost-effective solutions that have the greatest impact to improve water quality and implementing the most important projects first. The plan will be used to evaluate and properly apportion financial resources to wastewater and stormwater management. The Integrated Plan was submitted to the EPA on June 30, 2021.

City office buildings were closed to the public and staff worked remotely from March 23, 2020 to June 7, 2021 due to the pandemic. The closure of the offices and schools limited the City's exposure to the public. BMP initiatives for year 3 reporting where restricted due to the impacts of the COVID-19.

CSO Program

The City of Nashua is under an EPA Consent Decree (Civil Action No. 05-376-PB), dated December 26, 2005 (based on the Long Term Water Quality and Infrastructure Control Plan), to mitigate combined sewer overflows (CSOs). The oldest, most urbanized portion of the city is served by a combined sewer system. Currently, there are nine CSO outfalls that are a part of the City's sewer collection system, four that discharge to the Nashua River and five that discharge to the Merrimack River and CSOs have been identified as a probable source for the Escherichia coli impairment within reaches located adjacent to the city. While a statewide TMDL has been approved for all waterways impaired with Escherichia coli, the projects completed related to the Consent Decree will reduce CSOs Escherichia coli being discharged into the Nashua and Merrimack Rivers.

The CSO program was designed based on the understanding that urban runoff, particularly in the urbanized areas dictated by the MS4 Permit, contains pollutants that are harmful to the waterways. In an effort to improve water quality and comply with the Consent Decree, the City adopted a hold and treat approach versus complete separation. As inner city areas are served by combined sewers, the stormwater runoff enters the sewer system and is conveyed with sanitary wastes to the City's sewage treatment facilities. The system is particularly effective at treating the most polluted "first flush" that occurs with every rain event.

Projects completed to contain combined sewage, which includes urbanized runoff are:

- The 60 MGD Wet Weather Flow Treatment Facility (WWFTF), located at the Nashua Wastewater Treatment Facility (NWTF), to capture and treat combined sanitary and stormwater, continues to operate, reducing the occurrence of CSOs and the volume of combined flows discharged to the rivers. Urban stormwater runoff from approximately 30 percent of the city, which is part of the combined flow, is conveyed to the WWFTF where it is be treated before being discharged to the Merrimack River.
- The construction of a CSO storage tank located near Burke Street was completed in December 2013. This 40,000 gallon tank contains overflow up to a 2 year storm event and reduces the amount of combined sewage discharging to the Merrimack River.
- Sewer separation work completed upstream of CSO 3 has eliminated the discharge of combined sewage at CSO 3 up to a 2 year storm event. A stormwater treatment train

constructed in 2006 includes a Vortechnics swirl concentrator, a detention pond and a created wetland allowing treated stormwater to be discharged to the Merrimack River.

- The drop over structures constructed on the North Merrimack River Interceptor continue to operate. These structures reduce discharges to the Merrimack River at CSO 005 by allowing combined sewage flow from a 2-year and higher storm event in sewer pipes on East Hollis and Crown Streets to flow directly into the larger interceptor that flows directly to the NWTF and the WWFTF where the combined flow is treated prior to discharge to the Merrimack River.
- Separation of the 60-acre combined sewered Harbor Avenue area resulted in reducing the volume of combined sewage flowing to the CSO 5 regulator on the Merrimack River. An additional benefit of this work is that localized flooding of combined sewage in the streets was eliminated.
- The Screening and Disinfection Facility (SDF) at CSOs 5 and 6, the last CSO plan element, was completed and became operational in 2015. This CSO treatment facility has the capacity to hold one million gallons of wet weather wastewater, containing overflow up to a 2 year storm event, and reducing the amount of combined sewage overflow discharging to the Merrimack River. In addition, this CSO treatment facility screens and disinfects combined sewer overflows that previously were discharged untreated from CSO 5, located on the Merrimack River, and CSO 6, located on the Nashua River slightly upstream of its confluence with the Merrimack River. The new outfall for this facility is located on the Merrimack River.
- The City documents the volume of combined sewer overflows discharging into the Nashua and Merrimack Rivers. An annual monitoring program provides information for the volume of discharge at each of the eight CSOs. Rainfall data is also recorded. A plan for the Post Construction Monitoring Program for the CSO program was submitted to the EPA for comment. Included in the program is testing of the Nashua and Merrimack Rivers to determine water quality.

As mentioned above, with the projects required for the Consent Decree completed, the next phase of a Long Term Control Plan, as directed by the EPA, was to develop an Integrated Plan, which was completed this reporting period and submitted on June 30, 2021.

Condition Assessment and Rehabilitation of Sanitary and Stormwater Systems

- The City completed upgrades to six (6) of the 13 (thirteen) city operated sewer pump stations which allow for better operation and with connection to the SCADA system monitored 24/7 at the wastewater plant, will result in quicker response to operational problems that could cause SSOs. Upgrades to the remaining pump stations were designed and bid during this reporting period with construction expected to begin in 2022.
- The City completed video inspection and cleaning of all eight (8) sewer siphons that serve the collection sewer system throughout the city.
- Design documents have been drafted for CIPP lining of the eight (8) sewer siphons expected to bid by January 2022.
- During an ongoing implementation of the Capacity, Management, Operation and Maintenance (CMOM) Program over 62,700 linear feet of sewer pipes and 11,750 linear feet of storm drains and culverts were inspected. Recommendations for pipe rehabilitation were made.

The Separated Storm Sewer System outfalls also discharge to the Nashua and Merrimack Rivers as well as numerous other waterbodies as listed in the NOI. Many of these waters are identified with bacteria impairments and the list is included as Table 1 as an attachment.

