

Stormwater Management Program (SWMP)

University of New Hampshire

Permit Year 2

EPA NPDES Permit Number NHR041000

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 gathered and evaluated 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, 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.”

Printed Name

William P Janelle

Signature

Date

Background

Stormwater Regulation

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in EPA's effort to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II program expands the Phase I program by requiring additional operators of MS4s in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to control polluted stormwater runoff. Phase II is intended to further reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Under the Phase II rule all MS4s with stormwater discharges from Census designated Urbanized Area are required to seek NPDES permit coverage for those stormwater discharges.

Permit Program Background

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 small MS4 permit) consistent with the Phase II rule. The 2003 small MS4 permit covered "traditional" (i.e., cities and towns) and "non-traditional" (i.e., Federal and state agencies) MS4 Operators located in the states of Massachusetts and New Hampshire. This permit expired on May 1, 2008 but remained in effect until operators were authorized under the 2016 MS4 general permit, which became effective on July 1, 2018.

Stormwater Management Program (SWMP)

The SWMP describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP accurately describes the permittees plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions during the permit term. The main elements of the stormwater management program are (1) a public education program in order to affect public behavior causing stormwater pollution, (2) an opportunity for the public to participate and provide comments on the stormwater program (3) a program to effectively find and eliminate illicit discharges within the MS4 (4) a program to effectively control construction site stormwater discharges to the MS4 (5) a program to ensure that stormwater from development projects entering the MS4 is adequately controlled by the construction of stormwater controls, and (6) a good housekeeping program to ensure that stormwater pollution sources on municipal properties and from municipal operations are minimized.

Small MS4 Authorization

The NOI was submitted on

The NOI can be found at the following (document name or web address):

Authorization to Discharge under the 2017 NH Small MS4 General Permit was granted on

The Authorization Letter can be found (document name or web address):

Stormwater Management Program Team

SWMP Team Coordinator:

Utilities Systems Manager
Dave Bowley
UNH Facilities
603-862-0647
dave.bowley@unh.edu

SWMP Team:

Utility Distribution Technician
Glen Tuttle
UNH Facilities
603-862-1387
glen.tuttle@unh.edu

Director of Energy and Utilities
Matt O'Keefe
UNH Facilities
603-862-1276
matt.okeefe@unh.edu

Receiving Waters

The list of receiving waters, impairments and number of outfalls discharging to each waterbody segment has been included in the Notice of Intent.

Eligibility: Endangered Species and Historic Properties

Endangered Species and Historic Properties eligibility information has been included in the Notice of Intent.

MCM 1
Public Education and Outreach
Permit Part 2.3.2

BMP: Grass and Fertilizer

Document Name and/or Web Address:

Green Grass & Clear Water Brochure: https://www4.des.state.nh.us/nh-ms4/?page_id=54.

Description:

Distribution and promotion of four- fold flyer produced by UNH Cooperative Extension and NH Sea Grant outlining simple recommendations to keep lawns healthy while reducing water quality impacts - including proper fertilizer techniques and disposal of grass clippings.

Targeted Audience:

Residential &/or Business and Institutions

Measurable Goal(s):

Lawn care enthusiasts' residents understand the potential water quality impacts from fertilizer and improper disposal of grass clippings and are aware of the proper lawn care management techniques for reducing those impacts. Measurement includes materials distribution methods and numbers and change in visits to UNH Cooperative Extension or municipal stormwater webpages as well as distributed materials and website hits on UNH Facilities materials.

Message Date:

Annually at student University Day and Faculty/Staff Benefits events and readily available at campus library.

BMP: Petwaste Disposal

Document Name and/or Web Address:

"Every Drop" post cards or flyer https://www4.des.state.nh.us/nh-ms4/?page_id=54

Description:

Distribution and promotion of "Every Drop" post cards or flyer with proper pet waste management, impacts of improper management, pet waste ordinance, and disposal requirements messaging. May include pledge to pick up pet waste to be made available during dog registration and other events or venues (veterinarians, dog training, groomers, etc.). Every Drop is a collaborative education effort with PREP, NHDES and other partners.

