Municipal Separate Storm Sewer System (MS4) Program Plan

In Compliance with

MS4 General Permit No. VAR040094

For Fiscal Year

July 1, 2024 – June 30, 2025

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Prepared For:

University of Mary Washington Facilities Services

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Acronyms And Abbreviations

Abbreviations/ Acronyms	Terms
AS&S	Annual Standards and Specifications
BMP	Best Management Practice
CWA	Clean Water Act
DEQ	Virginia Department of Environmental Quality
EHS	Environmental, Health, & Safety
EPA	Environmental Protection Agency
ESC	Erosion and Sediment Control
FS	Facilities Services
GIS	Geographic Information System
GPS	Global Positioning System
HUC	Hydrologic Unit Code
IDDE	Illicit Discharge Detection and Elimination
UMW	University of Mary Washington
UMW FS	University of Mary Washington – Facilities Services
FS-L&G	Facilities Services – Landscape and Grounds
FS – O&M	Facilities Services – Operation and Maintenance
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
VPDES	Virginia Pollutant Discharge Elimination System
POC	Pollutants of Concern
PSA	Public Service Announcement
P&TS	Parking and Transportation Services
R&WM	Recycling and Waste Management
SWPPP	Stormwater Pollution Prevention Plan
SWM	Stormwater Management
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
VDOT	Virginia Department of Transportation
VESCL&R	Virginia Erosion and Sediment Control Law and Regulations
VESCP	Virginia Erosion and Sediment Control Program
VSMP	Virginia Stormwater Management Program
CBPA	Chesapeake Bay Preservation Act
MEP	Maximum Extent Practicable
TLNMP	Turf and Landscape Nutrient Management Plans
SPCC	Spill Prevention Control and Countermeasures

Background

Controlling the quality and quantity of stormwater in urbanized areas has become of greater concern since the passage of the Clean Water Act (CWA) in 1972. Despite earlier attempts to address water pollution, it was not until 1972 that the Environmental Protection Agency (EPA) was given the authority to develop and implement a stormwater management program, which regulates the amount of pollutants being discharged in U.S. water bodies. In 1987, the Clean Water Act was amended to include a provision addressing stormwater discharges. In response to amendments to the CWA, in 1990 the EPA created an enforcement management mechanism called the National Pollutant Discharge Elimination System (NPDES). With the implementation of the NPDES, it became obligatory for all operators of Municipal Separate Storm Sewer Systems (MS4s) who intend to discharge stormwater into surface waters to obtain a NPDES permit. Depending on the size of the municipality, the NPDES issued Phase I – Individual Permit in 1990, and Phase II – small MS4 General Permit in 2003. These permits continue to be required and issued today. Phase I requires an NPDES permit for medium and large cities or municipalities with populations greater than 100,000, industrial activities, and construction activities that disturb 5 or more acres while phase II applied to smaller municipalities, typically those with a population between 10,000 and 100,000 and other operator entities not covered under Phase I. Phase II of the MS4 program emphasized a more generalized approach to stormwater management, reflecting the common challenges faced by small, urbanized areas across the United States. Phase II mandates that NPDES permit holders establish programs and practices to manage and reduce polluted runoff from small MS4s and small construction sites.

The EPA delegated the regulatory authority and oversight of the NPDES programs to the State governments. Phase II localities are required to obtain a General VPDES MS4 permit from DEQ, which also required the annual submittal of a report detailing stormwater management efforts undertaken. As authorized under the State Water Control Law and the federal Clean Water Act, the Virginia Pollutant Discharge Elimination System (VPDES) permitting program regulates point source pollution, which is administrated by Virginia Department of Environmental Quality (DEQ). The University of Mary Washington (UMW) originally obtained a Phase II permit (Permit No. VAR040094) from DEQ in 2003. The permit has been renewed four times so far on the following dates: 11/01/2008, 11/1/2013,11/01/2018, and 11/1/2023 (current permit). The current permit will expire on October 31, 2028.

Introduction

Stormwater Management has become a particularly critical issue for urban communities. With the enactment of the Chesapeake Bay Preservation Act in 1988, Virginia initiated efforts to safeguard urban streams and waterways from erosion and pollution caused by urban development. Discharges from municipal separate storm sewer systems (MS4s) are regulated under the Virginia Stormwater Management Act, the Virginia Stormwater Management Program (VSMP) Permit regulations, and the Clean Water Act as point source discharges. The Virginia Department of Environmental Quality (DEQ) is responsible for administering and issuing the permits.

A Municipal Separate Storm Sewer System (MS4) is a network of drainage systems, including pipes, ditches, and other conveyances, designed to carry stormwater runoff directly to nearby streams, rivers, and other bodies of water. MS4 regulations were developed and implemented in two phases. Implementation of the first phase began in the early 1990s and required that operators of MS4s serving populations of greater than 100,000 people apply for and obtain a permit to discharge stormwater from their outfalls. Individual Permits are active for five years. Currently, there are the following eleven (11) localities in Virginia with a Phase I - Individual Permit: counties of Arlington, Chesterfield, Fairfax, Henrico, and Prince William and cities of Hampton, Norfolk, Virginia Beach, Portsmouth, Chesapeake, and Newport News.

The second phase of MS4 regulations became effective on March 23, 2003, and required that operators of small MS4s in "urbanized areas" (as defined by the latest decennial census) must obtain a permit to discharge stormwater from their outfalls. Stormwater discharges from Phase II (small) MS4s are regulated under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. Currently, there are 100 Phase II MS4 operator entities covered in the General Permit comprised of localities, universities, state & federal hospitals and correctional facilities, public school systems, and state & federal historic lands.

University of Mary Washington (UMW) has operated an MS4 program since initially registering under the General Permit in 2003. The University has since renewed its permit (VAR040094) in November 2008, 2013, 2018, and 2023. The current permit became effective on November 1, 2023, and is set to expire on October 31, 2028. The MS4 program is administered by the Department of Facilities Services at UMW. Under the general permit, small MS4s are required to develop, implement, and enforce an MS4 program plan that encompasses the following six minimum control measures (MCMs):

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff and Erosion and Sediment Control
5. Post-Construction Stormwater Management for New Development and Development on Prior Lands
6. Pollution Prevention and Good Housekeeping for Municipal Operations

MS4 programs must be designed and implemented to control the discharge of pollutants from their storm sewer system to the maximum extent practicable (MEP) in a manner that protects the water quality in nearby streams, rivers, wetlands, bays, lakes, and other water bodies.

As stated above, the University of Mary Washington renewed its MS4 permit (VAR040094) on November 1, 2023 for a fifth 5-year cycle through October 31, 2028. Since the commencement of the permit coverage, the University has begun implementing permit requirements and continues to work on improving existing control measures developed to reduce the discharges of pollutants into the MS4.

Since 2013, the MS4 General Permit has included specific conditions to address impaired waters with a Total Maximum Daily Load (TMDL), covering the Chesapeake Bay TMDL and local streams TMDLs. This document outlines the plan for the University MS4 program to comply with the 2023- 2028 VPDES General Permit for the Discharge of Stormwater from Small MS4s. The University is required to develop and implement a TMDL Action Plan for the third phase Chesapeake Bay TMDL to achieve the approved pollutant reduction goals through implementations of best management practices (BMPs).

In compliance with the provisions of the Clean Water Act, as amended and pursuant to the State Water Control laws and regulations adopted pursuant thereto, the University as per permit number VAR040094 is authorized to discharge to surface waters within the boundaries of the Commonwealth of Virginia, except those waters specifically named in State Water Control Board regulations which prohibit such discharges. The authorized discharge shall be in accordance with the registration statement filed with the Department of Environmental Quality (DEQ), Part I - Discharge Authorization and Special Conditions, Part II - TMDL Special

Conditions, Part III – DEQ BMP Warehouse Reporting, and Part IV – Conditions Applicable to All State and VPDES Permits, as set forth in the general permit (9VAC25-890-40).

Therefore, it is the intent of this document to establish and define UMW's MS4 program and demonstrate the University's plan to meet the permit requirements through October 31, 2028. Due to the extent and scale of the new permit requirements, the general permit requires the University to update its MS4 Program Plan annually if needed. The Program Plan will be a "living" document, with the major updates corresponding with the annual report submittals.

Part I – Discharge Authorization and Special conditions

Roles and Responsibilities (Part I C 1. a.)

The University of Mary Washington administers four separate programs related to Stormwater in compliance with the Code of Virginia. These programs are under the Virginia Erosion and Sediment Control Program (VESCP), the Virginia Chesapeake Bay Preservation Act (CBPA), the Municipal Separate Storm Sewer System (MS4) permit, and the Virginia Stormwater Management Program Construction General Permit (VSMP- CGP).

UMW is maintaining an Annual Standards and Specifications (AS&S) document prepared in March 2021 for Erosion and Sediment Control and Stormwater Management. This document has been recently updated (June 2024) and submitted to DEQ for approval. Furthermore, the University is within Tidewater Virginia as defined in the Chesapeake Bay Preservation Act. The current AS&S is in consistent with §62.1-44.15:54.D. The Chesapeake Bay Preservation Act, ESC, and SWM ordinances can be found in the UMW's AS&S. The AS&S is available on UMW's stormwater website Storm Water Management / MS4 Program - Facilities Services (umw.edu) as well as included in Appendix B.

UMW has been a Phase II Municipal Separate Storm Sewer System (small MS4) locality since 2003 and has consistently maintained its registration under the general permit. The current MS4 Permit # VAR040094 will remain valid until October 31, 2028.

The University, as a VSMP Authority, has been responsible for reviewing and issuing VSMP Construction General Permit registrations for land-disturbing activities of one acre or more since the program was delegated to local authorities in 2014. For the University's overall stormwater management program, the roles & responsibilities are defined as follows:

UMW Divisions and Departments	Roles and Responsibilities
Administration & Finance	Executive administration of the MS4 program, authorizing UMW policy related to the program. Determines funding within available university resources.
Facilities Services	Administration of MS4 program, directing personnel and program objectives to maximize available resources. Executive administration of UMW Annual Standards and Specifications (AS&S) for construction.
Capital Outlay	• MS4 Program Administrator • VESCP Program Administrator • VSMP Program Administrator • CBPA Program Administrator • ESC & SWM Plan Review • Permit Issuance • Administration and revision of AS&S.
Landscape and Grounds	• Inspection of Stormwater Management Facilities (SMF) and Best Management Practices (BMPs) during construction. • Post-construction inspection and maintenance of SMFs/BMPs. • Manages contract maintenance service providers.
TRC Engineering, Inc.	• Provides 3rd party SMF/BMPs annual inspections. • Helps preparing / updating MS4 related programs and forms as may be deemed necessary by UMW or DEQ. • And provides other consulting services as required by UMW.

Third-Party Implementation of the MS4 Program (Part I C 1. b.)

UMW does not use another entity to implement portions of the MS4 program.

Minimum Control Measures (MCMs) (Part I C 1. c.)

The following sections describe the best management practices (BMPs) that UMW plans to utilize and implement to meet the requirements of each MCM in Part I E.

MCM-1 (Part I E 1 f.)
Public Education and Outreach

The MS4 program at the University seeks to alert students, faculty, and staff on the impacts of stormwater runoff on water quality through free training sessions, workshops, and the distribution of educational materials. The community guidance offered by the University's public outreach initiative also advises on reducing the negative effects of urban runoff on water bodies. The University utilizes existing programs, organizations, boards, and committees within the community to implement public education activities. The Public Education and Outreach program at the University uses existing forums and outreach materials established by the EPA and other agencies, in addition to educational brochures and materials developed by the University staff. These materials are widely distributed by the University staff members at various events and meetings. UMW also teams up with the City of Fredericksburg to host events and training sessions to educate the public on MS4 and stormwater management.

High-Priority Stormwater Issues

UMW has identified three high-priority issues and target audiences within the University's limits in the Public Education and Outreach Plan. The intent is to provide a more definitive metric in the permit while continuing the more generalized public education and outreach efforts. UMW has identified the following three high-priority stormwater issues that will be communicated to the public as part of the Public Education and Outreach.

1. Proper Collection and Disposal of Pet Waste
2. Human Generated Litter
3. Stormwater reuse strategies which incorporate Virginia Plant Materials

Audience, Strategies, and measurable goals for each High-Priority Issue with Rationale for Selection

The above high-priority issues were selected because they have most directly impacted stormwater quality in the University and can be effective by actions of UMW's students, faculty, and staff. The University students, faculty, staff, and contractors make up the public and target audience at the University.

The existing program uses the following strategies from Table 1 of the permit (VAR040094) to communicate to the University's public the high-priority stormwater issues mentioned above:

Media materials, speaking engagements, curriculum materials, and training materials. The program will continue to evaluate more strategies from Table 1 during each academic year.

Proper Collection and Disposal of Pet Waste

Proper collection and disposal of pet waste are crucial for supporting public health and environmental quality. Pet waste has harmful bacteria and parasites that can contaminate water sources, spread diseases, and pose risks to both humans and wildlife. Proper collection and disposal of pet waste was selected due to the large areas of open land in the services area that pet owners like to visit. To ensure responsible pet waste management, UMW has designated Pet Waste Stations around Campus. Landscape and Grounds routinely maintains the pet waste stations and monitors and refreshes their supplies. Pet owner collect waste using provided biodegradable bags and dispose of it in the designated pet waste stations. The amount of waste disposal bags dispensed at waste stations are counted. This practice helps prevent the spread of pathogens, reduces unpleasant odors, and contributes to a cleaner, healthier community. Permanent signs have been placed around campus to communicate with 100% of pet owners (students, faculty, staff, contractors, souring community) and educated them about the human and environmental impacts of pet waste and to advise them to clean up after their dogs.

Human Generated Litter

Human-generated litter, comprising discarded items like plastic bottles, metal cans, food wrappers, etc., poses significant environmental and societal challenges. Litter not only mars the beauty of landscapes but also endangers wildlife through ingestion and entanglement. Moreover, it can leach harmful chemicals into soil and water, contaminating natural resources. Reduction of human generated waste was selected as means to address stormwater and

aesthetics concerns within the UMW's MS4 service area. The reduction of human generated waste will allow for SMFs and BMPs to operate efficiently. UMW students, faculty, and staff annually participate in campus sustainability activities including waste collection events. Department of Landscape & Grounds which is the responsible party for organizing such events, measures the weight (lbs.) of collected waste and number of participants. The strategies to be used to communicate the events with participants will be radio and curriculum materials. The length of radio that the information is broadcasted and number of curriculum materials handed-out are recorded.

Stormwater Reuse Strategies which incorporate Virginia Native Plant Materials

Native plants are ideally suited for stormwater as they are adapted to the region's climate and soil conditions, thus requiring less water and maintenance than non-native and invasive species. These plants also provide critical habitat for local wildlife, promoting biodiversity and ecosystem health.

Incorporation of Virginia Native Plant Materials was selected as it aligns with the University's other goals and efforts. The use of native plants helps prevent or significantly reduce the introduction of invasive species and makes for a cohesive ecosystem.

Speaking engagements, posters and training materials are used to communicate with surrounding homes and businesses owners, students, faculty, and staff. The number of attendees at speaking engagements, and number of training materials handed out are counted and recorded.

To obtain more information or provide feedback on UMW's MS4 program and stormwater management, the public can contact Landscape and Grounds using the following contact details:

Name: Holly Chichester
Phone: 540-654-2088
Email: hchiches@umw.edu

MCM-2 (Part I E 2 h.)

Public Involvement and Participation

The University encourages residents, faculty, staff, and students to participate in volunteer programs hosted on campus for conservation and improvement of water resources. Educational workshops and materials, offered by the University, provide information to the public about stormwater management practices implemented on campus and different sustainable practices that can help restore and protect surface waters. At the University, public involvement is encouraged as the community can provide valuable input and assistance to UMW on improving the MS4 program. In many cases, public opinions help identify problems promptly, and therefore, solutions can be accomplished in shorter time. Volunteer work may also offer a broader base of expertise to supplement limited resources of the University's Facilities Services, while shortening time of program implementation as well, due to a greater number of members.

UMW's procedures for Public Input

In accordance with the requirements of the permit, the public may report to the University, (1) potential illicit discharges, improper disposal, or spills to the UMW MS4, (2) complaints regarding land disturbing activities, or (3) other potential stormwater pollution concerns. The public is always welcome to comment on UMW's MS4 program plan and/or other stormwater related documents.

For any of the above, please contact the Facilities Services Department at 540-654-1047 between 8:00 am and 5:00 pm, Monday – Friday, except Holidays, or email ghobson@umw.edu or hchiches@umw.edu. In addition, the public can provide input on UMW's MS4 or other stormwater related programs and documents through the following UMW's stormwater website:

Report a Problem - Facilities Services (umw.edu).

Facilities Services will respond to public comments through email replies in a timely manner. Facilities Services will also maintain documentation of public comments and UMW's responses (if any) until the permit expires or for 5 years, whichever comes later. This information will be available upon request.

MS4 Program Webpage

The University has developed a dedicated website on water quality, MS4 program, and stormwater management Storm Water Management / MS4 Program - Facilities Services (umw.edu). The site serves as a comprehensive resource providing information on the University's MS4 permit and coverage letter, the MS4 program plan, MS4 maps, local and Chesapeake Bay TMDL Action Plans, and annual reports. Additionally, it acts as a platform to distribute educational materials and provides guidance on reporting potential illicit discharges, improper disposal, spills, or complaints related to land disturbing activities and stormwater pollution concerns. The website also offers opportunities for public input on the University's MS4 program plan and delivers water quality and pollution prevention information in an easily accessible format. Furthermore, it grants public access to important documents such as the MS4 program plan, annual reports, and the TMDL action plans.

Proposed Activities & Period of Occurrence

Public involvement activities

The permit requires the University to implement no less than four activities per year from two or more of the following categories listed in Table 2 of the general permit to provide an opportunity for public involvement to improve water quality and support local restoration and clean-up projects: monitoring, restoration, public education activities, public meetings, disposal or collection events, and pollution prevention. The University proposes the following public improvement activities each year until the permit end date to reduce stormwater pollutant loads, improve water quality, and support local restoration/clean-up efforts:

- Earth Week Activities: Campus wide activities that involve various events and initiatives aimed at promoting environmental awareness, conservation, and sustainable practices. The activities will be done once per year during earth week in April during spring semester by many students, faculty, and staff. The earth week activities include the followings but not limited to:
    - Planting/weeding of trees, shrubs, and stormwater management BMPs. UMW keeps records on the number of participants and number of trees and shrubs planted or weeded and will be reported in the annual reports in October.
    - Campus wide cleanup activities around storm drains and along the University's streams and ponds. UMW will keep records on the number of participants and the weight of trash collected at each event in the annual reports.

- The University teams up with the City of Fredericksburg Food Co-op to host educational events such as "Zero Waste panel" or "Butts are Litter Too" to educate the University and Fredericksburg communities on zero waste. This helps UMW to advance its campus recycling and waste reduction efforts. This competition is a wonderful way for students to get involved with sustainability efforts. The number of participant students and weights of recyclables, food organics, reusable materials, and trash handled and collected will be reported in the annual reports.
- Hazardous Waste Pickup, for hazardous waste generated by the University facilities from maintenance, laboratory, and studio activities. The wastes are picked up daily by the UMW office of Sustainability - Waste & Recycling Management program and disposed of in accordance with the guidelines mandated by EPA and DEQ. The amount of hazardous waste collected and disposed during each year will be measured and reported in the annual reports.
- Community Cleanups: UMW Sustainability organizes several community cleanups throughout the year, such as our "Butts Are Litter Too" campaign against cigarette butt pollution. This campaign was kicked-off by a radio appearance by the UMW Sustainability Coordinator, temporary signage was place around campus and bumper stickers were placed on most UMW vehicles. Continues cleanups by community limit the amount pollution vulnerable to our waterways and promote community awareness and education. The amount/number of cigarette butts collected and disposed during each year will be measured and reported in the annual reports.

MCM-3 (Part I E 3 d.)
Illicit Discharge Detection & Elimination (IDDE)

MS4 Service Area

The University publishes interactive stormwater/MS4 maps using online GIS. The University's GIS system is maintained and continuously updated by the staff in the University's GIS system. The GIS maps are available for all three campuses (Fredericksburg, Stafford, and Dahlgren). The University MS4 consists of approximately 55 outfalls and 42 BMPs/SMF. The MS4 maps and SMF and outfall information tables are available in the following website: UMW MS4 Maps - Facilities Services. In addition, the MS4 maps and tables can be found on Appendix A and are available upon request. The Fredericksburg and Stafford campuses are located within the urbanized area identified by the 2020 decennial census.

Interconnection Correspondence

Written notifications of physical interconnection have been communicated with adjacent MS4s. Copies of the written notifications can be found in Appendix A.

IDDE Procedures

In order to detect and eliminate both direct and indirect illicit discharges, the University has developed an Illicit Discharge Detection and Elimination (IDDE) policy # E.1.5, which relies on the University's E.1.5. Illicit Discharge Detection and Elimination Policy IDDE 05172023.pdf (boarddocs.com) (also Appendix A) to prohibit any non-stormwater discharges into the storm sewer system or any receiving waterway. The policy is enforced by the University's Facilities Services Department, which relies heavily on regular inspections and public notifications to address and eliminate unauthorized non-stormwater discharges, including illegal dumping, into UMW MS4 area. Instructions on how to report concerns or potential illicit discharges are available online at the University's stormwater website Report a Problem - Facilities Services (umw.edu) and the procedures stated under MCM-2 above. The University encourages the community's contribution in discovering and reporting possible polluted runoff and maintains appropriate staffing to address such reported concerns. The number of illicit discharges (if any) will be reported each year as part of the annual report.

In addition, dry weather screenings of all 55 outfalls and 42 SMFs/BMPs at UMW are conducted annually using a checklist developed by the University's consultant. The checklist is included on Appendix C. The dry weather screening/inspection is performed annually to detect, identify, and eliminate possible illicit connections and discharges to the MS4, as well as, to keep track of all existing stormwater management facilities and structures within the MS4. During the inspection, outfalls are also evaluated for structural damages or uncommon conditions that might indicate the present of pollutants. Outfalls are also inspected for maintenance necessity to avoid detrimental conditions on stream banks and bed. Completed inspection forms and reports will be available to DEQ upon request.

MCM-4 (Part I E 4 d.)
Construction Site Stormwater Runoff and Erosion and Sediment Control

Under the VSMP permit, the University is required to develop, implement, and enforce a program to reduce the discharge of pollutants associated with construction and land-disturbing activities into the MS4. The University's Annual Standards and Specifications (AS&S) for Erosion and Sediment Control and Stormwater Management is an integral component of all design, construction, inspection, enforcement, maintenance, and management of the

University's facilities and campuses. It is enforced during the planning, permitting, and construction phases by the University's Facilities Services (FM) staff. UMW regularly maintains and updates its AS&S.

The University personnel receive training by DEQ on ESC and SWM, to enforce such programs. Certified and professional staff of UMW and/or certified UMW's consultant staff are responsible for reviewing SWM and ESC plans during the permitting process and conducting regular inspections of the site during construction. Inspection and plan review procedures are implemented in accordance with state laws and regulations and the University's AS&S. A copy of the University's most recent AS&S (June 2024) and DEQ approval letter are available at the Storm Water Management / MS4 Program - Facilities Services (umw.edu) and also are attached in Appendix B.

Public concern and comments associated with runoff from construction activity is received via email at ghobson@umw.edu . Instructions on how to report concerns or potential illicit discharges are also available online at the University's stormwater management website.

After public comment is received, University's Facilities Services is responsible for investigating the incident and contacting the appropriate spill response coordinator and/or SWM/ESC inspector.

Ordinances & Legal Authorities Employed

The University's most recent approved Annual Standards & Specifications (AS&S) and DEQ approval letter of AS&S can be found at the University's stormwater management website as well as included in Appendix B. UMW AS&S defines the legal authority and procedures related to construction site stormwater and erosion and sediment as follows:

- Erosion and Sediment Control Requirements: Section 3.0
- Stormwater Management Requirements: Section 3.0
- SWPPP Requirements: Section 5.0
- Inspection and Enforcement Requirements: Section 5.0
- Variances, Deviations & Exceptions: Section 6.0
- VSMP Construction General Permit: Section 3.0

Roles and Responsibilities for MCM-4 Compliance

UMW personnel receive training by DEQ on ESC and SWM to implement ESC and SWM programs. Certified staff of Facilities Services are responsible for administration of VSMP and VESCP. The certified staff and/or certified consultants are reviewing plans during the permitting process and conducting regular inspections on project sites during construction. They also perform inspections for regulated land-disturbing activities; oversee the waiver and exception process for Chesapeake Bay Preservation; issue permits for land disturbances including VSMP Authority Permits; and oversee the administration of the VSMP Construction General Permits (CGP).

Compliance Procedures

Plan Review

The University certified plan reviewers and/or certified consultants review construction documents and specifications upon submission through the Department of Facilities Services for compliance with the University's AS&S, and current edition of Virginia Stormwater Management Handbook (VSWMH), Version 1.0. Site plans follow ESC and SWM checklists (Appendix A of AS&S). The number of plans reviewed and approved each year will be reported in annual reports.

Inspection

Inspections are performed during construction by the University's Facilities Services certified E&SC and SWM inspectors. Inspection procedures are documented on ESC inspection report form. These inspections follow the approved plan and the current editions of the Virginia Erosion and Sediment Control Handbook (VESCH), the Virginia Stormwater Management Handbook (VSWMH) including the Virginia DEQ Stormwater Design Specifications for specific stormwater management facilities, and Annual Standard & Specification. VSMP CGP inspections use the University Construction General Permit Site Inspection Report included in Appendix B of AS&S as a procedure for those sites covered by the CGP. Inspections are conducted during or immediately following initial installation of erosion and sediment controls; at least once per every two-week period; within 48 hours following any runoff producing storm event; and at the completion of the project prior to the release of any performance bond. The number of construction site inspections will be reported to DEQ by

UMW FS in each annual report. In addition, BMPs are electronically reported using DEQ BMP Warehouse in accordance with Part III B 3 of the MS4 general permit.

Compliance and Enforcement

The University Facilities Services performs two types of inspections: Land-disturbing permit inspection and VSMP CGP inspection. Land-disturbing permit inspections are performed for construction activities meeting criteria in the AS&S.

VSMP CGP inspections are performed by the University as a VSMP Authority for construction activities requiring registration under the VSMP Construction General Permit (VSMP CGP).

UMW applies enforcement actions for maintaining compliance with AS&S. If the Contractor fails to comply with the listed legal authorities, the University can take a variety of actions as per section 5.0 of AS&S.

The number of enforcement activities and number of complaints will be recorded in the annual report during each year.

MCM-5 (Part I E 5 d.)

Post-Construction Stormwater Management for New Development and Development on Prior Development Lands.

As a non-traditional small MS4, the University has direct control over planning, design, construction, and post-construction maintenance and operation of stormwater management facilities, best management practices (BMPs), and outfalls. The MS4 program at UMW consists of minimizing the impacts of runoff associated with land disturbance such as flooding, erosion, and water pollution. Due to its current developmental expansion, the University's goal is to implement cost-effective measures that provide water quantity and quality control while complying with laws and regulations. Current practices implemented by the University in managing and controlling stormwater focus on promoting natural hydrologic processes as well as minimizing contact of pollutants with rainfall. As land-disturbance activities occur, the University implements strategies to protect and enhance natural areas both during and after the projects. UMW is committed to minimizing impervious surfaces and increasing vegetated areas wherever feasible. Inspections of all stormwater management/BMP facilities and outfalls in University MS4 area are performed each year in accordance with state laws and regulations,

the University's AS&S (Appendix B), the University's Stormwater Operation and Maintenance Manual (Appendix C), inspection checklists (Appendix C), and MS4 general permit. Minor maintenance is conducted by Facilities Services crews or by a contractor hired by Facilities Services annually. Major maintenance or modifications are designed and constructed by outside firms hired by Facilities Services. The number of SWM/BMP facilities that are repaired each year will be reported in the annual reports.

The stormwater BMP map, table and/or database is incorporated into the University's GIS system, and shown in Appendix A. See below link for the University's GIS link. UMW MS4 Maps - Facilities Services

Ordinances & Legal Authorities Employed

The University's most recent approved Annual Standards & Specifications (AS&S) can be found at the University's stormwater management website as well as included in Appendix B. UMW AS&S defines the legal authority and procedures related to post-construction site stormwater.