Public Education and Participation

The City is a member of the New Hampshire Lower Merrimack Valley Stormwater Coalition which meets to share ideas, discuss the MS4 permit and foster a unified approach to dealing with issues in the Merrimack River watershed in which all the communities lie. During the reporting period the group met virtually eleven times and discussed community stormwater management programs and successes and challenges in addressing compliance with the MS4 regulations.

The Paulie the Pickerel "Let Only Rain Go down the Storm Drain" logo continues to be used for marketing the stormwater management program in the city. Magnets with the logo will continue to be distributed during educational presentations. However, due to the pandemic, no presentations occurred during the reporting year.

The Mine Falls Park Advisory Committee sponsored a total of five Trail Days during the reporting period. Three events took place in 2020 and two in 2021. In addition to general park maintenance, trash and debris were removed from the waterways and banks of the Nashua River, Nashua Canal and Mill Pond. During 2020, three other scheduled Trail Days were canceled due to the COVID pandemic.

As part of the annual Paving Program, catch basin frames and grates are replaced as needed with structures imprinted with "Dump No Waste Drains to Waterways". Over 520 units were ordered during this reporting period.

Updates on stormwater issues are reported at least monthly at meetings of the Board of Public Works, Planning Board, and Conservation Commission. All meetings are public and the meetings are recorded and available for viewing/listening on the internet and broadcasted repeatedly on the government access channel. The stormwater update includes city-wide drainage issues and the progress made on addressing them, wetland related impacts and any other items that are related to the management of stormwater. A public comment period during the meetings allows the public to address any issues related to the Stormwater Management Program (SWMP).

Waterways continue to experience issues with invasive species. In July 2020 in the upper Nashua River and Sandy Pond, Water Chestnut was removed by hand pulling done by city staff, the local watershed association, and volunteers.

The Enviroscape Watershed model is used to discuss stormwater management in classrooms and other public gathering. Unfortunately, the COVID pandemic prevented any presentations during the reporting period.

The City owns the landfill used by both residential and commercial entities. Information about the citywide soft yard waste program was distributed through flyers, the City's web site, and Solid Waste Department staff. Updates or changes to the program are also provided on the City's local cable access channel (Channel 16). The City also has a Composting Program provided through the Solid Waste Department. Residents can purchased composting bins through the department with a "How To" brochure available on the Solid Waste website.

A small portion of the city remains on septic systems. The NHDES "Get Pumped" educational brochure on proper maintenance of a septic system, and related magnets, continued to be distributed by the Environmental Health Department to septic system owners and to septage haulers at the wastewater treatment facility for distribution to their clients. At least 100 brochures were distributed.

Construction Site and Post-Construction Runoff Control

The Nashua Land Use Code addresses land use planning issues through a variety of provisions related to stormwater management including the protection of wetlands, floodplain regulations, landscaping requirements, impervious surface requirements, open space requirements, and designs issues discussed during the development review process. The technical review process affords an interdisciplinary review of all applications submitted for Planning Board approval. Stormwater, drainage, and improved landscaping elements are included in discussions for every site and contribute to improving the stormwater quality directly or indirectly. The open space, impervious surface, parking and other zoning provisions are addressed as part of the process as well. The current land use code (with revisions incorporated dated September 1, 2012), is routinely discussed at staff meeting, noting areas where future amendments may be warranted.

Wetlands and wetland buffer areas are protected and proposals to impact these areas are carefully reviewed by the Nashua Conservation Commission who makes a formal recommendation to the Zoning Board of Adjustment. Wetland Buffer Markers are required to be installed in the buffer areas of impacted by site development. The purpose of the markers is to encourage residents to not dump debris in wetland areas.

The building permit process includes review of not only zoning and building issues, but proximity to local conservation lands and practical things to do or not do. For example, no construction materials shall be stored or left in the wetland buffer areas, best management practices to be followed during construction and site cleanup upon project completion.

Staff provides ongoing assistance to residents with flood insurance and floodplain management questions. This serves as an opportunity to educate the public about floodplain management and the relationship to stormwater management.

Staff routinely provided educational literature through the Nashua Conservation Commission and Planning Board on issues related to environmental protections such as stormwater management, erosion control and use of salt/sand in winter deicing applications.

Good Housekeeping

Good housekeeping measures include the continuous city-wide street sweeping program. The City maintains four street sweepers and one sidewalk sweeper. The sweepers operate eight hours a day on week days from April 1 to December 1. All curbed streets are swept at least once. Winter salt and sand use is monitored and controlled. Trucks equipped with spreaders are calibrated annually, prior to the winter season. To prevent exposure of deicing product, all salt and sand is enclosed in covered storage facilities with a capacity of 2,000 tons.

Fleet maintenance staff services vehicles for the Division of Public Works, School Dept., Health Dept., City Hall, Emergency Management and Parking. Maintenance and fluid changes occur in

a covered facility. Waste oil is stored in a waste oil tank and picked up for disposal as needed. Furthermore, the City's main fuel island was recently rebuilt. This services all City vehicles. The project produced a new Spill Prevention, Control, and Countermeasure (SPCC) plan. A spill kit is kept at the fuel island, as well as a covered trash receptacle.

The Parks and Recreation Department continues its practice of Integrated Pest Management (IPM) principles and reduced the amount of pesticides applied. The annual 2020 Pesticide Usage Report was submitted in November 2020 to the NH Department of Agriculture.

The City owns both a landfill and a wastewater treatment facility, each identified as an Industrial Facility. Both properties have their own Stormwater Management Program in place. All catch basin cleanings and street sweeping debris is deposited and managed at the landfill.

