

**2021-2022 MS4 ANNUAL REPORT FOR
MARINE CORPS INSTALLATIONS NATIONAL CAPITAL
REGION - MARINE CORPS BASE QUANTICO (MCINCR-MCBQ)**

Natural Resources & Environmental Affairs (NREA)
2006 Hawkins Ave, 3rd floor, Rm 336
Quantico, VA 22134-5001



Revised February 2023

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FACILITY INFORMATION

Name of Facility Marine Corps Base Quantico

Street Address 3250 Caitlin Ave

City Quantico **State** VA **Zip Code** 22134

County Stafford, Prince William, Fauquier (MS4 in Prince William County only)

SIGNATURE AND CERTIFICATION

Certification, as required by Virginia Administrative Code (9VAC25-890-40):

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.

Printed Name

Title

Signature

Date



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1. INTRODUCTION

AECOM prepared this annual report for the Marine Corps Installations National Capital Region – Marine Corps Base Quantico (MCINCR-MCBQ) for its Phase II (small) Municipal Separate Storm Sewer System (MS4) permit number VAR040069¹ issued on November 1, 2018. This report covers the period of July 1, 2021 through June 30, 2022.

To meet the six minimum control measures² (MCMs) required under the MS4 permit, MCINCR-MCBQ has proposed best management practices (BMPs) to help reduce the negative effects of stormwater runoff. The BMPs implemented by MCINCR-MCBQ are described in the June 2020 MS4 Program Plan and evaluated in this annual report to determine the MS4 program's effectiveness.

As a Department of Defense facility in an urbanized area, MCINCR-MCBQ is considered a small MS4, which subjects it to the federal Phase II stormwater requirements and state requirements. MCINCR-MCBQ is also subject to the requirements of the Chesapeake Bay Preservation Act, which places additional restrictions on land disturbing activities.

Requirements for an associated stormwater pollution prevention plan (SWPPP) under Virginia Pollutant Discharge Elimination System (VPDES) permit VA002151 for industrial stormwater discharges were previously met by MCINCR-MCBQ through a Comprehensive Storm Water Management Action Plan (CSWMAP), which identified stormwater pollution prevention requirements for both the Industrial VPDES permit and MS4 permit. However, the Virginia Department of Environmental Quality (VDEQ) requested a separate standalone MS4 SWPPP, which was developed August 2019 to meet Section I E 6 c of the MS4 permit. The MS4 SWPPP development is further detailed in Section 8.2 of this annual report.

¹ General Permit No. VAR040069, General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems; Authorization to Discharge under the Virginia Stormwater Management Program and the Virginia Stormwater Management Act. Effective Date: November 1, 2018. Expiration Date: October 31, 2023.

² The six minimum control measures are delineated in 9VAC25-890-40 Part I E.



2. MS4 PROGRAM PLAN AND PROGRAM EFFECTIVENESS

MCINCR-MCBQ's MS4 Program Plan underwent a thorough review and revision in January 2019 to meet the requirements of the MS4 permit effective November 1, 2018. MCINCR-MCBQ revised and updated the MS4 Program Plan again in June 2020, which provided clarity to the sections associated with the six MCMs and Total Maximum Daily Load (TMDL) Special Conditions outlined in Sections I and II of the MS4 permit and added a section summarizing annual reporting requirements. The new and updated content provided information, changes, latest inspection dates, and additions to the stormwater program.

MCINCR-MCBQ met the measurable goals set for BMPs identified in the MS4 Program Plan during this reporting period. MCINCR-MCBQ does not rely on another entity to satisfy any state permit obligations or to implement portions of the MS4 Program Plan. There have been no changes to roles and responsibilities that impact the implementation of this MS4 program.

Sections 3 through 8 of this annual report include a review and assessment of each MCM, and Sections 9 and 10 meet the reporting requirements for special conditions related to the Chesapeake Bay TMDL and Local TMDLs.



3. MCM 1: PUBLIC EDUCATION AND OUTREACH

BMPs pertaining to MCM 1: Public Education and Outreach focus on the development of educational materials and awareness concerning stormwater pollution. They are designed to inform and educate the public about the potential impact stormwater discharges have on local water bodies and the steps that the public can take to help reduce pollutants in stormwater runoff.