Post-Construction SWM/BMP Inspection Procedures

BMP Tracking

A spreadsheet table is maintained by UMW FS and is linked to the GIS system. A map showing the location of outfalls stormwater management facilities is found on the University's GIS website at UMW MS4 Maps - Facilities Services, and Appendix A. Annually, updates to the BMP database are uploaded to DEQ's BMP Warehouse although some BMPs are entered through the VSMP CGP database upon termination of CGP permit coverage.

BMP Inspection

Inspections are performed under a DEQ trained Stormwater Inspector. All SWM Facilities and BMPs are inspected annually. Inspection sheets/checklists are provided in Appendix C for stormwater management facilities and outfalls. Inspection procedures follow the DEQ training materials Inspector for SWM Participant Guide, Module 8: Post-Construction Inspections, available from the DEQ Environmental Learning Management System (ELMS) site. BMPs and stormwater management facilities are maintained throughout the year by UMW FS. The

number of SWM/BMP facilities that will be repaired or maintained will be added to the annual report. Normal maintenance activities include mowing, vacuum cleaning, sediment removal, and landscape maintenance.

Roles and Responsibilities for implementing post-construction stormwater runoff.
UMW personnel receive training by DEQ on ESC and SWM to implement ESC and SWM program. Certified staff of the Department of Facilities Services, Landscape & Grounds, and/or certified consultants are responsible for conducting post- construction inspections on UMW owned stormwater management facilities in accordance with state laws and regulations and UMW's AS&S.

MCM-6 (Part I E 6 x.)
Pollution Prevention and Good Housekeeping For Facilities owned or operated by the permittee within the MS4 Service Area

Housekeeping Procedures for the Operation & Maintenance Activities
Under the MS4 permit, the University of Mary Washington is required to develop, maintain, and implement written good Housekeeping procedures/training for activities at facilities owned or operated by the University. These written procedures aim to reduce and prevent the discharge of pollutants into the MS4. They encompass various aspects, including activities, schedules, inspection procedures, maintenance, and corrective actions to ensure the proper performance of each facility.

UMW's written procedures consist of the "Stormwater Operations and Maintenance Manual". The responsibility for managing operation and maintenance activities lies with the University's Facilities Services department. The stormwater O&M Manual can be found in Appendix C.

High-Priority Facilities
The Physical Plant on Hanover Street is the only site within the service area designated as a "high-priority facility". This facility does not have a high potential for discharge. UMW has developed a SWPPP for this facility. The SWPPP is maintained and updated regularly by Facilities Services. See appendix C, SWPPP for Physical Plant.

Turf and Landscape Nutrient Management Plans

Turf and Landscape Nutrient Management Plans are strategies aimed at managing and reducing nutrient pollution in stormwater runoff from turf and landscape areas within urban environments. Nutrient pollution, primarily from fertilizers, can contribute to water quality issues, such as algal blooms and impaired aquatic ecosystems. To address this issue, UMW has written, developed, and implemented Turf and Landscape Nutrient Management Plans (TLNMP). The Nutrient Management Plan will expire on 10/1/2024. UMW TLNMP is available in Facilities Services – Landscape and Grounds and included in Appendix D. A total of 43.42 acres of turf, woody plants, and annuals are covered by nutrient management plans in the University of Mary Washington. The nutrient management plan covers all 3 UMW campuses (Fredericksburg, Stafford, and King George County).

Contractor Compliance

The University's AS&S provides information on Pollution Prevention/Good Housekeeping Procedures to ensure contractors implement necessary good housekeeping and pollution prevention procedures, and stormwater pollution plans as appropriate. Its purpose is to ensure that University staff and contractors working on the University's properties adhere to MS4 and stormwater management regulations by minimizing and preventing the discharge of pollutants.

When the University hires contractors for construction projects, they are required to comply with MS4 regulations and AS&S as specified in their individual contracts. These contracts include provisions that enforce the necessary good housekeeping and pollution prevention requirements.

Employee Training Plan

Multiple training documents are available for all the items mentioned. One of the training documents is called "UMW MS4 Good Housekeeping Stormwater Training Guide" and is attached in appendix D. The following activities ensure that staff members are adequately trained:

1. Field personnel in FS-L&G, responsible for streets, parking lots, landscape, parks, recreational facilities, vehicle maintenance, and public works facilities, receive training

on pollution prevention, good housekeeping, and the recognition and reporting of illicit discharge. The types of trainings and schedule include:

a. **Online training Courses:** Web-based training modules or courses for staff to learn about recognizing and reporting illicit discharges, pollution prevention, and good housekeeping once per 24 months.
b. **Educational Materials:** Annually, brochures, flyers, pamphlets, or posters published by EPA, or the University will be distributed to field personnel with information on illicit discharge recognition and reporting, pollution prevention, and good housekeeping through email and/or hand delivery twice per year.
c. **In-person or Virtual Meetings:** Regularly training meetings with personnel where professionals present information and answer questions related to illicit discharge issues, pollution prevention and good housekeeping practices.

2. Employees and contractors involved in pesticide and herbicide application will receive training, certification, and continuous education in accordance with the Virginia Pesticide Control regulations and are VCACS certified applicators. They also obtain certification/recertification in nutrient management, pesticide and herbicide usage, and arborist training.

3. Employees, contractors, and consultants serving as plan reviewers, inspectors, program administrators, and construction site operators obtain the appropriate certifications/recertifications as required under the Virginia Erosion and Sediment Control Law, the Virginia Stormwater Management law, and their attendant regulations as demonstrated in MCM-4.

4. All Landscape and Grounds crew members receive yearly training sessions on spill control and response for illicit discharges.

5. Any individual on the UMW campus who manages oil, or any oil-related product receives annual training that includes a review of the plan, inspection procedures, and spill response procedures. Furthermore, emergency response personnel, including the UMW police force, receive trainings for hazardous materials spill response. The University also relies on the local fire department for emergency spill responses, and they receive training in their respective academies.

UMW maintains documentation of each training event for a minimum of three years. Training documentation includes PowerPoint slides, recorded videos, brochures, flyers, books, handouts, and sign-in sheets. They are available upon request. The trainings are also reported in the annual reports. UMW Facilities Services is responsible for tracking staff trainings to ensure everyone holds the appropriate certifications.

Parth II - TMDL Special Conditions

A. Chesapeake Bay TMDL Action Plan

As required by the permit, UMW must include annual status reports on the implementation of required Chesapeake Bay Total Maximum Daily Load (TMDL). In FY14, the University of Mary Washington prepared a TMDL Action Plan for meeting the Special Condition for the Chesapeake Bay TMDL pursuant to Section II A-11 of the General Permit. The Chesapeake Bay TMDL Action Plan was updated in FY19 in anticipation of the permit renewal for the second permit cycle of the Chesapeake Bay TMDL. A draft third phase Chesapeake Bay TMDL Action Plan was submitted by UMW to DEQ in October 2023 as part of the permit reapplication package as required by the Virginia General Permit. A final CB TMDL Action Plan, pursuant to Section II A-12 of the current General Permit, will be prepared before November 1, 2024, for the third permit cycle. The current Chesapeake Bay TMDL action plan is found at the University's stormwater management website located at UMW Chesapeake Bay TMDL Action Plan - Facilities Services. UMW submits a CB TMDL implementation annual status report to DEQ no later than October 1 of each year. The report covers the previous year from July 1 to June 30.

B. Local TMDL Action Plans

In November 2016, the University prepared TMDL Action Plans to meet bacterial Waste Load Allocations (WLAs) on Rappahannock River. This local TMDL action plan was revised in January 2017, May 2018, May 2020, and June 2023. UMW plans to update this local TMDL action plan once again in 2025. No additional TMDLs have been established for waters within this UMW MS4 service area. The Rappahannock River TMDL Action Plan can be found at UMW Local (Chesapeake Bay) Bacteria TMDL Action Plan - Facilities Services.

Parth III – DEQ BMP Warehouse Reporting

Annual Report and Program Evaluation

This program is to be evaluated annually by the University's Facilities Services personnel to ensure compliance with all provision of the MS4 permit. Program plan revisions will take place annually as necessary or as required by DEQ.

Annual reports and Chesapeake Bay TMDL Implementation Status Reports on MS4 Program Plan updates are to be submitted for review to DEQ. The annual MS4 reports are submitted electronically by October 1st of each year. The reports cover previous year from July 1 to June 30. Copies of previously submitted Annual Reports can be reviewed on the University's stormwater management website MS4 Annual Report - Facilities Services (umw.edu).

In addition, UMW will use DEQ BMP Warehouse to report any new BMPs and the most recent inspection date for BMPs.

List of Appendices

Appendix A

- Outfall Tables
- BMP Tables
- Illicit Discharge Detection and Elimination (IDDE) Policy (E.1.5)
- Illicit Discharge Detection and Elimination (IDDE) Written Procedures
- Physical Interconnections with Adjacent MS4s

Appendix B

- Annual Standards and Specifications (AS&S)
- Annual Standards and Specifications Approval Letter

Appendix C

- Dry Weather Field Screening Procedures
- Dry Weather Screening Checklist
- Stormwater Operation and Maintenance Manual
- SWPPP for Physical Plant

Appendix D

- Good Housekeeping Stormwater Training Guide
- Turf and Landscape Nutrient Management Plan

Appendix A

- Outfall Tables
- BMP Tables
- Illicit Discharge Detection and Elimination (IDDE) Policy (E.1.5)
- Illicit Discharge Detection and Elimination (IDDE) Written Procedures
- Physical Interconnections with Adjacent MS4s

Outfall Tables

UMW MS4 Discharge and Outfalls Information Table Updated April 2022

MS4 Structure ID	MS4 Discharge? or Outfall?	MS4 Associated Building	LATITUDE	LONGITUDE	MS4 FIPS	measure unit
O-1	outfall	University Center	38.30315594	-77.47595	51630	ACRE
O-2	outfall	Seacobeck Hall	38.30340431	-77.4761899	51630	ACRE
O-3	outfall	Palmeri Square	38.30336736	-77.4759912	51630	ACRE
O-4	outfall	Palmeri Square	38.30355657	-77.4760249	51630	ACRE
O-5	outfall	Hockey Field	38.29309778	-77.4767796	51630	ACRE
O-6	outfall	Ridderhof Martin Art Gallery	38.30440639	-77.4770637	51630	ACRE
O-7	outfall	Woodard Hall	38.30445633	-77.4765355	51630	ACRE
O-8	outfall	Woodard Hall	38.3044954	-77.4762646	51630	ACRE
O-9	outfall	Woodard Hall	38.30475673	-77.4762061	51630	ACRE
O-10	outfall	Simpson Library	38.30517405	-77.4760336	51630	ACRE
O-11	outfall	Simpson Library	38.30515342	-77.4763025	51630	ACRE
O-12	outfall	Hurley Convergence Center	38.30574666	-77.4765814	51630	ACRE
O-13	outfall	University Center	38.3031353	-77.4759652	51630	ACRE
O-14	outfall	Parking Structure	38.30901872	-77.4762252	51630	ACRE

MS4 Structure ID	MS4 Discharge? or Outfall?	MS4 Associated Building	LATITUDE	LONGITUDE	MS4 FIPS	measure unit
O-15	outfall	Facilities Services	38.29255039	-77.4731996	51630	ACRE
O-16	outfall	Hockey Field	38.29319277	-77.4767541	51630	ACRE
O-17	outfall	Baseball / Softball Field	38.2947766	-77.4780365	51630	ACRE
O-18	outfall	Woodard Hall	38.3042351	-77.4760828	51630	ACRE
O-19	outfall	Eagle Landing	38.30869948	-77.4806378	51630	ACRE
O-20	outfall	Sunken Road Parking Lot	38.30629946	-77.4762795	51630	ACRE
O-21	outfall	Parking Structure	38.30903353	-77.4761983	51630	ACRE
O-22	outfall	University Center	38.30313517	-77.4759711	51630	ACRE
O-23	outfall	University Center	38.30313538	-77.4759614	51630	ACRE
O-24	outfall	University Center	38.30313538	-77.475957	51630	ACRE
PD-1	point of discharge	Anderson Center / Goolrick Hall	38.30755623	-77.4788834	51630	ACRE
PD-2	point of discharge	Anderson Center / Goolrick Hall	38.30756742	-77.4788538	51630	ACRE
PD-3	point of discharge	Anderson Center / Goolrick Hall	38.30779656	-77.4787467	51630	ACRE
PD-4	point of discharge	Anderson Center / Goolrick Hall	38.30779076	-77.4787331	51630	ACRE

MS4 Structure ID	MS4 Discharge? or Outfall?	MS4 Associated Building	LATITUDE	LONGITUDE	MS4 FIPS	measure unit
PD-5	point of discharge	Anderson Center / Goolrick Hall	38.30775	-77.4787633	51630	ACRE
PD-6	point of discharge	Anderson Center / Goolrick Hall	38.30772817	-77.4787733	51630	ACRE
PD-7	point of discharge	Arrington Hall	38.30650794	-77.4763842	51630	ACRE
PD-8	point of discharge	Baseball / Softball Field	38.29280969	-77.478321	51630	ACRE
PD-9	point of discharge	Baseball / Softball Field	38.29328946	-77.4787415	51630	ACRE
PD-10	point of discharge	Baseball / Softball Field	38.29348583	-77.4788817	51630	ACRE
PD-11	point of discharge	Baseball / Softball Field	38.29359966	-77.4789477	51630	ACRE
PD-12	point of discharge	Baseball / Softball Field	38.29387317	-77.4791594	51630	ACRE
PD-13	point of discharge	Baseball / Softball Field	38.29330167	-77.47896	51630	ACRE
PD-14	point of discharge	Baseball / Softball Field	38.29399667	-77.4792033	51630	ACRE
PD-15	point of discharge	Baseball Field	38.29476562	-77.4779113	51630	ACRE
PD-16	point of discharge	Brent House	38.30023666	-77.472457	51630	ACRE
PD-17	point of discharge	Bushnell Hall	38.3005	-77.4730067	51630	ACRE
PD-18	point of discharge	Eagle Landing	38.3079377	-77.4791319	51630	ACRE

MS4 Structure ID	MS4 Discharge? or Outfall?	MS4 Associated Building	LATITUDE	LONGITUDE	MS4 FIPS	measure unit
PD-19	point of discharge	Eagle Landing	38.3079328	-77.4791345	51630	ACRE
PD-20	point of discharge	Eagle Landing	38.30792925	-77.479137	51630	ACRE
PD-21	point of discharge	Hockey Field	38.29354198	-77.4768415	51630	ACRE
PD-22	point of discharge	Hockey Field	38.29376629	-77.4766401	51630	ACRE
PD-23	point of discharge	Hockey Field	38.29474764	-77.4776448	51630	ACRE
PD-24	point of discharge	Jepson Science Center	38.30657358	-77.4786266	51630	ACRE
PD-25	point of discharge	Jepson Science Center	38.30656535	-77.4784725	51630	ACRE
PD-26	point of discharge	Jepson Science Center	38.30584226	-77.477765	51630	ACRE
PD-27	point of discharge	Jepson Science Center	38.30583767	-77.4776038	51630	ACRE
PD-28	point of discharge	Jepson Science Center	38.3055505	-77.4780915	51630	ACRE
PD-29	point of discharge	Jepson Science Center	38.30557	-77.4779617	51630	ACRE
PD-30	point of discharge	Lee Hall	38.3027704	-77.4734671	51630	ACRE
PD-31	point of discharge	Lee Hall	38.30242765	-77.4736625	51630	ACRE
PD-32	point of discharge	Marshall Hall	38.29997166	-77.4721187	51630	ACRE

MS4 Structure ID	MS4 Discharge? or Outfall?	MS4 Associated Building	LATITUDE	LONGITUDE	MS4 FIPS	measure unit
PD-33	point of discharge	Marshall Hall	38.29953511	-77.4708242	51630	ACRE
PD-34	point of discharge	Marshall Hall	38.29953781	-77.4716572	51630	ACRE
PD-35	point of discharge	Marshall Hall	38.29953648	-77.4716274	51630	ACRE
PD-36	point of discharge	Marye House	38.3020151	-77.47282	51630	ACRE
PD-37	point of discharge	Monroe Hall	38.30327991	-77.4742555	51630	ACRE
PD-38	point of discharge	Monroe Hall	38.30327606	-77.4741002	51630	ACRE
PD-39	point of discharge	Monroe Hall	38.30318439	-77.4739956	51630	ACRE
PD-40	point of discharge	Parking Structure	38.30892029	-77.4780032	51630	ACRE
PD-41	point of discharge	Parking Structure	38.30783004	-77.4776103	51630	ACRE
PD-42	point of discharge	Parking Structure	38.30893553	-77.4780046	51630	ACRE
PD-43	point of discharge	Parking Structure	38.30894318	-77.4780003	51630	ACRE
PD-44	point of discharge	Parking Structure	38.30779259	-77.4774628	51630	ACRE
PD-45	point of discharge	Parking Structure	38.30724882	-77.4767923	51630	ACRE
PD-46	point of discharge	Parking Structure	38.3072236	-77.47677	51630	ACRE

MS4 Structure ID	MS4 Discharge? or Outfall?	MS4 Associated Building	LATITUDE	LONGITUDE	MS4 FIPS	measure unit
PD-47	point of discharge	Rugby Field	38.29531047	-77.4745197	51630	ACRE
PD-48	point of discharge	Seacobeck Hall	38.30419596	-77.4766375	51630	ACRE
PD-49	point of discharge	Soccer Fields	38.29458246	-77.4722482	51630	ACRE
PD-50	point of discharge	Soccer Fields	38.29449878	-77.4731371	51630	ACRE
PD-51	point of discharge	Soccer Fields	38.2943759	-77.4737528	51630	ACRE
PD-52	point of discharge	Soccer Fields	38.29458421	-77.4722642	51630	ACRE
PD-53	point of discharge	Sunken Road Parking Lot	38.30655637	-77.4758471	51630	ACRE
PD-54	point of discharge	Sunken Road Parking Lot	38.30665934	-77.4758081	51630	ACRE
PD-55	point of discharge	Tennis Complex	38.29439247	-77.4713188	51630	ACRE
PD-56	point of discharge	Tennis Complex	38.29599141	-77.4724768	51630	ACRE
PD-57	point of discharge	Tennis Complex	38.29600597	-77.4724575	51630	ACRE
PD-58	point of discharge	Tennis Complex	38.29622045	-77.4716158	51630	ACRE
PD-59	point of discharge	Track and Field Field	38.2942322	-77.4741091	51630	ACRE
PD-60	point of discharge	Trinkle Hall	38.30235164	-77.4738053	51630	ACRE

MS4 Structure ID	MS4 Discharge? or Outfall?	MS4 Associated Building	LATITUDE	LONGITUDE	MS4 FIPS	measure unit
PD-61	point of discharge	Trinkle Hall	38.3024353	-77.4736573	51630	ACRE
PD-62	point of discharge	Trinkle Hall	38.30247946	-77.4736222	51630	ACRE
PD-63	point of discharge	Willard Hall	38.30436364	-77.4746681	51630	ACRE
PD-64	point of discharge	Willard Hall	38.3045161	-77.4748872	51630	ACRE
PD-65	point of discharge	Willard Hall	38.3045287	-77.4748488	51630	ACRE
PD-66	point of discharge	Willard Hall	38.30441682	-77.4747521	51630	ACRE

MS4 Structure ID	MS4 drainage acreage	MS4 HUC12	MS4 VAHU6	MS4_Outfalls_land_use	MS4_Outfalls_action_plan
O-1		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-2		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-3		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-4		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-5		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-6		020801040102	RA46	Impervious urban (outside MS4 service area)	Chesapeake Bay Action Plan
O-7		020801040102	RA46	Impervious urban (outside MS4 service area)	Chesapeake Bay Action Plan
O-8		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-9		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-10		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-11		020801040102	RA46	Impervious urban (outside MS4 service area)	Chesapeake Bay Action Plan
O-12		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-13		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-14		020801040102	RA46	Turf and Landscape	Chesapeake Bay Action Plan

MS4 Structure ID	MS4 drainage acreage	MS4 HUC12	MS4 VAHU6	MS4_Outfalls_land_use	MS4_Outfalls_action_plan
O-15		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-16		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-17		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-18		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-19		020801040102	RA46		
O-20		020801040102	RA46		
O-21		020801040102	RA46		
O-22		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
O-23		020801040102	RA46		
O-24		020801040102	RA46		
PD-1		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-2		020801040102	RA46		
PD-3		020801040102	RA46		
PD-4		020801040102	RA46		

MS4 Structure ID	MS4 drainage acreage	MS4 HUC12	MS4 VAHU6	MS4_Outfalls_land_use	MS4_Outfalls_action_plan
PD-5		020801040102	RA46		
PD-6		020801040102	RA46		
PD-7		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-8		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-9		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-10		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-11		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-12		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-13		020801040102	RA46		
PD-14		020801040102	RA46		
PD-15		020801040102	RA46		
PD-16		020801040102	RA46		
PD-17		020801040102	RA46		
PD-18		020801040102	RA46		

MS4 Structure ID	MS4 drainage acreage	MS4 HUC12	MS4 VAHU6	MS4_Outfalls_land_use	MS4_Outfalls_action_plan
PD-19		020801040102	RA46		
PD-20		020801040102	RA46		
PD-21		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-22		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-23		020801040102	RA46		
PD-24		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-25		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-26		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-27		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-28		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-29		020801040102	RA46		
PD-30		020801040102	RA46		
PD-31		020801040102	RA46		
PD-32		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan

MS4 Structure ID	MS4 drainage acreage	MS4 HUC12	MS4 VAHU6	MS4_Outfalls_land_use	MS4_Outfalls_action_plan
PD-33		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-34		020801040102	RA46		
PD-35		020801040102	RA46		
PD-36		020801040102	RA46	Turf and Lanscape	Chesapeake Bay Action Plan
PD-37		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-38		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-39		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-40		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-41		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-42		020801040102	RA46		
PD-43		020801040102	RA46		
PD-44		020801040102	RA46		
PD-45		020801040102	RA46		
PD-46		020801040102	RA46		

MS4 Structure ID	MS4 drainage acreage	MS4 HUC12	MS4 VAHU6	MS4_Outfalls_land_use	MS4_Outfalls_action_plan
PD-47		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-48		020801040102	RA46		
PD-49		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-50		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-51		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-52		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-53		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-54		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-55		020801040102	RA46	Pervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-56		020801040102	RA46		
PD-57		020801040102	RA46		
PD-58		020801040102	RA46		
PD-59		020801040102	RA46		
PD-60		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan

MS4 Structure ID	MS4 drainage acreage	MS4 HUC12	MS4 VAHU6	MS4_Outfalls_land_use	MS4_Outfalls_action_plan
PD-61		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-62		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-63		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-64		020801040102	RA46	Impervious urban (inside MS4 service area)	Chesapeake Bay Action Plan
PD-65		020801040102	RA46		
PD-66		020801040102	RA46		

MS4 Structure ID	MS4_Outfalls_TMDL_N	MS4_Outfalls_TMDL_P	MS4_Outfalls_TMDL_tss	MS4 Agency Name	MS4 Contact Name
O-1				UMW	Gary Hobson
O-2				UMW	Gary Hobson
O-3				UMW	Gary Hobson
O-4				UMW	Gary Hobson
O-5				UMW	Gary Hobson
O-6				UMW	Gary Hobson
O-7				UMW	Gary Hobson
O-8				UMW	Gary Hobson
O-9				UMW	Gary Hobson
O-10				UMW	Gary Hobson
O-11				UMW	Gary Hobson
O-12				UMW	Gary Hobson
O-13				UMW	Gary Hobson
O-14				UMW	Gary Hobson

MS4 Structure ID	MS4_Outfalls_TMDL_N	MS4_Outfalls_TMDL_P	MS4_Outfalls_TMDL_tss	MS4 Agency Name	MS4 Contact Name
O-15				UMW	Gary Hobson
O-16				UMW	Gary Hobson
O-17				UMW	Gary Hobson
O-18				UMW	Gary Hobson
O-19				UMW	Gary Hobson
O-20				UMW	Gary Hobson
O-21				UMW	Gary Hobson
O-22				UMW	Gary Hobson
O-23				UMW	Gary Hobson
O-24				UMW	Gary Hobson
PD-1				UMW	Gary Hobson
PD-2				UMW	Gary Hobson
PD-3				UMW	Gary Hobson
PD-4				UMW	Gary Hobson

MS4 Structure ID	MS4_Outfalls_TMDL_N	MS4_Outfalls_TMDL_P	MS4_Outfalls_TMDL_tss	MS4 Agency Name	MS4 Contact Name
PD-5				UMW	Gary Hobson
PD-6				UMW	Gary Hobson
PD-7				UMW	Gary Hobson
PD-8				UMW	Gary Hobson
PD-9				UMW	Gary Hobson
PD-10				UMW	Gary Hobson
PD-11				UMW	Gary Hobson
PD-12				UMW	Gary Hobson
PD-13				UMW	Gary Hobson
PD-14				UMW	Gary Hobson
PD-15				UMW	Gary Hobson
PD-16				UMW	Gary Hobson
PD-17				UMW	Gary Hobson
PD-18				UMW	Gary Hobson

MS4 Structure ID	MS4_Outfalls_TMDL_N	MS4_Outfalls_TMDL_P	MS4_Outfalls_TMDL_tss	MS4 Agency Name	MS4 Contact Name
PD-19				UMW	Gary Hobson
PD-20				UMW	Gary Hobson
PD-21				UMW	Gary Hobson
PD-22				UMW	Gary Hobson
PD-23				UMW	Gary Hobson
PD-24				UMW	Gary Hobson
PD-25				UMW	Gary Hobson
PD-26				UMW	Gary Hobson
PD-27				UMW	Gary Hobson
PD-28				UMW	Gary Hobson
PD-29				UMW	Gary Hobson
PD-30				UMW	Gary Hobson
PD-31				UMW	Gary Hobson
PD-32				UMW	Gary Hobson

MS4 Structure ID	MS4_Outfalls_TMDL_N	MS4_Outfalls_TMDL_P	MS4_Outfalls_TMDL_tss	MS4 Agency Name	MS4 Contact Name
PD-33				UMW	Gary Hobson
PD-34				UMW	Gary Hobson
PD-35				UMW	Gary Hobson
PD-36				UMW	Gary Hobson
PD-37				UMW	Gary Hobson
PD-38				UMW	Gary Hobson
PD-39				UMW	Gary Hobson
PD-40				UMW	Gary Hobson
PD-41				UMW	Gary Hobson
PD-42				UMW	Gary Hobson
PD-43				UMW	Gary Hobson
PD-44				UMW	Gary Hobson
PD-45				UMW	Gary Hobson
PD-46				UMW	Gary Hobson

MS4 Structure ID	MS4_Outfalls_TMDL_N	MS4_Outfalls_TMDL_P	MS4_Outfalls_TMDL_tss	MS4 Agency Name	MS4 Contact Name
PD-47				UMW	Gary Hobson
PD-48				UMW	Gary Hobson
PD-49				UMW	Gary Hobson
PD-50				UMW	Gary Hobson
PD-51				UMW	Gary Hobson
PD-52				UMW	Gary Hobson
PD-53				UMW	Gary Hobson
PD-54				UMW	Gary Hobson
PD-55				UMW	Gary Hobson
PD-56				UMW	Gary Hobson
PD-57				UMW	Gary Hobson
PD-58				UMW	Gary Hobson
PD-59				UMW	Gary Hobson
PD-60				UMW	Gary Hobson

MS4 Structure ID	MS4_Outfalls_TMDL_N	MS4_Outfalls_TMDL_P	MS4_Outfalls_TMDL_tss	MS4 Agency Name	MS4 Contact Name
PD-61				UMW	Gary Hobson
PD-62				UMW	Gary Hobson
PD-63				UMW	Gary Hobson
PD-64				UMW	Gary Hobson
PD-65				UMW	Gary Hobson
PD-66				UMW	Gary Hobson

MS4 Structure ID	MS4_Outfalls_o	MS4 Watershed Name	MS4 Outfall to Impaired Water?
O-1	Public	Rappahannock River-Hazel Run	Yes
O-2	Public	Rappahannock River-Hazel Run	Yes
O-3	Public	Rappahannock River-Hazel Run	Yes
O-4	Public	Rappahannock River-Hazel Run	Yes
O-5	Public	Rappahannock River-Hazel Run	Yes
O-6	Public	Rappahannock River-Hazel Run	Yes
O-7	Public	Rappahannock River-Hazel Run	Yes
O-8	Public	Rappahannock River-Hazel Run	Yes
O-9	Public	Rappahannock River-Hazel Run	Yes
O-10	Public	Rappahannock River-Hazel Run	Yes
O-11	Public	Rappahannock River-Hazel Run	Yes
O-12	Public	Rappahannock River-Hazel Run	Yes
O-13	Public	Rappahannock River-Hazel Run	Yes
O-14	Public	Rappahannock River-Hazel Run	Yes