The City developed an inventory of municipal owned properties with the potential to generate stormwater pollutants, including parks and open spaces, city owned buildings and facilities, and vehicle storage and fueling areas. Operations and Maintenance Procedures were developed for the identified properties including identification of responsible parties, training procedures, and best management practices (BMPs). BMPs for parks and open spaces aimed to minimize the concentration of nitrogen and phosphorus in stormwater runoff, including practices for lawn maintenance, trash management, pet waste cleanup, waterfowl waste management, and erosion. BMPs for city owned facilities included handling, storage, transfer, and disposal of trash and recyclables, storage of petroleum products and potential pollutants, and spill response procedures. BMPs for vehicles and equipment included vehicle storage, vehicle maintenance, fueling, and vehicle and heavy equipment washing procedures. Infrastructure BMPs were also developed, including catch basin cleaning, street and parking lot sweeping procedures, winter road maintenance, stormwater treatment structures, and stormwater pollution prevention plans (SWPPPs).

Facility-specific SWPPPs were developed for city-owned maintenance garages, public works yards, and other waste handling facilities where pollutants are exposed to stormwater. These facilities included the Conant Road Fire Station, the Parks and Recreation Department, the Police Department, the Street Department, and the Nashua Transit Facility. Site visits were conducted at each of these facilities and on-site data and information was collected to inform development of the SWPPPs. The purpose of the SWPPP is to identify the SWPPP team at each facility, describe the facility and identify potential stormwater contaminants, describe the stormwater management control and BMPs needed to reduce pollutants from the facility in stormwater discharges, and describe the facility's monitoring plan.

The City provides curbside pickup of soft yard waste (defined as leaves, grass clippings, pine needles, twigs, and small sticks) to Nashua residents between April and November. Residents and commercial customers may also bring soft yard waste directly to the Four Hills Landfill/Nashua Recycling Center year round. The total annual volume of yard waste collected at curbside by the City is about 3,800 tons, with an estimated additional 1,500 tons brought directly to Four Hills by residents. About 1,000 tons of yard waste from Nashua properties is brought to Four Hills by commercial customers. All soft yard waste is composted at Four Hills and is typically used for landfill daily cover.

The Cartegraph Operations Management System is used to track work orders which allows entering and tracking of all work orders within the Division of Public Works, many of which are related to stormwater management.

Additional activities completed during the permit period are included in Part IV of this report.

Stormwater Management Program (SWMP) Information

The Stormwater Management Plan (SWMP), updated in November 2020, is publicly available on the City's website.

TMDL's and Water Quality Limited Waters

Chloride Impairment

In Section 2.2.2.d, Nashua was identified as having a waterbody where chloride is the cause of the impairment. On the 303 (d) list approved in 2006, the Nashua River- Mine Falls Dam Pond, NHIMP700040402-02 was first listed as having chloride impairment. This impairment was identified using two samples from 1998. This impairment remained on each updated 303 (d) list through 2016. This 2017 MS4 permit was written using the most current impairments on the 2016 303 (d) list.

During the reporting period, the NHDES Final 2018 303(d) List was approved by EPA on February 25, 2020. The 2018 list removed the chloride impairment from the Nashua River-Mine Falls Dam Pond, NHIMP700040402-02 due to chloride data being incorrectly attributed to the segment. From the NHDES document R-WD-19-05, titled "Impairments Removed (i.e. Delisted) from the 2018 303(d) List of Threatened or Impaired Waters (i.e. Category 5)" dated January 3, 2020:

> *The Nashua River - Mine Falls Dam Pond (NHIMP700040402-02) was originally impaired for chloride for the aquatic life integrity designated use in 2006 based on data collected at station MINNASD. In 2014, it was discovered that station MINNASD was mistakenly tied to The Nashua River - Mine Falls Dam Pond (NHIMP700040402-02), but was actually located within Nashua River - Nashua Canal Dike (NHIMP700040402-03). It has since been re-associated within the Nashua River and all the data transferred to Nashua River - Nashua Canal Dike (NHIMP700040402-03). When the data was transferred to the correct waterbody in 2014 the chloride data from 1998 and 1999, which was used to impair the Nashua River - Mine Falls Dam Pond (NHIMP700040402-02) originally, was outside of the current period and therefore not used in the assessment of Nashua River - Nashua Canal Dike (NHIMP700040402-03), hence in 2016 the AU was categorized as potentially attaining standards (3-PAS) for chloride. Because the basis for the original impairment in 2006 was based on data not within the waterbody, and there is no additional data available, NHDES has delisted the Nashua River - Mine Falls Dam Pond (NHIMP700040402-02) for chloride for the aquatic life integrity designated use.*
>
> *Because there is no other data in which to make an assessment, it has been placed in category 3-ND (no current data) for the 2018 cycle. Similarly, had the data been assigned to the correct waterbody, the Nashua River - Nashua Canal Dike (NHIMP700040402-03) would have received the impairment designation in 2006. The current data from the Nashua River - Nashua Canal Dike (NHIMP700040402-03) does not provide enough information in which to lift that impairment due to different sampling stations and sampling depths, therefore, the Nashua River - Nashua Canal Dike (NHIMP700040402-03) has been moved from 3-PAS to 5-M for chloride for the aquatic life integrity designated use.*

Following publication of the NHDES document dated January 3, 2020, the City of Nashua submitted a letter to Matt Wood, Water Quality Assessment Program Coordinator, at NHDES, respectfully requesting that Nashua River – Nashua Canal Dike (NHIMP700040402-03) be assessed as fully supporting for chloride and that it not be included in the final New Hampshire 303(d) list of impaired waters. This request was based on the following assessment, from the letter to Matt Wood dated November 18, 2020:

Data Review

Nashua conducted a review of the waterbody data available for the Nashua River - Nashua Canal Dike (NHIMP700040402-03) from the NHDES 2020 Surface Water Quality Assessment Viewer. The sample collection timeframe ranged from 1998 to 2019 and included sample results from the following stations as shown in Figure 1[1]. The viewer indicates that only data from the Mine Falls Park at Boat Launch (04A-NSH) were used for the 2020 assessment cycle.

