2022 MS4 Annual Report

Norfolk State University

2022 MS4 Annual Report
Project No. 150355

9/30/2022

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prepared for

Norfolk State University
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Norfolk, Virginia

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Revision 0
9/30/2022

prepared by

Burns & McDonnell Engineering Company, Inc.
Chesapeake, Virginia

TABLE OF CONTENTS

Page No.

1.0 GENERAL INFORMATION

The general information for this annual report is as follows:

1. The permittee is Norfolk State University, and the permit number is VAR040097.
2. The reporting period for which the annual report is being submitted is from July 1, 2021 to June 30, 2022.
3. The MS4 Map and Information Table has been updated on June 30, 2021. No changes have been made during this reporting period.

2.0 SIGNED 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, 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.".

09/29/22

Date

Signature

Anton V. Kashiri, Associate Vice President Facilities Management

3.0 MINIMUM CONTROL MEASURE

3.1 MCM 1 Public Education and Outreach

3.1.1 High Priority Issues

The following high priority issues were addressed by the permittee in the public education and outreach program:

1. BMP Inspections – Inspect BMP's on campus in accordance with Virginia Stormwater Management Handbook, Section 9.3.7 table 9.7. The stormwater BMPs help filter runoff during rain events and needs to be maintained to help preserve the downstream environment.
2. Vehicle Fluids – Prevent oils and contaminants from university staff and student vehicles from contaminating stormwater runoff. The University owns and maintains several fleet vehicles and maintenance equipment that are stored on campus along with several employee and student parking lots.
3. Trash and Debris Collection and Recycling – On the NSU campus, trash and debris can collect in the stormwater BMPs, the stormwater system and eventually make its way into the Chesapeake Bay and have an impact on seagrasses and fish wildlife. Liter can have an adverse effect on the environment and needs to be stopped at its source.

The MS4 Program Plan was updated recently, the high priority issues will remain the same for the next reporting year.

3.1.2 Strategies

The following strategies were used to communicate each high priority stormwater issue:

1. NSU has developed and implemented stormwater standard operating procedures for inspecting BMP's on campus. The stormwater standard operating procedures have been made available to employees.
2. NSU Employees will be required to make daily inspections to the areas where vehicles are stored and maintained for any fluid leaks. Vehicle maintenance has been restricted to vehicle service shop. Canopies have been installed over fuel tanks located on campus.
3. Students have been advised to inspect their vehicles and report any leaks or spills to university staff. Seminars and brochures have been developed to educate the students on actions to take.

4. The university has developed emails and flyers to post around campus to promote recycling and trash pickup events.
5. The University and student organizations have been engaged in hosting campus clean up events, giving students ownership and campus pride.

The strategies used to communicate the high priority issues were adjusted to reflect the high priority issues identified in the MS4 program plan.

3.2 MCM 2 Public Involvement and Participation

3.2.1 Public Input

No input has been received from the public on the MS4 program, including stormwater complaints.

3.2.2 Website

The current website with the most up to date information on the University's MS4 program and stormwater initiatives can be found at the address: https://www.nsu.edu/stormwater-pollution-prevention.

3.2.3 Public Involvement Activities

The public involvement activities implemented by NSU include the following activities that were advertised in the Spartan E-Daily Web emails:

1. NSU was advanced to Model Level by the Elizabeth River Project on February 11, 2022.
2. Approximately 50 Freshman students participated in the campus First Year Service Project on August 20, 2022, to plant native grasses and flowers to grow in the campus green house to use for future Elizabeth River restoration projects.
3. Student sorority and fraternity members participated in Campus Clean-up events on January 21, 2022, February 6th, 2022, March 18, 2022, May 11, 2022, and July 19 2022 to clean trash and debris from campus. Over 300 students attended the events.
4. Earth Day activities were advertised for students to plant native plants and trees donated by the Elizabeth River Project in three locations across campus.

3.2.4 Metrics and Evaluations

A report of the metric as defined for each activity and an evaluation as to whether or not the activity is beneficial to improving water quality is provided for each activity.