MS4 Structure ID	MS4_Outfalls_o	MS4 Watershed Name	MS4 Outfall to Impaired Water?
O-15	Public	Rappahannock River-Hazel Run	Yes
O-16	Public	Rappahannock River-Hazel Run	Yes
O-17	Public	Rappahannock River-Hazel Run	Yes
O-18	Public	Rappahannock River-Hazel Run	Yes
O-19	Public	Rappahannock River-Hazel Run	Yes
O-20	Public	Rappahannock River-Hazel Run	Yes
O-21	Public	Rappahannock River-Hazel Run	Yes
O-22	Public	Rappahannock River-Hazel Run	Yes
O-23	Public	Rappahannock River-Hazel Run	Yes
O-24	Public	Rappahannock River-Hazel Run	Yes
PD-1	Public	Rappahannock River-Hazel Run	Yes
PD-2	Public	Rappahannock River-Hazel Run	Yes
PD-3	Public	Rappahannock River-Hazel Run	Yes
PD-4	Public	Rappahannock River-Hazel Run	Yes

MS4 Structure ID	MS4_Outfalls_o	MS4 Watershed Name	MS4 Outfall to Impaired Water?
PD-5	Public	Rappahannock River-Hazel Run	Yes
PD-6	Public	Rappahannock River-Hazel Run	Yes
PD-7	Public	Rappahannock River-Hazel Run	Yes
PD-8	Public	Rappahannock River-Hazel Run	Yes
PD-9	Public	Rappahannock River-Hazel Run	Yes
PD-10	Public	Rappahannock River-Hazel Run	Yes
PD-11	Public	Rappahannock River-Hazel Run	Yes
PD-12	Public	Rappahannock River-Hazel Run	Yes
PD-13	Public	Rappahannock River-Hazel Run	Yes
PD-14	Public	Rappahannock River-Hazel Run	Yes
PD-15	Public	Rappahannock River-Hazel Run	Yes
PD-16	Public	Rappahannock River-Hazel Run	Yes
PD-17	Public	Rappahannock River-Hazel Run	Yes
PD-18	Public	Rappahannock River-Hazel Run	Yes

MS4 Structure ID	MS4_Outfalls_o	MS4 Watershed Name	MS4 Outfall to Impaired Water?
PD-19	Public	Rappahannock River-Hazel Run	Yes
PD-20	Public	Rappahannock River-Hazel Run	Yes
PD-21	Public	Rappahannock River-Hazel Run	Yes
PD-22	Public	Rappahannock River-Hazel Run	Yes
PD-23	Public	Rappahannock River-Hazel Run	Yes
PD-24	Public	Rappahannock River-Hazel Run	Yes
PD-25	Public	Rappahannock River-Hazel Run	Yes
PD-26	Public	Rappahannock River-Hazel Run	Yes
PD-27	Public	Rappahannock River-Hazel Run	Yes
PD-28	Public	Rappahannock River-Hazel Run	Yes
PD-29	Public	Rappahannock River-Hazel Run	Yes
PD-30	Public	Rappahannock River-Hazel Run	Yes
PD-31	Public	Rappahannock River-Hazel Run	Yes
PD-32	Public	Rappahannock River-Hazel Run	Yes

MS4 Structure ID	MS4_Outfalls_o	MS4 Watershed Name	MS4 Outfall to Impaired Water?
PD-33	Public	Rappahannock River-Hazel Run	Yes
PD-34	Public	Rappahannock River-Hazel Run	Yes
PD-35	Public	Rappahannock River-Hazel Run	Yes
PD-36	Public	Rappahannock River-Hazel Run	Yes
PD-37	Public	Rappahannock River-Hazel Run	Yes
PD-38	Public	Rappahannock River-Hazel Run	Yes
PD-39	Public	Rappahannock River-Hazel Run	Yes
PD-40	Public	Rappahannock River-Hazel Run	Yes
PD-41	Public	Rappahannock River-Hazel Run	Yes
PD-42	Public	Rappahannock River-Hazel Run	Yes
PD-43	Public	Rappahannock River-Hazel Run	Yes
PD-44	Public	Rappahannock River-Hazel Run	Yes
PD-45	Public	Rappahannock River-Hazel Run	Yes
PD-46	Public	Rappahannock River-Hazel Run	Yes

MS4 Structure ID	MS4_Outfalls_o	MS4 Watershed Name	MS4 Outfall to Impaired Water?
PD-47	Public	Rappahannock River-Hazel Run	Yes
PD-48	Public	Rappahannock River-Hazel Run	Yes
PD-49	Public	Rappahannock River-Hazel Run	Yes
PD-50	Public	Rappahannock River-Hazel Run	Yes
PD-51	Public	Rappahannock River-Hazel Run	Yes
PD-52	Public	Rappahannock River-Hazel Run	Yes
PD-53	Public	Rappahannock River-Hazel Run	Yes
PD-54	Public	Rappahannock River-Hazel Run	Yes
PD-55	Public	Rappahannock River-Hazel Run	Yes
PD-56	Public	Rappahannock River-Hazel Run	Yes
PD-57	Public	Rappahannock River-Hazel Run	Yes
PD-58	Public	Rappahannock River-Hazel Run	Yes
PD-59	Public	Rappahannock River-Hazel Run	Yes
PD-60	Public	Rappahannock River-Hazel Run	Yes

MS4 Structure ID	MS4_Outfalls_o	MS4 Watershed Name	MS4 Outfall to Impaired Water?
PD-61	Public	Rappahannock River-Hazel Run	Yes
PD-62	Public	Rappahannock River-Hazel Run	Yes
PD-63	Public	Rappahannock River-Hazel Run	Yes
PD-64	Public	Rappahannock River-Hazel Run	Yes
PD-65	Public	Rappahannock River-Hazel Run	Yes
PD-66	Public	Rappahannock River-Hazel Run	Yes

BMP_ID	facility_name	bmp_name	clearinghouse_BMP	date_install
F-2	Jepson Science Center-2	Bio-retention Basin	BRB	1996-08-01 0:00:00
F-3	Alvey Parking Garage	Water Quality Vault	WQV	2006-07-01 0:00:00
F-4	Arrington Hall	Extended Detention Basin	EDB	1994-08-01 0:00:00
F-6	Rowe Indoor Tennis Facility-3	Bio-retention Basin	BRB	2006-01-01 0:00:00
F-7	Rowe Indoor Tennis Facility-2	Bio-retention / Green Alley	BRGA	2006-01-01 0:00:00
F-8	Rowe Indoor Tennis Facility-4	Infiltration	I-PCS	2006-01-01 0:00:00
F-9	Jepson Alumni Executive Center-2	Infiltration	I-T	2005-02-01 0:00:00
F-10	Goolrick Recreation Artificial Turf	Sand Filter	SF	2008-10-01 0:00:00
F-12	Lee Hall	Contech StormFilter	F	2009-06-01 0:00:00
F-13	Eagles Nest @Woodard Center	Roof Downspout System	DS	2009-08-01 0:00:00
F-14	Randolph & Mason Dormitory Halls	Underground Detention w/Contech Stormfilter	F-UD	2012-07-01 0:00:00
F-15	Hurley IT Convergence Center	Concrete Vault Detention	CVD	2015-02-01 0:00:00
F-16	Marshall Hall-2	Rain Garden	RG	2015-02-01 0:00:00
F-17	Marshall Hall-1	Rain Garden	RG	2015-02-01 0:00:00
F-18	Marshall Hall-3	Bio-retention Basin	BRB	2015-02-01 0:00:00
F-19	Physical Plant, Hanover Street-2	Extended Detention Basin	ED	2015-02-01 0:00:00
F-20	Physical Plant, Hanover Street-1	FloGuard Dual Vortex Separator	VS	2015-02-01 0:00:00
F-21	Softball Field - 3	Bio-retention Basin	BRB	2015-02-01 0:00:00
F-22	Westmorland Hall	Bio-retention Basin	BRB	
S-1	West of Bldg 121	Bio-retention Pond	BRP	1999-12-01 0:00:00
S-2	Building 125	Bio-retention Basin	BRB	2007-08-01 0:00:00
D-1	Dahlgren Pond	Bio-retention Pond	BRP	2011-12-01 0:00:00
D-2	Dahlgren Parking Lot - 1	Bio-retention Basin	BRB	2011-12-01 0:00:00
D-3	Dahlgren Parking Lot - 2	Bio-retention Basin	BRB	2011-12-01 0:00:00

BMP_ID	facility_name	bmp_name	clearinghouse_BMP	date_install
D-4	Dahlgren Building 1-3	Bio-retention Basin	BRB	2011-12-01 0:00:00
D-5	Dahlgren Building 1-2	Bio-retention Basin	BRB	2011-12-01 0:00:00
D-6	Dahlgren Building 1-1	Bio-retention Basin	BRB	2011-12-01 0:00:00
F-23	Jepson Alumni Executive Center-1	Infiltration	I-T	
F-25	Annex Parking	Extended Detention	ED	2017-01-01 0:00:00
F-24	Woodard Hall, Parking	unknown	unknown	2015-09-01 0:00:00
F-5	Rowe Indoor Tennis Facility-1	Bio-retention / Green Alley	BRGA	2006-01-01 0:00:00
F-27	Pizza Hut Lot	Bio-retention Basin	BRB	
F-28	Lee Hall / Campus Dr	Constructed wetland	CW	
F-29	University Center	3K Bay Separator	F-UD	2015-01-01 0:00:00
F-30	Softball Field - 2	Bio-retention Basin	BRB	2015-02-01 0:00:00
F-31	Softball Field - 1	Bio-retention Basin	BRB	2015-02-01 0:00:00
F-1	Jepson Science Center-1	Bio-retention Basin	BRB	2005-02-01 0:00:00
F-11	Jepson Science Center-3	Contech StormFilter	F	2015-02-01 0:00:00
F-26	Physical Plant, Hanover Street-3	Multi-cell detention basin	ED	2019-10-31 4:00:00

BMP_ID	LATITUDE	LONGITUDE	measurement_name	measure_unit	BMP_extent
F-2	38.30576219	-77.47771565	Area Treated	ACRE	8.020000458
F-3	38.3080665	-77.47695241	Area Treated	ACRE	0.839999974
F-4	38.30642411	-77.47641857	Contributing Area	ACRE	1.179999948
F-6	38.29615906	-77.47105576	Area Treated	ACRE	0.720000029
F-7	38.29621291	-77.47172609	Area Treated	ACRE	1.25999999
F-8	38.29555512	-77.47085445	Contributing Area	ACRE	0.680000007
F-9	38.29679919	-77.47093516	Contributing Area	ACRE	1
F-10	38.30883293	-77.47644313	Area Treated	ACRE	3.660000086
F-12	38.3026109	-77.47388753	Area Treated	ACRE	0.560000002
F-13	38.3046913	-77.47598401	Area Treated	ACRE	0.050000001
F-14	38.30110008	-77.47231948	Contributing Area	ACRE	2.140000105
F-15	38.30575993	-77.47715206		ACRE	0.800000012
F-16	38.29956439	-77.471593	Contributing Area	ACRE	0.119999997
F-17	38.29980713	-77.47148908	Contributing Area	ACRE	0.129999995
F-18	38.29955386	-77.47077298	Area Treated	ACRE	3.789999962
F-19	38.29273799	-77.47392528	Contributing Area	ACRE	3.079999924
F-20	38.29280415	-77.47400578	Area Treated	ACRE	3.079999924
F-21	38.29341216	-77.47691144	Area Treated	ACRE	6.670000076
F-22	38.30123975	-77.47415618		ACRE	
S-1	38.37020924	-77.53297735	Area Treated	ACRE	9.720000267
S-2	38.3709629	-77.53058189	Area Treated	ACRE	3.069999933
D-1	38.35095628	-77.05984052	Area Treated	ACRE	2.869999886
D-2	38.35069734	-77.05955213	Area Treated	ACRE	0.419999987
D-3	38.34958296	-77.05978972	Area Treated	ACRE	0.680000007

BMP_ID	LATITUDE	LONGITUDE	measurement_name	measure_unit	BMP_extent
D-4	38.35032827	-77.06083833		ACRE	1.75
D-5	38.35022794	-77.06097312		ACRE	
D-6	38.35011865	-77.06121071		ACRE	
F-23	38.29746898	-77.47043932		ACRE	
F-25	38.30155586	-77.47584834		ACRE	
F-24	38.30466155	-77.47555625	Contributing Area	ACRE	
F-5	38.29604192	-77.47236134	Area Treated	ACRE	1.25999999
F-27	38.30457754	-77.47917156		ACRE	
F-28	38.30271816	-77.47333835		ACRE	
F-29	38.30280481	-77.47641637		ACRE	
F-30	38.29352964	-77.47684284		ACRE	
F-31	38.2936731	-77.47673807		ACRE	
F-1	38.3065096	-77.47850549	Area Treated	ACRE	3.299999952
F-11	38.30557759	-77.4780697	Area Treated	ACRE	8.020000458
F-26	38.29385625	-77.47364195		ACRE	

BMP_ID	impervious_area	runoff_treated	locality	HUC12
F-2	4.809999943		Fredericksburg	020801040102
F-3	0.839999974		Fredericksburg	020801040102
F-4	0.610000014		Fredericksburg	020801040102
F-6	0.330000013		Fredericksburg	020801040102
F-7	0.74000001		Fredericksburg	020801040102
F-8	0.479999989		Fredericksburg	020801040102
F-9	0.75		Fredericksburg	020801040102
F-10	2.599999905		Fredericksburg	020801040102
F-12	0.479999989		Fredericksburg	020801040102
F-13	0.050000001		Fredericksburg	020801040102
F-14	1.669999957		Fredericksburg	020801040102
F-15			Fredericksburg	020801040102
F-16	0.07		Fredericksburg	020801040102
F-17	0.079999998		Fredericksburg	020801040102
F-18	1.100000024		Fredericksburg	020801040102
F-19	2.769999981		Fredericksburg	020801040102
F-20	2.769999981		Fredericksburg	020801040102
F-21	1.070000052		Fredericksburg	020801040102
F-22			Fredericksburg	020801040102
S-1	4.670000076		Stafford	020801040101
S-2			Stafford	020801040101
D-1	1.549999952		King George	020700110601
D-2	0.280000001		King George	020700110601
D-3	0.389999986		King George	020700110601

BMP_ID	impervious_area	runoff_treated	locality	HUC12
D-4	0.419999987		King George	020700110601
D-5			King George	020700110601
D-6			King George	020700110601
F-23			Fredericksburg	020801040102
F-25			Fredericksburg	020801040102
F-24			Fredericksburg	020801040102
F-5	0.74000001		Fredericksburg	020801040102
F-27			Fredericksburg	020801040102
F-28			Fredericksburg	020801040102
F-29			Fredericksburg	020801040102
F-30			Fredericksburg	020801040102
F-31			Fredericksburg	020801040102
F-1	2.059999943		Fredericksburg	020801040102
F-11	4.809999943		Fredericksburg	020801040102
F-26			Fredericksburg	020801040102

BMP_ID	VAHU6	land_use	action_plan	contact_name
F-2	RA46	Impervious urban (inside	Chesapeake Bay Action Plan	Gary Hobson
F-3	RA46	Pervious urban (inside M	Chesapeake Bay Action Plan	Gary Hobson
F-4	RA46	Transportation (outside M	Chesapeake Bay Action Plan	Gary Hobson
F-6	RA46	Transportation (inside M	Chesapeake Bay Action Plan	Gary Hobson
F-7	RA46	Urban (land use not speci	Chesapeake Bay Action Plan	Gary Hobson
F-8	RA46	Urban (land use not speci	Chesapeake Bay Action Plan	Gary Hobson
F-9	RA46	Transportation (inside M	Chesapeake Bay Action Plan	Gary Hobson
F-10	RA46	Impervious urban (inside	Chesapeake Bay Action Plan	Gary Hobson
F-12	RA46	Transportation (inside M	Chesapeake Bay Action Plan	Gary Hobson
F-13	RA46	Urban (land use not speci	Chesapeake Bay Action Plan	Gary Hobson
F-14	RA46	Transportation (inside M	Chesapeake Bay Action Plan	Gary Hobson
F-15	RA46	Urban (land use not speci	Chesapeake Bay Action Plan	Gary Hobson
F-16	RA46	Transportation (inside M	Chesapeake Bay Action Plan	Gary Hobson
F-17	RA46	Transportation (inside M	Chesapeake Bay Action Plan	Gary Hobson
F-18	RA46	Urban (land use not speci	Chesapeake Bay Action Plan	Gary Hobson
F-19	RA46	Transportation (inside M	Chesapeake Bay Action Plan	Gary Hobson
F-20	RA46	Transportation (inside M	Chesapeake Bay Action Plan	Gary Hobson
F-21	RA46	Turf and Landscape	Chesapeake Bay Action Plan	Gary Hobson
F-22	RA46	Turf and Landscape	Chesapeake Bay Action Plan	Gary Hobson
S-1	RA45	Transportation (inside M	Chesapeake Bay Action Plan	Gary Hobson
S-2	RA45	Urban (land use not speci	Chesapeake Bay Action Plan	Gary Hobson
D-1	PL64	Transportation (inside M	Both Chesapeake Bay and Local	Gary Hobson
D-2	PL64	Transportation (inside M	Both Chesapeake Bay and Local	Gary Hobson
D-3	PL64	Transportation (inside M	Both Chesapeake Bay and Local	Gary Hobson

BMP_ID	VAHU6	land_use	action_plan	contact_name
D-4	PL64	Urban (land use not speci	Both Chesapeake Bay and Local	Gary Hobson
D-5	PL64	Urban (land use not speci	Both Chesapeake Bay and Local	Gary Hobson
D-6	PL64	Urban (land use not speci	Both Chesapeake Bay and Local	Gary Hobson
F-23	RA46	Urban (land use not speci	Chesapeake Bay Action Plan	Gary Hobson
F-25	RA46	Transportation (inside MS	Chesapeake Bay Action Plan	Gary Hobson
F-24	RA46	Transportation (inside MS	Chesapeake Bay Action Plan	Gary Hobson
F-5	RA46	Urban (land use not speci	Chesapeake Bay Action Plan	Gary Hobson
F-27	RA46	Impervious urban (inside MS4 service area)		Gary Hobson
F-28	RA46	Impervious urban (inside MS4 service area)		Gary Hobson
F-29	RA46	Impervious urban (inside MS4 service area)		Gary Hobson
F-30	RA46	Turf and Landscape		Gary Hobson
F-31	RA46	Turf and Landscape		Gary Hobson
F-1	RA46	Impervious urban (inside	Chesapeake Bay Action Plan	Gary Hobson
F-11	RA46	Transportation (outside M	Chesapeake Bay Action Plan	Gary Hobson
F-26	RA46	Impervious urban (inside MS4 service area)		Gary Hobson

BMP_ID	Shape__Area	Shape__Length
F-2	2155.394531	231.9705806
F-3	21.9140625	19.43365917
F-4	483.6523438	138.5601034
F-6	582.9882813	109.8198144
F-7	230.4140625	73.36672805
F-8	836.3164063	174.1247943
F-9	138.453125	47.12245095
F-10	172.90625	54.43270899
F-12	10.921875	11.72309124
F-13	10.5078125	12.9675012
F-14	16.32421875	16.32895414
F-15	591.0078125	205.9458545
F-16	69.07421875	36.34859411
F-17	69.02734375	36.39661442
F-18	158.3085938	52.34514785
F-19	417.453125	82.22034978
F-20	10.921875	11.72151656
F-21	202.3164063	59.2216115
F-22	1272.59375	142.7892896
S-1	4491.730469	368.9207758
S-2	204.4414063	59.12729021
D-1	1942.574219	179.7406588
D-2	112.9804688	41.37043718
D-3	205.8398438	51.73963628

BMP_ID	Shape__Area	Shape__Length
D-4	94.6171875	34.52406388
D-5	120.5039063	38.96030596
D-6	140.90625	42.13230143
F-23	166.75	49.37778553
F-25	500.7929688	98.03805716
F-24	237.7148438	81.91234743
F-5	230.4257813	73.36672804
F-27	192.34375	59.40686055
F-28	514.0546875	94.82130091
F-29	8.640625	10.43539466
F-30	73.1796875	32.15206628
F-31	173.1328125	52.0320952
F-1	490.8945313	94.95399225
F-11	10.515625	12.96859361
F-26	302.4453125	86.14411667

University of Mary Washington

POLICY FOR ILLICIT DISCHARGE DETECTION AND ELIMINATION

* - indicates a required field.
For questions regarding this template, please send an email to policies@umw.edu

*** POLICY NAME:**	Illicit Discharge Detection and Elimination Policy (IDDE Policy)
*** POLICY TYPE:**	Presidential Policy - University Administrative Policy
POLICY #:	E.1.5.
***STATUS:**	Active
***CONTACT OFFICE:**	Facilities Services
***OVERSIGHT EXECUTIVE:**	Associate Vice President for Facilities Services
***APPLIES TO:**	All UMW Campuses (Fredericksburg, Stafford, and Dahlgren) and Properties (James Monroe Museum and Memorial Library; Gari Melcher's Museum, etc. and all students, faculty, staff, contractors, affiliates and visitors.
***PURPOSE:**	To establish procedures regarding Illicit Discharge Detection and Elimination in accordance with provisions of UMW MS4 Permit
DEFINITIONS:	**Affiliate**: An individual who has a formal affiliation with the university and receives some services from the university, but is not a student or employee of the university and receives no remuneration from the university (Formal affiliation means that a necessary relationship exists between the university and the individual to provide a service of value to the university). **Best Management Practices (BMPs):** Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices, including both structural and nonstructural practices, to prevent or reduce the pollution of surface waters and groundwater systems. **Contractor**: An individual or company, including a subcontractor, hired to perform services on university property. **Illicit Discharge**: Any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater, except discharges pursuant to VPDES or state permit (other than the state permit for discharges from the municipal separate storm sewer), discharges resulting from firefighting activities, and discharges identified by and in compliance with 9VAC25-870-400 D 2 c (3). **Municipal Separate Storm Sewer**: A conveyance or system of conveyances otherwise known as a municipal separate storm sewer system, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains: a. Owned or operated by a federal, state, city, town, county, district, association, or other public body, created by or pursuant to state law, having jurisdiction or delegated authority for erosion and sediment control and stormwater management, or a designated and approved management agency under § 208 of the Clean Water Act (CWA) that discharges to surface waters;

	b. Designed or used for collecting or conveying stormwater; c. That is not a combined sewer; and d. That is not part of a publicly owned treatment works. Municipal Separate Storm Sewer System (MS4): All separate storm sewer systems that are defined as "large" or "medium" or "small" municipal separate storm sewer systems or designated under 9VAC25-870. **Visitor:** A person who is not enrolled at, compensated by or an affiliate of the university.
***POLICY STATEMENT:**	No university employee, student, visitor, contractor, or department shall cause or allow discharges into the university's storm sewer system which are not composed entirely of stormwater, except for the allowed discharges provided in the Virginia Stormwater Management Program (VSMP) Permit Regulations (9VAC25-870). Prohibited discharges include, but are not limited to: oil, anti-freeze, grease, chemicals, wash water, paint, animal waste, garbage, and litter. The spilling, dumping, or disposal of materials other than stormwater to the storm drainage system is prohibited.
PROCEDURES:	
* General Procedures for Implementation:	**PROCEDURES** **A. Field Screening** Field observations of MS4 outfalls shall be conducted at least once per year during dry weather conditions. Observations shall be recorded using the current inspection form and information entered into a tracking database. If flow is observed, or evidence suggests that illicit discharges may exist, further investigation shall be administered by any of the following methods: 1. Tracing discharge up storm sewer system; 2. Taking a sample of discharge for analysis in order to determine if a pollutant is present and identify the pollutant; 3. Implement best management practices to eliminate illicit discharges; 4. Scheduling follow up observations; and 5. Any other appropriate measures deemed necessary. **B. Notification of Spills and Illicit Discharges** Once a spill or illicit discharge has been observed, the incident shall be reported as soon as possible to Facilities Services during operating business hours. As time permits, a work order will be submitted via the Facilities Services Work Request Management System to the attention of the Stormwater Coordinator and Director of Landscape and Grounds. If the spill or illicit discharge is observed outside of regular operating business hours, contact University Police, who in turn will contact Facilities Services to respond, evaluate, and take necessary action to stop or contain the spill. Failure to providenotification of the incident shall be a violation of this policy. An initial investigation shall be performed within one business day of receiving notification and appropriate measures taken in order to prevent further discharge and begin remediation of pollution.

C. Tracking

Field observations shall be tracked in a database. Data fields to be included shall be:

1. Date discharge observed/reported
2. Location of discharge
3. Summary
   a. Results of investigation
   b. Any follow-up to investigation
   c. Resolution of investigation
4. Date investigation closed

D. Enforcement

When a violation of this policy has been detected, UMW may order compliance, by either verbal notice or written notice, to the responsible party. Verbal notification, if initially provided, will be followed by written notification. Such notice may require without limitation:

1. The performance of monitoring, analyses, and reporting;
2. The elimination of prohibited discharges or connections;
3. Cessation of any violating discharges, practices, or operations;
4. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
5. Payment of any fee, penalty, or fine assessed against UMW to cover remediation cost;
6. The implementation of new stormwater management practices; and
7. Disciplinary action up to and including dismissal, where appropriate.

The listed requirements will be at the expense of the responsible party.

In the event that adequate measures are not initiated, UMW may issue work orders to correct the violation and bill the responsible party for expenses incurred.

If additional measures are required for enforcement, the president will be notified.

E. Training/Education

A training program for Stormwater Pollution Prevention/Good Housekeeping and Illicit Discharge Detection & Elimination (IDDE) will be presented for Facilities Management employees on an annual basis, and during new employee orientation for Facilities Services staff. Educational materials for Stormwater Pollution Prevention and Illicit Discharge Detection & Elimination will be distributed through various forms of media to the members of the UMW community.

RESPONSIBILITIES

Stormwater Coordinator: Responsible for administration, implementation and enforcement of this policy. The Vice President for Administration and Finance shall provide oversight and guidance as may be required. All students, faculty,

	staff, contractors, affiliates and visitors of University of Mary Washington are responsible for abiding by this policy and reporting illicit discharges to the proper authority. **VIOLATIONS** Violations of this policy may result in referral to the appropriate department (such as Human Resources or Student Affairs) for further action.
* Process for Developing, Approving, and Amending Procedures:	This policy will be reviewed annually in concert with submission of the annual MS4 report. Updates will be made as required.
* Publication and Communication:	This policy will be posted on the Facilities Services website and in Board Docs.
* Compliance Monitoring and Reporting: *(How is **compliance** with the policy monitored and reported?)*	Facilities Services will be responsible for monitoring compliance with this policy.
RELATED INFORMATION:	
Policy Background:	
* Policy Category:	Administration and Finance
Category Cross Reference:	
Related Policies:	
HISTORY:	
* Origination Date:	November 1, 2017
* Approved by:	President's Cabinet
* Approval Date:	03/07/2022
* Effective Date:	03/07/2022

* Review Process: *(How is this policy reviewed to ensure that it is effective? By whom? How often?)*	This policy will be reviewed annually in concert with submission of the annual MS4 report. Updates will be made as required.
* Next Scheduled Review:	03/01/2025
Revision History:	02/19/2018 07/01/2019; Reviewed by Assoc. VP for Facilities Services; No changes 10/29/2020; Reviewed by Capital Outlay Program Director; No changes 3/7/2022; Revised by Capital Outlay Program Director; updated notification procedures 5/17/2023; Reviewed by Capital Outlay Program Director; No changes

APPENDIX A

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) WRITTEN PROCEDURES

LEGAL AUTHORITES:

The University of Mary Washington (UMW) has a permit to operate a Municipal Separate Storm Sewer System (MS4) issued by the Virginia Department of Environmental Quality. This permit authorizes UMW to discharge stormwater pursuant to the Virginia Stormwater Management Program and the Virginia Stormwater Management Act. These procedures are developed as part of MS4 permit part I-E-3-c.