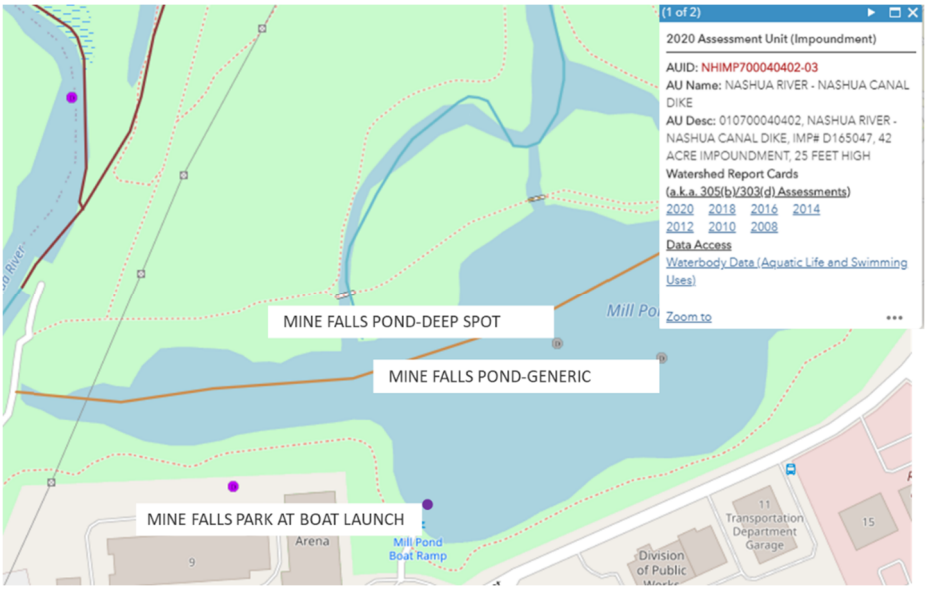

Figure 1

No recent chloride samples have been collected at any of the sampling stations, instead specific conductance is measured as a surrogate. Nashua used New Hampshire's statewide specific conductance to chloride equation below to approximate chloride concentrations.

*Chloride (in mg/L) = 0.2893 * Specific Conductance (in µS/cm) – 11.7*

Nashua used chloride and specific conductance measurements from 1998 and 1999 as a check on the equation and found general agreement between the measured and calculated chloride concentrations as show in Table 1.

Table 1

Date	*Depth*	*Chloride (mg/l)*	*Specific Conductance (uS/cm)*	*Chloride, Calc. (mg/l)*
7/21/1998	*2.5*	*136*	*526*	*140*
7/21/1998	*5*	*350*	*1150*	*321*
2/10/1999	*2.5*	*160*	*608.4*	*164*
2/10/1999	*5.5*	*488*	*1689.1*	*477*

[1] The location shown on the assessment viewer for the Mine Falls Park Boat Launch Station is incorrect. An estimated location based on station description is shown in Figure 1.

From 2010 through 2019 (the assessment period), 57 specific conductance measurements were taken at Station 04A-NSH. Nashua used the specific conductance to chloride equation to calculate chloride concentrations for comparison with the chronic water quality standard. The average calculated chloride concentration was 68 mg/l and the maximum, 149 mg/l.

Analysis

Both the 2018 CALM and the draft 2020 CALM set maximum data age of 10 years for assessing lakes and ponds. However, both require that any data used to make the original assessment be included in any reassessment decisions regardless of age. In this case, the samples collected at MINE FALLS POND-DEEP SPOT (MINNASD) in 1998 and 1999 that indicated impairment would be considered in reassessment decisions.

As previously mentioned, the 303(d) list suggested that data from different sampling stations and sampling depths would make the current data invalid. However, both the 2018 CALM and the draft 2020 CALM advise that since assessment units were established to be homogenous, then any sample site within the AU would be representative of water quality conditions. Further, this means that an aggregation of samples would be allowed for assessment purposes.

For these reasons, the data set used for the assessment should include the 57 samples collected at Mine Falls Park at Boat Launch (04A-NSH) along with those collected at MINE FALLS POND-DEEP SPOT (MINNASD) that were the basis for the previous impairment assessment (488 mg/l, collected on 2/10/1999 and 350 mg/l, collected on 7/21/1998).

This would result in a data set of 59 samples and based Table 3-13 of the 2018 CALM and draft 2020 CALM, six exceedances would be required to assess a waterbody as impaired. In this case, only two samples exceeded the 230 mg/l chronic water quality criteria for chloride, thus not meeting the threshold for an assessment of impairment due to chloride.

At the time of submittal of this report, the City of Nashua has not yet received a response from NHDES on the contents of the above letter.

In order to provide data necessary to assess potential chloride impacts on the fish and aquatic life use, Nashua will perform water quality sampling on these two waterbodies as part of the Mine Falls Hydroelectric facility's relicensing process which is slated to be completed by 2023.

Additionally, the Nashua Street Department, located at 9 Stadium Drive, Nashua, NH 03062, has procedures in place to control potential pollutants from discharging to Mine Falls Pond. Winter salt use is monitored and controlled to limit application. The construction of a brine system was completed so roads can be treated prior to icing/snowfall so that less salt can be applied during winter weather events. Municipal and residential salt stored at the Nashua Street Department are both kept in covered facilities to minimize the runoff exposure to salt stockpiles. During the reporting period, the catch basins located adjacent to the salt stockpiles and fueling facility at the Nashua Street Department were disconnected from the stormwater system and tied into the sanitary system, in order to minimize discharge of runoff to Nashua waterbodies. A Spill

Prevention, Control and Countermeasure Plan (SPCC) was also prepared for the Nashua Street Department during the reporting period, dated August 25, 2020, which identifies a spill response team and describes measures implemented by Nashua to prevent oil discharges from occurring.