1. The universities advancement in the Elizabeth River Project shows their dedication to the project and continued improvement to the Elizabeth River.

2. Grasses and flowers planted in the green house will be used for additional Elizabeth River Restoration Projects. Involvement by Freshman students will help increase attendance for future events and increase education of river restoration.
3. Number of trash bags collected were not recoded. Large involvement by student organizations will help get additional students involved in future events.
4. Planting native plants and trees on campus will help to improve ecosystem and teach students about native Virginian plants.

3.2.5 MS4 Collaboration

1. University representatives will attend the annual Elizabeth River Project annual standards and specifications meeting along with other Virginia university representatives. The meeting will be held at James Maddison University on October 4th, 2022.
2. NSU board members attended the Elizabeth River Project Board Retreat on June 17th, 2021.

3.3 MCM 3 Illicit Discharge Detection and Elimination

1. There were no illicit discharges reported or detected in this reporting year.

3.4 MCM 4 Construction Site Stormwater Runoff Control

1. There were no construction activities on campus in this reporting year, therefore no inspections on construction activities were conducted.

3.5 MCM 5 Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands

1. A dry and wet weather inspection was performed for the 18 BMPs and 11 outfalls.
    a. Generally, all BMPs were in good condition, one has been marked for inadequacies and NSU is placing a work order to fix the deficiencies.
    b. Six of the outfalls could not be located due to overgrown, visual inspections to the surrounding areas were done to an allowable degree. The University has been made aware and measures are being taken to remedy the problems.
    c. One of the outfalls was identified as having an odor. The University has been made aware of problem with the outfall.
2. Employees conducted a total of 68 inspections throughout the reporting period, below is a list of the correction actions that have been taken based on the inspections preformed;
    a. Clean leaves, trash and tree limbs from storm drains and inlets; keep area clear
    b. Use sandbags to keep water from exiting wash and work areas when cleaning buildings, process equipment, etc.

c. Absorbent materials and blast fences should be replaced around mulch and topsoil storage areas
d. Chemicals and flammable cabinets in equipment shed must be moved to old office area and away from storm drain
e. BMP's should be trimmed and outfalls cleared
f. Surplus leaking street sweeper; remove and dispose of absorbent materials which kept leaks from reaching the ground
g. Place secondary containment around used oil tank
h. Trim plant growth in bio retention basins; maintain growth 6-10 inches high
i. Remove standing water or spray area where mosquitoes are breeding
j. Fill holes in the ground and install additional vegetation

3. Brightview Landscape Services has begun Phase 1 of upgrades to re-plant and manage BMP's on campus.
4. All BMPs are reported in the DEQ Warehouse submitted September 10, 2020. No new BMPs have been installed on campus.
5. Three BMPs are anticipated to be retrofitted during the next reporting period. The construction projects are currently out for bid.

3.6 MCM 6 Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee Within the MS4 Service Area

1. No updates to the SWPPP have been made during this reporting year.
2. No new turf and landscape nutrient management plans were developed in this reporting year.
3. A Stormwater Standard Operating Procedure was implemented in this reporting period.
4. Training held during the reporting period:
    a. BMcD held training on 7/13/22 with 29 attendees
    b. 24 orientation classes with a total 135 attendees
    c. 7 other classes where stormwater was a topic of discussion with a total of 161 attendees
5. The objective of the training events is to distribute information on stormwater and intergrate this information as a part of employee and student orientation. Grounds, Housekeeping and Maintenance attend storm water specific training.

4.0 EVALUATION OF MS4 PROGRAM IMPLEMENTATION

4.1 MCM Reviews

The updated MS4 program from 2021 have been implemented by NSU and their maintenance staff. The MS4 program was updated due to a DEQ Audit in the early part of 2021. Most of the MCMs were changed to align with the minimum control measures (MCM) described in Part I E of the General Permit.

4.1.1 MCM 1 Public Education and Outreach

The high priority issues from the reporting year will be a continued effort by the university for the next reporting year.

