Year 2 Annual Report
New Hampshire Small MS4 General Permit Reporting
Period: May 1, 2019-June 30, 2020

Part I: Contact Information

Name of Municipality or Organization: New Hampshire Department of Transportation
EPA NPDES Permit Number: NHR043001

Primary MS4 Program Manager Contact Information:

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Stormwater Management Program (SWMP) Information:
SWMP Location (web address): https://www.nh.gov/dot/
Date SWMP was Last Updated: July 1, 2020

Part II: Self-Assessment

The New Hampshire Department of Transportation (Department) continues to be committed to implement a program to reduce the discharge of pollutants from the Department's regulated Small MS4s to the maximum extent practicable, with the goals of protecting water quality and satisfying the water quality requirements of the Clean Water Act and State Water Quality Standards while providing a safe and efficient transportation system for the public.

This year the focus has been to finish up and accomplish many of the primary tasks laid out in the 2017 permit. Although the Covid 19 pandemic has certainly causes some interesting ways of doing business at the Department, we have accomplished many of the milestones the permit requires. New additions this year were; Illicit Discharge Detection and Elimination (IDDE) plan, a final Operation and Maintenance (O&M) Plan, and completion of the facility Stormwater Pollution Prevention Plans (SWPPPs), As part of the overall Stormwater Management Program (SWMP), the new plans draws heavily on existing Department practices to protect water quality which allows us to stay in compliance with the MS4 Permit and provide a framework for good stewardship practices. The mobile paperless Stormwater Treatment Structures inspection and reporting system was utilized again abate with two less interns due to the Covid 19 outbreak. The were some minor updates to the GIS mapping and the Department ingested the new 2018 305(b)/303(d) lists into the SMWP and adjusted the various permit requirements accordingly. Public education and outreach efforts through the stormwater table display was able to sneak in a few events before Covid 19 shut everything down. However, many of the reoccurring mainstay events were cancelled. The Department has completed this self-assessment and has determined that the agency is in general compliance with all permit conditions and completing measurable goals set out in the Notice of Intent.

Part III: Receiving Waters/Impaired Waters/TMDL

The Department updates its waters list each year. Note that is came the Department's attention that NHDES's 305(b) list was incomplete, not listing all waterbodies with TMDLs. NHDES publish a separate NPDES waters list which includes impairments, ORWs (Tier 3), and TMDLs to be utilized when filing NDPES Permits on March 26, 2020. The Department reassess its entire NPDES program with only minor adjustments to implementation of the permit effluent limitations. See attached waters list which utilizing the newly published data on TMDLs for Waters of the United States in New Hampshire. We expect any deficiency on reporting the status of Waters of the United States to be corrected in the 2020 EPA approved NH 303(d)/305(b) list.

Part IV: Minimum Control Measures

MCM1: Public Education

Impaired and TMDL Waters

For Waters listed as Bacteria Impaired or Bacteria TMDL
The Department maintains dog walking stations at Seabrook Welcome Center which has MS4 discharges to the Cain's Brook.

For Waters Listed as Nitrogen or Phosphorous Impaired or with a nutrient related TMDL
The Department continues to educate the ACEC consulting engineers on optimizing nutrient removal when designing structural Stormwater Treatment, specifically for the Exit 4A project where bio-retention swales are proposed at the east end of the project which has MS4 discharges to BEAVER LAKE (NHLAK700061203-02-01) and gravel wetlands that discharge to various estuaries along the seacoast.

The Department's Stormwater Outreach Display
The Stormwater Outreach Display was used to discuss water quality issues in watersheds and demonstrate how stormwater pollutants can impact freshwater resources at four events from September, 2019 to October, 2019, including two new events for the program. Wings and Wheels, held at the Concord Municipal Airport, was one of the new events and involved continuous informal discussions with the general public. The G.I.R.L. Expo hosted by the Girl Scouts of the Green and White Mountains was another new event and involved continuous presentations and discussions with girl scouts ranging in age from Kindergarten to Grade 12 and their families, with approximately 1,400 people in attendance at the event. The remaining two events continue to be successful annual events and included a multi-day career fair with approximately 2,000 students in Grades 9-12, as well as the Watershed Discovery Day hosted by the Lake Sunapee Watershed Protective Association which involved formal presentations to approximately 100 5th grade students from the area. During all presentations, the students remained engaged and interested in discussing stormwater pollutants and the various impacts that they have on our communities, the environment and drinking water resources, as well as potential solutions and strategies for addressing water quality issues on a watershed size scale. Due to COVID-19 closures, no presentations were completed during the Spring 2020 season.