3.1 HIGH-PRIORITY STORMWATER ISSUES

MCINCR-MCBQ has identified the following three high-priority stormwater issues for outreach and education: nutrient overloading in waterways (Chesapeake Bay TMDL), importance of adequate ground cover to prevent soil erosion, and litter prevention.

3.2 STRATEGIES TO COMMUNICATE HIGH-PRIORITY STORMWATER ISSUES

In this reporting period, MCINCR-MCBQ used strategies identified in **Table 3-1** to communicate each of the high-priority stormwater issues during Earth Day and Kids Fest.

Table 3-1: Strategies to Communicate High-Priority Stormwater Issues		
Strategy	Description	Corresponding High-Priority Stormwater Issue
Media Materials	The Marine Corps Base Quantico Facebook page (https://www.facebook.com/MarineCorpsBaseQuantico/) posts pictures and descriptions of Earth Day and Kids Fest. Car wash and stormwater pollution prevention guidelines are also posted to the Quantico Natural Resources and Environmental Affairs (NREA) webpage: (https://www.quantico.marines.mil/Offices-Staff/G-F-Installation-and-Environment/Natural-Resources-Environmental-Affairs/NREA-Documents/).	Nutrient overloading in waterways. Litter prevention.



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Table 3-1: Strategies to Communicate High-Priority Stormwater Issues		
Strategy	Description	Corresponding High-Priority Stormwater Issue
Training Materials	Onsite classroom training was provided for construction personnel, contract officers, engineering technicians, construction managers, and other installation staff. These can be found in Table 8-1 .	Nutrient overloading in waterways. Importance of adequate ground cover to prevent soil erosion. Litter prevention.
Signage; Traditional Written Materials	Earth Day event educational displays are usually presented to hundreds of participants related to the reuse and recycling of resources, proper car washing procedures and maintenance, cleanup and disposal of litter, and outdoor activities such as mowing the lawn, cleaning up brush, and raking leaves.	Nutrient overloading in waterways. Litter prevention.

3.3 BMP APPROPRIATENESS FOR MCM 1

The BMPs and activities conducted in support of MCM 1 were designed to effectively communicate to the public the high-priority stormwater issues.



4. MCM 2: PUBLIC INVOLVEMENT AND PARTICIPATION

BMPs pertaining to MCM 2: Public Involvement and Participation focus on involving employees, residents, contractors, and active-duty personnel in stormwater and pollution prevention efforts. This is achieved through restoration cleanup events, public events, and household hazardous materials collection.

4.1 PUBLIC INPUT ON THE MS4 PROGRAM

MCINCR-MCBQ posts contact information on the NREA website,³ as a means for the public to provide input on the MS4 program. No input was received from the public during this reporting period.

4.2 MS4 AND STORMWATER WEBPAGE

MS4 annual reports, the MS4 Program Plan, and other required documents pertaining to the MS4 program are posted to the NREA website⁴ as well.

4.3 PUBLIC INVOLVEMENT ACTIVITIES

Sections 4.3.1 through 4.3.4 identify the four public involvement activities that were planned for this reporting period. **Table 4-1** lists each of the four activities along with the metric and corresponding category listed in Table 2 of the MS4 permit.

³ NREA website's URL: <https://www.quantico.marines.mil/Offices-Staff/G-F-Installation-and-Environment/Natural-Resources-Environmental-Affairs/>

⁴ NREA annual report and stormwater documents are available at <https://www.quantico.marines.mil/Offices-Staff/G-F-Installation-and-Environment/Natural-Resources-Environmental-Affairs/NREA-Documents/>.



Table 4-1: Public Involvement Activities This Reporting Period

Activity	Metric	Corresponding Category in Table 2 of MS4 Permit
Recycling Center Cleanup	15 participants	Restoration
Earth Day Cleanup	30 participants	Restoration
Hazardous Materials Collection and Disposal	100 pounds of material	Disposal or collection
Kids Fest	800 attendees	Educational events

4.3.1 Recycling Center Cleanup

Date: During the week of Earth Day activities and once a month throughout the year

Location: Marine Corps Base Quantico Recycling Center, 3185 Bauer Rd.

Number of Participants: 15 people on Earth Day and approximately 12 people every month

Description: Marine volunteers participated in the cleaning of excess trash and debris in and around the center to promote a cleaner facility. The activities included grass cutting, weeding, and erosion control and prevention. The cleanup and maintenance of the facility is beneficial to not only facility operations but the longevity of the stormwater management facilities and preventing degradation of water quality.