Since storm drain systems are not connected to a sanitary sewer treatment plant, water traveling through the storm drain system flows directly to local streams, rivers and lakes untreated. An illicit discharge to the storm system is generally defined as any discharge that is not composed entirely of stormwater. A list of approved non-stormwater discharge can be found in 9VAC25-890-20 D 3. UMW's MS4 Program "shall include all procedures developed by the operator to detect, identify, and address unauthorized non-stormwater discharges, including illegal dumping to the MS4."

4.0 RESPONSIBILITES:

1. Capital Outlay E&S Inspector and the Landscape and Grounds Manager

    a. Responsible for reporting any illicit discharges discovered during outfall inspections to the MS4 Program Manager, or to the appropriate Facilities Management leadership if the MS4 Program Manager is unavailable.

2. MS4 Program Manager

    a. Maintains the Illicit Discharge Log

    b. Prepares the annual Illicit Discharge Summary report and posts it to the FM MS4 web page.

    c. Provides annual training to Facilities staff.

    d. Provides annual program review and update, as appropriate.

3. Director, Emergency Management & Safety

a. Responsible for reporting the illicit discharge to the appropriate regulatory agencies as required, and to the MS4 Program Manager.

b. Provides technical assistance to emergency responders for hazardous materials spills.

4. Facilities Directors

a. All Facilities directors are responsible for ensuring that employees are properly informed of and trained on how to prevent illicit discharges from their operations and understand how to trace an illicit discharge upon discovery.

b. Managers and supervisors are responsible for ensuring training is conducted with the most recent version of the IDDE Standard Operating Procedures.

5. Personnel Performing the Job

a. Facilities Maintenance & Operations staff, and Landscape & Grounds staff, are required to understand and follow these procedures upon receipt of proper training.

5.0 PROCEDURES

The purpose of this procedure is to identify and address any illicit discharges detected during storm sewer outfall inspections, dry weather screening, or other reported illicit discharges impacting the storm sewer system.

1. Initial Notification

a. The MS4 Program Manager will be notified of any illicit discharge detected during any storm sewer-related inspection. A complete description of the discharge and as much information as possible will be provided in the notification. Any time the MS4 Program Manager or other Facilities staff are notified of an illicit discharge, the Director of Emergency Management and Safety shall also be notified of the illicit discharge. EM&S staff shall immediately follow up on the illicit discharge report.

b. When contaminant is discovered, the MS4 Program Manager will enter information about the incident in the Illicit Discharge Investigation log. The log will describe the nature of the contamination and all response and follow-up measures taken to mitigate discharge.

2. Discharge Identified — Primary Option

a. If the contaminant is identified as a sanitary sewer overflow, Facilities staff will install emergency containment such as sandbags or other means. An emergency contractor will then be called to clean the spill using a vacuum truck or other appropriate means.

b. Petroleum spills are to be cleaned up in accordance with the UMW Emergency Operations Plan and Fredericksburg Fire Department's oversight.

c. If the contaminant is identified as dangerous, immediately call the UMW Police at 540-654-4444 and notify the Office of Emergency Management & Safety (OEMS) 540-654-2108 for technical assistance on the clean-up. For more information on hazardous materials spill response, refer to the UMW Emergency Operation Plan and the Stormwater Pollution Prevention Plan.

d. If the source of the discharge can be immediately identified (such as improper trench dewatering, wash water, or improper disposal of liquids), the staff causing the illicit discharge shall be immediately notified to cease operations. Their supervisor shall be contacted and re-training of appropriate staff shall take place as soon as possible, but not less than one week.

    i. If a contractor is causing the illicit discharge on the UMW property, the UMW Staff responsible for contractor oversight must also be contacted. The illicit discharge must be brought to the contractor's attention and the contractor must be made aware of appropriate means for handling trench dewatering, wash water, or other liquids on UMW property.

3. Discharge Not Identified —Secondary Option

   If the nature and source of the discharge is not immediately obvious, use strategies to test the discharge and locate the source of contamination.

   a. Use GIS map (https://adminfinance.umw.edu/facilities/storm-water-management-ms4-program/umw-ms4-maps/) to strategically check manholes in the upstream tributary storm sewer system for contamination.

      i. Visual observations should be used to look for presence of flow, colors, odors, floatable materials, or deposits or stains. The GIS map can then be used to trace the path of manholes back to the potential source

      ii. Manholes closest to the outfall should be investigated first, with staff progressively moving up the sewer network and inspecting manholes until it can be determined either the specific entry point where the source is coming in, or the general entry between two manholes where the source is coming in.

   b. Dye testing may be conducted to determine if there are any improper connections between the sanitary sewer and the storm sewer. Dye tests can also provide valuable information as to whether stormwater systems are malfunctioning, and can confirm water flow direction.

   c. Camera equipment may also be used to locate the source of contamination, by exploring the storm sewer system and looking for pollution between manholes.

   d. Smoke testing may be used to identify cross-connections with the sanitary sewer or other underground sources caused by damage to the storm drain. Smoke testing should be used as a last resort. If smoke testing is used, adequate notification shall be provided so as not to cause alarm.

   Once the source of an illicit discharge is confirmed, response personnel will fix or eliminate the discharge. If the source of the illicit discharge is not UMW, the UMW OEMS Director shall forward information on the illicit discharge to appropriate offices of the City of Fredericksburg.

Appendix A - Physical Interconnections with Adjacent MS4s

University of Mary Washington

1301 College Avenue
Fredericksburg, VA 22401-5300

umw.edu

June 5, 2024

Mr. A. Scott Rae
City of Fredericksburg
Environmental Programs Manager
715 Princess Anne Street
Fredericksburg, VA 22401

RE: University of Mary Washington
Municipal Separate Storm Sewer (MS4) General Permit, Interconnected Storm Sewer Systems

Dear Mr. Rae:

The University of Mary Washington operates under a Phase II Municipal Separate Storm Sewer System (MS4) General Permit (Permit # VAR040094).

The purpose of this letter is to acknowledge the potential for interconnections between the storm sewer systems operated by the University of Mary Washington and the storm sewer systems operated by the City of Fredericksburg. A provision of the MS4 regulations (9VAC25-890-40 Part I E 3 d (2)) requires written notification of physical interconnection by the permittee (University) to other MS4s. This letter is provided to meet the notification requirement of the regulations. No actions are required on the part of the City of Fredericksburg.

Should you have any questions or require additional information, please do not hesitate to contact me at (540) 654-1292.

Sincerely,

Gary Hobson, P.E.
Capital Outlay Director
Dual Program Administrator

University of Mary Washington

1301 College Avenue
Fredericksburg, VA 22401-5300

umw.edu

June 5, 2024

Ms. Emily Torrey, P.E.
Stafford County
Environmental Programs
2126 Jefferson Davis Highway, Suite 203
Stafford, VA 22554

RE: University of Mary Washington
Municipal Separate Storm Sewer (MS4) General Permit, Interconnected Storm Sewer Systems

Dear Ms. Torrey:

The University of Mary Washington operates under a Phase II Municipal Separate Storm Sewer System (MS4) General Permit (Permit # VAR040094).

The purpose of this letter is to acknowledge the potential for interconnections between the storm sewer systems operated by the University of Mary Washington and the storm sewer systems operated by Stafford County. A provision of the MS4 regulations (9VAC25-890-40 Part I E 3 d (2)) requires written notification of physical interconnection by the permittee (University) to other MS4s. This letter is provided to meet the notification requirement of the regulations. No actions are required on the part of Stafford County.

Should you have any questions or require additional information, please do not hesitate to contact me at (540) 654-1292.

Sincerely,

Gary Hobson, P.E.
Capital Outlay Director
Dual Program Administrator

Appendix B

- Annual Standards and Specifications (AS&S)

- Annual Standards and Specifications Approval Letter

Annual Standards and Specifications
for
Erosion and Sediment Control
and
Stormwater Management

January 31, 2020

Facilities Services
University of Mary Washington
1301 College Avenue
Fredericksburg, VA 22401
Annual Standards and Specifications Administrator: Gary Hobson, P.E.
(540) 654-1292
Email: ghobson@umw.edu

I certify under penalty of law that all documents and all attachments related to the submission and updating of the UMW Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management have been prepared under my direction or supervision in 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 a fine and imprisonment for knowing violations.

_____

Gary T. Hobson, P.E., Dual Program Administrator 0128

INTRODUCTION

The University of Mary Washington (UMW) Erosion and Sediment Control and Stormwater Management Program is an integral component of UMW's design, construction, maintenance, and management of the University's facilities and campuses located in Fredericksburg, Stafford County, and King George County. UMW's Erosion and Sediment Control (ESC) and Stormwater Management (SWM) Annual Standards and Specifications submittal has been developed to ensure that all land-disturbing activities undertaken by UMW will proceed in accordance with the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et. seq.), and The Virginia Erosion and Sediment Control Regulations (§ 9VAC25-840 et. seq.) and the Virginia Stormwater Management Program (VSMP) permit regulations (9VAC25-870 et.seq.), as related to municipal separate storm sewer systems (MS-4) and construction activities. In addition, stormwater management plans will be informed and coordinated with UMW's approved Stormwater Master Plan to the fullest extent possible.

UMW Annual Standards and Specifications for ESC and SWM shall be administered by Facilities Services and shall apply to all plan design, construction, and maintenance activities undertaken by UMW, either by its internal workforce or contracted to external entities, where such activities are regulated by the Virginia ESC Law and regulations or the Virginia SWM Act and VSMP permit regulations. During any of UMW's land-disturbing activities, compliance with the approved UMW Annual Standards and Specifications for ESC and SWM (and all parts thereof), shall be observed.

UMW Annual Standards and Specifications for ESC and SWM are submitted to the Department of Environmental Quality (DEQ) for review and approval on an annual basis. This submittal constitutes UMW's commitment to execute all provisions contained herein on our regulated land-disturbing activities and land development projects. As such, this submittal will be made available and utilized as an operational guidance document by all appropriate UMW and DEQ personnel. These Annual Standards and Specifications (as well as, any modifications) will be made available on the University's website at http://adminfinance.umw.edu/facilities.

Table of Contents

APPENDICES

Acronyms and Abbreviations

Bay	Chesapeake Bay
BMP	Best Management Practice
Board	Virginia Soil & Water Conservation Board
CWA	Clean Water Act
CSS	Combined Sewer System
DCR	Department of Conservation and Recreation
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
ERP	Enforcement Response Plan
ESC	Erosion & Sediment Control
FM	Facilities Management
GIS	Geographic Information Systems
GPS	Global Positioning System
HUC	Hydrologic Unit Code
IDDE	Illicit Discharge Detection & Elimination
JMU	James Madison University
LID	Low Impact Development
MEP	Maximum Extent Practicable
MCM	Minimum Control Measure
MS	Minimum Standard
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
NOI	Notice of Intent
NOV	Notice of Violation
POC	Pollutants of Concern
RLD	Responsible Land Disturber
SOP	Standard Operating Procedures
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UA	Urbanized Area
VESCH	Virginia Erosion and Sediment Control Handbook
VESCL&R	Virginia Erosion & Sediment Control Law & Regulations
VPDES	Virginia Pollution Discharge Elimination System
VSMP	Virginia Stormwater Management Program
WLA	Waste Load Allocation

University of Mary Washington
Annual Standard and Specifications

1.0 ANNUAL STANDARDS AND SPECIFICATIONS ADMINISTRATION

All UMW-owned property and projects involving land-disturbing activity subject to the Virginia Erosion and Sediment Control Law (§62.1-44 et seq. as amended), the Virginia Erosion and Sediment Control Regulations (9VAC25-840 et seq. as amended), and the Virginia Erosion and Sediment Control Certification Regulations (9VAC25-850 et seq. as amended) and the Virginia Stormwater Management Act (62.1-44. et seq.) and the VSMP Regulations (9VAC25-870 et. seq. as amended) shall be bound by the UMW Annual Standards and Specifications for ESC and SWM. In addition, stormwater management plans will be informed and coordinated with UMW's approved Stormwater Master Plan to the fullest extent possible.

UMW has three campus locations that utilize UMW's AS&S

- University of Mary Washington Fredericksburg Campus
  1301 College Ave, Fredericksburg, VA 22401
- University of Mary Washington Stafford Campus
  121 University Blvd, Fredericksburg, VA 22406
- University of Mary Washington Dahlgren Campus
  4224 University Drive, King George, VA 22485

1.1 UMW Annual Standards and Specifications for ESC and SWM approved by DEQ are composed of general specifications. The general specifications for ESC and SWM that apply to the land-disturbing activities, listed in 1.0 above, include by reference the following:

a. Virginia Erosion and Sediment Control Law (§62.1-44 et seq. as amended)
b. Virginia Erosion and Sediment Control Regulations (9VAC25-840 et seq. as amended)
c. Virginia Erosion and Sediment Control Certification Regulations (9VAC25-850 et seq. as amended)
d. Virginia Erosion and Sediment Control Handbook, 1992
e. Virginia Stormwater Management Act (§62.1-44 et seq. as amended)
f. Virginia Stormwater Management Permit Regulations (9VAC25-870 et seq. as amended)
g. Virginia Stormwater Management Handbook, 1999, as amended
h. Virginia Stormwater BMP Clearing House at: http://www.vwrrc.vt.edu/swc/index.html
i. Technical Bulletins, as amended, on the Virginia DEQ website at www.deq.virginia.gov
j. Memos, as amended, on the Virginia DEQ website at www.deq.virginia.gov
   - ESC Technical Bulletins, as amended, on DEQ web site at: http://www.deq.virginia.gov/programs/water/stormwatermanagement/Publications.aspx.
   - ESC Technical Bulletin #4 – Nutrient Management for Development Sites at: http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/ESCTechnicalBulletin4.pdf

1.2 Any land-disturbing activity carried out in a locality with a local ESC program with more stringent regulations than those of the state program shall be consistent with the requirements of the local program.

1.2.1 The City of Fredericksburg adopted on October 8, 2013, the Unified Development Ordinance, Chapter 72, which includes Development Standards related to Utilities and more specifically Stormwater, §72-54.3. Development on the Fredericksburg Campus should consider §72-54.3.B.9 regarding post-development stormwater runoff rate of flow and characteristics requiring the design of stormwater management facilities to employ the ten-year frequency, two-hour duration storm to determine pre- and post- development flows; and §72-54.3.B.11 regarding specific local watersheds (volume control areas) and requirement to remove the first one-half inch of runoff from all new impervious surfaces

1.2.2 The use of VESCH control measures (along with accompanying technical documents) is strongly preferred.
(i) Non-VESCH control measures, BMPs, and specifications may be included in the Annual Standards and Specifications submittals but their use may be further reviewed and approved by the DEQ on a project specific basis.
(ii) Should non-VESCH control measures fail to effectively control soil erosion, sediment deposition, and non-agricultural runoff, then VESCH control measures shall be utilized.

1.3 Site-Specific ESC Plans shall be prepared for all projects involving a regulated land-disturbing activity as defined in §62.1-44.15:51. Please note that the Chesapeake Bay Preservation Areas land disturbance threshold is greater than or equal to 2,500 square feet. Site-specific ESC plans shall be submitted to the UMW Facilities Services for review. Checklists that summarize the required components of the ESC Plans are included in Appendix A. Prior to starting a land-disturbing project, as defined in §62.1-44.15:51, the project must have written approval issued by UMW Facilities Services.

When non-VESCH control measures are used, all applicable practical information including definition, purpose, conditions where practice applies, planning considerations, design criteria, construction specifications, design tables and plates, and maintenance and inspections shall be included in the ESC Plan.
When proprietary BMPs are proposed, the specific product manufacturer, appropriate design storm, inspection frequency, maintenance, and other applicable product information shall be provided. Use of proprietary BMPs may be further reviewed and approved on a project-specific basis. For projects that must obtain a GCP this information shall be included in the SWPPP for that project.

1.4 A DEQ-Certified Responsible Land Disturber (RLD) shall be designated prior to initiating the land disturbing activity. UMW will notify DEQ of the RLD name, certification number and contact information at least two weeks prior to construction.

1.5 If the addition of impervious surfaces is part of the scope of work for a project, a SWM narrative and/or schematic must be submitted concurrently to explain/show how the run-off will be treated.

1.6 Site specific SWM plans shall be prepared for all projects involving a regulated land-disturbing activity that requires:

- A Virginia Stormwater Management Program General Permit for Discharges from Construction Activities

- Land-disturbing activity contained within a watershed of a regional water quality Stormwater management facility.
- Incorporates the use of an LID and/or BMP.
- Changes to the University MS4.

Site specific SWM plans shall be submitted to UMW Facilities Services for review. Prior to starting a land-disturbing project requiring a SWM plan, the project must have an approval issued by Facilities Services.

1.7 UMW Facilities Services may request DEQ to grant a project specific variance to the approved UMW Annual Standards and Specifications for ESC and SWM. All requested variances are to be considered unapproved until written approval from DEQ is received. Refer to Section 6.0 for more information on variances.

2.0 ANNUAL STANDARDS AND SPECIFICATIONS PERSONNEL

The UMW Facilities Services shall be the authority for administering UMW Projects under the UMW Annual Standards and Specifications for ESC and SWM. The following is a breakdown of related responsibilities and titles. Responsibilities may be combined in terms of staffing resources only if the person responsible for the task(s) is qualified per the Virginia Erosion and Sediment Control and Stormwater Management Certification Regulations (9VAC25-850 et seq. as amended). The following titles are designated to ensure compliance with UMW Annual Standards and Specifications for ESC on all UMW projects.

a. An AS&S holder may enter into agreements or contracts with soil and water conservation districts, adjacent localities, or other public or private entities to assist with carrying out the provisions of this article, including the review and determination of adequacy of erosion and sediment control plans submitted for land-disturbing activities on a unit or units of land as well as for monitoring, reports, inspections, and enforcement where authorized in this article, of such land-disturbing activities.

b. Certification roles are currently fulfilled at UMW in the following manner:

- DEQ-Certified Inspector for ESC --- In-house by Tanasha Whittaker
- DEQ-Certified Inspector for SWM --- In-house by Tanasha Whittaker primarily responsible for land disturbing and capital projects; and Holly Chichester (provisionally certified) primarily responsible for MS4 inspections.
- DEQ-Certified Plan Reviewer for ESC --- In-house by Gary Hobson, registered professional engineer.

- DEQ-Certified Plan Reviewer for SWM --- Contracted service utilizing civil engineering term contract to have DEQ Certified Plan Reviewer provide review of stormwater plans on a project-by-project basis.
- DEQ-Certified Program Administrator for ESC --- In-house by Gary Hobson.
- DEQ-Certified Program Administrator for SWM --- In-house by Gary Hobson.

2.1 "DEQ-Certified inspector for ESC" means an employee or agent of UMW who: (i) holds a certificate of competence from the Board in the area of project inspection; or, (ii) is enrolled in the Board's training program for project inspection and successfully completes such program within one year after enrollment; and (iii) shall be responsible to inspect as mandated by the VESCL&R erosion and sediment control measures to ensure proper installation in accordance with the approved plan and record the state and effectiveness of such measures in an effort to minimize site erosion and sediment control.

2.2 "DEQ-Certified inspector for SWM" means an employee or agent of UMW: (i) holds a certificate of competence from the Board in the classification of project inspector in the area of SWM; or (ii) is enrolled in the Board's training program for project inspector and successfully completes such program within one year after enroll-ment; a nd, (iii) shall be responsible to inspect the construction of permanent stormwater management controls.

2.3 "DEQ-Certified plan reviewer for ESC" means and employee or agent of UMW who: (i) holds a certificate of competence from the Board in the area of plan review: or, (ii) is enrolled in the Board's training program for plan review and successfully completes such program within one year after enrollment.

2.4 "DEQ-Certified plan reviewer for SWM" means and employee or agent of UMW who: (i) holds a certificate of competence from the Board in the area of plan review: or, (ii) is enrolled in the Board's training program for plan review and successfully completes such program within one year after enrollment.

2.5 "DEQ-Certified program administrator for ESC" means and employee or agent of UMW who: (i) holds a certificate of competence from the Board in the area of plan review: or, (ii) is enrolled in the Board's training program for plan review and successfully completes such program within one year after enrollment.

2.6 "DEQ-Certified program administrator for SWM" means and employee or agent of UMW who: (i) holds a certificate of competence from the Board in the area of plan review: or, (ii) is enrolled in the Board's training program for plan review and successfully completes such program within one year after enrollment.

2.7 "DEQ-Certified combined administrator for ESC" means and employee or agent of UMW who: (i) holds a certificate of competence from the Board in the area of program administration, plan review and project inspection; or, (ii) is enrolled in the Board's training program for program administration and successfully completes such program within one year after enrollment.

2.8 "DEQ-Certified combined administrator for SWM" means and employee or agent of UMW who: (i) holds a certificate of competence from the Board in the area of program

administration, plan review and project inspection; or, (ii) is enrolled in the Board's training program for program administration and successfully completes such program within one year after enrollment.

3.0 ANNUAL STANDARDS AND SPECIFICATIONS IMPLEMENTATION

ESC and SWM plans shall comply with UMW Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management, the Virginia Erosion and Sediment Control Law (62.1-44 et seq.), the Virginia Stormwater Management Act (62.1-44 et Seq.), associated ESC and SWM regulations, and the Virginia Stormwater Management Program Permit regulations (9VAC25-870 et Seq.). Refer to Section 1.1 for more information on general specifications. The use of the VESCH, along with the accompanying technical documents and guidance, control measures is strongly preferred. Non-VESCH control measures, BMPs, and specifications may be included

3.1 Submittals

ESC and SWM plans, drawings and narratives shall be submitted to the UMW Facilities Services for review and approval prior to any land-disturbing activities. The plan reviewer shall have 30 days to review the plan and provide written comments. Re-submittals shall include revision notes referenced to written comments. Prior to commencement of a land-disturbing project, the project must have received written approval for the plan(s) from the UMW Facility Services.
Projects requiring a CGP must submit a complete and accurate Registration Statement and Fee Form to UMW Facility Services. UMW will submit the completed Registration Statement to DEQ for issuance of the CGP.

a. UMW documents ESC & SWM plan approval as appropriate by stamping two approved sets (providing copies to UMW and contractor), including approval letter signed by the UMW Program Administrator.

b. UMW has an existing stormwater master plan and shares plans with design firms for new land disturbing projects to ensure that ESC & SWM plans are properly coordinated with the stormwater master plan and to address any deficiencies, if practical. UMW does use nutrient credits to address quality issues on certain projects and documents the purchases in a single spreadsheet. UMW has only made two purchases to date and these credits have been purchased on a project-specific basis. The nutrient credit spreadsheet will be used to update the stormwater master plan and inform the MS4 program.

3.2 Plan Reviews

Plan reviews shall be conducted by qualified personnel as per the requirements of 9VAC25-850-40.A. Plan reviews shall ensure compliance with the UMW Annual Standards and Specifications. Plan reviewers shall use the Plan Review Checklist provided in Appendix A for ESC and SWM plans.

3.3 Pre-Construction Conference

Prior to commencement of a land disturbance activity, a pre-construction conference shall be held in order to clarify ESC/SWM roles, responsibilities and obligations of all parties involved with the land-disturbing activity. At a minimum, the pre-construction conference will be attended by the UMW Project Manager, UMW ESC and SWM Project Inspector, UMW ESC and SWM Program Administrator, and the project RLD.

3.4 Inspections and Enforcement

Site inspections will be conducted by qualified personnel as defined in Section 2.0. The UMW project manager shall be responsible for ensuring that corrective measures are taken in response to comments and potential violations noted during site inspections. Refer to Section 5.0 for more information on inspections and enforcement procedures.

3.5 Changes and Amendments

An approved plan may be changed by UMW Facilities Services in the following cases:

a. Where inspection has revealed the plan is inadequate to satisfy applicable regulations; or

b. Where the person responsible for carrying out the approved plan finds that because of changed circumstances or for other reasons the approved plan cannot be effectively carried out, and proposed amendments to the plan, consistent with the requirements of this article, are agreed to by the plan-approving authority and the person responsible for carrying out the plan.

Subject to the discretion of the inspector and/or project manager, revisions to an approved ESC/SWM plan must be submitted in writing to the UMW Facilities Services for review. Revisions shall not be considered approved until written notice is provided. Revisions must comply with the UMW Annual Standards and Specifications for ESC and SWM. The DEQ will be notified via email to constructionGP@deq.virginia.gov of any approved changes to the ESC/SWM plans and/or information on the Registration Statement.

4.0 CONSTRUCTION PLAN REQUIREMENTS

- Complete ESC and SWM plans shall be provided in the construction plans.
- Plans shall include the amount of disturbed area listed per phase and proposed net increase in impervious area, as well as, the pre- and post-construction land cover conditions as reported on the VRRM spreadsheet.
- Minimum Standards 1 through 19 (9VAC25-840-40) shall be listed in the construction plans**.**
- Construction sequence of operations shall be defined on the construction plans with staged implementation of erosion and sediment control measures for each phase. The area which may be disturbed in each phase shall be set forth in the construction plans.
- Construction plans shall provide information on the maintenance of all BMPs and erosion and sediment control measures or reference the narrative section that contains the information.
- Profiles shall be included for all closed and open storm systems. The profile shall include the existing surface, final surface, proposed water elevations, pipes, pipe crossings, and hydraulic grade line. Surcharges shall be clearly indicated on the profile.
- SWM calculations for quantity shall be in accordance with 9VAC25-870-66 and SWM calculations for quality shall be in accordance with 9VAC25-870-63 through -65.
- The SWM plans will be prepared in accordance with the requirements of 9VAC25-870-55.B.
- Proof of adequate outfall and adequacy of the receiving channel to the SWM treatment facility needs to be provided.

- Plans shall comply, to the maximum extent practicable, with any locality's VSMP ESC and SWM technical requirements or demonstrate that the locality's VSMP SCC and SWM technical requirements are not practicable for the project.
- Plans should also include a detailed landscape plan with a planting schedule.
- Stockpile/lay-down areas and trailer locations shall be provided on the plans for all phases.
- Any on-site changes shall be documented on the approved site plan and within the SWPPP.
- Land disturbing activity associated with the project but occurring at a separate location not on UMW property will require documentation of approval by the local program authority for the separate plan.
- A copy of the completed plan checklists (see Appendix A) shall be provided with the construction plans. A notation shall be provided for each checklist item, such as a specific plan sheet or narrative section, indicating the location where the requirement is addressed.

5.0 INSPECTIONS AND ENFORCEMENT

Periodic inspections shall be conducted, at a minimum, every two weeks and within 48 hours of a rainfall event producing runoff by a DEQ-Certified Inspector for ESC and SWM as appropriate. In addition, inspections shall be made during or immediately following initial installation of erosion and sediment controls and BMPs and at the completion of the project. Projects are considered complete after permanent stabilization has been accomplished at the site, not completion of the construction activities.

5.1 Erosion and Sediment Control Inspections

The ECS/SWM inspection report forms provided in Appendix B shall be used on each site inspection visit. All ECS measures shown on the plans shall be inspected and be conducted by a DEQ-Certified Inspector for ESC. All problems and violations shall be photographed and documented on the inspection report. Critical areas that require continuous inspections shall also be identified on the site plan. The inspection report shall specify the required corrective action for each issue or violation noted and a date by which all corrective actions must be completed. A copy of the inspection report will be provided to the project staff.

5.2 Stormwater Management Inspections

The ECS/SWM inspection report forms provided in Appendix B shall be used on each site inspection visit. All stormwater BMPs must be identified on the site plans and each one shall be inspected periodically by a DEQ-Certified Inspector for SWM. All problems and violations shall be photographed and documented on the inspection report. Critical areas that require continuous inspections shall also be identified on the site plan. The inspection report shall specify the required corrective action for each issue or violation noted and a date by which all corrective actions must be completed. A copy of the inspection report will be provided to the project staff.

a. DEQ-Certified SWM inspectors shall provide for the periodic inspection of the installation of stormwater management measures. SWPPPs (General info, ESC plan, SWM plan, pollution prevention plan, TMDL requirements) shall be inspected at the beginning of the project and periodically throughout, Projects should be inspected to ensure that they have obtained CGP permit coverage, if appropriate.

5.3 Enforcement

When a second or repeat violation is noted on subsequent inspections, a Notice to Comply may be issued by the UMW Program Administrator. The Notice to Comply will contain specific measures or corrections that need to be made and specify deadlines for completion.