Targeted Audience:

Residents - Pet Owners

Measurable Goal(s):

Dog owners and/or dog walkers are aware of the potential water quality impacts from pet waste, local pet waste ordinances, and how to dispose of pet waste properly. If pledges are signed, there will be an increase of dog owners committed to picking up pet waste as well as distributed materials and website hits on UNH Facilities materials.

Message Date: Annually at student University Day and Faculty/Staff Benefits events and readily available at campus library.

BMP: Disposal of Leaf and Grass Clippings

Document Name and/or Web Address:

https://www4.des.state.nh.us/nh-ms4/?page_id=54

Description:

Distribute and promote informational flyer, pledge cards, or door hangers, with messaging about impacts from yard waste to waterbodies, alternatives to dumping yard waste and laws against dumping yard waste near or in waterbodies.

Targeted Audience:

Residential &/or Business and Institutions

Measurable Goal(s):

Residents are aware of the water quality impacts of yard waste dumping near or in water bodies and safe alternatives for yard waste disposal as well as distributed materials and website hits on UNH Facilities materials.

Message Date:

Annually at student University Day and Faculty/Staff Benefits events and readily available at campus library.

MCM 2
Public Involvement and Participation
Permit Part 2.3.3

BMP: Public Review of Stormwater Management Program

Location of Plan and/or Web Address:

<https://www.unh.edu/facilities/storm-water-management>

Responsible Department/Parties:

UNH Facilities

Measurable Goal(s):

Stormwater Management Plan is publicly available

BMP: Public Participation in Stormwater Management Program Development

Description: Annual review of protocols by task force created with stakeholders from staff, faculty, and students.

Responsible Department/Parties:

ECO Task Force

Measurable Goal(s):

Annual public input sought and provided

MCM 3
**Illicit Discharge Detection and
Elimination (IDDE) Program**
Permit Part 2.3.4

BMP: IDDE Legal Authority

See Illicit Discharge Detection and Elimination (IDDE) Plan

BMP: Sanitary Sewer Overflow (SSO) Inventory

See Illicit Discharge Detection and Elimination (IDDE) Plan

BMP: Map of Storm Sewer System

See Illicit Discharge Detection and Elimination (IDDE) Plan

BMP: IDDE Program

See Illicit Discharge Detection and Elimination (IDDE) Plan

BMP: Employee Training

See Illicit Discharge Detection and Elimination (IDDE) Plan

MCM 4
Construction Site Stormwater Runoff Control
Permit Part 2.3.5

BMP: Sediment and Erosion Control Construction Guidelines

Updated (4/23/2015)

University Guidelines link or Reference:

<https://scholars.unh.edu/facilities/>

Department Responsible for Enforcement:

UNH Facilities

BMP: Site Plan Review Procedures

Written procedures completed Spring 2019

Document Name and/or Web Address:

<https://scholars.unh.edu/facilities/>

Department Responsible for Enforcement:

UNH Facilities

Description:

Review projects to ensure adherence to applicable guidelines.

Measurable Goal(s):

Review designs of 100% of projects according to guidelines.

BMP: Site Inspections and Enforcement of Sediment and Erosion Control Measures Procedures

Completed Spring 2019

Document Name and/or Web Address:

<https://www.unh.edu/facilities/storm-water-management>

Department Responsible for Enforcement:

UNH Facilities

Description:

Inspect projects to ensure adherence to applicable guidelines.

Measurable Goal(s):

Inspection of 100% of projects according to guidelines.