4.3.2 Earth Day Cleanup

Date: Annually during the week of Earth Day activities, April 20 – 22, 2022

Location: Various roadsides, trails, and shoreline

Number of Participants: 30 participants



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Description: During the week of Earth Day activities, Marine and civilian volunteers participate in the cleaning of excess trash and debris from around the installation and on the waterfront. Debris is removed from the various roadsides, trails, and shoreline. The event is beneficial to engaging participation of the community encouraging an awareness of pollution/'debris' transport via stormwater runoff and improving water quality.

4.3.3 Hazardous Material Collection and Disposal

Date: This activity is ongoing year-round.

Location: MCINCR-MCBQ Hazardous Materials Reuse Center

Material Collected: 100 pounds of material

Description: MCINCR-MCBQ maintains a hazardous materials reuse center on Base for all tenants, units, civilian personnel, and residents to use year-round. The center collects partially used cans of hazardous materials like spray paint or latex paint, hand sanitizer, or any chemical or materials that are no longer needed to be repurposed at other units. By reducing the amount of hazardous materials purchased new or brought onto the installation, MCINCR-MCBQ not only saves money in purchase and disposal costs, but also reduces the risk of spills. This activity is meaningful to provide homeowners responsible methods for disposing of hazardous materials and should reduce situations where similar waste may end up in stormwater conveyance channels.

4.3.4 Kids Fest

Date: April 23, 2022

Location: Butler Stadium

Number of Participants: Approximately 800 attendees

Description: Spring Fest events included a Kids Fest with educational crafts, children's activities, games, and educational displays attended by children, parents, and Base personnel. NREA staffed informational tables to discuss ways to participate in pollution



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prevention and stormwater awareness. The knowledge they learn will help provide the foundation of the next generation's environmental stewards and promote a healthy water quality.

4.4 COLLABORATION WITH OTHER MS4 PERMIT HOLDERS

MCINCR-MCBQ did not collaborate with any other MS4 permittees in the public involvement activities that occurred within this reporting period.

4.5 BMP APPROPRIATENESS FOR MCM 2

The BMPs and activities conducted in support of MCM 2 are designed to effectively engage the public on pollution prevention and the high-priority stormwater issues when public participation and gatherings are safe in accordance with Virginia law and guidelines.



5. MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

BMPs pertaining to MCM 3: Illicit Discharge Detection and Elimination focus on the maintenance of an up-to-date MS4 map and information table, prohibiting illicit discharges, maintaining written procedures for non-stormwater discharges, dry weather field screenings and investigations into illicit discharges, and notification of downstream MS4 permittees of physical connection.

5.1 MS4 MAP AND OUTFALL INFORMATION TABLE

The MS4 map and information table have been updated to reflect current conditions and were submitted to VDEQ during the July 2018 to June 2019 reporting period. No new outfalls were added to the MS4 during this reporting period. The only structural BMPs were five (5) dry swales associated with Fuller Road improvements, installed in 2021. Nonstructural BMPs included urban nutrient management, street sweeping, and tree planting.

5.2 DRY WEATHER OUTFALL SCREENING

In November 2019, MCINCR-MCBQ finalized its updated Illicit Discharge Detection and Elimination Procedures, which also covers MCINCR-MCBQ dry weather screening protocols. There are currently 198 stormwater outfalls identified within the MCINCR-MCBQ MS4 area. During this reporting period, MCINCR-MCBQ did not conduct dry weather screening of MS4 outfalls. However, 98 outfalls were screened during the previous reporting period, above the 50 outfall screenings required annually. MCINCR-MCBQ has an active contract to conduct additional dry weather screenings during the next reporting period in order to meet the total required screenings. All MS4 outfalls will be screened before the end of this permit cycle.

5.3 ILLICIT DISCHARGE SOURCE INVESTIGATIONS

While dry weather outfall screening was not conducted during this reporting period, a summary of dry weather flow (DWF) from the past 5 years can be found in **Table 5-1**.