Stop Work Orders will be issued when:

a. The project has failed to meet the prescribed deadlines in a Notice to Comply;

b. Land disturbing activities commenced without an approved plan; or

c. Violations are causing or are in imminent danger of causing harmful erosion.

The Stop Work Order will be lifted once the required ESC/SWM measures or corrections are in place and verified by the Project's Inspector.

5.4 Project Close-out

As previously noted, project completion is defined as the achievement of permanent stabilization and verification of final product according to the approved plans. Project completion, concerning ESC and SWM, will be noted using the ESC/SWM Inspection Report Form. A notice of termination will be submitted to DEQ in accordance with 9VAC25-880-60.
At project close out, UMW MS4 coordinator will be notified in writing and assume responsibility of post-construction inspections. Inspection requirements to be provided by MS4 post-construction SWM inspector.

5.5 Other Investigations

DEQ-Certified ESC/SWM Inspectors will also be responsible for responding in a timely manner to reports of alleged violations reported by University staff, students, adjacent property owners, or others. Corrective measures if warranted will follow standard procedures as outlined for ESC and SWM inspections.
In accordance with SWM - §62.1-44.15:31.C, the DEQ shall perform random site inspections or inspections in response to a complaint to assure compliance with this article, the Erosion and Sediment Control Law, and regulations adopted thereunder.

6.0 VARIANCES, DEVIATIONS AND EXCEPTIONS

Variances to the ESC Minimum Standards and regulations must ensure off-site properties and resources are protected from damage. Economic hardship is not sufficient reason to request.

For a variance to become part of the project specific ESC plan, a written variance request must be submitted by UMW to DEQ for review and approval. This request must include a detailed description of the alternative ESC practice and justification that the practice meets the intent of the Minimum Standard for which the variance is sought. (Ref. 9VAC25-840-50).

A deviation is the use of a non-standard VESCH control measure either listed in Appendix D as previously approved, or approved only for a project specific plan.

A request for an exception for Part II B or Part II C of the Stormwater Management Program Regulations must be submitted in writing by UMW to DEQ for review and approval. The request for an exception will be reviewed pursuant to 9VAC25-870-122.

Economic hardship alone is not a sufficient reason to request an exception from the requirement of the Stormwater Management Program Regulations.

6.1 ESC Variance Request Procedures and Policy:

a. All requests for project specific variances to UMW Annual Standards and Specifications shall be sent by the design professional to UMW Facilities Services and shall be accompanied by complete details and documentation, including justification for the requested variance and impacts associated with the variance request. The design professional shall complete the form included in Appendix C and include the elements for variance information required by the DEQ listed below.

b. If determined to be appropriate by the UMW DEQ-Certified ESC Program Administrator and the DEQ-Certified Plan Reviewer, then the UMW DEQ-Certified ESC Program Administrator will send the variance request to the Virginia Erosion and Sediment Control Program Manager for review and approval.

c. DEQ will consider variance requests freestanding of the Annual Standard and Specification submission and on a site-specific basis. UMW may (at DEQ's discretion) be required to produce documentation to demonstrate the applicability of variance requests. The following information may be required for the review of variance requests:

1) Introduction

2) Project Description

3) Minimum Standards Variance Requests

4) Existing Conditions and Adjacent Areas

5) Soil Characterization

6) Critical and Sensitive Areas (Karst, wetland, etc…)

7) Mitigation

a) ESC Measures

b) Permanent Stabilization

c) Vegetative Restoration

d) Maintenance

e) Critical and Sensitive Areas

8) Self-Inspection, Reporting and DEQ-Certified Personnel

d. All requested variances will be considered unapproved until written approval from DEQ is received.

e. All approved variances shall be listed in the General Notes section of the plans for land disturbing activities and included in the Narrative.

6.2 ESC Deviations Request Procedures and Policy:

a. If the plan shows a deviation by the use of a non-VESCH control measures not listed in Appendix D as previously approved, the designer is required to submit all applicable practical information including definition, purpose, condition where the practice applies, planning consideration, design criteria, construction specification, design tables, plates and maintenance and inspections.

b. UMW reserves the right to approve or disapprove the non-VESCH control measure on a project-specific basis.

c. ESC measures shall be designed and constructed in accordance with the VESCH or the manufacturer's recommendations as applicable.

d. UMW and the DEQ have the discretion to disallow the use of any of the previously approved measures based on findings that demonstrate poor performance related to sedimentation control or maintenance.

e. Sufficient detail shall be provided on the ESC Plan and in the Specifications for proprietary measures, including any necessary computations, installation, instructions, and inspection and maintenance instructions.

f. Installation and maintenance shall be per the manufacturer's recommendations. A list of approved, non-VESCH measures can be found in Appendix D.

g. Should non-VESCH control measures fail to effectively control soil erosion, sediment deposition, and non-agricultural runoff, then VESCH control measures shall be utilized.

Deviations for consideration of ESC measures not listed in Appendix D will only be considered when requested by an Applicant as part of a proposed ESC Plan or on-going land disturbance with an approved ESC Plan.

6.3 SWM Request for an Exception Procedures and Policy:

a. If determined to be appropriate by the UMW DEQ-Certified Program Administrator for SWM and recommended by a DEQ-Certified Plan Reviewer for SWM, then the UMW DEQ-Certified ESC Program Administrator will submit the request for an exception to DEQ for review and approval.

b. An exception may be granted provided that:
   1) The exception is the minimum necessary to afford relief,
   2) Reasonable and appropriate conditions shall be imposed as necessary upon any exception granted so that the intent of the Act

and the Stormwater Management Program Regulations are preserved,

3) Granting the exception will confer any special privileges that are denied in other similar circumstances, and

4) Exception requests are not based upon condition or circumstances that are self-imposed or self-created.

c. Economic hardship alone is not sufficient reason to grant an exception from the requirements.

d. Under no circumstance shall an exception to the requirement that the land-disturbing activity obtain required state permits, nor approve the use of a BMP not found on the Virginia Stormwater BMP Clearinghouse Website, except where allowed under Part II C (9VAC25-870-93 et seq.) of the regulations.

e. Exceptions to requirements for phosphorous reductions shall not be allowed unless offsite options available through 9VAC25-870-69 have been considered and found not available.

f. A record of all exceptions granted by DEQ shall be maintained by UMW in accordance with 9VAC25-870-126.

7.0 LAND-DISTURBING ACTIVITES

Land-disturbing activities that obtain an initial state permit or commence land disturbance prior to July 1, 2014, shall be conducted in accordance with the Part II C (9VAC25-870-93 et seq.) technical criteria. Such projects shall remain subject to the Part II C technical criteria for two additional state permit cycles. After such time, portions of the project not under construction shall become subject to any new technical criteria adopted by the board (9VAC25-870-47 B).

Land-disturbing activities that obtain an initial state permit on or after July 1, 2014, shall be conducted in accordance with the Part II B (9VAC25-870-62 et seq.) technical criteria, except as provided for in 9VAC24-870-48. Land-disturbing activities conducted in accordance with the Part IIB technical criteria shall remain subject to the Part IIB technical criteria for two additional state permit cycles. After such time, portions of the project not under construction shall become subject to any new technical criteria adopted by the board (9VAC25-870-47 B).

Grandfathered land-disturbing activities shall be subject to the Part II C technical criteria (9VAC25-870-93 et seq.). Land-disturbing activities will be considered grandfathered if they meet the conditions of 9VAC25-870-48. Grandfathered land disturbing activities shall be subject to Part II C technical criteria for one additional state permit cycle. After such time, portions of the project not under construction shall become subject to any new technical criteria adopted by the board (9VAC25-870-48 C).

7.1 Proposed Land-disturbing activities:

A list of regulated land-disturbing activities expected to be under contract during the referenced time period will be submitted to DEQ semi-annually. The list will include project location, estimated disturbed acreage by watershed, and approximate start and completion dates for each project.

7.2 Current and Past Land-disturbing activities:

A list of completed and on-going regulated land-disturbing activities either under contract or terminated during the previously referenced time period will be submitted to DEQ semi-annually. The list includes project location, project start and completion date, and actual disturbed area.

7.3 Project Tracking and Notification

UMW will provide a semi-annual tracking report (Jan 1st and July 1st) to DEQ identifying project name, location, on-site project manager (with contact information), project description, project status (design or construction), estimated disturbed acreage, start and finish dates, applicable DEQ-Certified RLD information, dates of inspections, and any variances/exemptions/waivers associated with the project.

DEQ e-notifications shall be made 2 weeks prior to initiating a regulated land disturbing activity and will include the following information:

a. Project name or project number (any associated CGP permit #),
b. Project location (including nearest intersection, latitude and longitude, access point, etc.),
c. On-site project manager name and contact information,
d. Responsible Land-Disturber (RLD) name and contact information,
e. Project description,
f. Acreage of disturbance for project,
g. Project start and finish date, and
h. Any variances, waivers, or exemptions associated with the project.

8.0 ANNUAL STANDARDS AND SPECIFICATIONS REVIEW and EVAULATION

8.1 DEQ'S RESPONSIBILITIES:

- DEQ shall have sixty days in which to comment on any ECS and SWM standards and specifications submitted to it for review, and its comments shall be binding on UMW and any private business hired by UMW (§62.1-44.15:55.B).
- Enforcement by the DEQ for SWM will be in accordance with §62.1-44.15:27 F and for ESC in accordance with §62.1-44.15:54.E and §62.1-44.15:56G.
- DEQ is the authority for the issuance and termination Construction General Permits.
- DEQ fees for services rendered for SWM will be in accordance with §62.1-44.15:31.D.
- ESC fees to enforce approved specifications will be equal to the lower of (i) $1,000 or (ii) an amount sufficient to cover the costs associated with standard and specification review and approval, project inspections, and compliance.

8.2 UMW'S RESPONSIBILITIES:

- UMW shall ensure compliance with the approved plans and annual standards and specifications (§62.1-44.15:56.G).
- Upon request by the DEQ, UMW shall provide a copy of the approved plan sheets and narrative for each regulated land-disturbing activity as outlined in Section 1.1.
- UMW will notify DEQ of the Responsible Land Disturber including RLD name, certification number and contact information at least 2 weeks prior to construction.
- UMW will notify DEQ of any newly emerging projects involving regulated land-disturbing activities during the current year as soon as they are known and prior to any land-disturbance.
- UMW shall provide DEQ with the appropriate information, in a timely manner, when requested, including:
  - Inspection Reports
  - Complaint Logs
  - Complaint Responses
- Weekly e-Reporting to the DEQ – Northern Regional Office, if required, will include:
  - Inspection reports
  - Pictures
  - Complaint logs and complaint responses
  - Other compliance documents

9.0 LONG-TERM MAINTENANCE

9.1 Project plans shall contain information on the long-term maintenance requirements for the post-construction BMPs. Permanent stormwater facilities shall be inspected as required by the stormwater regulations. The following information will be printed on the approved stormwater management plan:

- A description of the requirements for maintenance and maintenance inspection of the stormwater management facilities and a recommended schedule of maintenance inspection and maintenance.

- The identification of a person or persons who will be responsible for maintenance inspection and maintenance.

- The maintenance inspection schedule and maintenance requirements should be in accordance with the Virginia BMP Clearinghouse, the Virginia SWM Handbook, the MS4 permit (if applicable) and/or the manufacturer's specifications.

- The types of land cover on the site will be clearly depicted (i.e. different type of hatching for each land cover), including the acreage for each cover type. The acreage should be labeled in all of the subareas and provide a table that adds the land cover up by type on the sheet.

- The metes and bounds will be drawn all the way around any conserved open space.

- Any conserved open space will be labelled as "Runoff Reduction Compliance Forest / Open Space"

- The following note will be included on the sheet: "The Runoff Reduction Compliance Forest/Open Space area shown here shall be maintained in a forest/open space manner until such time that an amended storm water management plan is approved by the VSMP Authority."

9.2 UMW Roles and Responsibilities:

(a) UMW DEQ-Certified SWM Program Administrator shall ensure BMPs are scheduled for annual inspection, beginning on their first anniversary based on the date of Notice of Termination for the subject Construction General Permit. UMW SWM Program Administrator will provide pertinent BMP information to UMW's MS4 Coordinator.

(b) UMW DEQ-Certified SWM Project Inspector will conduct annual post construction inspections of BMPs and report results to the UMW DEQ-Certified SWM Program Administrator. The post construction inspections will be conducted in accordance with the maintenance requirements laid out in the Virginia Stormwater BMP clearing house for each BMP. Copies of BMP inspection reports will be maintained for five (5) years.

(c) UMW Facilities Services will be responsible for committing the necessary resources to maintain BMPs and correct deficiencies noted during these inspections.

(d) UMW shall, on a fiscal year basis (July 1 to June 30), submit a Report to the DEQ by October 1 of each year, as prescribed in 9VAC25-870-126. The information provided shall include the following:

- Information on each permanent stormwater management facility completed during the fiscal year to include type of stormwater management facility, geographic coordinates, acres treated, and the surface waters or karst feature into which the stormwater management facility will discharge

- Comprehensive Stormwater BMP Record done in coordination with MS4 reporting requirements. Initial report will be submitted on or before March 2019 as part of semi-annual update for Land Disturbing Activities.

- Number and type of enforcement actions during the fiscal year

- Number of exceptions granted during the fiscal year.

- UMW shall maintain, either onsite or in AS&S files, a copy of approval plan and a record of inspection for each active land disturbing activity.

(e) UMW shall keep records in accordance with 9VAC25-870-126 B, as follows:

- Approved plans and inspection records for each active land-disturbing activity will be maintained at UMW's Facilities Services.
- Project Records – including approved SWM plans, shall be kept for 3 years after state permit termination or project completion.
- SWM facility inspection records shall be documented and retained for at least five years from the date on inspection.
- Construction record drawings shall be maintained in perpetuity or until a SWM facility is removed.
- All registration statements submitted in accordance with 9VAC25-870-59 shall be documented and retained for a least there years from the date of project completion or stat permit terminations.

Appendix A
ESC/SWM Plan Checklists

Required Elements of a Plan
and
Minimum Standards

PROJECT NAME _____ PROJECT ID _____

CHECKLIST

FOR EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT PLANS

NARRATIVE

_____ Project description:

- Briefly describe the nature and purpose of the land-disturbing activity.
- How many acres will be disturbed?
- Is the pre- and post-Construction land condition consistent with the VRRM spreadsheet?
- How much impervious area will the project have in the post-development conditions?
- What are the ultimate developed conditions of the site?

_____ Existing site conditions:

- Provide a description of the existing topography (list percentage of slopes on-site).
- Provide drainage area maps of the site in pre-development and post-development conditions.
- Discuss types of existing vegetation that can be used as erosion control, or areas that are to be left undisturbed and how they will be marked.
- Discuss any existing drainage or erosion problems and how they are to be corrected.

_____ Adjacent areas:

- Provide a description of neighboring areas such as streams, lakes, CBPA Resource Protection Area (RPA), residential areas, roads, etc., which might be affected by the land disturbance.
- Streams that will receive runoff from the site should be surveyed to determine their carrying capacity.

_____ Off-site areas:

- Describe any off-site land-disturbing activities that will occur (including borrow sites, waste or surplus areas, etc.).
- If the site is in balance and no off-site land-disturbing activities are anticipated with this project include a statement in the narrative: "No off-site land-disturbing activities are anticipated with this project however, if due to unforeseen circumstance this changes, prior to commencing land disturbing activities in areas other than indicated on these plans (including, but not limited to, off-site borrow or waste areas) – soil hauled off-site, the contractor shall supply the owner (UMW DEQ-Certified ESC Program

PROJECT NAME _____ PROJECT ID _____

Administrator) with a supplementary erosion control plan for submittal to the receiving locality (City or County) and the University of Mary Washington for review and approval."

- Will any other areas be disturbed?

_____ Soils:

- Provide a brief description of the soils on the site giving such information as soil name, mapping unit, erodibility (K factor), pH, permeability, depth, texture and soil structure.
- Indicate references for soil information.
- Provide copy of soil survey map.

NARRATIVE (continued)

_____ Critical areas:

- Provide a description of areas on the site which have potentially serious erosion problems (e.g., steep slopes, channels, RPA, wet weather/ underground springs, etc.).
- Discuss any area of the project which may become critical during the project.

_____ Erosion and sediment control measures:

- Describe the methods which will be used to control erosion and sedimentation on the site.
- List all controls used, list specification numbers in Chapter 3 of the Virginia Erosion and Sediment Control Handbook.
- Discuss why control was selected and how it satisfies the applicable minimum standard(s).
- Discuss sequence of installation, maintenance requirements and removal for each control selected.
- Discuss Temporary Seeding as a means of erosion control, and list the types to be used.

_____ Permanent stabilization:

- Provide a brief description, including specifications, of how the site will be stabilized after construction is completed. Seed specifications are to include type, and rate and time of application.
- Include specifications for topsoil and seedbed preparation.
- List the soil testing requirements.
- Fertilizer and Lime applications are to be in accordance with the attached ESC technical Bulletin #4. Visit the DEQ web page at

http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/ESCTechnicalBulletin4.pdf
for more information.

_____ Stormwater runoff considerations:

- Will the development site cause an increase in peak runoff rates?
- Will the increase in runoff cause flooding or channel degradation downstream? Discuss how downstream properties and waterways will be protected (basins, channel improvements, easements, etc.).
- Describe the strategy to control stormwater runoff.
- List or discuss all references for the design of permanent stormwater management facilities.
- Have the possibilities of incorporating low impact development strategies for addressing stormwater management water quality and quantity requirements been investigated?

_____ Maintenance of SWM Facilities:

- Provide a table with a description of the requirements for maintenance of the facility and a recommended schedule for inspections and maintenance.
- Include the following note on the plan sheet; "The Runoff Reduction Compliance Forest/Open Space area shown here shall be maintained in a forest/open space manner until such time that an amended storm water management plan is approved by the VSMP Authority."

_____ Water Quality:

- Is the plan in compliance with the water quality criteria and the Virginia Stormwater BMP Clearinghouse specifications? Provide supporting calculations. For each best management practice with a checklist, include a completed Design and Plan Review Checklist.

_____ Calculations:

- Provide detailed calculations for the design of temporary sediment traps and basins, diversions, on-site and off-site channels, permanent stormwater facilities, etc.
- Provide all calculations showing pre- and post-development runoff. Worksheets, assumptions and engineering decisions should be clearly presented.
- Calculations must show that downstream properties and waterways are adequately protected.

SITE PLAN

PROJECT NAME _____ PROJECT ID _____

_____ Vicinity map:
- A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site.

_____ Indicate north:
- Provide an arrow showing the direction of north in relation to the site.

_____ Limits of clearing and grading:
- Show all areas that will be cleared and graded.
- Provide notes on how these areas will be marked.
- Provide notes and illustrations that clearly indicate areas NOT to be disturbed.

_____ Existing contours:
- Provide a small-scale topographic map of the site showing the existing contours elevations at intervals of 1 to 5 feet depending on the slope of the terrain.
- Should be shown as dashed light lines.

_____ Final contours:
- Show changes to the existing contours, including final drainage patterns.
- Should be shown as heavy solid lines.

_____ Existing vegetation:
- Show the existing tree lines, grassed areas, or other unique vegetation.

_____ Soils:
- Show the boundaries of different soil types.

_____ Existing drainage patterns:
- Show the dividing lines for each drainage area and use arrows to show the direction of flow for the different drainage areas.
- Include the size (acreage) of each drainage area.
- All existing drainage swales and patterns on the site should be located and clearly marked on the topographic map.
- Live or intermittent streams should be shown on the map.
- Show the drainage areas to each BMP/practice.

_____ Critical erosion areas:
- All critical, environmentally sensitive, or prohibited areas are to be clearly shown on the plan with notes provided to state the critical nature.

_____ Site Development:
- Show all improvements such as buildings, parking lots, access roads, easements, utility construction, etc.
- Show the pre- and post-construction land cover conditions as depicted on the VRRM spreadsheet.

Prepared/Reviewed By
Date _____

PROJECT NAME _____ PROJECT ID _____

_____ Location of practices:

- Show the locations of erosion and sediment control and stormwater management practices used on the site.
- Symbols showing vegetation are also to be shown.
- Use the standard symbols and abbreviations in Chapter 3 of the ESC Handbook.
- A legend denoting symbols, line uses, and other special characters is to be provided.

_____ Off-site areas:

- Identify any off-site land-disturbing activities (e.g., borrow sites, waste areas, etc.). Show location of erosion controls.

_____ Detail drawings:

- All structural practices used should be explained and illustrated with detail drawings.
- All details should list the specification number from the VESCH.
- Alternative ESC measures must have proper drawings to indicate how and where they will be constructed.
- All plan drawings, elevations, and cross-section drawings are to show the scales used to prepare the drawings.
- A schedule of regular inspections and repair of each erosion and sediment control structure should be set forth including the maintenance items to check and perform as well as precautions for large storm events.
- Outlet protection schedules are to be provided.

_____ Maintenance:

- A schedule of regular inspections and repair of erosion and sediment control structures should be set forth including the maintenance items to check and perform as well as precautions for large storm events.
- List the person who is responsible during construction and who will be responsible once the project is complete.

Prepared/Reviewed By
Date _____

PROJECT NAME _____ PROJECT ID _____

MINIMUM STANDARDS

_____ MS-1 –Permanent or temporary soil stabilization shall be applied to denuded areas within 7 days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days.

_____ MS-2 – Protection or stabilization of on-site and off-site soil stockpiles and borrow areas

_____ MS-3 – Permanent vegetative stabilization of denuded areas not otherwise stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.

_____ MS-4 – Install erosion and sediment controls as the first step in land-disturbing activity

_____ MS-5 – Earthen controls and structures stabilized immediately upon installation

_____ MS-6 – Trap and Basin design

Trap: < 3acres total drainage area, 134 cubic yards per acre storage

Basin: 3 acres or more total drainage area, 134 cubic yards per acre storage, safely handle a 25-year, 24-hour storm event

_____ MS-7 – Design and construction of cut and fill slopes

_____ MS-8 – Concentrated flow down cut and fill slopes

_____ MS-9 – Slopes protected from seeps

_____ MS-10 – Operational stormwater inlets must be protected

_____ MS-11 – Outlets must be protected and stormwater conveyance channels stabilized before being made operational

_____ MS-12 – Minimize impacts when working in and around live watercourses

_____ MS-13 – Temporary vehicular stream crossings for more than 2 trips in 6 months

Prepared/Reviewed By
Date _____

PROJECT NAME _____ PROJECT ID _____

_____ MS-14 – Other federal, state, and local regulations pertaining to work in live watercourses (Required permits COE, DEQ, VPDES, etc)

MINIMUM STANDARDS (Continued)

_____ MS-15 – Stabilize disturbed bed and banks of watercourses

_____ MS-16 – Utility installations (< 500 feet open trench, stockpile upgradient, filter dewatering effluent, backfill and compact, other safety requirements)

_____ MS-17 – Keep paved or public areas clean

_____ MS-18 – Remove temporary controls within 30 days when no longer needed

_____ MS-19 – Protect downstream properties and waterways from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration. Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the VSMP permit regulations satisfies the MS-19 standard.

Prepared/Reviewed By
Date _____

GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-l: Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook and the Virginia Erosion and Sediment Control Law (§ 62.1-44.15:51 et. seq.), and The Virginia Erosion and Sediment Control Regulations (§ 9VAC25-840 et. seq.),

ES-2: The plan-approving authority must be notified one week prior to the pre-construction conference, one week prior to the commencement of land disturbing activity, and one week prior to the final inspection. The name of the Responsible Land Disturber must be provided to the plan-approving authority prior to actual engagement in the land-disturbing activity shown on the approved plan. If the name is not provided prior to engaging in the land-disturbing activity, the plan's approval will be revoked.

ES-3: All erosion and sediment control measures are to be placed prior to or as the first step in clearing.

ES-4: A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.

ES-5: Prior to commencing land disturbing activities in areas other than indicated on these plans (including, but not limited to, off-site borrow or waste areas), the contractor shall submit a supplementary erosion control plan to the owner for review and approval by the plan-approving authority.

ES-6: The contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the plan-approving authority.

ES- 7: All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved, after which, upon approval of the plan-approving authority, the controls shall be removed. Trapped sediment and the disturbed soil areas resulting from the removal of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

ES-8: During dewatering operations, water shall be pumped into an approved filtering device.

ES-9: The contractor shall inspect all erosion control measures during or immediately following initial installation of erosion and sediment controls, at least once in every 2 week period, within 48 hours following any runoff producing storm event, and at the completion of the project prior to the release of any performance bonds. Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices shall be made immediately.

ES-10: The contractor is responsible for the daily removal of sediment that has been transported onto a paved or public road surface.

ES-11: Seeding operations shall be initiated within 7 days after reaching final grade or upon suspension of grading operations for anticipated duration of greater than 14 days or upon completion of grading operations for a specific area.

ES-12: The contractor shall be responsible for preventing surface and air movement of dust from exposed soils which may present health hazards, traffic safety problems, or harm animal or plant life.

ES-13: A Virginia Stormwater Management Program Permit (VSMPP) for the discharge of stormwater from construction activities is required for projects disturbing 1 acre or greater. Visit the Virginia Stormwater Management Program Regulations web page at: http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits.aspx for more information.

Appendix B
Inspection Report Forms

Reply To:
Facilities Services
University of Mary Washington
1301 College Avenue
Fredericksburg, VA 22401

UNIVERSITY OF MARY WASHINGTON

Annual Standards and Specifications

INSPECTION REPORT

Project Name:_____Project Manager: _____
RLD Name: _____RLD No. _____
Project Location: _____Project No: _____
Inspector Name: _____Inspection Date: _____Time: _____

Date of Last Measurable Storm Event: _____ Amount (inches): _____ Storm Duration (hours): _____

STAGE OF CONSTRUCTION

Pre-Construction Conference ☐ *Building Construction* ☐ *Construction of SWM Facilities* ☐
Clearing & Grubbing ☐ *Finish Grading* ☐ *Maintenance of SWM Facilities* ☐
Rough Grading ☐ *Final Stabilization* ☐ *Other*_____ ☐

Item#	State/Local Regulation(1)	*Violation*		Description and Location of Problem/Violation(2), Required or Recommended Corrective Actions, and Other Comments/Notes
		Initial	***Repeat***	

(1) Refers to applicable regulation found in the most recent publication of the *Virginia Erosion and Sediment Control Regulations* (9VAC25-840), *Virginia Stormwater Management Program Regulations* (9VAC25-870), or local ESC/SWM ordinance.
(2) Note whether or not off-site damage resulting from the problem/violation was evident during the inspection.

REQUIRED CORRECTIVE ACTION DEADLINE DATE: ____ **Re-inspection Date:** _____
(MM/DD/YY) **(MM/DD/YY)**

The required corrective action deadline date applies to all violations noted on this report. If listed violation(s) currently constitute non-compliance and/or required corrective actions are not completed by the deadline, a **NOTICE TO COMPLY** and/or other enforcement actions may be issued to the entity responsible for ensuring compliance on the above project.

Inspector: _____ _____ _____
Signature Date Phone

Acknowledgement of

Onsite report receipt: _____ _____ _____

Signature Print Name Date

This report will be provided to the following parties via mail, fax, or e-mail within 24 hours of inspection:

_____

Reply To:
Facilities Services
University of Mary Washington
1301 College Avenue
Fredericksburg, VA 22401

UNIVERSITY OF MARY WASHINGTON

Annual Standards and Specifications

INSPECTION REPORT

Project Name: _____ Inspection Date:_____

Item#	State/Local Regulation(1)	*Violation*		Description and Location of Problem/Violation(2), Required or Recommended Corrective Actions, and Other Comments/Notes
		Initial	*Repeat*	

(1) Refers to applicable regulation found in the most recent publication of the *Virginia Erosion and Sediment Control Regulations* (9VAC25-840), *Virginia Stormwater Management Program Regulations* (9VAC25-870), or local ESC/SWM ordinance.

(2) Note whether or not off-site damage resulting from the problem/violation was evident during the inspection.

Reply To:
Facilities Services
University of Mary Washington
1301 College Avenue
Fredericksburg, VA 22401

Annual Standards and Specifications

Stormwater BMP Inspection and Maintenance Log

BMP ID:			**Location:**	
BMP Type:				
Date	**Time**	**Inspected by:**	**Corrective Measures**	**Actions taken**

Comments:

Appendix C
Variance Request Form

Send to:
Gary Hobson, P.E.
UMW Facilities Services
University of Mary Washington
1301 College Avenue
Fredericksburg, VA 22401
540-654-1292 (O) 540-654-1069 (fax)
Email: ghobson@umw.edu

VARIANCE REQUEST

Requested by: _____Date: _____

Street Address: _____

City/Town/Zip: _____

Telephone #: _____Fax #:_____E-mail address:_____

Project Name/Location:_____

Project Description:_____

Variance requested for (state appropriate minimum standard & requirement):_____

_____Reasons and Justification for Variance Request:_____

NOTE: Variance request documentation must be submitted with this form. Refer to section 6.0 for the required information to be included.