1. University BMP inspection continues to be a high priority. Ongoing training for staff will continue for BMP maintenance. Outreach and education for students about stormwater runoff will also continue.
    a. The university developed and implemented a stormwater standard operating procedure for maintenance staff. Brightview Landscape Services has been contracted to re-plant and manage BMP's on campus.
2. Waste Minimization will continue to be a high priority issue by the university.
    a. NSU will continue to host campus clean up events for students to clean the campus. The University will also host earth day events for students to participate in environmental improvement projects on campus.
3. Vehicle fluid leaks will continue to be monitored on campus.
    a. The university will continue to prohibit vehicle maintenance except in vehicle service shop. Students will be encouraged to monitor their vehicles for leaks and report any leaks to university staff.

4.1.2 MCM 2 Public Involvement and Participation

1. Markers have been installed on all existing storm drains by university staff.
2. The Elizabeth River Star Program is an on-going program and will be encouraged throughout the year.

3. Students are being advised not to change any of the fluids used in their motor vehicles while on campus. These include motor oil, transmission fluid, anti-freeze, gasoline or diesel and windshield washer fluids.
    a. Informing students on the risks to the environment will help minimize the accumulations of drippings and stains in parking lots and campus streets that can become part of stormwater runoff. A street and parking lot inspection day can be set up to have volunteers inspect the parking area for fluids and report them to the University staff for proper clean up.
4. Students have been advised to utilize good housekeeping practices while on campus. This includes not littering, throwing away cigarette butts and keeping trash disposal areas clean.
    a. The University has advertised an Earth Day event each year and while this will be a good time to get public involvement the University will also organize other events such as a trash pickup event and move out day disposal. Having the public involvement will help increase the understanding that removing debris at the source will keep out stormwater system clean and running effectively. The number of trash bags that are collected will be tracked and reported in the annual report.

5. The University's website is a source of information on the other local programs (conducted through private interest groups and the City of Norfolk) aimed at improving water quality. The website allows the public the opportunity to help improve the local water quality.

6. The University's website is a source of information on the status of the MS4 Program and all annual reports. Public suggestions to the MS4 program will be vetted and taken into consideration for incorporation into the next review cycle. The website provides the public accessibility to the permit. Increase their knowledge of stormwater regulations and NSU's efforts to improve the local water quality.

7. During the most recent pandemic, the University has continuously evaluated means to educate the students and employees on stormwater pollution prevention. They work closely with Spartan E-daily, Campus Announcements and utilize their closed-circuit TV channel.
    a. Electronic advertising will help provide a safe environment to disseminate information about improving the local water quality and how to create a cleaner campus.

4.1.3 MCM 3 Illicit Discharge Detection and Elimination

Norfolk State University (NSU) is committed to the environmental safety and protection of the campus community. This policy contains detailed information regarding requirements for MS4 storm system maintenance.

1. Equipment maintenance will also be an area where illicit discharges have the potential to occur. The University is implementing standard operating procedures and guidelines for the maintenance of equipment coupled with training to prevent any unwanted discharge.
    a. To make equipment operators more accountable for the cleanliness of the equipment and reduce the possibility of petrochemical residue and debris entering the stormwater sewer system Motor vehicle refueling.

2. The University has an underground gasoline storage tank for use in state vehicles. To reduce this area as a possible point source of pollution, refueling of most of those vehicles is performed by the vehicle maintenance staff that have received training. The nozzle has been replaced with one that will close automatically; access to the hose is restricted by locking the nozzle in place, turning off the gasoline pump and restricting refueling to a few hours in the morning when the mechanic is available to oversee the procedure.
    a. This will prevent overflow spills on the pavement that would allow gasoline to enter the stormwater drains, staining the pavement, and reducing the risk of fire.

3. The University has contracted with a consultant to assist with a nutrient management program. The program includes soil tests, assessments of vegetation and specified application amounts.
    a. The program will help to maintain healthy lawns and plantings while reducing spillage on pavements that can enter stormwater inlets and adversely affect marine life.