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Table 5-1: Summary of Illicit Discharge Source Investigations

Water Program Reported Illicit Discharges			
Date	Discharge	Reported By	Notes
07/19/21	Drinking Water	Public	Water line break was reported at the intersection of Broadway St. and 6 th Ave. An estimated 500 gallons of potable water was released. Repairs were completed and line was placed back in service. No detrimental environmental effects were noted.
7/29/21	Drinking Water	Public	Water line break was reported behind the basic school motor pool. An estimated 300 gallons of potable water was released. Repairs were completed and line was placed back in service. No detrimental environmental effects were noted.
8/6/21	Drinking Water	Public	Water line break was reported in the area of building 2007. An estimated 5,000 gallons of potable water was released. Repairs were completed and line was placed back in service. No detrimental environmental effects were noted.
9/15/21	Drinking Water	Public	Water line break was reported inside Ammunition Supply Point. An estimated 200,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
10/4/21	Drinking Water	Public	Water line break was reported behind Building 2034. An estimated 200 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
10/28/21	Envirotemp [®] FR3 [™]	Public	It was reported that a contractor backed into a transformer and knocked it off its base, causing an estimated release of 180 gallons. Soil was removed and absorbent pads contained the release. No detrimental environmental effects were noted.
11/17/21	Drinking Water	Public	Water line break was reported between Building 2009 and 2011. An estimated 5,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
11/20/21	Drinking Water	Public	Water line break was reported near Building 2076. An estimated 5,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.



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11/22/21	Sewage	Public	Sewage manhole overflow due to a blockage on John Quick Road. Blockage was cleared and placed back into service on 11/22/21. An estimated 250 gallons of sewage was released. No detrimental environmental effects were noted.
11/24/21	Drinking Water	Public	Water line break was reported near the rear of Building 2189. An estimated 100 gallons of water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
12/7/21	Sewage	Public	Sewer line break was reported during the installation of a new manhole near Building 5170. No sewage entered the storm drain system. An estimated 10 gallons of sewage was released. No detrimental environmental effects were noted.
12/12/21	Drinking Water	Public	Water line break was reported at the intersection of Bauer Road and Fleming Street. An estimated 500,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
12/27/21	Drinking Water	Public	Water line break was reported at the east end of Building 2007. An estimated 10,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
12/28/21	Drinking Water	Public	Water line break was reported at the intersection of Fuller Rd and Liversedge Dr. An estimated 5,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
1/5/22	Drinking Water	Public	A sewage overflow was reported at lift station 27009ALS. An estimated 1,000 gallons was spilled due to a power outage. No negative environmental effects were noted.
1/24/22	Drinking Water	Public	Water line break was reported in front of Building 17065. An estimated 5,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
1/26/22	Drinking Water	Public	Water line break was reported near Building 2204. An estimated 1,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
1/27/22	Drinking Water	Public	Water line break was reported at Thomason Water Tower. An estimated 50,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.



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2/1/22	Drinking Water	Public	Water line break was reported in front of building 2034. An estimated 5,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
2/7/22	Drinking Water	Public	Water line break was reported near building 17049. An estimated 10,000 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
3/31/22	Drinking Water	Public	Leaking hose was reported at building 3259. An estimated 1,000 gallons of potable water was released. Repairs were completed and no detrimental environmental effects were noted.
4/12/22	Sewage	Public	Sewage was reported to be coming from a manhole near building 27009BLS. Blockage was cleared and an estimated 200 gallons of sewage was released. No detrimental environmental effects were noted.
5/16/22	Unknown Sheen	Public	Sheen was found on water near building 2006. Unknown cause or amount and was mixed with rainwater. No detrimental environmental effects were noted.
6/19/22	Drinking Water	Public	Water line leak was reported near building 505. An estimated 250 gallons of potable water was released. Repairs were completed and the line was placed back in service. No detrimental environmental effects were noted.
6/22/22	Hydraulic fluid	Public	Hydraulic fluid was observed coming from a manhole to the oil water separator and into a stormdrain. An estimated 15 gallons of hydraulic fluid was spilled. Spill was cleaned up and no detrimental impacts were noted.



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5.4 BMP APPROPRIATENESS FOR MCM 3

The BMPs and activities conducted in support of MCM 3 lead to the identification and elimination of identified illicit discharges. As mentioned in the previous section, MCINCR-MCBQ finalized its Illicit Discharge Detection and Elimination Written Procedures in November 2019.