Signature of applicant: _____Date:_____

Appendix D
APPROVED NON-STANDARD VESCH MEASURES

E-6 STANDARDS AND SPECIFICATIONS

FOR

FILTER LOG

Definition

A temporary, tubular casing filled with compost filter media.

Purpose

To intercept sheet flow, retain sediment, and filter runoff through the log media.

Conditions Where Practice Applies

Filter logs are an alternative to silt fence and can be used in hard to reach areas, on frozen ground and pavement, and near tree roots.

Note: fiber rolls are not interchangeable with filter logs. Although similar in appearance, fiber rolls are filled with rice or wheat straw, flax, coconut fiber, or wood excelsior, and are used when stabilizing and revegetating slopes because they slow and spread overland flow, thereby minimizing erosion, rills, and gullies.

Design Criteria

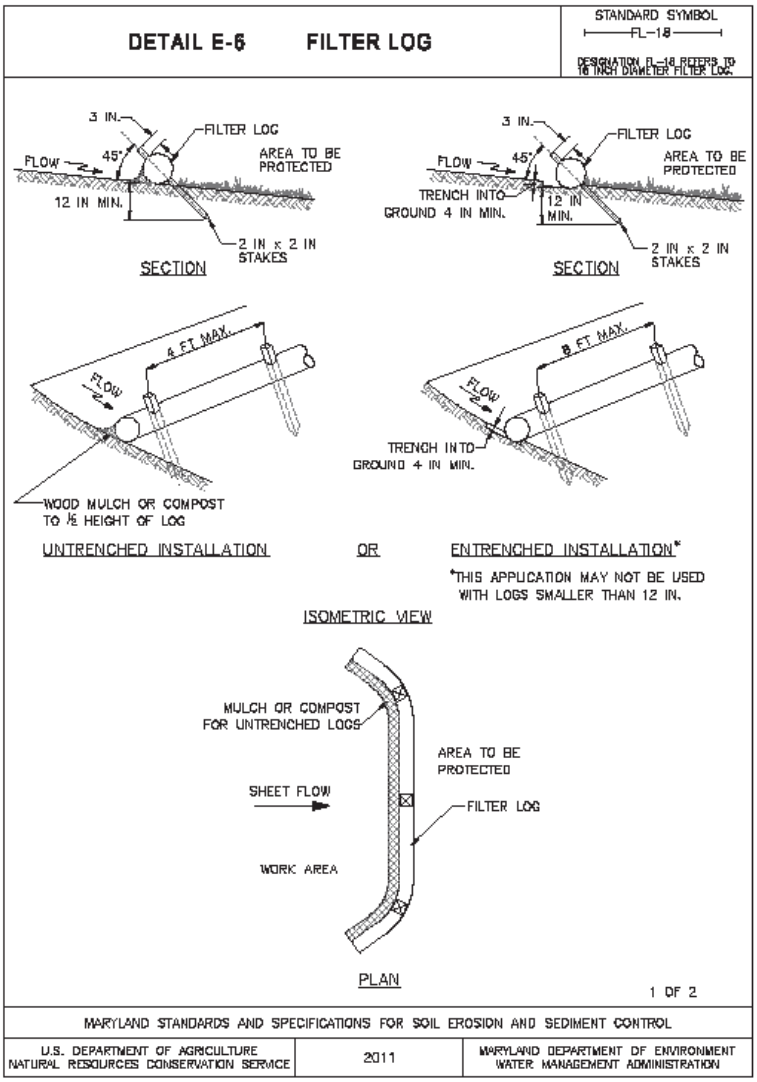
Table E.6: Filter Log Design Constraints

Log Diameter	8 to 15 inches	>15 to 24 inches
Average Slope	**Maximum Slope Length (ft)**	
Flatter than 50:1 (<2%)	125	250
50:1 to 10:1 (2 – 10%)	65	125
<10:1 to 5:1 (>10 – 20%)	50	100
<5:1 to 2:1 (>20 – 50%)	N/A	50

1. Filter logs must be placed on the contour with the ends turned upgrade to prevent bypass.
2. Filter logs can only be used with sheet flow.
3. Filter logs must be used in accordance with the design constraints in Table E.6.
4. The filter media must be compost in accordance with Table H.3 or other approved biodegradable materials.
5. Filter logs must either be staked every 4 feet maximum, or trenched a minimum of 4 inches into the ground and staked every 8 feet maximum.

Maintenance

Sediment and debris must be removed and mulch replaced when sediment has accumulated to a depth of one half the exposed height of the log. The filter log must be replaced if clogged or torn. The filter log needs to be reinstalled if undermined or dislodged. For permanent applications, vegetation must be established and maintained so that the requirements for Adequate Vegetative Establishment are met in accordance with Section B-4 Vegetative Stabilization.


DETAIL E-6 FILTER LOG
STANDARD SYMBOL
FL-18
DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.
3 IN.
FILTER LOG
FLOW
45°
AREA TO BE PROTECTED
12 IN MIN.
2 IN x 2 IN STAKES
SECTION
TRENCH INTO GROUND 4 IN MIN.
12 IN MIN.
SECTION
4 FT MAX.
8 FT MAX.
TRENCH INTO GROUND 4 IN MIN.
WOOD MULCH OR COMPOST TO ½ HEIGHT OF LOG
UNTRENCHED INSTALLATION
OR
ENTRENCHED INSTALLATION*
*THIS APPLICATION MAY NOT BE USED WITH LOGS SMALLER THAN 12 IN.
ISOMETRIC VIEW
MULCH OR COMPOST FOR UNTRENCHED LOGS
AREA TO BE PROTECTED
SHEET FLOW
FILTER LOG
WORK AREA
PLAN
1 OF 2
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE
2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.15

DETAIL E-6 FILTER LOG	STANDARD SYMBOL FL-18 DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.

CONSTRUCTION SPECIFICATIONS

1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
5. STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.16

APPENDIX B

DEQ APPROVAL LETTER OF THE UNIVERSITY OF MARY WASHINGTON CONSTRUCTION STANDARDS AND SPECIFICATIONS

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
1111 E. Main Street, Suite 1400, Richmond, Virginia 23219
P.O. Box 1105, Richmond, Virginia 23218
(800) 592-5482 www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

March 26, 2020

Mr. Gary Hobson
Capital Outlay Director/Dual Program Administrator
University of Mary Washington
1301 College Avenue
Fredericksburg, VA 22401

Transmitted electronically: ghobson@umw.edu

Subject: University of Mary Washington – Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management (AS&S for ESC and SWM)

Dear Mr. Hobson:

The Virginia Department of Environmental Quality ("DEQ") hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for the University of Mary Washington (UMW) dated "January 31, 2020". This coverage is effective from March 26, 2020 to March 25, 2021.

To ensure compliance with approved specifications, the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act, DEQ staff will conduct random site inspections, respond to complaints, and provide on-site technical assistance with specific erosion and sediment control and stormwater management measures and plan implementation.

Please note that your approved Annual Standards and Specifications include the following requirements:

1. Variance, exception, and deviation requests must be submitted separately from this Annual Standards and Specifications submission to DEQ. DEQ may require project-specific plans associated with variance requests to be submitted for review and approval.

2. The following information must be submitted to DEQ for each project at least two weeks in advance of the commencement of regulated land-disturbing activities. Notifications shall be sent by email to: StandardsandSpecs@deq.virginia.gov i: Project name or project number;
ii: Project location (including nearest intersection, latitude and longitude, access point);
iii: On-site project manager name and contact info; iv: Responsible Land Disturber (RLD) name and contact info; v: Project description;

vi: Acreage of disturbance for project; vii: Project start and finish date; and viii: Any variances/exceptions/waivers associated with this project.

3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to the DEQ on a semi-annual basis. Project tracking records shall contain the same information as required in the two week e-notifications for each regulated LDA.

4. Erosion & Sediment Control and Stormwater Management plans must be reviewed by DEQCertified Plan Reviewers. UMW, as the AS&S holder, retains the authority to approve plans and must do so in writing. Should an AS&S holder contract out to a third party to fulfill the Plan Reviewer certification, this certified Plan Reviewer may recommend approval of the plan but final approval must come from the AS&S holder.

To ensure an efficient information exchange and response to inquiries, the DEQ Central Office is your primary point of contact. Central Office staff will coordinate with our Regional Office staff as appropriate.

Please contact Hannah Zegler at 804-698-4206 or hannah.zegler@deq.virginia.gov if you have any questions about this letter.

Thank you very much for your submission and continued efforts to conserve and protect Virginia's precious natural resources.

Sincerely,

Erin Ervin Belt, Manager
Office of Stormwater Management

Case Decision Information:
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

Appendix C

- Dry Weather Field Screening Procedures
- Dry Weather Screening Checklist
- Stormwater Operation and Maintenance Manual
- SWPPP for Physical Plant

6.0 DRY WEATHER FIELD SCREENING:

Procedures

1. Field observations of MS4 outfalls shall be conducted at least once per year during dry weather conditions. Observations shall be recorded using the current inspection form and information entered into a tracking database. If flow is observed, or evidence suggests that illicit discharges may exist, further investigation shall be conducted by any of the following methods:

    a. Tracing discharge upstream of storm sewer system

        i. Visual observations should be used to look for presence of flow, colors, odors, floatable materials, or deposits or stains. The GIS map can then be used to trace the path of manholes back to the potential source

        ii. Manholes closest to the outfall should be investigated first, with staff progressively moving up the sewer network and inspecting manholes until it can be determined either the specific entry point where the source is coming in, or the general entry between two manholes where the source is coming in.

    b. Taking a sample of discharge for analysis in order to determine if a pollutant is present and identify the pollutant;

    c. Implement best management practices to eliminate illicit discharges;

    d. Scheduling follow up observations;

    e. Any other appropriate measures deemed necessary.

Notification

a. The MS4 Program Manager will be notified of any illicit discharge detected during any storm sewer-related inspection. A complete description of the discharge and as much information as possible will be provided. Any time the MS4 Program Coordinator or other Facilities staff are notified of an illicit discharge, the Director of Emergency Management and Safety shall also be notified of the illicit discharge. Office of Emergency Management and Safety (OEMS) staff shall immediately follow up on the illicit discharge report.

b. When the contaminant is discovered, the MS4 Program Coordinator will enter information about the incident in the Illicit Discharge Investigation log. The log will describe the nature of the contamination and all response and follow-up measures taken to mitigate discharge.

Discharge Identified — Primary Option

c. If the contaminant is identified as a sanitary sewer overflow, Facilities Services Plumbing staff will install emergency containment such as sandbags or other means. An emergency contractor will then be called to clean the spill using a vacuum truck or other appropriate means.

d. Petroleum spills are to be cleaned up in accordance with the UMW Emergency Operation If the contaminant is identified as dangerous, immediately call the UMW Police at 540-654-4444 and notify the Office of Emergency Management & Safety (OEMS)for technical assistance on the clean-up. For more information on hazardous materials spill response, refer to UMW Emergency Operations Plan and the Pollution Prevention Plan.

If the source of the discharge can be immediately identified such as improper trench dewatering, wash water, or improper disposal of liquids, the staff causing the illicit discharge should be immediately notified to cease operations.

7.0 PRIORITIZED SCHEDULE

1. Interconnection points between the Fredericksburg campus and the surrounding city of Fredericksburg MS4.
2. Stormwater connections to stream restorations.
3. Outfalls to UMW stormwater management facilities (SMFs).

8.0 FOLLOW-UP

Upon confirmation that the illicit discharge has been eliminated, either the Capital Outlay E&S Inspector or the Landscape and Grounds Manager should follow up within 48 hours to revisit the site and ensure the illicit discharge has been completely eliminated and that additional issues have not occurred as a result of clean-up efforts. Follow up should be documented on the Illicit Discharge Investigation log for the site.

9.0 ANNUAL REVIEW OF PROCEDURE/TRAINING

The MS4 Program Coordinator is responsible for conducting annual training and annual review of these procedures with the appropriate staff.

University of Mary Washington

Outfall Dry Weather Inspection Form

Outfall ID:

Date & Time of Inspection:

Inspector:

Weather Condition & Temperature:

Time since the last rainfall event:

Estimated Quantity of the last rainfall (in):

Outfall Type:

Outfall Damage (ex., spalling, corrosion, cracking, or chipping) (Y/N):

Flow from Outfall (Y/N): _____ if yes,

Color (Y/N):

Odor (Y/N):

Deposits / Stains (Y/N):

Trash (Y/N):

Floatable (Y/N):

Oil Sheen (Y/N):

Excessive Algae (Y/N):

Sanitary Discharge (Y/N):

Dead Vegetation:

Abnormal Vegetation (ex., excessive, inhibited) (Y/N):

Erosion/Sedimentation (Y/N):

Overall Outfall Conditions:

Good	Fair (1)	Poor (2)	Critical

[1] *Fair: Presence of two or more indicators*

[2] *Poor: One or more indicators with a severity of 3*

Recommendations:

Investigate Illicit Discharge (Y/N):

Infrastructure Repair Needed (Y/N):

Debris Removal Needed (Y/N):

Photos:

APPENDIX C

THE UNIVERSITY OF MARY WASHINGTON STORMWATER OPERATIONS AND MAINTENANCE MANUAL

Standard Operating Procedures

A. Stormwater Management Facilities

1. Each SMF has unique maintenance requirements, but generally all fall into one of two categories: bioretention or extended detention.
    a. Bioretention facilities are inspected to determine: 1) the health of the plant material in the bed and 2) the filtration capacity of the bio-media.
    b. Extended detention facilities incorporate vortex separators, and may include canister filters. During operations the separators must be observed after major storm events to determine whether debris needs to be cleared away.
2. Annual inspection of each SMF shall be conducted by authorized Stormwater inspectors.
    a. Inspection shall be performed using standard form linked to GIS mapping.
    b. Results of inspections shall be communicated to the Director of Landscape and Grounds for all necessary corrective action.
    c. Results shall also be communicated to the MS4 Coordinator for inclusion in the SMF spreadsheet, available in the MS4 Annual Report.

B. Stream Restoration

1. Regular operation of stream restorations does not involve active maintenance unless revealed by annual inspection.
2. Annual inspection of each Stream Restoration shall be conducted by a certified stream restoration specialist.
    a. Regular monitoring stations shall be established along the length of the stream segment, with no less than three (3) monitoring points: upper end, approximate mid-point of the segment, and near the end of the stream segment.
    b. Results of inspections shall be communicated to the Director of Landscape and Grounds for all necessary corrective action.
    c. Results shall also be communicated to the MS4 Coordinator for inclusion in the Stream Restoration spreadsheet, available in the MS4 Annual Report.

C. Hard Surface Travelways

1. Hard surface travelways falls into two categories: pedestrian walkways and vehicular traffic surfaces (roads and parking areas). Successful operations are determined by the uninterrupted passage of people and vehicles along the travelways.
2. During dry weather conditions, pedestrian walkways are kept free of impediments.
    a. Grass clippings, fallen leaves, and other debris shall be removed by backpack blower into adjacent managed turf areas.
    b. Excess landscape waste shall be collected and added to approved UMW compost stockpile.
    c. Deteriorated walkways shall be renovated / replaced by authorized contractor(s) who follow E&S prescriptions set forth in UMW Annual Standards & Specifications.

3. During wet / freezing conditions both pedestrian and vehicle travelways shall be monitored for treacherous conditions.
    a. During weather events, walks, roads, and parking lots will be cleared of snow and ice to the extent possible.
    b. Application of abrasive material shall be the principle means of maintaining safe traction along travelways.
    c. Magnesium chloride shall be used in limited quantities where necessary to alleviate icing conditions, particularly on inclined travelways.
4. Roads and parking lots shall be swept annually following the winter weather season.

D. Equipment Maintenance and Storage

1. Motorized equipment shall be maintained and operated according to common operating standards and the unique operating instructions of each piece of equipment. Fueling, and fluid reservoir filling shall be done under approved conditions in areas employing spill containment.
2. Mechanical repairs / replacements including hydraulic systems, fuel systems, and lead-acid batteries shall be performed by UMW Mechanic or other authorized personnel under conditions consistent with standard operating procedures for the UMW Mechanic Shop.
3. Waste fluids and lead-acid batteries shall be collected in proper storage containers and in approved storage conditions until collected by approved waste collection contractor.
4. Waste-impregnated papers and cloths shall be collected and disposed of in approved containers, which shall be collected regularly for final disposal at an approved disposal site.
5. Vehicle washing is prohibited.
6. Lawn mower washing to remove adhered grass clipping shall be performed in a space that provides for collection of the clipping and protection against entry into the stormwater conveyance system.
7. Small motorized equipment shall be stored under open shelter, with absorbent sheet material beneath the equipment.

E. Materials Storage, Open

1. UMW stores mulch, compost, and sand under these approved conditions
    a. Much and compost are stored in conditions open to the influence of weather. Each stockpile is surrounded by an 18-inch high mulch bank.
    b. Sand is stored within a silt fence structure covered with plastic tarpaulins.
2. Storage containment devices shall be monitored monthly and maintained to ensure protection against escape of the contained materials.

F. Materials Storage, Enclosed

1. UMW stores magnesium chloride (ice melt) in non-conditioned closed storage in two locations on the Fredericksburg campus. One location is a storage container at the Physical Plant, Hanover Street. The other storage location is a former bread store facility owned by UMW.
    a. Both are protected against loss to stormwater conveyance devices, and shall be inspected periodically to ensure the protection is maintained.
2. UMW also stores fertilizers and pesticides under controlled conditions at the Fredericksburg campus, Physical Plant location.
    a. Fertilizers are kept in the heated Grounds space.
    b. Pesticides are under controlled-access within the Grounds space, and further controlled, mixed and dispersed by certified application technicians.

Stormwater Pollution Prevention Plan

for:

University of Mary Washington – Physical Plant
1301 College Avenue
Fredericksburg, Virginia 22401
540.654.1000

SWPPP Contacts:

University of Mary Washington

Joseph Straughan,
Maintenance Services,
jstraugh@umw.edu

Holly Chichester,
Landscaping & Grounds,
hchiches@umw.edu

1301 College Avenue
Fredericksburg, Virginia 22401
540.654.1000

SWPPP Preparation Date:

October 1, 2022

Contents

Table of Contents

SECTION 1: FACILITY DESCRIPTION AND CONTACT INFORMATION

1.1 Facility Information.

Facility Information

Name of Facility: University of Mary Washington – Physical Plant

Street: East of Route 3 and Battlefield Athletic

City: Fredericksburg State: VA ZIP Code: 22401

County or Similar Subdivision: City of Fredericksburg

Latitude/Longitude

Latitude: 38.293057º N (decimal degrees)

Longitude: -77.474082º W (decimal degrees)

Method for determining latitude/longitude (check one):

☐ USGS topographic map (specify scale): ☐GPS

☒Other (please specify): Google Maps

Estimated area of industrial activity at site exposed to stormwater: 3.0 (acres)

Discharge Information

Does this facility discharge stormwater into a municipal separate storm sewer system (MS4)? ☒Yes ☐No

If yes, name of MS4 operator: University of Mary Washington

Name(s) of surface water(s) that receive stormwater from your facility: unnamed tributary to Hazel Run

Does this facility discharge industrial stormwater directly into any segment of an "impaired" water? ☒Yes ☐No

If Yes, identify name of the impaired water(s): Hazel Run/Rappahannock River

Identify the pollutant(s) causing the impairment(s): E. Coli

Which of the identified pollutants may be present in industrial stormwater discharges from this facility?

None likely

Has a Total Maximum Daily Load (TMDL) been completed for any of the identified pollutants? If yes, please list the TMDL pollutants: E. Coli

1.2 Contact Information/Responsible Parties.

Facility Operator(s):

Name: Stuart Sullivan
Address: 1301 College Avenue
City, State, Zip Code: Fredericksburg Virginia 22401
Telephone Number: 540654
Email address: ssulliva@umw.edu

Facility Owner(s):

Name: Stuart Sullivan
Address: 1301 College Avenue
City, State, Zip Code: Fredericksburg Virginia 22401
Telephone Number: 540.654.2080
Email address: ssulliva@umw.edu

SWPPP Contact(s):

SWPPP Contact Name (Primary): Joseph Straughan
Telephone number: 540.654.2075
Email address: jstraugh@umw.edu
SWPPP Contact Name (Backup): Holly Chichester
Telephone number: 540.654.2088
Email address: hchiches@umw.edu

1.3 Stormwater Pollution Prevention Team.

Staff Names or Titles	Individual Responsibilities
Randy Walsh, Groundskeeper Lead – MS4	Monthly visual site inspection of BMPs, seasonal maintenance as needed
Tanasha Whittaker, SWM Inspector	Assist with site inspections of BMPs
Joseph Straughan, Building Systems Mgr.	Monitor and Address Building Issues
Holly Chichester, Director Landscaping & Grounds	Monitor and Address Grounds Issues

1.4 Site Description.

The Physical Plant is part of the University Facility Services which is responsible for building maintenance and repair, capital outlay management, state vehicle transportation services, housekeeping, landscape and grounds care, recycling and waste management, central heating plant operations, minor construction and alterations, engineering services and facility support contracts.

Operations at the Physical Plant include: vehicle maintenance (including lawn care equipment), storage of mulch, sand, gravel, pavers, plants, wood chips, and miscellaneous landscape materials, fuel oil, waste oil and antifreeze, batteries, solvents, cleaners, various automotive and equipment maintenance chemicals, as well as, pesticides and herbicides, and de-icing chemicals.

Chemicals are stored under roof and are not exposed to stormwater. The landscaping material is stored in piles exposed to stormwater with varying degrees of containment.

1.5 General Location Map

The general location map for this facility can be found in Attachment A.

1.6 Site Map

The site map for this facility can be found in Attachment B.

SECTION 2: POTENTIAL POLLUTANT SOURCES

2.1 Potential Pollutants Associated with Industrial Activity

Industrial Activity	Associated Pollutants
Vehicle/Equipment Maintenance	Motor Oil, anti-freeze, solvents, lead/acid batteries
Fueling Station	Diesel Fuel
Material Storage/Handling	Wood chips, mulch, leachate, sediment
Composting	Organic particulate, leachate
Power Equipment cleaning	Grass clippings, sediment, oil and grease

2.2 Spills and Leaks

Significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under CWA Section 311 (see 40 CFR 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC §9602.

Areas of Site Where Potential Spills/Leaks Could Occur

Location	Discharge Points
Diesel Fuel Tank, west side of garage/equipment storage building	Drop inlets to the south
Fuel dispensing pump	Drop Inlets to the south
Drum Storage area south side of garage/equipment storage building	Drop Inlets to the south
Power Equipment Storage south side of garage/equipment storage building and parking lots	Various drop inlets/trenches depending on location

Description of Past Spills/Leaks

Date	Description	Discharge Points
Date of Spill/release	Insert description of spill/leak (where it occurred, what happened, types of pollutants, extent of damage	Specify which discharge point(s) were affected

2.3 Unauthorized Non-stormwater Discharges Documentation

Description of this facility's unauthorized non-stormwater discharge evaluation:

A non-stormwater discharge report will be prepared annually for the Physical Plant and will include:

- Date of evaluation
- Description of the evaluation criteria used
- List of the drainage points that were directly observed during the evaluation
- Action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), for example, a floor drain was sealed, a sink drain was re-routed to the sanitary sewer or an NPDES permit application was submitted for an unauthorized cooling water discharge.

SECTION 3: STORMWATER CONTROL MEASURES

3.1 Best Management Practices (BMPs)

The following BMPs are incorporated into the operation and maintenance of the Physical Plant.

3.1.1 Minimize Exposure

Vehicle and equipment maintenance is conducted in the garage/equipment storage building. The fuel dispenser is on concrete and emergency shut off is provided. The fuel oil tank appears to be a double walled tank with appropriate venting. Pesticides and herbicide chemicals are stored in a fire rated building, de-icing chemicals are stored in a trailer, waste drums are stored on spill pallets and vehicle chemicals and fuels are stored in the garage building. The sand stockpile is covered with a tarp and mulch piles use various forms of containment to prevent migration. An ACF Environmental R-1 Tank System (ACF) is installed to manage stormwater runoff from the area.

3.1.2 Good Housekeeping

These BMPs are followed to control pollutant discharges. The objectives are: 1) to keep pollutants from contacting rain, and 2) to keep pollutants from being dumped or poured into the storm drains. The goal is "only rain in the storm drain."

- Pavement Cleaning - Sweep parking lots and other paved areas periodically to remove debris. Dispose of debris in the garbage. If outdoor pavement cleaning with detergent is required, collect wash water and dispose in indoor sinks or drains for discharge to the sanitary sewer. Contact your local wastewater treatment agency.
- Litter Control - Provide an adequate number of trash receptacles for the staff and visitors. This

helps keep trash from overflowing the receptacles.
- Pick up litter and other wastes daily from outside areas including storm drain inlet grates.
- Waste Disposal - Inspect dumpsters and other waste containers periodically. Repair or replace leaky dumpsters and containers.
- Cover dumpsters and other waste containers.
- Never dispose of waste products in storm drain inlets.
- Recycle wastes or dispose properly. Materials Storage
- Store materials such as grease, paints, detergents, metals, and raw materials in appropriate, labeled containers.
- Make sure all outdoor storage containers have lids, and that the lids are adequately closed.
- Store stockpiled materials inside a building, under a roof, or covered with a tarp to prevent contact with rain.
- Training - Train employees regularly on good housekeeping practices. Assign a person to be responsible for effective implementation of BMPs.
- Equipment/Vehicle Cleaning - Maintain equipment and vehicles regularly. Check for and fix leaks. Use drip pans to collect leaks or spills during maintenance activities.
- Wash equipment/vehicles in a designated and/or covered area where the wash water is collected to be recycled or discharged to the sanitary sewer. Contact your local wastewater treatment agency. Some Facilities will require structural control BMPs if simpler operation ones are not adequate for keeping pollutant discharges from the storm drains.
- Hazardous materials must comply with hazardous materials storage and disposal requirements.

3.1.3 Maintenance.

These BMPs apply to vehicles or equipment that is stored, maintained or repaired. This includes: oil changes and lubrication, engine and mechanical repair, transmission repair, steering and brake work; body work, fluid changes and routine maintenance.

BEST MANAGEMENT PRACTICES (BMPs)

- Move leaking vehicles or equipment indoors or under cover as soon as possible. If they cannot be moved indoors immediately drain the leaking fluids and place a tag on the steering wheel to alert drivers of leaks.
- Perform all maintenance activities involving fluids indoors only. In case of an emergency repair, maintenance work may be performed outdoors. Use drip pans and drop cloths underneath the vehicles or equipment to catch leaks and drips.
- Park vehicles under cover and on an impervious surface whenever possible.
- Transfer fluids from drip pans to the appropriate waste containers after the repair work is completed.
- Clean up any spills or leaks of any automotive fluids promptly. (See: Spill Clean-up BMPs for details.)
- Dispose of wastewater from tire leak check tubs in the sanitary sewer only (if allowed).
- Clean all parts indoors at a centralized station, parts cleaner or tub.
- Practice good housekeeping in all outdoor maintenance work areas. (See Good Housekeeping BMPs for details.)

- When maintenance work must be performed outdoors, it should be done in a contained area. Work under a roof overhang or temporary shelter and/or use curbs, berms or dikes to contain spills and runoff.
- Make sure spill kits or lockers are easily accessible by employees and located where spills of automotive or equipment fluids are possible.

3.1.4 Spill Prevention and Response

This section describes the Facility's Spill Response Plan (SRP). The main objective of responding to pollutant spill events is to contain the spill in order to minimize detrimental impacts to the environment and life safety. This SRP is intended for use by the Physical Plant's staff.

In response to a spill, staff should take the following steps:

1. Call the Joseph Straughan 540.645.2075
2. If an employee can identify the material, an employee may conduct spill containment and/or cleanup only if ALL of the following conditions are met:
   - Without jeopardizing safety, the employee is able to determine that the material is not a hazardous material.
   - The employee considers himself or herself prepared and trained to respond to the spill.
   - Appropriate spill containing materials are available.