MCM 5

Post Construction Stormwater Management in New Development and Redevelopment

Permit Part 2.3.6

BMP: Post-Construction Guideline

Updated (4/23/2015)

University Guidelines Link or Reference:

<https://scholars.unh.edu/facilities/>

Department Responsible for Enforcement:

UNH Facilities

BMP: Street Design and Parking Lot Guidelines Report

Completed (by year 4)

Document Name and/or Web Address:

TBD

Department Responsible for Enforcement:

TBD

Description:

Measurable Goal(s):

Recommendations are implemented by year 4 with progress reported annually.

BMP: Green Infrastructure Report

Completed (by year 4)

Document Name and/or Web Address:

TBD

Department Responsible for Enforcement:

TBD

Description:

Measurable Goal(s):

Recommendations are implemented by year 4 with progress reported annually.

BMP: List of University Retrofit Opportunities

Completed (by year 4)

Document Name and/or Web Address:

TBD

Department Responsible for Enforcement:

TBD

Description:

Measurable Goal(s):

The list is completed by year 4 and updated as needed.

MCM 6

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Permit Part 2.3.7

PERMITTEE OWNED FACILITIES

BMP: Parks and Open Spaces Operations and Maintenance Procedures

Written Document Completed (by year 2)

Document Name and/or Web Address:

Responsible Department/Parties:

Description: Establish procedures to address the proper use, storage, and disposal of pesticides, herbicides, and fertilizers (PHF) including minimizing the use of these products in accordance with Section 2.3.7.1.a of the MS4 permit.

Measurable Goal(s): Implement the SOP on 100% of the parks and open spaces.

BMP: Buildings and Facilities Operations and Maintenance Procedures

Written Document Completed (by year 2)

Document Name and/or Web Address:

Responsible Department/Parties:

Description: Evaluate the use, storage, and disposal of petroleum products and other potential stormwater pollutants. Provide employee training as necessary, ensure that Spill Prevention Plans are in place. Develop management procedures for dumpsters and other waste management equipment. Sweep lots and areas surrounding the facilities clean to reduce runoff of pollutants in accordance with Section 2.3.7.1 b. of the MS4 permit.

Measurable Goal(s): Implement the SOP on 100% of buildings and facilities.

BMP: Vehicles and Equipment Operations and Maintenance Procedures

Written Document Completed (by year 2)

Document Name and/or Web Address:

Responsible Department/Parties:

Description: Establish procedures for the storage of permittee vehicles. Vehicles with fluid leaks shall be stored indoors or containment shall be provided. Evaluate fueling areas owned by the permittee or used by permittee vehicles. Establish procedures to ensure that vehicle wash waters are not discharged to municipal storm drains or surface waters.

Measurable Goal(s): Implement the SOP on 100% of vehicles and equipment.

INFRASTRUCTURE

BMP: Catch Basin Cleaning Program

Written Document Completed

Document Name and/or Web Address:

Responsible Department/Parties:

Description:

The University performs routine inspections, cleaning, and maintenance of the approximately 966 catch basins that are located within the MS4 regulated area. The University will implement the following catch basin inspection and cleaning procedures to reduce the discharge of pollutants from the MS4.

- Routine inspection and cleaning of catch basins. Catch basins should be cleaned such that they are no more than 50 percent full at any time. The University will initially inspect all catch basins within the regulated area within two (2) years of the effective date of the permit to evaluate sediment or debris accumulation and establish optimal inspection and maintenance frequencies to meet the “50 percent” goal.
- If a catch basin sump is more than 50 percent full during two consecutive routine inspections or cleaning events, the finding will be documented, the contributing drainage area will be investigated for sources of excessive sediment loading, and to the extent practicable, contributing sources will be addressed. If no contributing sources are found, the inspection and cleaning frequency will be increased.
- Catch basins located near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment) will be inspected and cleaned more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings (i.e., catch basins more than 50 percent full). Priority will also be given to catch basins that discharge to impaired waters.
- The following information will be included in each annual report:
 - Any action taken in response to excessive sediment or debris loadings
 - Total number of catch basins
 - Number of catch basins inspected
 - Number of catch basins cleaned
 - Total volume or mass of material removed from catch basins.