Solids, Oil and Grease (Hydrocarbons), or Metals Impairments

There are four street sweepers and one sidewalk sweeper running city-wide eight hours a day from April 1st to December 1st, weather permitting. Over 300 miles of streets were swept, which averages two loads a day per sweeper, containing three to six yards of material per load. As mentioned above winter sand use is monitored and controlled to minimize solids discharged into the MS4. All curbed areas are swept at least once with commercial areas, the urbanized downtown area, arterial and collector streets and critical streets. This includes the sub –watersheds that are identified with impairments that are also subject to enhanced BMPs per Appendix H of the NH Small MS4 General Permit. (NH MS4 GP)

The City owns and maintains a landfill. All street sweeping deposits are disposed of in the lined section of the landfill.

Outfall Ranking/Screening

Dry weather outfall screening was conducted at 264 high priority outfalls and 15 low priority outfalls from May to July 2021. Outfall screening was conducted in accordance with the Dry Weather Outfall Screening and Sampling Procedures included in Nashua's written Illicit Discharge Detection and Elimination (IDDE) Program. Of the 279 outfalls screened, dry weather flow was observed and sampled at 49 outfalls.

Monitoring or Study Results

No additional monitoring or studies were completed.

Description of Any Changes in Identified BMPs or Measurable Goals

The City of Nashua made changes as noted below to the following BMPs and/or measurable goals that were outlined in the permit and identified in the SWMP.

- BMP: Dog License applicant & Renewals
    - The BMP has included messaging regarding pet waste on renewal letters to the City Residents. The BMP has been modified to make messaging public on the City Website where pet owners go to register and renew their pet licensing.

- BMP: Pledge to Pick up Pet Waste
    - The BMP was determined to be like BMP: Resident Activism as described below, therefore it was removed.

- BMP: Brochure and Presentation for Businesses
    - Social Media goals were removed and only include the physical brochures that are used to inform businesses of illicit discharges.

- BMP: Grass and Fertilizer
    - The BMP has been modified to add the soft waste guidelines and backyard composting brochures on the City Solid Waste Department's website, replacing the "Rake it or Leave It" brochures.

- BMP: Resident Activism for Pet Waste
    - The BMP was created based on a volunteer who requested to help with the pet waste education campaign. This activism resulted in a new committee being formed, the Animal and Dog Park Advisory Committee, consisting of multiple volunteers and City staff. The mission of this group is to promote responsible pet ownership in the community including education and promotion of the City's Dog Waste Clean-Up campaign. Monthly meetings are scheduled.

- BMP: Waterway Clean Up Days
    - The BMP title was changed from Waterway Clean Up Days to Mine Fall Trail Days.

- BMP: Employee Training
    - Changed measurable goal. Instead of reporting on the number of employees that received training, the City reported on the departments that provided training to their employees.

- BMP: Post-Construction Ordinance
    - The BMP title was changed from Post-Construction Ordinance to Post-Construction Regulations and As-Built Drawings.

Activities for the Next Reporting Cycle

The City of Nashua will continue to implement activities in accordance with the approved Notice of Intent.

Minimum Control Measures

MCM1 - Public Education and Outreach

Year 3 Activities

BMP: Dog License applicant & Renewals

Document Name and/or Web Address:
https://www.nashuanh.gov/1472/Dog-Licenses

Description:
Information on pet waste is provided to pet owners as part of the dog license applications and renewals process. During the reporting year in 2020, the messaging below was included on the relicensing letters sent to the City residents:

"Dogs waste carries harmful microorganisms that can have a major impact on wildlife and the environment, so picking it up is not only good manners, it's the law."

In spring 2021, there was not sufficient space on the letters being distributed to the pet owners. As an alternative, the messaging was added to the City Clerk's website where residents go to relicense their pet. See website above.

Targeted Audience:
Residents - Pet Owners

Measurable Goal(s):
Dog owners are made aware of the potential water quality impacts from pet waste and how to dispose of pet waste properly.

Messaging was made public to dog owners on the City website. **Goal was achieved.**

BMP: Pet Waste Equipment

Document Name and/or Web Address:
Signs and pet waste equipment are located throughout the City at the majority of municipal parks and trails.

Description:
Provide "MuttMitt" bag dispensers, signs and collection cans at the majority of municipal parks and trails.

Targeted Audience:
Residents - Pet Owners

Measurable Goal(s):
At least 18 parks have installed equipment for City residents and visitors to collect pet waste. During the year 3 reporting period, 10,000 bags were purchased. **Goal was achieved.**

BMP: Brochure and Presentation for Businesses

Document Name and/or Web Address:
Brochures at Building Safety Department and the Environmental Health Department.

Description:
Informational brochures are posted at the Building Safety Department and the Environmental Health Department. The information available to businesses who enter the Building Safety Department and the Environmental Health Department includes fact sheets and brochures including information on stormwater pollution controls for industrial facilities, management of fats, oils and grease, preventing sewer system blocking and overflows, and septic system maintenance.

Targeted Audience:
Businesses

Measurable Goal(s):
Businesses are made aware of stormwater pollution.

In year 3, approximately 500 copies of informational brochures available at the offices described above. Public access to these offices were limited during the reporting period. City Offices were closed to the public March 23, 2020 to June 7, 2021 due to COVID. During the reporting period, approximately 50 brochures were distributed to businesses.

Goal was achieved.

BMP: Educate Staff at Industrial Facilities

Description:
Visit Industrial Facilities through the Industrial Pretreatment program and include information on Stormwater Awareness. Present to staff at industrial facilities to understand their industrial permit and how stormwater impacts water quality and what they can do to reduce impacts.