The Department is currently in the process of creating a new stormwater outreach table through a STIC grant which will extend the life and usefulness of the table. The new display is a 4th general design that is much lighter and more durable that previous versions. For the first time, is made of fiberglass so it is light and durable. The printed landscape mosaic on the three dimensional landscape are aerial photographs of various sites throughout New Hampshire including; schools, construction sites, malls, golf course, ski area and logging operations. The fiberglass was formed on a three dimensional printed mold driven by a CADD design. The CADD design is being utilized for a remote learning opportunity that includes a narrated virtual fly over of the table landscape.

The Department's outreach coordinator, Melilotus Dube, working with the consultant at a Covid 19 socially distanced outdoor meeting putting the final touches to the new table

The Department's Monthly New Employee Orientation

The Bureau of Environment provided monthly training to new employees on the Department's Environmental Policy, emphasizing its commitment to operating in compliance with all environmental regulations, policies, procedures, and instructions; minimizing the waste generated from its ongoing operations; minimizing impacts to the environment; and continuous environmental improvement. The Bureau also provided monthly training on the management of regulated substances at NHDOT facilities (patrol sheds, garages, storage facilities, etc.). This training discussed storage requirements, inspection requirements, spill response procedures, and spill notification requirements for the different types of chemicals and petroleum products used by the Department. Employees were provided the opportunity to ask questions and discuss the issues to better understand their roles and responsibilities in avoiding environmental impacts.

MCM2: Public Participation

The Department has posted the Stormwater Management plan on opening www.nh.gov/dot web site in the "Of Interest" section. Also included is a map viewer showing all the catchments the Department operates. No related comments have been received to date.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Impaired and TMDL Waters

For Waters listed as Bacteria Impaired or Bacteria TMDL

The Department has identified 13 outfalls that discharge to bacteria TMDL waters and identified them as High Priority locations to screen. They have all been screened and there are no indicators of illicit discharges.

MS4 System Mapping

MS4 mapping effort is an ongoing effort by the Department. The Department has mapped 2600 catchments within the Urbanized Area. Each catchment can be comprised of stormwater flow within pipes, ditches, channels, stormwater treatment facilities and along curb and gutters. Approximately 25,000 flow elements have been organized into 2,600 catchments. See the NHDOT MS4 Interactive Map.

Screening of Outfalls/Interconnections

The Department continued visit and revisit the high and low priority outfalls and interconnections. A dry weather screening program was completed this year. The Department is in the process of post processing and digesting the data into the IDDE program. It is likely the data will be made available to the public including EPA through an ESRI viewer. We will organize and plan the wet weather screening over the winter of 2021.

Catchment Investigations

The six locations indicated by the pilot screening in 2019 were revisited in 2020 to verify condition and identify next steps as part of the Catchment Investigation Plan to be developed over the winter of 2021.

IDDE Progress

There has been no Illicit Discharges identified or removed to date.

MCM4: Construction Site Stormwater Runoff Control

The Department fully staffed with three Environmental Coordinators overseeing six (6) projects within the Urbanized Area that require coverage under the Construction General permit. Monitoring reports indicate that sites are in compliance.

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

Impaired and TMDL Waters

For Waters listed as Nitrogen Impaired
The Department currently does not have any projects that will discharge to nitrogen impaired waters

For Waters listed as Phosphorous Impaired or Phosphorous related TMDLs
The Department is administrating the design and construction of the Exit 4A project, which at its easterly end discharges to Beaver Lake. The design includes structural stormwater treatment to reduce phosphorous discharges to BEAVER LAKE (NHLAK700061203-02-01)

For Waters listed as Solids, Oil, Grease and Metals (SOGM) Impaired
The Department is designing a project which discharges HARRIS POND (NHLAK700061001-04-01) and BOWERS POND (NHLAK700061001-04-02) in Nashua. If appropriate, shut off gates will be added to the stormwater structure designs.