6. MCM 4: CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

To meet MCM 4: Construction Site Stormwater Runoff Control, MCINCR-MCBQ's construction site stormwater runoff progress is implemented in accordance with Part I E 4 a (3) of the MS4 permit because MCINCR-MCBQ is a federal entity in the process of developing updated standards and specifications in accordance with the Virginia Erosion and Sediment Control Law (§62.1-44.15:51 et seq. of the Code of Virginia) and Virginia Erosion and Sediment Control Regulations (9VAC25-840). MCINCR-MCBQ has direct legal authority over the use and condition of the land and infrastructure it owns and operates within its legal boundaries. MCINCR-MCBQ works with outside contractors to conduct a variety of construction projects at the facility and incorporates requirements into contracting language for construction projects to implement controls for preventing non-stormwater discharges to the MS4. All construction contractors are required to implement appropriate controls and comply with regulations even if the construction activity does not require a stormwater discharge permit. The contract language, as well as other legal authorities at MCINCR-MCBQ, incorporates requirements stipulated in various Virginia laws and regulations for addressing stormwater discharges from construction activities. Please refer to the MCINCR-MCBQ MS4 Program Plan for more detail on Virginia laws and regulations applicable to MCINCR-MCBQ.

Land-disturbing projects that occurred during the reporting period have been conducted in accordance with the current department-approved standards and specifications for erosion and sediment control. **Table 6-1** summarizes the inspections and enforcement actions conducted during this reporting period.



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Total Number of Inspections	480
Total Number of Enforcement Actions	1
Type of Enforcement Actions	Stop Work

6.1 BMP APPROPRIATENESS FOR MCM 4

The BMPs and activities conducted in support of MCM 4 are appropriate to help minimize erosion from construction sites and limit sediment runoff.



7. MCM 5: POST-CONSTRUCTION STORMWATER MANAGEMENT FOR NEW DEVELOPMENT AND DEVELOPMENT ON PRIOR DEVELOPED LANDS

BMPs pertaining to MCM 5: Post-Construction Stormwater Management for New Development and Development on Prior Developed Lands focus on the prevention or minimization of water quality impacts deriving from new development and redevelopment projects that disturb greater than or equal to 1 acre of land, including projects less than 1 acre that are part of a larger common plan of development that discharges into the MS4. MCINCR-MCBQ does not have privately owned stormwater management facilities associated with the MS4 permit.

7.1 BMP INSPECTIONS AND MAINTENANCE

Inspections were performed on 185 BMPs, which included BaySavers/Filters, bioretention areas, a bioswale, dry detention ponds, dry extension detention ponds, a permeable pavement, vegetated treatment areas, and wet ponds, located throughout MCINCR-MCBQ during this reporting period. These evaluations consisted of visual inspections, photographs, and required maintenance where applicable for each BMP. Inspections found general maintenance needed for trash and debris removal.

Maintenance and/or restoration was performed on six BMPs during this reporting period, three extended detention ponds, two wet ponds, and one grass swale. Restoration on the ponds included addressing clogged inlets, damaged trash racks, vegetation, and erosion. Two ponds were also retrofitted with forebays. Restoration on the grass swale included addressing erosion and repairing the failing outlet structure.



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7.2 CONSTRUCTION DATABASE SUBMITTAL

Information on stormwater management facilities was not submitted through the Construction General Permit (CGP) database for land-disturbing activities for which coverage under the CGP was obtained. MCINCR-MCBQ works directly with VDEQ and submits as-built drawings for each of its CGP BMPs and, as such, understands submittal of BMPs into the CGP database is not required.

7.3 BMP WAREHOUSE SUBMITTAL

Other than street sweeping, no BMPs were implemented this reporting period beyond those required for water quality treatment because of new construction. Consequently, no BMPs have been reported into the VDEQ BMP Warehouse during this reporting period, other than what was entered for street sweeping.

7.4 BMP APPROPRIATENESS FOR MCM 5

The BMPs and activities conducted in support of MCM 5 are appropriate to address post-construction stormwater management. They include procedures for BMP inspections, maintenance requirements, and the roles and responsibilities of each of MCINCR-MCBQ's divisions in implementing the various BMPs.



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8. MCM 6: POLLUTION PREVENTION AND GOOD HOUSEKEEPING

BMPs pertaining to MCM 6: Pollution Prevention and Good Housekeeping focus on the prevention or reduction of pollutant runoff from municipal operations and relevant training.