Targeted Audience:
Industrial Facilities that fall under the wastewater treatment plant's federally approved industrial pretreatment program are annually inspected and included is an inspection of exterior drainage and storm drains.

Measurable Goal(s):
Industrial facilities are made aware of impacts to water quality from stormwater. Implementation of BMP's is reviewed with the industries and developments of Spill Prevention, Control, and Countermeasure (SPCC) plans are encouraged for those industries that do not have one.

During the reporting period, 46 visits were made to industrial facilities with demonstration of good stormwater practices. **Goal was achieved.**

Message Date: Demonstrations provided throughout the reporting period.

BMP: Student Presentations

Document Name and/or Web Address:
https://www.nashuanh.gov/1456/Stormwater-Management

Description:
Using the Enviroscape watershed model, give presentations to students in classrooms of all educational levels to demonstrate how pollutants enter the waterways via stormwater runoff. The presentation is given at a variety of public events to reach people of all ages.

Targeted Audience:
Residents, students, general public

Measurable Goal(s):

Unfortunately, the COVID pandemic prevented any presentations to the public during the reporting period. **Goal was not achieved.**

BMP: Install Wetland Buffer Markers

Document Name and/or Web Address:
https://www.nashuanh.gov/594/Conservation-Commission

Description:
During the site plan and subdivision review process, wetlands are identified on properties to be developed. If wetlands exists, developers are required to install buffer markers to identify wetland areas.

Targeted Audience:
Businesses, institutions and commercial facilities

Measurable Goal(s):

In year 3, seven developments were required to install wetland markers. **Goal was achieved.**

BMP: Designing and Installing Stormwater BMP's and LID Practices

Document Name and/or Web Address:
https://www.nashuanh.gov/296/Land-Use-Code

Description: The City's Land Use Code and Stormwater Management ordinances requires developers to infiltrate and restrict runoff from leaving the property. Developers design BMPs and LID practices, which are discussed with and reviewed by City staff and ultimately approved by the Planning Board.

Targeted Audience:
Developers

Measurable Goal(s):
During year 3, 87 projects were designed using Stormwater BMPs and LID practices. **Goal was achieved.**

BMP: Grass and Fertilizer

Document Name and/or Web Address:
https://seagrant.unh.edu/WQ-and-lawns-outreach
https://www.nashuanh.gov/441/Residential-Collections

Description: The City educates the public on potential water quality impacts from fertilizer and improper disposal of grass clippings through the city-wide soft yard waste program. Flyers with soft waste collection guidelines are included in a packet of information about Nashua's trash and recycling programs that are handed out or mailed to residents on request. Soft waste guidelines and backyard composting brochures are also available for public access on the City website.

Targeted Audience:
Residential and Business, Institutions and Commercial Facilities

Measurable Goal(s):
About 4,300 tons of soft waste was collected. Approximately 312 informational packets were handed out or mailed to residents during the reporting period and also added to the City website for the general public to access. It is estimated that 10,000 soft waste flyers were handed out to the public at the landfill. **Goal was achieved.**

MCM2 - Public Participation

BMP: Public Review of Stormwater Management Program

Document Name and/or Web Address:
https://www.nashuanh.gov/1456/Stormwater-Management

Description:
The Stormwater Management Plan (SWMP) is publicly available on the City's website.

Measurable Goal(s): SWMP is available to the public on the City's website. **Goal was achieved.**

BMP: Public Participation in Stormwater Management Program Development

Document Name and/or Web Address:
Board of Public Works Agendas and Minutes:
https://www.nashuanh.gov/AgendaCenter/Board-of-Public-Works-8

Planning Board Agendas and Minutes: https://www.nashuanh.gov/agendacenter/planning-board-23/?#09102020-5080

Conservation Commission Agendas and Minutes:
https://www.nashuanh.gov/agendacenter/conservation-commission-16/?#09012020-5062

Description:

Updates on stormwater issues are reported at least monthly at meetings of the Board of Public Works, Planning Board, and Conservation Commission. All meetings are public and the meetings are recorded and available for viewing/listening on the internet and broadcasted repeatedly on the government access channel. The stormwater update includes city-wide drainage issues and the progress made on addressing them, wetland related impacts and any other items that are related to the management of stormwater. A public comment period during the meetings allows the public to address any issues related to the Stormwater Management Program (SWMP).

Measurable Goal(s): Input was received and recorded in minutes. A total of 16 meetings were conducted during the reporting year. **Goal was achieved.**

BMP: Stormwater Phone/Email

Document Name and/or Web Address:
https://www.nashuanh.gov/386/Public-Works-Division

Description:

Stormwater inquiries are received through phone calls and the Cartegraph work order system. Inquiries received are directed to the appropriate departments and addressed.

Measurable Goal(s): At least 55 inquiries were received during the reporting year. **Goal was achieved.**

BMP: Input for Stormwater Ordinance

Document Name and/or Web Address:

https://www.nashuanh.gov/296/Land-Use-Code

Description:
The Stormwater Management Ordinance (NRO 190-214) is located within the Land Use Code. Stormwater Management is discussed regularly at meetings of the Planning Board, Conservation Commission and Board of Public Works. Public comment periods are included as a part of the agenda for all meetings.

Measurable Goal(s): Input that was received was recorded in meeting minutes**. Goal was achieved.**

BMP: Resident Activism for Pet Waste

Description:

The City's has an Animal and Dog Park Advisory Committee that was created in 2020. The mission of the Animal and Dog Park Advisory Committee is to promote responsible pet ownership in the community including education and promotion of the City's Dog Waste

Clean-Up campaign. In addition, the City's Wastewater Department has flyers informing residents of items that should not be flushed down the toilet, including pet waste.