4. Procedures to detect and address non-stormwater discharges, will include the training the facilities groundskeepers and tradesmen how to identify and report illegal dumping. These individuals are to report observations and incidents that could result in illicit discharges, or conditions that could result in non-stormwater contamination. In addition to these detection methods, the main outfall from campus has a large screen that prevents solids from entering connecting sewers. The University will coordinate with the city to assure this structure remains functional.

5. A formal proposal has been implemented advising the campus community that discharge of any materials, solid or liquid other than water into stormwater inlets is prohibited and infractions shall be subject to appropriate fines and/or penalties.
    a. Proposals of this nature shall be reviewed by the University senior administrators and legal counsel. Enforcement shall include University Police, and if student(s) are involved, summons may be issued to appear before a committee.

6. Removal of grease and oil accumulations from parking lots will require the use of pressure-washing, deployment of petrochemical absorbents around the cleanup site and in front of any affected stormwater inlet.
    a. This will prevent illicit discharges from entering the University's stormwater system.

7. In the event that an illicit discharge is identified, it will be reported to DEQ in the Annual Report.

8. Campus stormwater outfalls are continually inspected, and a dry and wet weather inspection is performed annually by an outside source. The Outfall Reconnaissance Inventory (ORI) is the most proven method for screening campus stormwater outfalls. The ORI consists of walking all campus outfalls to document where they are and what condition they are in.
    a. The purpose of the ORI is to identify potential illicit discharges that could impair water quality. The ORI also details on how to find an illicit discharge in the field and the appropriate laboratory strategies to identify particular pollutants.

4.1.4 MCM 4 Construction Site Stormwater Runoff Control

The BMPs defined under this measure have been implemented beginning in the first permit year, and continuously thereafter. The BMPs includes:

Compliance with Virginia Erosion and Sediment Control and Stormwater Laws for Construction projects:

- Included in affected projects with a general contractor, is a section dedicated to Slope Protection and Erosion Control.
- The University holds the general contractor responsible for maintaining the job site to the satisfaction of the University and all applicable regulations.
- The contractor is required to schedule work in a manner that best provides slope protection and erosion controls by installing grass, ditches, or other means to prevent runoff into stormwater drains.

- The contractor must also clean out any drains that become contaminated with construction site runoff.
- The contractor shall be responsible for any damage to streams or other natural areas or wetlands by the addition of soil, rock, or topsoil, whether deposited by poor construction practice, sedimentation, or wind, and vegetation matter such as whole trees or any part thereof, or remnants from burning or other clearing processes, and waste construction materials such as concrete, broken pipe, equipment parts and any other additions which could be detrimental to said areas.
- Any damages shall be assessed by the University based on site inspections. The contractor shall act as soon as possible to prevent further damage and correct existing damage at no cost to the University. Should the University choose to do so, a remediation contractor shall correct the damage and their fees deducted from the contractor's payments.
- The contractor is to expect periodic site inspections by the erosion and sediment control reviewing authority
- The inspector for the erosion and sediment control reviewing authority shall be allowed access to all areas of the construction site.
- All conditions or practices noted by the inspector, that could result in deteriorated slope protection or erosion control, shall be immediately corrected.
- If the inspector for the erosion and sediment control reviewing authority submits a report to the University or contractor, all infractions or penalties shall be addressed by the contractor at no expense to the University.
- At the agreed conclusion of a project, all temporary erosion control systems shall be removed, and inspection of adjacent stormwater inlets and drains conducted. The contractor shall remove all materials, sediment or vegetation that has entered due to activities related to the construction project.
- For sites in excess of one acre, the contractor shall ensure compliance with all the requirements of VR 680-14-19 (VPDES).
- The University reserves the right to require all architects, engineers, and related consultants to obtain appropriate certifications as specified under the Erosion and Sediment Control law.
- Contractor shall provide the University with legible copies of all correspondence, reports, meeting minutes, etc. that involve stormwater issues.