8.1 REVISION OF DAILY OPERATIONAL PROCEDURES

No daily operational procedures were developed or modified during this reporting period.

8.2 MCINCR-MCBQ SWPPP SUMMARY

Prior to 2020, MCINCR-MCBQ maintained a CSWMAP document to facilitate management of MCINCR-MCBQ's Storm Water Program by addressing the requirements of both the VPDES Industrial Storm Water Program and the MS4 Program. In June 2019, however, an MS4-specific MCINCR-MCBQ SWPPP was developed per VDEQ request for a separate document that specifically addresses the requirements of an MS4 SWPP. In May 2020, MCINCR-MCBQ completed a comprehensive review of all buildings and practices that could potentially impact stormwater or stormwater quality, with the intent of identifying any new sites that could be added to the SWPPP and ensuring all currently monitored sites were reflected accurately in its records. No additional high-priority facilities were identified other than those identified in the previous CSWMAP during the 2020 review or during this reporting period.



8.3 SWPPP MODIFICATIONS

Refer to Section 8.1 regarding the development of a standalone MS4 SWPPP document. The information required for an MS4 SWPPP was previously incorporated into a comprehensive document to meet SWPPP requirements for both the VPDES Industrial Stormwater Discharge Permit and MS4 permit. However, no high-priority facilities with a high potential to discharge pollutants to the MS4 have been added or removed during this reporting period. The SWPPP has not otherwise been modified other than to update potential pollutant inventories, develop SWPPP maps, and confirm that the presented information is current.

8.4 NUTRIENT MANAGEMENT PLAN SUMMARY

A turf and landscape nutrient management plan (NMP) was developed during the 2018 to 2019 reporting period for the Lincoln Housing Areas, which fall within the MCINCR-MCBQ MS4 area. The NMP was submitted to the Virginia Department of Conservation and Recreation by a certified nutrient management planner and approved through January 2, 2024. No new NMPs were developed during this reporting period.

8.5 TRAINING

Table 8-1 summarizes the training events conducted in accordance with MCM 6 of the MS4 permit, including the date of the training event, number of attendees, and objective of the training event.

Table 8-1: Summary of Training Events This Reporting Period			
Training Event	Date	Number of Attendees	Objective
Environmental Coordinator Meeting	January 14, 2022	21	Onsite classroom training for Environmental Coordinators (ECs). ECs act as the unit’s official liaison with NREA Branch on environmental matters. Their duties include maintaining general awareness of environmental regulations applicable to their units,



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Table 8-1: Summary of Training Events This Reporting Period

Training Event	Date	Number of Attendees	Objective
			conducting mandatory NREA Branch training events and meetings, preparing required reports to NREA Branch including environmental data collection, and the facilitation and tracking of corrective. ECs attend stormwater pollution prevention classroom training at least once per year from all major commands and tenants on Base and are instructed how to train their staff.
Stormwater Pollution Prevention and Erosion & Sediment Control on Construction Sites	June 15, 2022	35	General awareness of stormwater pollution prevention and erosion & sediment control on construction sites, including inspections and enforcement actions.
	November 16, 2021	21	
	August 25, 2021	19	

8.6 BMP APPROPRIATENESS FOR MCM 6

The BMPs and activities conducted in support of MCM 6 are appropriate to address good housekeeping and pollution prevention and meet the requirements set forth for good housekeeping in daily operations, SWPPPs, NMPs, and training.



9. CHESAPEAKE BAY TMDL

MCINCR-MCBQ finalized its draft Chesapeake Bay TMDL Action Plan in April 2021 to meet the requirements of Section I.B of the MS4 permit for the permit cycle November 1, 2018, through October 30, 2023, and those contained within the 2021 VDEQ Water Division Guidance Memo No. 20-2003. The Stormwater MS4 Support Chesapeake Bay TMDL Action Plan was submitted to VDEQ and documented the amount of total nitrogen (TN), total phosphorus (TP), and total suspended solids (TSS) loads that the MCINCR-MCBQ MS4 intends to acquire from the MCINCR-MCBQ Mainside Wastewater Treatment Plant (WWTP) in order to meet its Phase II 40% pollutant reduction requirements by June 30, 2023.

9.1 BMPs NOT REPORTED TO THE BMP WAREHOUSE

MCINCR-MCBQ is not claiming credit toward Chesapeake Bay TMDL pollutant reduction requirements for any BMPs implemented during the reporting period but not reported to the VDEQ BMP Warehouse.