Measurable Goal(s):

All catch basins are cleaned in accordance to the document above such that no catch basin is more than 50% full at any given time.

BMP: Street Sweeping Program

Written Document Completed

Document Name and/or Web Address: <https://www.unh.edu/facilities/storm-water-management>

Responsible Department/Parties: UNH Facilities

Description: The University will implement the following street and parking lot sweeping procedures to reduce the discharge of pollutants from the MS4:

- All streets with the exception of rural uncurbed roads with no catch basins or high-speed limited access highways will be swept and/or cleaned a minimum of once per year in the spring (following winter activities such as sanding).
- More frequent sweeping will be considered for targeted areas based on pollutant load reduction potential, inspections, pollutant loads, catch basin cleaning or inspection results, land use, impaired waters, or other factors.
- More frequent sweeping is required for municipally-owned streets and parking lots in areas that discharge to certain nutrient-impaired waters. Sweeping must be performed in these areas a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall)
- For rural uncurbed roadways with no catch basins and limited access highways, the University will either meet the minimum frequencies above, or develop and implement an inspection, documentation, and targeted sweeping plan outlining reduced frequencies within two (2) year of the effective date of the permit and submit such plan with its year one annual report.
- The following information will be included in each annual report:
 - Number of miles cleaned, or the volume or mass of material removed

Measurable Goal(s): Annually sweep 100% of all streets and municipal parking lots in accordance with the schedule listed above.

BMP: Winter Road Maintenance Program

Written Document Completed

Document Name and/or Web Address: <https://www.unh.edu/facilities/storm-water-management>

Responsible Department/Parties: UNH Facilities

Description: The University will implement the following winter maintenance procedures to reduce the discharge of pollutants from the MS4:

- Minimize the use and optimize the application of sodium chloride and other salt (while maintaining public safety) and consider opportunities for use of alternative materials.
- Optimize sand and/or chemical application rates through the use, where practicable, of automated application equipment (e.g., zero velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals. Maintain records of the application of sand, anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet

established goals.

- Prevent exposure of deicing product (salt, sand, or alternative products) storage piles to precipitation by enclosing or covering the storage piles. Implement good housekeeping, diversions, containment or other measures to minimize exposure resulting from adding to or removing materials from the pile. Store piles in such a manner as not to impact surface water resources, groundwater resources, recharge areas, and wells
- Provide training for municipal employees on winter roadway maintenance procedures.

Measurable Goal(s): Evaluate at least one salt/chloride alternative for use in the municipality.

BMP: Stormwater Treatment Structures Inspection and Maintenance Procedures

Written Document Completed

Document Name and/or Web Address:

Responsible Department/Parties:

Description: Structural stormwater BMPs will be inspected annually at a minimum and maintained as needed.

Measurable Goal(s): Inspect and Maintain 100% of treatment structures to ensure property function.

BMP: SWPPP

Written Document Completed (by year 2)

Document Name and/or Web Address:

Responsible Department/Parties:

Description: Develop and implement a SWPPP for all municipally owned or operated facilities in accordance with Section 2.3.7.2 of the MS4 permit.

Measurable Goal(s): Develop and implement SWPPP's for 100% of municipally owned facilities.

Annual Evaluation

Year 1 Annual Report

Document Name and/or Web Address:

Will be posted on the EPA website. Link to website to be included once completed.

Year 2 Annual Report

Document Name and/or Web Address:TBD

Will be posted on the EPA website. Link to website to be included once completed.

Year 3 Annual Report

Document Name and/or Web Address:TBD

Will be posted on the EPA website. Link to website to be included once completed.

Year 4 Annual Report

Document Name and/or Web Address: TBD

Will be posted on the EPA website. Link to website to be included once completed.

Year 5 Annual Report

Document Name and/or Web Address: TBD

Will be posted on the EPA website. Link to website to be included once completed.