If the material involved shows ANY indication of being hazardous (for example, flammable, corrosive, or dangerous in nature), or If you cannot identify the product involved, STOP and follow these procedures:

- Leave the immediate area where the product is located.
- Prevent others from approaching the product.
- Call UMW Police by dialing 540.654.1025
- Call the Police and Fire Department by dialing 911.

Spill kits containing absorbent materials and supplies, are located at the drum storage area and the diesel fuel tank.

3.1.5 Erosion and Sediment Controls

The physical plant is relatively flat, with a large portion paved. Erosion and sediment deposition is not a concern.

3.1.6 Management of Runoff

The physical plant has been designed to collect stormwater run-off through a series of curbs, trenches, and drop inlets which direct stormwater flow to an ACF stormwater management unit.

3.1.7 Salt Storage Piles or Piles Containing Salt

A non-salt de-icing chemical is used by the University for ice and snow treatment. This chemical is bagged and stored in an enclosed trailer and is not exposed to stormwater.

3.1.8 Landscape Particulates Handling and Storage

Stockpiles are protected from stormwater water run on using temporary perimeter sediment barriers such as berms, silt fencing, sand or gravel bags, and straw bales dependent on location and length of storage time. Long term storage (or recurring storage) areas should be isolated form concentrated flows of stormwater, drainage courses, and drop/curb inlets. A minimum of 50 feet should be maintained from stockpiled material and stormwater inlets.

SECTION 4: SCHEDULES AND PROCEDURES

4.1 Good Housekeeping.

Parking areas, storage areas, garage bays, and buildings are inspected throughout the day by University staff and corrective measures are enacted whenever trash or debris is observed. Vehicle and equipment personnel are responsible for keeping their assigned areas clean and free of materials that could wash into the storm sewer.

4.2 Maintenance.

Stormwater management structures are included under the University's MS4 management program which includes the maintenance and inspection of the ACF system utilized at the Physical Plant.

4.3 Spill Prevention and Response Procedures.

All spills will be recorded using the following table and maintained with this SWPPP:

Date	Description (Who, What, Where)	Discharge Points

4.4 Employee Training

Employee training will be conducted in association with new hires hazard communication training and as needed due to changes in responsibilities and/or changes in the facility's processes. At a minimum, training will be conducted once each calendar year. The training will be documented and the training records will be kept in the facility's environmental files. The training addresses existing outfalls, drainage areas, potential pollutants, pollution prevention practices, and proper spill response.

4.5 Inspections and Assessments

Inspections must be performed by qualified personnel with at least one member of the stormwater pollution prevention team participating. Inspectors must consider the results of visual and analytical monitoring (if any) for the past year when planning and conducting inspections. Qualified personnel are those who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and who can also evaluate the effectiveness of control measures.

4.5.1 Record Keeping

Employees are instructed to report significant spills and all non-stormwater discharges to the supervisor. The supervisor directs response and also contacts the SWPP Coordinators or designee in order to evaluate proper response and determine if external notification is needed. Documentation for significant spills is kept with the SWPPP. Inspection documentation is also maintained with the SWPPP.

Person(s) or positions of person(s) responsible for inspections.

Position	Contact /Phone
Groundskeeper Lead – MS4	Randy Walsh, rwalsh@umw.edu
SWM Inspector	Tanasha Whittaker, twhittak@umw.edu

4.5.2 Schedules for conducting inspections.

The physical plant is included in the stormwater management program required under the MS4 permit and is included as part of the annual site compliance evaluation required by the permit. Daily inspections occur and any problems discovered are addressed as they are discovered. Periodic routine inspections will be conducted during a period when a stormwater discharge is occurring.

SECTION 5: SWPPP 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.

Name: _____ Title: _____

Signature: _____ Date: _____

SECTION 6: SWPPP MODIFICATIONS

This SWPPP is a "living" document and is required to be modified and updated, as necessary, in response to corrective actions, changes in procedures, new staff, and to document improvements to the facility and its operations in regards to stormwater pollution prevention.

Changes can be made in ink with a single line cross out and initialed, as needed. For any SWPPP modification, you should keep a log with a description of the modification, the name of the person making it, and the date and signature of that person.

SWPPP ATTACHMENTS

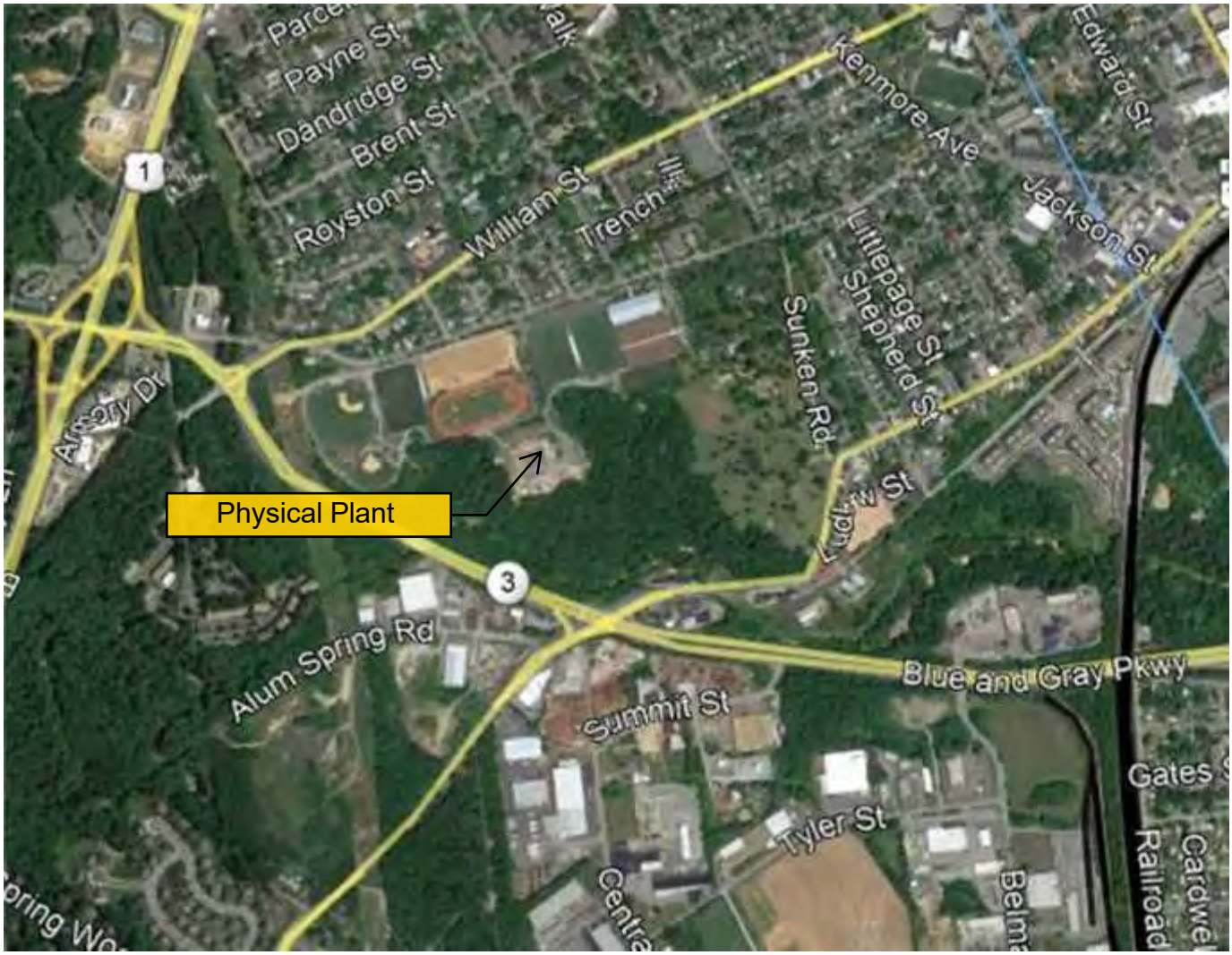
Attachment A – Site Location

Attachment B – Site Map

Attachment C –Stormwater Site Inspection Form

Attachment D- Comprehensive Site Compliance Evaluation Form

ATTACHMENT A



SITE LOCATION

DRAWING NOT TO SCALE

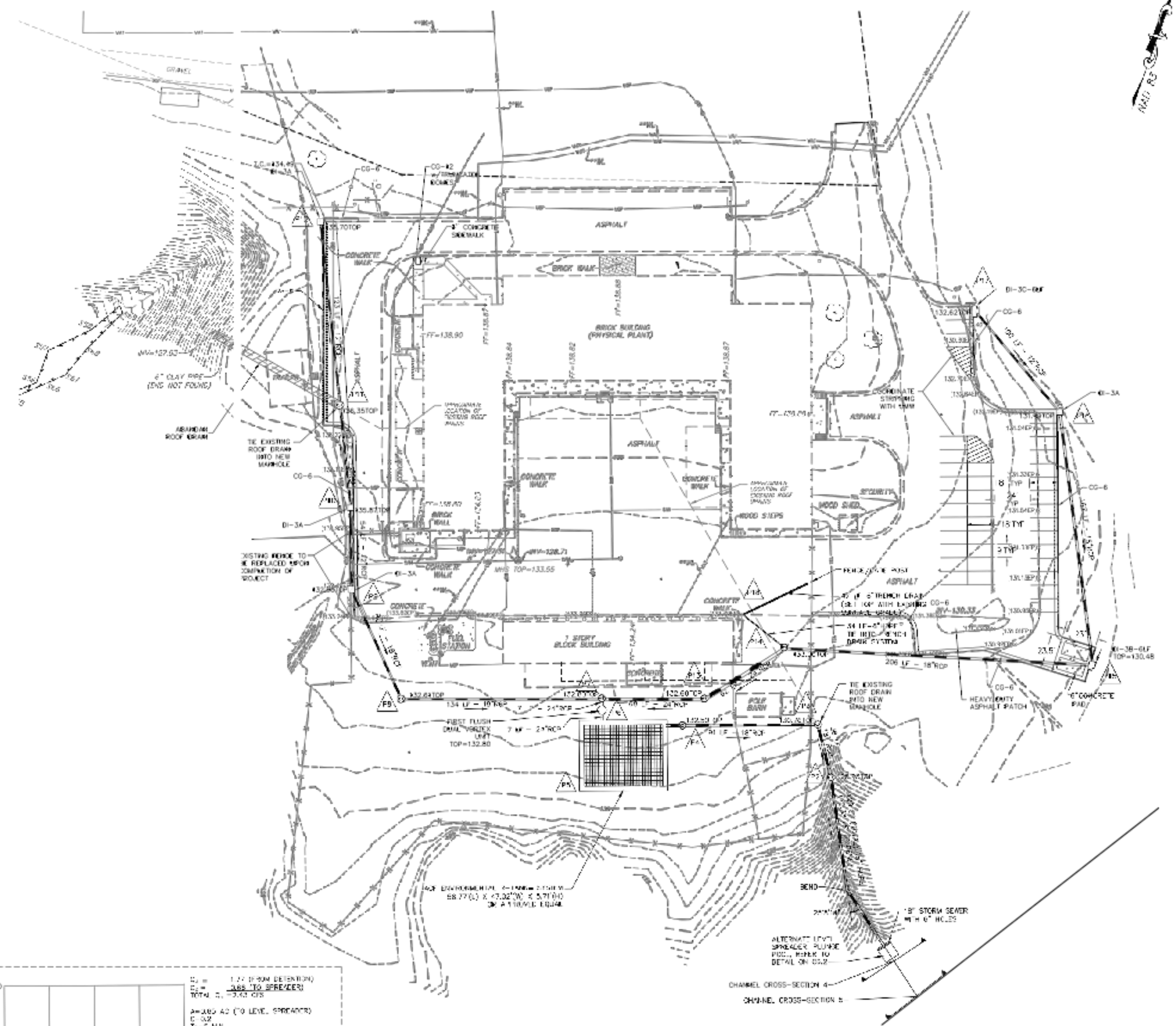
N↑

KOONTZ BRYANT JOHNSON WILLIAMS

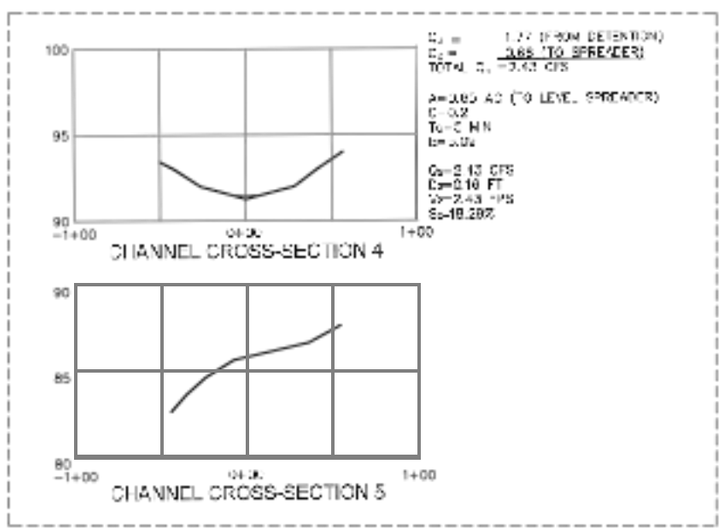
Site Name: UMW-Physical Plant
Fredericksburg, Virginia

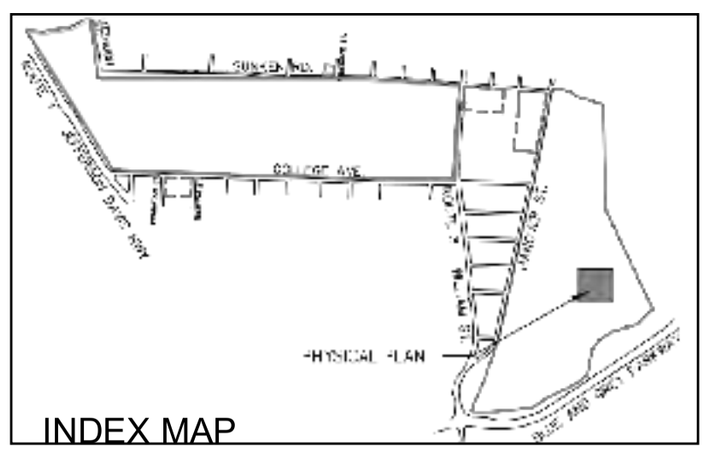
Project Number: 04590-035

ATTACHMENT B



P14 TO P18	27.64 L.F. – 12 IN INV OUT = 125.65	HDPE AT 2.00% INV IN = 126.20		
P18	0	TOP = 132.00 WITH VDOT STD ST-1 AND IS-1	H=5.80	
P7 TO P13	68.27 L.F. – 24 IN INV OUT = 124.93	RCP AT 0.40% INV IN = 125.20		
P13	MH-1	TOP = 132.60 WITH VDOT STD ST-1 AND IS-1	H=7.40	
P13 TO P14	62.95 L.F. – 24 IN INV OUT = 125.30	RCP AT 0.40% INV IN = 125.55		
P14	MH-1	TOP = 133.00 WITH VDOT STD ST-1 AND IS-1	H=7.45	
P14 TO P15	206.52 L.F. – 18 IN INV OUT = 125.65	RCP AT 0.40% INV IN = 126.48		
P15	DI-3B	L = 6 FT TOP = 130.48 WITH VDOT STD ST-1 AND IS-1	H=4.00	
P15 TO P16	167.82 L.F. – 18 IN INV OUT = 126.58	RCP AT 0.40% INV IN = 127.25		
P16	DI-3A	L = 2.5 FT	TOP = 131.49 WITH VDOT STD ST-1 AND IS-1	H=4.24
P16 TO P17	100.25 L.F. – 12 IN INV OUT = 127.35	RCP AT 0.40% INV IN = 127.75		
P17	DI-3C	L = 6 FT TOP = 132.62 WITH VDOT STD ST-1 AND IS-1	H=4.87	
PF/LS TO P2	120.00 L.F. – 18 IN INV OUT = 91.88	HDPE AT 25.04% INV IN = 121.93		
P2	MH-1	TOP = 125.93 WITH VDOT STD ST-1	H=4.00	
P2 TO P3	36.00 L.F. – 18 IN INV OUT = 122.03	RCP AT 0.50% INV IN = 122.21		
P3	MH-1	TOP = 130.76 WITH VDOT STD ST-1	H=8.55	
P3 TO P4	91.22 L.F. – 18 IN INV OUT = 122.31	RCP AT 0.50% INV IN = 122.77		
P4	MH-1	TOP = 132.50 WITH VDOT STD ST-1 AND IS-1	H=9.73	
P4 TO P5	10.00 L.F. – 18 IN INV OUT = 122.87	RCP AT 1.30% INV IN = 123.00		
P5	0	TOP = 132.50 WITH VDOT STD ST-1	H=9.50	
P6 TO P7	7.76 L.F. – 24 IN INV OUT = 124.73	RCP AT 1.30% INV IN = 124.83		
P7	MH-1	TOP = 132.80 WITH VDOT STD ST-1 AND IS-1	H=7.97	
P7 TO P8	134.19 L.F. – 18 IN INV OUT = 124.93	RCP AT 2.50% INV IN = 128.29		
P8	MH-1	TOP = 132.61 WITH VDOT STD ST-1 AND IS-1	H=4.32	
P8 TO P9	80.88 L.F. – 18 IN INV OUT = 128.39	RCP AT 1.30% INV IN = 129.44		
P9	DI-3A	L = 2.5 FT	TOP = 132.96 WITH VDOT STD IS-1	H=3.52
P9 TO P10	54.37 L.F. – 12 IN INV OUT = 129.54	RCP AT 1.30% INV IN = 130.24		
P10	DI-3A	L = 2.5 FT	TOP = 135.87 WITH VDOT STD ST-1 AND IS-1	H=5.63
P10 TO P11	68.49 L.F. – 12 IN INV OUT = 130.34	RCP AT 1.30% INV IN = 131.23		
P11	MH-1	TOP = 136.35 WITH VDOT STD ST-1 AND IS-1	H=5.12	
P11 TO P12	123.16 L.F. – 12 IN INV OUT = 131.33	RCP AT 1.30% INV IN = 132.94		
P12	DI-3A	L = 2.5 FT	TOP = 135.70 WITH VDOT STD IS-1	H=2.76





INDEX MAP

0 30 60 90

AutoCAD SHX Text 2017-10-13 20:10:01 | 14 | 34 LF-6"HDPE TIE DRAIN SYSTEM

text 10:01 | 18" RCP

Text 10:01 | AL) 18" HDPE

AutoCAD SHX Text 2017-10-13 20:10:01 | EWER | K:\Engineering\04590-027 UMW Storm Infrastructure\04590-027\LDD\dwg\Construction Drawings\Sheets\04590-027

xt 01 | 2017-10-13 20:10:01

AutoCAD SHX Text 2017-10-13 20:10:02 | ST.

AutoCAD SHX Text 2017-10-13 20:10:02 | HANOVER ST.

AutoCAD SHX Text 2017-10-13 20:10:02 | PHYSICAL PLANT

AutoCAD SHX Text 2017-10-13 20:10:01 | 90

DATE: MAY 17, 2013

JN: 04590-027

C3.2

ATTACHMENT C

Stormwater Site Inspection Report

General Information			
Project Name			
NPDES Tracking No.		**Location**	
Date of Inspection		**Start/End Time**	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			

Type of Inspection:
❑ Regular ❑ Pre-storm event ❑ During storm event ❑ Post-storm event

Weather Information

Has there been a storm event since the last inspection? ❑Yes ❑No
If yes, provide:
Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):

Weather at time of this inspection?
❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds
❑ Other: Temperature:

Have any discharges occurred since the last inspection? ❑Yes ❑No
If yes, describe:

Are there any discharges at the time of inspection? ❑Yes ❑No
If yes, describe:

Site-specific BMPs

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1	Inlet Protection	❑Yes ❑No	❑Yes ❑No	
2	ACF R-tank	❑Yes ❑No	❑Yes ❑No	
3	Pile Berms/Barriers	❑Yes ❑No	❑Yes ❑No	
4	Trench Drains	❑Yes ❑No	❑Yes ❑No	
5		❑Yes ❑No	❑Yes ❑No	
6		❑Yes ❑No	❑Yes ❑No	

Overall Site Issues

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No	❑Yes ❑No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	❑Yes ❑No	❑Yes ❑No	
3	Are discharge points and receiving waters free of any sediment deposits?	❑Yes ❑No	❑Yes ❑No	
4	Are storm drain inlets properly protected?	❑Yes ❑No	❑Yes ❑No	
5	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No	❑Yes ❑No	
6	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No	❑Yes ❑No	
7	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No	❑Yes ❑No	
8	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No	❑Yes ❑No	
9	(Other)	❑Yes ❑No	❑Yes ❑No	

Non-Compliance

Describe any incidents of non-compliance not described above:

ATTACHMENT D

Stormwater Sampling Documentation

Comprehensive Site Compliance Evaluation

Facility Name:					
Permit Number:					
Outfall Number:				**Sample Location:**	
Date:		**Time:**		**Weather:**	
Name of Sampler (Print/Sign):					

Note: A Qualifying Storm event is rainfall/snowmelt at least 72 hours from the last Qualifying Storm Event (that results in a discharge).

Storm Event Information	**Date**	**Rainfall (inches)**	**Duration of Storm Event (hours)**	**Number Hours between Storm Events**
Previous Qualifying Storm Event				
Present Qualifying Storm Event				
Valid Strom Event for Stormwater Sampling?				

Describe areas inspected contributing stormwater associated with Industrial activity (Part II.G.4.b.)	**Evidence of pollutants entering Stormwater? Describe: silt, oil sheen, raw materials, debris/trash, etc.**	**Controls & Measures to reduce pollutants in place and effective?**	**Stormwater management measures, Erosion & Sedimentation measures operating correctly and intact & maintained?**	**Additional Pollution Prevention Controls & measures needed?**
#1				
#2				
#3				
#4				
#5				
#6				
#7				
#8				
#9				
#10				
#11				
#12				

Comments Findings and Corrective Measures required (if applicable, list deficiencies or areas which require the SWPPP to be revised and control implemented within 12 weeks of this inspection).

In Compliance with SWPPP? (YES or NO)	

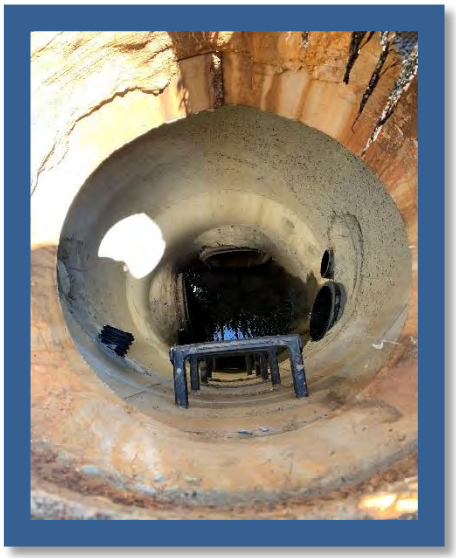
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage 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"

Responsible Official's Signature	**Printed Name**	**Title**	**Date**	**Phone**

Appendix D

- Good Housekeeping Stormwater Training Guide

- Turf and Landscape Nutrient Management Plan



University of Mary Washington MS4 Permit
Good Housekeeping Stormwater Training

October 2022

1. INTRODUCTION

What is the goal of this training?

- To stress the importance of being AWARE of and ALERT to conditions that could result in the discharge of pollutants in storm water.
- To be aware of the requirement of the University of Mary Washington's MS4 permit.
- To be good public stewards.

Key Words / Terminology

The following are key words/terminology used to throughout this training:

- **Best Management Practice or "BMP"** – means practices to prevent or reduce the pollution of the Waters of the State, including schedules of activities, prohibitions of practices, and other management practices, and also includes treatment requirements, operating procedures and practices to control site runoff.
- **MS4 – Municipal Separate Storm Sewer System** – means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains).
- **Outfall** – means the point source where a MS4 discharges from a pipe, ditch, or other discrete conveyance to receiving waters, or to other Municipal Separate Storm Sewer Systems. It does not include diffuse runoff or conveyances which connect segments of the same stream or water systems.
- **Storm Water Pollution Prevention Program or "SWPPP"** – a plan created by professionals to show their plans for sediment and erosion control. The plan identifies potential sources of pollutants that may reasonably be expected to affect the quality of stormwater discharges from the construction site (both on- and off-site activities). The SWPPP also describes control measures that will be used to minimize pollutants in stormwater discharges from the construction site.
- **Total Maximum Daily Load or "TMDL"** – is the process established by the United States Environmental Protection Agency for the allocation of pollutant loads, including storm water, to a particular waterbody or reach of a waterbody. A TMDL is essentially a "pollution diet" that identifies the maximum amount of a pollutant the waterbody can receive and still meet water quality standards.

Requirements of the MS4 General Permit

All owners or operators of MS4 permits are required to satisfy the requirements of the general permit. Basically, the MS4 General Permit requires the MS4 operator or owner (University of Mary Washington) to create a Storm Water Pollution Prevention Program with six important components:

- Public Education and outreach: which includes teaching citizens about better storm water management.
- Public Participation: Include citizens in solving storm water pollution problems. This includes a required public annual meeting and an annual report.
- A plan to detect and eliminate illicit discharges to the storm water system (like chemical dumping and wastewater connections).
- Construction-site runoff controls: Inspections of construction sites, use of erosion control devices.
- Post-construction runoff controls: Planning procedures, site-based measures, stormwater retention/detention, infiltration BMP, vegetative BMP.
- Pollution prevention and municipal "good housekeeping" measures: Covering sand/magnesium chloride piles, street sweeping.

2. AWARENESS

What happens to storm water?

What goes into a storm drain is flushed with rainwater, or daily runoff goes untreated into our rivers and lakes.

What causes pollution?

Common pollutants are:

- Used motor oil and grease: Automotive maintenance, urban housekeeping, construction, spills, and illegal dumping.
- Antifreeze, cleaners, and solvents: Automotive maintenance, urban housekeeping and landscaping, building and grounds maintenance, spills, and illegal dumping.
- Sediment: Erosion from construction, landscaping, building and ground maintenance.
- Pet droppings, viruses, and bacteria: Urban housekeeping, non-storm water connections to storm drains.
- Grounds and building maintenance: Trimmings from trees, landscaping, lawns, landscaping activities, tree and park maintenance, home and yard maintenance.

All of these items have a negative effect on our waterbodies. They clog storm drains and cause flood conditions, cost taxpayers for clean-up efforts, reduces the quality of life for neighbors, harms the freshwater habitat of our rivers and lakes, and contaminates and kills fish and other wildlife.

How to prevent pollution

There are many methods for preventing pollution on the University campus and everyone can, and should, participate.

DUMPSTER/GARBAGE STORAGE:

- Property label each dumpster for disposal of materials.
- Place in convenient, easily-observable areas
- Provide properly labeled recycling bins.
- Where applicable, install berms, curbing or vegetation strips around storage areas to control water entering/leaving storage areas.
- Store garbage containers beneath a covered structure or inside to prevent contact with storm water.

LANDSCAPING BMP'S:

- Control soil erosion; use mulch if necessary
- Recycle lawn clippings, trimming from trees and other landscapes
- Employ shutoff devices to prevent irrigation after precipitation
- Don't over-water (excess water transports pollutants off into storm drains)
- Avoid applying fertilizers, pesticides, or herbicides during rainy weather
- Never apply fertilizers or pesticides within 5 feet of pavement, 25 feet of storm inlets, or 50 feet of any waterbody
- Calibrate fertilizer spreaders to avoid excessive application
- Don't blow leaves or grass clipping into the gutter. If clipping or leaves are left in the gutter, call for the

sweeper to clean the gutter
- Keep trash picked up and covers/lids closed on trash cans
- Maintain buffer around ponds as a goose deterrent

PLOWING AND SWEEPING: (FOR PARKING LOTS AND AROUND BUILDINGS)
- Pre-applying magnesium chloride aides in snow removal
- Use magnesium chloride sparingly around buildings and on pavement
- Remove snow per UMW Facilities Services policy
- Sweep paved areas per UMW Facilities Services policy

BMP'S FOR THE PHYSICAL PLANT:
- Protect stored materials from rainwater (i.e. stockpiles, sand, and magnesium chloride)
- Store magnesium chloride materials indoors and on pallets
- Watch for oil leaks under vehicles stored on absorbent pads
- On-site washing of University vehicles is prohibited. For grass cutting machinery, rinse on a hard surface and sweep floor and dispose of debris as needed
- Keep soils and millings under cover and away from storm water facilities

STREET REPAIR AND MAINTENANCE:
- Prevent paving materials and wastes from entering the storm drains
- Minimize the area of soils left exposed
- Collect loose sand/gravel as soon as possible after construction activities
- Coordinate street-sweeping with removals
- Don't use excessive water during saw cutting
- Use inlet protection as necessary

3. REPORTING SPILLS AND LEAKS

You have a duty to notify and avoid water pollution. Every person who has "any substance or material under his/her control" must report spills and leaks. Anyone who spills is required to report.