Green Infrastructure Report
The Department currently has 20 projects in various stages of design within the urbanized area. These projects are being engineered in accordance with Part 2.3.6 of the permit and will include approximately 50 new stormwater treatment structures.

MCM6: Good Housekeeping

Impaired and TMDL Waters

For Waters listed as Chloride Impaired or Chloride TMDL
The Department has implemented best management practices as described in the Salt Management plan for discharges to the following waterbodies:

- EEL POND (NHLAK600031002-01)
- STEVENS POND (NHLAK700060803-02)
- PARKMAN BROOK (NHRIV600030806-04)
- COLLEGE BROOK (NHRIV600030902-09)
- PICKERING BROOK (NHRIV600030904-06)
- LOWER HODGSON BROOK (NHRIV600031001-04)
- UPPER HODGSON BROOK (NHRIV600031001-05)
- PAULS BROOK - PEASE AIR FORCE BASE (NHRIV600031001-07)
- BORTHWICK AVE TRIBUTARY (NHRIV600031001-09)
- DORRS POND INLET BROOK (NHRIV700060802-13)
- HUMPHREY BROOK (NHRIV700060803-15)

- SOUTH PERIMETER BROOK (NHRIV700060804-12)
- POLICY BROOK - PORCUPINE BROOK (NHRIV700061102-18)
- UNNAMED BROOK - TO HARRIS BROOK (NHRIV700061102-21)
- UNNAMED BROOK TO WESTERN EMBAYMENT (NHRIV700061102-23)
- BEAVER BRKs (NHRIV700061203-09, NHRIV700061203-11, NHRIV700061203-16)
- DINSMORE BROOK (NHRIV700061204-01)
- CONNIES BROOK (NHRIV700061204-06)

For Waters Listed as Nitrogen or Phosphorous Impaired or with a nutrient related TMDL
The Department has finished its catchment mapping, which includes curb and gutters that discharge to various nutrient impaired and nutrient TMDL waters The Department has implemented best management practices as described in the Operations and Maintenance plan for discharges to the following waterbodies:

- SQUAMSCOTT RIVER SOUTH (NHEST600030806-01-01)
- SQUAMSCOTT RIVER NORTH (NHEST600030806-01-02)
- OYSTER RIVER (NHEST600030902-01-03)
- BELLAMY RIVER NORTH (NHEST600030903-01-01)
- BELLAMY RIVER SOUTH (NHEST600030903-01-04)
- DOVER WWTF SZ-NH (NHEST600031001-01-02)
- BACK CHANNEL (NHEST600031001-05)
- WENTWORTH-BY-THE-SEA (NHEST600031001-08)
- UPPER PORTSMOUTH HARBOR-NH (NHEST600031001-11)
- STEVENS POND (NHLAK700060803-02)
- SALMON FALLS RIVER (NHRIV600030406-04)

For Waters listed as Solids, Oil, Grease and Metals (SOGM) Impaired
The Department has finishing its catchment mapping, which includes curb and gutters that discharge to various Solids, Oils, Grease and Metals (SOGM) impaired waters. The Department has implemented best management practices as described in the Operations and Maintenance plan for discharges to the following waterbodies:

- SQUAMSCOTT RIVER SOUTH (NHEST600030806-01-01)
- UPPER SAGAMORE CREEK (NHEST600031001-03)
- TAYLOR RIVER REFUGE POND (NHLAK600031003-02)
- HARRIS POND (NHLAK700061001-04-01)
- BOWERS POND (NHLAK700061001-04-02)
- COCHECO RIVER (NHRIV600030603-06)
- PICKERING BROOK (NHRIV600030904-06)
- GRAFTON DITCH (NHRIV600031001-06)
- BORTHWICK AVE TRIBUTARY (NHRIV600031001-09)
- SOUTH PERIMETER BROOK (NHRIV700060804-12)
- POLICY BROOK - PORCUPINE BROOK (NHRIV700061102-18)

- BEAVER BROOK (NHRIV700061203-16)

Inventory of Permittee-Owned Properties
The Department has finishing its facility Stormwater Pollution Prevention Plans and has implemented effluent limitations as described for discharges from the following Patrol Sheds to their respective receiving waterbodies:

- Derry 528, BEAVER BROOK (NHRIV700061203-16)
- Dover 835, UNNAMED WETLAND
- Epping 608, UNNAMED WETLAND
- Hooksett 825, UNNAMED WETLAND
- Londonderry 512, LITTLE COHAS BROOK (NHRIV700060804-04)
- Manchester 527, UNNAMED BROOK TO MASSABESIC (NHRIV700060702-04)
- Merrimack 820, UNNAMED WETLAND
- North Hampton 612, WINNICUT RIVER (NHRIV600030901-07)
- Bedford 511, SEBBINS BROOK - POINTER CLUB BROOK (NHRIV700060804-01)
- Rochester 840, UNNAMED WETLAND
- Salem 514, HITTYTITY BROOK - UNNAMED BROOK (NHRIV700061102-32)

The Department has also finalized the Operations and Maintenance Plan and will be implanting the effluent limitations within.

Catch Basin Cleaning
The Department recorded approximately 6,050 catch basin inspections and cleanout events last year for the Patrol Sections servicing highways within the Urbanized Area. As necessary in accordance with the permit and Department's work instructions, the sediment was removed, and transported to Street Waste Storage yards for recycling.

Street Sweeping
The Department completed approximately 1,325 miles of sweeping within the Patrol Sections servicing highways within the Urbanized Area. Volume and weight of material removed from catch basins and curb lines was not recorded in FY 2020. However, the material was transported to our Limited Reuse Soils / Street Waste storage yards where it will be recycled for various highway uses. The Department is currently researching new technologies to improve and streamline the process for collecting, tracking and reporting of permit specific data since some of the street waste is comingled with material from outside the Urbanized Area.

A new NHDOT Limited Reuse Soils drying bin constructed in Bedford NH. Street sweeping and catch basin cleanout tailings are tipped onto a bio-filtration bed to dry. Dried tailings including the bio-filtration bed material are stockpiled for reuse as humus on other NHDOT projects.

Salt Management

The Division of Operations has implemented the Salt Management Plan. In 2020 the Department is working with the Town of Windham to develop and implement a reduced winter maintenance area on Range Road and Cobbett's Pond Road. The MS4 on Range Road and Cobbett's Pond road discharges to; COBETTS POND (NHLAK700061204-01-01), an UNNAMED BROOK - TO COBBETTS POND (NHRIV700061204-12) and UNNAMED WETLANDS within the Cobbett's Pond watershed. The Department continually evaluates and utilizes proven technologies to address recognized concerns raised about adverse impacts that maintenance operations may have on the environment. This includes working to minimize the salt treatment used during winter maintenance operation. As funding has permitted, the Department has upgraded the winter maintenance fleet by adding telematics to plow trucks that allow the Department to track salt usage and delivery of material with more accuracy. The Department is also expanding and tracking the use of more flexible plow blades where possible to improve snow removal during plowing operations. While safety for the traveling public is of primary importance, accomplishing this in an environmentally friendly manner is also goal of the Department.

Stormwater Treatment BMPs

The Department has refined is Stormwater Structures inspection protocol. Structures inspected during the 2020 season were verified as having discharges to a Water of US. This included swales, wet extended detention, dry detention, gravel wetlands. Basin types excluded were infiltration, porous pavements, and constructed wetlands. The Arc-Online / Arc Survey 1-2-3 survey tool was use to complete the inspections. The Department currently has 293 stormwater treatment structures in the MS4 Stormwater Management Program. The Department was able to inspect 263 structures in 2020. The following is a break out structures considered to be in poor condition for:

- Sediment – 13
- Trash- 4
- Erosion- 16
- Structural – 11
- Flow- 4
- Vegetation – 77

Vegetation management appear to be the greatest challenge to maintain these structures.

An example of a well maintained vegetated treatment swale in Manchester NH, which discharges to the MERRIMACK RIVER (NHRIV700060803-14-02)

The Department has or will continue to complete and/or formulate corrective actions to increase the condition rating for all of these facilities.

Part V: Certification of Small MS4 Annual Report 2019

40 CFR 144.32(d) Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Christopher Waszczuk, PE

Title: Deputy Commissioner

Signature: 

Date: 9/30/2020