Year X Annual Report

Document Name and/or Web Address: TBD

Will be posted on the EPA website. Link to website to be included once completed.

TMDLs and Water Quality Limited Waters

Bacteria/Pathogens

Combination of Impaired Waters Requirements and TMDL Requirements as Applicable

Applicable Receiving Waterbody(ies) as listed in Appendix F of the MS4 permit and provided in the most recent approved list of impaired waterbodies.	TMDL/Impairment Name (if applicable)
Reservoir Brook (R-10)	E.Coli, Benthic-Macroinvertebrate Bioassessments (Streams), pH
College Brook (R-09)	E.Coli, Benthic-Macroinvertebrate Bioassessments (Streams)
Oyster River – Chelsey Brook (R-04)	E. Coli, pH
Oyster River – Unnamed Brook (R-05)	E.Coli

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking (see IDDE Plan for ranking)

Annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate as outlined in this SWMP

Phosphorus Impairment

Applicable Receiving Waterbody(ies)	TMDL/Impairment Name (if applicable)
Reservoir Brook (R-10)	Dissolved Oxygen/DO Saturation
College Brook (R-09)	Dissolved Oxygen/DO Saturation
Oyster River – Chelsey Brook (R-04)	Dissolved Oxygen/DO Saturation

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking (see IDDE Plan for ranking).

Distribute an annual message that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorus-free fertilizers as outlined in this SWMP.

Distribute an annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate as outlined in this SWMP.

Distribute an annual message in the encouraging the proper disposal of leaf litter as outlined in this SWMP.

Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall) as outlined in this plan.

Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces.

Retrofit inventory and priority ranking under 2.3.6.1.b. shall include consideration of BMPs to reduce phosphorus discharges.

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

Requirements Due by Year 2

The requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal.

Requirements Due by Year 4

Complete a Phosphorus Source Identification Report.

The document name (if attached) and/or web address is/are: TBD

Retrofit inventory and priority ranking under 2.3.6.1.b. shall include consideration of BMPs that infiltrate stormwater where feasible.

Requirements Due by Year 5

Evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under Permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the impaired water or its tributaries.

Complete a listing of planned structural BMPs and a plan and schedule for implementation.

Nitrogen Impairment

Applicable Receiving Waterbody(ies)	TMDL/Impairment Name (if applicable)
Oyster River Estuary	Nitrogen

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking (See IDDE Plan for ranking).

Distribute an annual message that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers as outlined in this SWMP.

Distribute an annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate as outlined in this SWMP.

Distribute an annual message encouraging the proper disposal of leaf litter as outlined in this SWMP.

Establish requirements for the use of slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in part 2.3.7.1.

Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces.

Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall) as included in this SWMP.

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

Requirements Due by Year 2

The requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal.

Requirements Due by Year 4

Complete a Nitrogen Source Identification Report.

The document name (if attached) and/or web address is/are: TBD

Retrofit inventory and priority ranking under 2.3.6.1.b. shall include consideration of BMPs to reduce nitrogen discharges.

Requirements Due by Year 5

Evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under Permit part 2.3.6.d.ii or identified in the Nitrogen Source Identification Report that are within the drainage area of the impaired water or its tributaries.

Complete a listing of planned structural BMPs and a plan and schedule for implementation.

Chloride Impairment

Applicable Receiving Waterbody(ies)	TMDL/Impairment Name (if applicable)
Reservoir Brook (R-10)	Chloride
College Brook (R-09)	Chloride

Annual Requirements Beginning Year 1

Rank outfalls to these receiving waters as high priority for IDDE implementation in the initial outfall ranking (See IDDE Plan for ranking).

Requirements Due by Year 3

Develop a Salt Reduction Plan.

Requirements Due by Year 4

Continue implementation of the Salt Reduction Plan.

Requirements Due by Year 5

Fully implement the Salt Reduction Plan.