9.2 CREDITS ACQUIRED

No credits were acquired during this reporting period to meet any of the required reductions of the Chesapeake Bay TMDL.

9.3 PROGRESS TOWARD MEETING REQUIRED REDUCTIONS

MCINCR-MCBQ has made progress toward its Chesapeake Bay TMDL pollutant reduction requirements through the implementation of BMPs installed July 1, 2009, through June 30, 2021, and through nutrient and sediment trading potential with the Mainside WWTP. MCINCR-MCBQ operates the Mainside WWTP and participates in the Virginia Nutrient Trading Program. The VPDES permit for the WWTP includes effluent limits for TN, TP, and TSS; however, the monitored end-of-year cumulative loads for these effluents discharged by the WWTP are well below the annual permit limits. The differences between the permitted



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effluent TN, TP, and TSS limits and actual effluent quality discharged are, therefore, eligible credits that the WWTP can sell or trade with other entities.

As MCINCR-MCBQ has exceeded reduction requirements for TSS already, no additional TSS reduction is required during this permit cycle. The remaining reduction amounts for TN and TP are 81.04 pounds per year (lb/yr) and 11.51 lb/yr, respectively. MCINCR-MCBQ intends to implement a nutrient trading agreement with the Mainside WWTP and issue these amounts of effluent to the MCINCR-MCBQ MS4.

Table 9-1 provides the cumulative progress toward meeting the compliance targets for TN, TP, and TSS based on BMPs installed between 2009 and 2021 and nutrient and sediment trading with the Mainside WWTP. No control measures have been implemented during this reporting period, and the following table reflects the information contained in the Chesapeake Bay TMDL Action Plan submitted to VDEQ in 2021 following VDEQ’s release of the updated guidance memorandum for BMP efficiencies.

Table 9-1: Progress Toward MCINCR-MCBQ’s Required Reductions for This Permit Cycle⁵			
Control Measures Implemented	Estimated Pollutant Reduction (lbs/yr)		
	TN	TP	TSS
Total Reductions Required This Permit Cycle	367.26	38.99	31,534.85
Total Allowable Existing Source Reductions from Existing BMPs	286.22	27.48	53,065.40
Remaining Reductions Needed for This Permit Cycle	81.04	11.51	0

⁵ TN, TP, and TSS credits are identified in Table 6, “WWTP Nutrient Trading Applied to MCINCR-MCBQ’s Required Reductions for this Permit Cycle,” in the 2021 *MCB Quantico Stormwater MS4 Support Chesapeake Bay TMDL Action Plan*.



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Table 9-1: Progress Toward MCINCR-MCBQ's Required Reductions for This Permit Cycle⁵			
Control Measures Implemented	Estimated Pollutant Reduction (lbs/yr)		
	TN	TP	TSS
Total Allowable Existing Source Reductions from Nutrient and Sediment Trading	10,624.00	1,086.00	39,334.00
<i>Surplus Reductions to Apply Toward Next Permit Cycle</i>	<i>10,542.96</i>	<i>1,074.49</i>	<i>60,874.55</i>

9.4 BMPs Planned for the Next Reporting Period

MCINCR-MCBQ does not yet have BMPs planned for implementation during the next reporting period. However, MCINCR-MCBQ plans to explore the following opportunities to apply credits toward its Chesapeake Bay TMDL pollutant reduction requirements:

- Increased water quality treatment design in its new development projects (that is, overdesign stormwater BMPs and claim credit toward TMDL goals), and
- Downspout disconnection and rerouting to swales and rain gardens.



10. LOCAL TMDL

As of January 2019, no United States Environmental Protection Agency (USEPA)–approved TMDLs require MCINCR-MCBQ to develop a Local TMDL Action Plan. If a USEPA-approved TMDL is published after this date and requires MCINCR-MCBQ to develop a TMDL Action Plan, MCINCR-MCBQ will coordinate with VDEQ to identify a deadline to submit a TMDL Action Plan. The 2018 to 2023 MS4 permit does not identify a deadline to submit Local TMDL Action Plans for TMDLs approved by USEPA after June 30, 2018.⁶

⁶ Refer to MCINCR-MCBQ’s June 2020 *MS4 Program Plan*.