Targeted Audience:
Residents - Pet Owners

Measurable Goal(s): Eight committee members and six City staff members made up the Animal and Dog Park Advisory Committee during the reporting year. **Goal was achieved.**

BMP: Mine Fall Trail Days

Description:

Mine Fall Trail Days encourage the public to participate in picking up trash and debris in parks near waterways.

Targeted Audience:
Residents

Measurable Goal(s): Five clean up days were conducted during the reporting year. **Goal was achieved.**

MCM3 – Illicit Discharge Detection and Elimination

BMP: IDDE Legal Authority

The City has established legal authority as outlined in the IDDE plan.

BMP: Sanitary Sewer Overflow (SSO) Inventory

The municipality has developed the SSO inventory. SSOs are reported in accordance with NPDES POTW Permit No. NH0100170.

BMP: Map of Storm Sewer System

Nashua has extensive ESRI GIS mapping ability, with a GIS Specialist responsible for public works infrastructure. The storm sewer system map is comprehensive and most mapping for Phase I and Phase II is complete. The information is readily available on the City website. Open channels, initial catchment delineations and final catchment delineations are yet to be mapped, but will be mapped and delineated within 10 years as required by the permit. A fly-over was completed on April 29, 2019 to update the City's topographic data. This will provide 1 foot contour elevation data that can be used to locate open channel conveyances and catchment delineations. Catchment delineations will be refined per the information obtained during catchment investigations. Municipally-owned treatment structures have been field verified. The sanitary sewer system and combined sewer system are also a part of the existing GIS database.

BMP: IDDE Program (Screenings of Outfalls/Interconnections, Catchment Investigations, and IDDE Progress)

IDDE Plan

The IDDE program is designed to systematically find and eliminate sources of non-stormwater discharges to its municipal separate storm sewer system and implement procedures to prevent such discharges. It consists of establishing legal authority for IDDE responsibilities, mapping the storm water system, tracking sanitary sewer overflows, assessment and priority ranking of outfalls, dry weather and wet weather screening, catchment investigation, and employee training.

Outfall Screening

Outfalls were inspected and screened. Outfall catchments and interconnections priority ranking were updated based on the information collected during the dry weather inspections. A written IDDE plan has been developed and updated, and written catchment investigation procedures are included.

Outfall identification, characterization and prioritization information has been updated and included in the IDDE plan based on dry weather sampling.

The following tasks have been completed in accordance with the permit.

Number of dry weather outfall investigations/screenings: 279

Number of dry weather samples taken: 49

Catchment Investigation Procedures

The City of Nashua has adopted the catchment investigation procedures developed by the New Hampshire Lower Merrimack Valley Stormwater Coalition. In addition, the City has implemented a CCTV program for storm sewer inspection.

To develop a better understanding of the storm sewer system, the City embarked on a condition assessment the system. The City has identified approximately 830,000 linear feet of storm drains and culverts. The storm sewers were prioritized for CCTV inspection based on several factors including conversion from combined sewers, age of system, and problematic pipe material.

Approximately 9,500 linear feet of storm sewer pipes, 2,500 linear feet of storm sewer culverts, and 62 storm sewer manholes were inspected during the reporting period.

The CCTV inspection data will inform the catchment investigations that are triggered by the results of the outfall screening.

Illicit Discharges

Number of illicit discharges: 3

Number of illicit discharges removed: 3

Estimated gallons of flow removed: 100 gallons (estimated)

Illicit discharges were found and are submitted with this report. The details of the discharges including the location source, description of discharge, method of discovery, date of discovery, and date of elimination, mitigation, or enforcement OR the planned corrective measures and schedule of removal are included in the report.

- 10 Deacon Street (contractor disposed of waste to storm drain)
- 35 Tyler Street (resident disposed of buckets of waste to storm drain)
- 51 Robinhood Road (home had unpermitted foundation drain connected to storm drain)

BMP: Employee Training

Materials and training, including information on how to identify illicit discharges and SSOs, are made available to applicable employees in accordance with IDDE plan. Staff attends trainings offered by the Lower Merrimack Valley Stormwater Coalition, EPA, New Hampshire DES, and the University of New Hampshire Technology Transfer Center and other professional associations.

Wastewater employees assigned to maintenance of the sewer collection system (sanitary and storm sewers) are all certified as collection system operators through NEIWPCC and also receive on-the-job training.

Wastewater employees received SPCC and SWPPP training. Wastewater collection employees received PACP certification.

Employees from Streets and Parks Departments received Green SnoPro Training (winter maintenance, reduced salt usage).

BMP: Household Hazardous Waste Collection

The City participates with the Nashua Regional Planning Commission to collect Household Hazardous Wastes from residents. Reporting of results of the events are provided on an annual calendar year basis. These events also allows for public participation. Residents of eleven communities participate in this event - Amherst, Brookline, Hollis, Hudson, Litchfield, Merrimack, Milford, Mont Vernon, Nashua, Pelham and Windham. There is a 10 gallon or 20 pound limit per household. In 2020, two events were canceled due to the pandemic but four events were held (August 1, August 29, October 3, and November 7) with Nashua hosting three of the events. A total of 1,258 households participated regionally with 129,965 pounds of waste collected. There were 506 households participating from Nashua. During the reporting year, hazardous waste collection events were also conducted on April 17, 2021 and June 3, 2021, with the results being provided at the end of the calendar year

MCM4 – Construction Site Stormwater Runoff Control

Ordinance §190-215 H details the requirements for erosion and sediment control on sites being developed and includes written procedures for site inspections and enforcement. Prior to

receiving a certificate of occupancy, each site is inspected for compliance with the plan including checking for erosion issues and ensuring that no discarded building materials are left on site.

The following tasks are in progress in accordance with the accepted NOI.