The goal of implementing these measures is to prevent pollution of stormwater and maintain healthy waterways

4.1.5 MCM 5 Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands

1. The university shall maintain compliance with Virginia Erosion and Sediment Control and Stormwater Laws.

2. Groundskeepers have been scheduled to conduct inspections of campus stormwater basins. Inspections are documented and include clearing of soil/sand, removal of debris, checks for erosion, reporting of sheen in standing water, and the removal of leaves and floating debris. Periodic inspections shall be added to the preventive maintenance list. The inspections will help verify basins are clean and capable of retaining and draining.

3. The University's Stormwater Master Plan will be implemented to ensure compliance with current regulations. The intent is to supplement the Current Campus Master Plan by providing a guideline for development on campus.

4.1.6 MCM 6 Pollution Prevention and Good Housekeeping for Facilities Owned or Operated by the Permittee Within the MS4 Service Area

1. Tradesmen have been instructed to immediately cleanup releases of any materials they are using and report any quantity that may have entered a stormwater drain. This increases the awareness for stormwater runoff and eliminate sources of illicit materials polluting surface waters.

2. Groundskeepers have been instructed to pick-up debris to prevent shredding by lawn mowers and entering stormwater drains to reduce the amount of pollutants in the stormwater, and promote the free flowing of stormwater in the sewer lines.

3. Absorbent materials are kept available, and a fully enclosed hazardous materials storage shed is used for the staging of hazardous wastes, including contaminated absorbents and personal protective equipment. Storing hazardous wastes isolated from the weather and unauthorized personnel will limit the chances of the material to enter the stormwater system.

4. A Hazardous Substance Policy has been created and will be implemented to prevent hazardous materials from entering the University's stormwater sewer system and other downstream waters

5. A Nutrient Management Plan has been developed and will be implemented to help reduce the amount of pollutants in the stormwater specifically the application of fertilizers and herbicides will be specified and strictly followed.

6. A company with expertise in hazardous materials has been contracted to provide emergency response to incidents requiring additional resources and equipment. They have the added responsibility of overpacking primary containers and arranging for transportation to approved disposal sites, recyclers, or incinerators. This will assure a release is adequately remediated, storm drains are protected, staff personnel do not become contaminated and disposal protocols are strictly followed.

7. After campus events trash receptacles shall be emptied and stormwater inlets in the area will be checked and trash removed from inlets. An estimate of the amount of trash collected shall be recorded and sited of the greatest accumulations noted.

4.2 Program Effectiveness

1. The MS4 program was updated and implemented in 2021. The program plan has been brought up to current General Permit standards.

4.3 Program Changes Needed

1. Generally, the program has been updated to include more training and public outreach to make the public aware of the impacts that the community can have on the environment and the stormwater system.

5.0 CHESAPEAKE BAY TMDL ACTION PLAN STATUS REPORT

5.1 BMPs Implemented

There were no new BMPs implemented during the reporting period.

5.2 Credits Acquired

The University did not acquire credits during the reporting period.

5.3 Progress Toward Meeting Required Cumulative Reductions

No progress was made during this reporting cycle due to constraints caused by COVID.

5.4 BMPs to be Implemented

Three BMPs are anticipated to be retrofitted during the next reporting period. The construction projects are currently out for bid.

6.0 LOCAL TMDL ACTION PLAN STATUS REPORT

6.1 Elizabeth River TMDL Action Plan

The Elizabeth River TMDL Action Plan was developed to address pollutants of concern (POC) in accordance with the General Permit requirements where the university has been assigned a waste load allocation (WLA) in an approved TMDL. NSU drains to the Lower Easter Branch segment of the Elizabeth River and is therefore subject to the approved bacteria TMDL for the Elizabeth River.

Wildlife is considered to the be primary source of bacteria-laden runoff for the University's MS4 service area. The most notable wildlife present on campus is waterfowl. These animals are a large contributor to this source of bacteria as they are attracted to open spaces and wet areas present on the campus.

NSU has contracted "Flyaway Geese" Control use trained dogs to prevent geese from nesting on campus.

Regular emails and/or fliers are sent out to the University's students, staff and faculty asking them to not feed geese or seagulls on campus.

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