Number of site plan reviews completed: 57

Number of inspections: 48

Number of enforcement actions: 2

MCM5 – Post Construction Stormwater Management in New Development and Redevelopment

BMP: Post-Construction Regulations and As-Built Drawings

A Post-Construction Ordinance was adopted in 2018. Links and references are included in the SWMP. As-built drawings are required for all commercial projects and many other developments as part of receiving a Certificate of Occupancy.

BMP: Street Design and Parking Lot Guidance Report (due in year 4)

Deliverables will progress in accordance with the accepted NOI and is scheduled for year 4.

BMP: Green Infrastructure Report (due in year 4)

Deliverables will progress in accordance with the accepted NOI and is scheduled for year 4.

BMP: List of Municipal Retrofit Opportunities (due in year 4)

Deliverables will progress in accordance with the accepted NOI and is scheduled for year 4.

BMP: Long-term Operation and Maintenance Procedures

All stormwater management systems on private properties have an operation and maintenance plan recorded at the registry of deeds to ensure that systems function as designed. Annual reports of completed maintenance are submitted to the City.

MCM6 – Good Housekeeping and Pollution Prevention for Permittee Owned Operations

O&M programs for all permittee owned facilities have been completed. All maintenance procedures will be implemented for permittee owned facilities in accordance with O&M programs in year 4 and the SWMP will be updated in year 4 to reflect this.

BMP: Parks and Open Spaces Operations and Maintenance Procedures

Permittee owned parks and open spaces were inventoried and visited in March 2021 to collect data necessary for development of operations and maintenance procedures. Procedures for lawn maintenance, trash management, pet waste cleanup, waterfowl waste management, and erosion and poor vegetative cover were developed for these inventoried facilities.

BMP: Buildings and Facilities Operations and Maintenance Procedures

Permittee owned buildings and facilities were inventoried and visited in March 2021 to collect data necessary for development of operations and maintenance procedures. Procedures for handling, storage, transfer, and disposal of trash and recyclables, storage of petroleum products and potential pollutants, and spill response were developed for these inventoried facilities.

BMP: Vehicles and Equipment Operations and Maintenance Procedures

Procedures for vehicle storage, vehicle maintenance, fueling, indoor/outdoor vehicle washing, and heavy equipment washing were developed for facilities featuring vehicles and equipment.

BMP: Infrastructure Operations and Maintenance Procedures

Procedures for catch basin cleaning, street and parking lot sweeping, winter road maintenance, stormwater treatment structures inspection and maintenance procedures, and Stormwater Pollution Prevention Plans (SWPPPs) have been developed and are detailed below.

BMP: Catch Basin Cleaning Program

A schedule for catch basin cleaning has been established that is practical and economically feasible, with the goal of ensuring that a catch basin sump should not be more than 50% full. The City has identified over 8,850 catch basins it is responsible to maintain and is aware of the locations that require routine maintenance. The City's extensive street sweeping program helps to limits the debris in the catch basins.

A Catch Basin Inspection Form has been developed for employee use. The City currently has procedures in place for catch basin inspections and cleanings. Standard Operating Procedures were developed during the reporting period and implementation will take place in year 4.

Approximately 200 catch basins were cleaned during the reporting period. Catch basins are also inspected in conjunction with during the City's paving, sewer lining, sewer replacement and routine maintenance programs. All catch basins deposits are disposed in the City's lined landfill.

BMP: Street Sweeping Program

All curbed roadways were swept at least once during the reporting period. The downtown streets and curbs were swept on a weekly basis. The City has increased street sweeping frequency of all municipal owned streets to a schedule that targets areas with potential for high pollutant loads. There are four street sweepers and one sidewalk sweeper running eight hours a day from April 1st to December 1st, weather permitting. Approximately, 303 miles of streets were swept, which averages two loads a day per sweeper, containing three to six yards of

material per load. Total estimated to be approximately 1,600 cubic yards of debris. All street sweeping deposits are disposed of in the lined section of the City's landfill.

BMP: Winter Road Maintenance Program

A winter road maintenance program has been established with a goal of reducing salt usage. Salt reduction strategies have been implemented as outlined in our SWMP. All road salt storage piles are enclosed/covered to prevent runoff into storm drains and water bodies.

BMP: Stormwater Treatment Structures Inspection and Maintenance Procedures

The City of Nashua continues to collect information with a goal of inventorying and formally inspecting all municipally owned BMPs in accordance with their respective Operation and Maintenance schedule. Any BMPs that are safety or flooding hazards are dealt with as needed.

BMP: SWPPP (due year 3)

Site visits were completed with City of Nashua staff in March and May of 2021 to collect on-site data and information required for SWPPP development for the following facilities: maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater. SWPPPs were written and implemented for the following facilities in June 2021: Conant Road Fire Station, Parks and Recreation Department, Street Department, Transit Facility, and Police Department.

Inspections were completed during the time site visits were conducted to develop the SWPPPs for the facilities listed above. Inspections will be completed, corrective actions will be taken, and employees will be regularly trained as outline in the SWPPPs. The SWPPPs and associated documentation are located at:

Division of Public Works Street Department: 6 Stadium Drive
Division of Public Works Parks and Recreation Department: 100 Concord Street
Fire Department: 2 Conant Road
Police Department: 28 Officer James Roche Drive
Transit Facility: 11 Riverside Drive

Number of site inspections for facilities that require a SWPPP completed: One site inspection per facility

Number of corrective actions identified: Zero

Number of corrective actions taken: Zero

The City of Nashua also owns a landfill (840 West Hollis Street) and wastewater treatment facility (2 Sawmill Road). Both properties have a Multi-sector General Permit which requires a development of a Stormwater Pollution Prevention Plan (SWPPP). Copies are available at their offices and inspections are conducted according to their individual program.