- SPILLS THAT MUST BE REPORTED – Report spills that may cause pollution such as:
    - Toxic chemicals
    - Flammable chemicals
    - Corrosive and dangerous industrial chemicals and materials
    - Environmentally-damaging materials including millings, coal, animal parts, batteries, etc.

- REPORTABLE QUANTITIES – Spills of any quantity chemical and/or material should be reported. If in doubt, report.

Spill Response Procedure

The following procedure should be followed in the case of a spill:

- Observe the safety precautions associated with the spilled material.
- Stop the source of the spill, if you can do so safely.
- Call 911 if fire or public safety hazards are created.
- Contain the spilled material. Dirt, sand, or any semi-impermeable material may be used to create a containment structure to prevent the spilled material from migrating.
- Report the spill to the Facilities Services at (540) 654-1047 Monday – Friday from 8:00 a.m. to 5:00 p.m., or Campus Police if after normal working hours at (540) 654-1025.
- Clean up the spill material and dispose of the wastes properly.

Nutrient Management Plan

Virginia Department of Conservation & Recreation

Prepared For:

UMW: Main Campus, Dahlgren,
Brompton, AEC, Stafford
Holly Chichester
1301 College Avenue
Fredericksburg, VA 22401-5300
540-654-2091
hchiches@umw.edu

Prepared By:

Charles Thornton
General Delivery
Radiant, VA 22732
540-672-1715
Certification Code: 299
chasthornton@gmail.com

Acreage

Total:	43.42		
Turf:	40.88		
Woody Plants:	2.41	Annuals:	0.14

County: Stafford(4.67 ac), King George(1.95 ac), Fredricksburg City(36.05 ac)

Watershed: RA46,PL64

Planner Signature

Plan Written: 10/1/2021
Plan Expires: 10/1/2024

Charles L. Thornton

The purpose of this Nutrient Management Plan is to ensure minimum movement of nitrogen and phosphorus from the specified area of application to surface and groundwaters where they can potentially have a detrimental effect on water quality as well as ensuring that plants have optimum soil nutrient availability for good productivity and quailty. By following this soil test based plan you are helping to protect local waters and the Chesapeake Bay.

Nutrient Management Plan for:
University of Mary Washington

Administrator's Name	
Site Name	*UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford*
Plan Administrator	*Holly Chichester*
Mailing Address	*1301 College Avenue*
City State Zip	*Fredericksburg, VA 22401-5300*
Phone	*540-654-2091*
Fax	*540-654-1069*
Email	hchiches@umw.edu

Planner Information	
Planner Name	*Charles Thornton*
Mailing Address	*General Delivery*
City State Zip	*Radiant, VA 22732*
Phone	*540-672-1715*
Fax	*540-672-5293*
Email	chasthornton@gmail.com
Certification Code	*299*

Location Information	
Physical Address	*1301 College Avenue*
City State Zip	*Fredericksburg, VA 22401-5300*
Coordinates	*38° 18'04.67"*
Please Use NAD 83 Deg Min Sec	*77° 28'24.75"*
VAHU6 Watershed Code	*RA46,PL64*
County	*Stafford(4.67 ac), King George(1.95 ac), Fredricksburg City(36.04 ac)*

Acreage	
Total	*43.42*
Turf	*40.87*
Shrubs	*0.00*
Woody Plants	*2.41*
Annuals	*0.14*

Plan Start Date	*10/1/2021*
Plan End Date	*10/1/24*

Narrative

NUTRIENT MANAGEMENT PLAN NARRATIVE FOR UNIVERSITY OF MARY WASHINGTON – MAIN CAMPUS, DAHLGREN, BROMPTON & AEC

University Of Mary Washington (UMW) – Main Campus, Dahlgren, Brompton, Stafford, and James Monroe Museum & AEC (Jepson Alumni Executive Center) is located in Fredericksburg, Virginia. The Main Campus, Dahlgren, Brompton & AEC Area totals approximately 43.42 acres that includes fertilized cool season turfgrass areas and ornamental beds composed of both annuals and perennials. All lawn and ornamental beds are maintained by the UMW Landscape Department. The Plan Administrator will be responsible for communication with the Landscape Department regarding implementation of the nutrient management plan.

The following is enclosed as part of the nutrient management plan:
Plan Map with Environmentally Sensitive Areas Identified
Soil Test Summaries
Nutrient Application Worksheets
Fertilizer Application Log
Nutrient Application Virginia Extension Publications:
Spring and Summer Lawn Management Consideratians of Cool-Season Turfgrasses
Spring and Summer Lawn Management Considerations of Warm-Season Turfgrasses
Soil Test Results
Fertilizer Labels or Descriptions
* Note: All area dimensions are determined by physical measurement.

UMW Main Campus, Stafford, James Monroe Museum, Brompton & AEC are located in the Rappahannock River Basin watershed. Dahlgren is located in the Potomac River Watershed, Predominant soil types include the Aquults-Wickham-Altavista association along with numerous anthropedogenic soils.

Important Considerations
- Nutrient applications shall not be applied to impervious surfaces such as sidewalks, streets and driveways unless the material is immediately removed by sweeping or other effective means.
- Deicing compounds containing urea shall not be applied to any paved surfaces except as specifically approved by DCR.
- Nutrient applications may not be made to frozen or snow covered ground.
- Make every effort not to spread fertilizer within 25 feet of creeks, ditches or other drainage ways to avoid nutrient loss.
- Soil pH should be maintained at adequate agronomic levels to insure optimum nutrient uptake by the plant.
- Fertilizer is to be applied multiple times during the growing season in small increments; therefore, leaching of nutrients should not be a concern.
- Irrigated Areas should be closely monitored to insure proper system performance. Excessive watering can result in unintended nutrient leaching
- Soil testing should be completed at least once every three years to maintain current soil analysis.
- Woody plants over 3 years old do not require additional nutrition beyond that supplied by the regular addition of organic material (i.e. mulch). If a nutrient deficiency is suspected consult either myself or a professional before applying any fertilizer. This plan will need to be revised is any of the woody plants are fertilized.
- Ornamental grasses should not require additional nutrition beyond that supplied by addition of organic material (i.e. mulch). If a nutrient deficiency is suspected consult either myself or a professional before applying any fertilizer. This plan will need to be revised is any of the ornamental grasses are fertilized.

Environmentally Sensitive Areas – 1) A creek and corresponding wetlands area is located between Trinkle and Lee Halls. 2) A stream is located below Alvey Hall and Simpson Library. 3) A spring originates below Ridderhoff-Martin Gallery that flows in to the main stream running through the campus. 4) A bio-retention pond is located beside Jepson Hall in front of the Fitness Center. 5) The main stream flows through the entire Main Campus. Great care should be taken not to apply fertilizer within a minimum 25 foot buffer from all of these environmentally sensitive areas as outlined above. 6) A Stormwater BMP along the entrance to the parking lot Dahlgren. 7) Numerous biofiltration areas throughout the Dahlgren areas.

Nutrient Management Plan for:
University of Mary Washington

Administrator's Name	
Site Name	*UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford*
Plan Administrator	*Holly Chichester*
Mailing Address	*1301 College Avenue*
City State Zip	*Fredericksburg, VA 22401-5300*
Phone	*540-654-2091*
Fax	*540-654-1069*
Email	hchiches@umw.edu

Planner Information	
Planner Name	*Charles Thornton*
Mailing Address	*General Delivery*
City State Zip	*Radiant, VA 22732*
Phone	*540-672-1715*
Fax	*540-672-5293*
Email	chasthornton@gmail.com
Certification Code	*299*

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VAHU6 Watershed Code	*RA46,PL64*
County	*Stafford(4.67 ac), King George(1.95 ac), Fredricksburg City(36.04 ac)*

Acreage	
Total	*43.42*
Turf	*40.87*
Shrubs	*0.00*
Woody Plants	*2.41*
Annuals	*0.14*

Plan Start Date	*10/1/2021*
Plan End Date	*10/1/24*

Nutrient Application Worksheet

NAME:	**UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford**		**Management Area:**	EAGLET, APTST2, STAFFT1, STAFFT2,		
Prepared:	**10/1/21**		**Area:**	**269,280**	**Species:**	**Turf-Cool Season**
Expires:	**10/1/24**					

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per $1000ft^2$	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/$1000ft^2$	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P_2O_5 - K_2O			
3	9/1-9/10	16 - 25 - 12	1	30 days	Granular	Starter Fertilizer	4.00		128.00	21.0%	0.64 - 1.00 - 0.48	Refer to Lime Sheet		1077.12
Phosphorus	10/1-10/10	16 - 25 - 12	1	30 days	Granular	Nitrogen Fertilizer	4.00		128.00	21.0%	0.64 - 1.00 - 0.48			1077.12
2	11/1-11/10	10 - 0 - 4	1	30 days	Granular	Nitrogen Fertilizer	9.00		128.00	53.0%	0.90 - 0.00 - 0.36			2423.52
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
1.5		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			**32%**	2.18 - 2.00 - 1.32			
				N Recommendation Range and Soil Test Recommendation							3 - 2 - 1.5			

Notes: Because K is not as closely regulated, the recommended rates in this plan may slightly exdeed the rates found in the S&C in order to make it practical for the client to manage fertilizer application. However, the additional K can help maintain plant vigor during times of stress.

Nutrient Application Worksheet

NAME: UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford
Management Area: UT1, UT5, MARYET, CINVERGT, APTST1, JAECT1JAECT2
Prepared: 10/1/21
Expires: 10/1/24
Area: 543,075
Species: Turf-Cool Season

Total Nutrient Needs	Application Month/Day	Analysis			# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per $1000ft^2$	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/$1000ft^2$			Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N	P	K									N	P_2O_5	K_2O			
3	9/1-9/10	16	25	12	1	30 days	Granular	Nitrogen Fertilizer	4.00		128.00	21.0%	0.64	1.00	0.48	Refer to Lime Sheet		2172.3
Phosphorus	10/1-10/10	10	0	4	1	30 days	Granular	Nitrogen Fertilizer	9.00		128.00	53.0%	0.90	0.00	0.36			4887.675
1	11/1-11/10	10	0	4	1	30 days	Granular	Nitrogen Fertilizer	9.00		128.00	53.0%	0.90	0.00	0.36			4887.675
Potassium											128.00		0.00	0.00	0.00			0
2											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
									Total			#VALUE!	2.44	1.00	1.20			
							N Recommendation Range and Soil Test Recommendation						3	1	2			

Notes: Because K is not as closely regulated, the recommended rates in this plan may slightly exdeed the rates found in the S&C in order to make it practical for the client to manage fertilizer application. However, the additional K can help maintain plant vigor during times of stress.

Nutrient Application Worksheet

NAME:	**UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford**	**Management Area:**	UT2, UT3, UT4, UT6, UT7, RANMAST, UNICENT, BROMPT1, BROMPT2, JMMT, DAHLT
Prepared:	**10/1/21**	**Area:**	**1,003,391**
Expires:	**10/1/24**	**Species:**	**Turf-Cool Season**

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per $1000ft^2$	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/$1000ft^2$	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P_2O_5 - K_2O			
3	9/1-9/10	25 - 0 - 0	1	30 days	Granular	Nitrogen Fertilizer	2.75		128.00	20.0%	0.69 - 0.00 - 0.00	Refer to Lime Sheet		2759.325
Phosphorus	10/1-10/10	25 - 0 - 0	1	30 days	Granular	Nitrogen Fertilizer	2.75		128.00	20.0%	0.69 - 0.00 - 0.00			2759.325
0	11/1-11/10	25 - 0 - 0	1	30 days	Granular	Nitrogen Fertilizer	2.75		128.00	20.0%	0.69 - 0.00 - 0.00			2759.325
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			#VALUE!	2.06 - 0.00 - 0.00			

	N	P_2O_5	K_2O
N Recommendation Range and Soil Test Recommendation	3	0	0

Notes:

Lime Application Worksheet

Name:	**UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford**	**Area:**	**1,780,596**	
Planned:	**10/1/2021**	**Species:**	**Cool-Season Turf**	
Expires:	**10/1/2024**	**Total Lime:**	**38,864**	
Management Area	**Sq. Ft.**	**Lime Type**	**Application Rate (lbs/1,000ft^2)**	**Total Amount (lbs/area)**
UT1	245,500	Pulverized Lime	90	22,095
UT2	302,826	Pulverized Lime	0	0
UT3	90,000	Pulverized Lime	0	0
UT4	92,000	Pulverized Lime	0	0
UT5	156,000	Pulverized Lime	90	14,040
UT6	90,000	Pulverized Lime	0	0
UT7	138,800	Pulverized Lime	0	0
RANMAST	13,400	Pulverized Lime	45	603
MARYET	4,000	Pulverized Lime	0	0
UNICENT	20,600	Pulverized Lime	0	0
CINVERGT	19,125	Pulverized Lime	0	0
EAGLET	2,480	Pulverized Lime	0	0
APTST1	35,150	Pulverized Lime	0	0
APTST2	28,350	Pulverized Lime	75	2,126
STAFFT1	35,500	Pulverized Lime	0	0
STAFFT2	167,800	Pulverized Lime	0	0
BROMPT1	179,850	Pulverized Lime	0	0
BROMPT2	5,300	Pulverized Lime	0	0
JAECT1	7,000	Pulverized Lime	0	0
JAECT2	76,300	Pulverized Lime	0	0
JMMT	515	Pulverized Lime	0	0
DAHLT	70,100	Pulverized Lime	0	0

Lime Application Worksheet

Name:	**UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford**	**Area:**	**64,690**	
Planned:	**10/1/2021**	**Species:**	**Shrubs/Annuals**	
Expires:	**10/1/2024**	**Total Lime:**	**3936.48**	
Management Area	**Sq. Ft.**	**Lime Type**	**Application Rate (lbs/1,000ft^2)**	**Total Amount (lbs/area)**
SHRUB1	1,800	Pulverized Lime	0	0.00
SHRUB2	4,370	Pulverized Lime	90	393.30
SHRUB3	2,100	Pulverized Lime	90	189.00
MARYES	180	Pulverized Lime	0	0.00
RANMASS	8,500	Pulverized Lime	0	0.00
RT1BED	25,025	Pulverized Lime	75	1,876.88
CONVERGS	3,727	Pulverized Lime	0	0.00
ANNUAL1	300	Pulverized Lime	25	7.50
ANNUAL2	745	Pulverized Lime	90	67.05
EAGLES	13,050	Pulverized Lime	35	456.75
EAGLEA	200	Pulverized Lime	0	0.00
APTSS	17,000	Pulverized Lime	0	0.00
BROMPS1	350	Pulverized Lime	0	0.00
BROMPS2	10,401	Pulverized Lime	0	0.00
BROMPA	4,000	Pulverized Lime	35	140.00
JAECS	2,800	Pulverized Lime	0	0.00
JAECA	500	Pulverized Lime	0	0.00
JMMS	230	Pulverized Lime	0	0.00
STAFFS1	3,120	Pulverized Lime	0	0.00
STAFFS2	23,400	Pulverized Lime	0	0.00
STAFFA	500	Pulverized Lime	0	0.00
DAHLS1	5,650	Pulverized Lime	0	0.00
DAHLOG1	28,285	Pulverized Lime	0	0.00
DAHLBFA1	7,900	Pulverized Lime	20	158.00
DAHLSW1	7,200	Pulverized Lime	90	648.00

Nutrient Application Worksheet

NAME: UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford

Management Area: RMAZALEA, MHAZALEA, FMAZALEA, BCAZALEA, SHAZALEA, CONVERGS, RT1BED, SIGN1S, SIGN2S, SIGN3S, GWAZALEA, EAGLES, APTSS, STAFFS1, STAFFS2, BROMPS1, BROMPS2, JAECS, JMMS

Prepared: 10/1/21

Expires: 10/1/24

Area: 104,973

Species: Woody Plant (>3 Years) and Native Grasses

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per $1000ft^2$	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK $lbs/1000ft^2$	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P_2O_5 - K_2O			
0		- -							128.00		0.00 - 0.00 - 0.00	Refer to Lime Sheet		0
Phosphorus		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			#DIV/0!	0.00 - 0.00 - 0.00			

N Recommendation Range and Soil Test Recommendation

Notes:

Nutrient Application Worksheet

NAME: UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford

Management Area: A, SIGN2A, SIGN3A, LEEHALLA, ANDCENA, APTSA, STAFFA, BROMPA,

Prepared: 10/1/21

Expires: 10/1/24

Area 6,141

Species: Annuals (Flowers)

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per 1000ft²	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/Acre	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P_2O_5 - K_2O			
1.5	At Planting	25 - 0 - 0	1	30 days	Granular		3.00	lbs	128.00	20%	0.75 - 0.00 - 0.00	Refer to Lime Sheet		18.735
Phosphorus	30 Days After Planting	- -							128.00		0.00 - 0.00 - 0.00			0
0		25 - 0 - 0	1	30 days	Granular		3.00	lbs	128.00	20%	0.75 - 0.00 - 0.00			18.735
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			20%	1.50 - 0.00 - 0.00			

N Recommendation Range and Soil Test Recommendation 1.5 | 0 | 0

Notes: Because K is not as closely regulated, the recommended rates in this plan may slightly exceed the rates found in S&C in order to make it proctical for the client to manage fertilizer application. However, the additional K can help maintain plant vigor during times of stress.

Soil Test Summary

Customer Name:	UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford
Testing Lab:	Brookside Laboratories
Sample Date:	8/12/2021
Planner Name	Charles Thornton
Certification Number	299

Managed Area ID		AREA (ft^2)	Soil pH	Buffer pH	Lab Test P (ppm)	VT (H/M/L)	Lab Test K (ppm)	VT (H/M/L)	Species
APART SHRUBS	APTSS	17,000	6.9	7.3	111	H+	99	M	Woody Plants (>3 Years)
APART ANNUALS	APTSA	140	7.2	NA	70	H	71	M	Annuals
BROMPTON SHRUBS	BROMPS1	350	6.9	7.2	135	VH	33	L	Woody Plants (>3 Years)
BROMPTON SHRUBS	BROMPS2	10,401	5.6	7.5	141	VH	82	M	Woody Plants (>3 Years)
BROMPTON ANNUALS	BROMPA	4,000	5.8	6.9	195	VH	72	M	Annuals
BROMPTON TURF	BROMPT1	179,850	7.1	NA	231	VH	86	M	Turf-Cool Season
BROMPTON TURF	BROMPT2	5,300	6.7	7.7	217	VH	147	H-	Turf-Cool Season
CAMPUS ANNUALS	SIGN1A	60	6.1	7.1	42	M+	65	M-	Annuals
CAMPUS ANNUALS	SIGN2A	50	5.8	7.1	59	H-	141	H-	Annuals
CAMPUS ANNUALS	SIGN3A	96	6.2	7.2	173	VH	73	M	Annuals
CAMPUS ANNUALS	LEEHALLA	745	5.3	6.8	167	VH	92	M	Annuals
CAMPUS ANNUALS	ANDCENA	50	6.0	6.9	340	VH	215	H+	Annuals
CAMPUS TURF	UT1	245,500	5.3	7.1	44	M+	122	M+	Turf-Cool Season
CAMPUS TURF	UT2	302,826	7	7.5	81	H	241	VH	Turf-Cool Season
CAMPUS TURF	UT3	90,000	6.3	7.4	134	VH	195	H	Turf-Cool Season
CAMPUS TURF	UT4	92,000	6.2	7.3	51	H-	181	H	Turf-Cool Season
CAMPUS TURF	UT5	156,000	5.3	7.2	39	M	69	M-	Turf-Cool Season
CAMPUS TURF	UT6	90,000	6.1	7.4	91	H	245	VH	Turf-Cool Season
CAMPUS TURF	UT7	138,800	6.4	7.5	51	H-	158	H	Turf-Cool Season
CAMPUS TURF	UNICENT	20,600	6.4	7.3	55	H-	186	H	Turf-Cool Season
APARTMENTS TURF	APTST1	35,150	6.5	7.4	27	M-	74	M	Turf-Cool Season
APARTMENTS TURF	APTST2	28,350	5.5	7.3	17	L+	61	M-	Turf-Cool Season

Notes:

Soil Test Summary

Customer Name:	UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford
Testing Lab:	Brookside Laboratories
Sample Date:	8/12/2021
Planner Name	Charles Thornton
Certification Number	299

Managed Area ID		AREA (ft^2)	Soil pH	Buffer pH	Lab Test P (ppm)	VT (H/M/L)	Lab Test K (ppm)	VT (H/M/L)	Species
DAHLGREN BIO-FILTRAT	DAHLBFA	7,900	6	7.3	74	H	56	M-	Perennials/Biofilter
DAHLGREN ORNAM GRASS	DAHLOG	28,285	6.5	7.6	14	L	159	H	Ornamental Grasses?
DAHLGREN SHRUBS	DAHLS	5,650	6.1	7.3	31	M	48	L+	Woody Plants (>3 Years)
DAHLGREN STORM WATER	BAHLSW	7,200	4.9	7.4	10	L-	45	L+	Native Grasses
DAHLGREN TURF	DAHLT	70,100	6.5	7.6	521	VH	267	VH	Turf-Cool Season
EAGLE LANDING ANNUAL	EAGLEA	200	6.3	7.2	62	H-	155	H	Annuals
EAGLE LANDING SHRUBS	EAGLES	13,050	6.2	7.3	25	M-	148	H-	Woody Plants (>3 Years)
EAGLE LANDING TURF	EAGLET	2,480	6.4	7.5	16	L	147	H-	Turf-Cool Season
JAEC ANNUALS	JAECA	500	6.3	7.0	56	H-	156	H	Annuals
JAEC SHRUBS	JAECS	2,800	6.3	7.6	75	H	171	H	Woody Plants (>3 Years)
JAEC TURF	JAECT 1	7,000	6.6	7.6	42	M+	112	M+	Turf-Cool Season
JAEC TURF	JAECT 2	76,300	6.2	7.3	37	M	218	H+	Turf-Cool Season
JAMES MONROE MUSEUM	JMMS	230	7.2	NA	119	H+	99	M	Woody Plants (>3 Years)
JAMES MONROE MUSEUM	JMMT	515	8.	NA	97	H	68	M-	Turf-Cool Season
MARYE HOUSE	MARYET	4,000	6.7	7.5	24	M-	72	M	Turf-Cool Season
MARYE HOUSE	MHAZALEA	180	7.2	NA	26	M-	46	L+	Woody Plants (>3 Years)
RANDOLPH AND MASON	RANMAST	13,400	5.7	7.2	137	VH	174	H	Turf-Cool Season
RANDOLPH AND MASON	RMAZALEA	465	6.5	7.4	26	M-	79	M	Perennials
ROUTE 1 BEDS	RT1BED	25,025	5.6	7.3	64	H-	100	M	Perennials?
CONVERGENCE CENTER	CONVERGS	3,727	5.7	6.9	25	M-	52	L+	Perennials?
CONVERGENCE CENTER	CINVERGT	19,125	6.8	7.6	36	M	79	M	Turf-Cool Season

Notes:

Soil Test Summary

Customer Name:	UMW: Main Campus, Dahlgren, Brompton, AEC, Stafford
Testing Lab:	Brookside Laboratories
Sample Date:	8/12/2021
Planner Name	Charles Thornton
Certification Number	299

Managed Area ID		AREA (ft^2)	Soil pH	Buffer pH	Lab Test P (ppm)	VT (H/M/L)	Lab Test K (ppm)	VT (H/M/L)	Species
STAFFORD CAMPUS ANNU	STAFFA	500	6.4	7.2	18	H-	39	M	Annuals
STAFFORD CAMPUS SHRU	STAFFS1	3,120	6.1	7.4	10	L-	54	L+	Woody Plants (>3 Years)
STAFFORD CAMPUS SHRU	STAFFS2	23,400	6.8	7.3	12	L	81	M	Woody Plants (>3 Years)
STAFFORD CAMPUS TURF	STAFFT1	35,500	6.2	7.5	17	L+	81	M	Turf-Cool Season
STAFFORD CAMPUS TURF	STAFFT2	167,800	6.3	7.3	10	L-	81	M	Turf-Cool Season
DAHLGREN	DAHLGR	11400	6.6	7.4	38	M	36	L	Woody Plants (>3 Years)

Notes:

Fertilizer Application Records

Customer Information		Management Area Information	
Name:	JMW: Main Campus, Dahlgren, Brompton, AEC, Stafford	Management Area ID:	
Address:	1301 College Avenue	Management Area Size:	
	Fredericksburg, VA 22401-5300	Plant Species:	
		Notes:	
Phone #:	540-654-2091		

Date (M/D/Y)	Supervisor/Applicator	Weather Conditions			Fertilizer Analysis	Rate	Amount Fertilizer Used	Application Equipment Used
		Temp	Wind Speed	Precip				
		Annual Totals						

When was the last time your fertilizer equipment was calibrated???

For information on calibration see Chapter 10 of the "Urban Nutrient Management Handbook".

Available for download at http://pubs.ext.vt.edu/430/430-350/430-350.html

Nutrient Management Plan

Virginia Department of Conservation & Recreation

Prepared For:

UMW: Athletics

Holly Chichester
1301 College Avenue
Fredericksburg, VA 22401-5300
540-654-2091
hchiches@umw.edu

Prepared By:

Charles Thornton
General Delivery
Radiant, VA 22732
540-672-1715
Certification Code: 299
chasthornton@gmail.com

Acreage

Total:	16.98
Turf:	16.49
Shrubs/Annuals:	0.49

County: Fredericksburg City
Watershed: RA46

Planner Signature

Plan Written: 10/1/2021
Plan Expires: 10/1/2024

Charles L. Thornton

The purpose of this Nutrient Management Plan is to ensure minimum movement of nitrogen and phosphorus from the specified area of application to surface and groundwaters where they can potentially have a detrimental effect on water quality as well as ensuring that plants have optimum soil nutrient availability for good productivity and quailty. By following this soil test based plan you are helping to protect local waters and the Chesapeake Bay.

Nutrient Management Plan for:
University of Mary Washington

Administrator's Name	
Site Name	*UMW: Athletics*
Plan Administrator	*Holly Chichester*
Mailing Address	*1301 College Avenue*
City State Zip	*Fredericksburg, VA 22401-5300*
Phone	*540-654-2091*
Fax	*540-654-1069*
Email	hchiches@umw.edu

Planner Information	
Planner Name	*Charles Thornton*
Mailing Address	*General Delivery*
City State Zip	*Radiant, VA 22732*
Phone	*540-672-1715*
Fax	*540-672-5293*
Email	chasthornton@gmail.com
Certification Code	*299*

Location Information	
Physical Address	*1301 College Avenue*
City State Zip	*Fredericksburg, VA 22401-5300*
Coordinates	*38° 18'04.67"*
Please Use NAD 83 Deg Min Sec	*77° 28'24.75"*
VAHU6 Watershed Code	*RA46*
County	*Fredericksburg City*

Acreage (sq. ft.)	
Total	*739,947*
Warm Season	*504,625*
Cool Season	*0*
Cool to Warm season	*0*
Mixed turf	*213,774*
Woody Plants	*12,600*
Annuals	*8,948*

Plan Start Date	*10/1/2021*
Plan End Date	*10/1/24*

Narrative

University Of Mary Washington (UMW) – Athletics is located in Fredericksburg, Virginia. The Main Athletics Department Area totals approximately 17 acres that includes fertilized cool season turfgrass areas, sportsturf warm season grass (athletic fields) and ornamental beds. All areas are maintained by the UMW Athletics Department. The Plan Administrator will be responsible for communication with the Athletics Department regarding implementation of the nutrient management plan.

The following is enclosed as part of the nutrient management plan:

A. Plan Map with Environmentally Sensitive Areas Identified
B. Soil Test Summaries
C. Nutrient Application Worksheets
D. Fertilizer Application Log
E. Nutrient Application Virginia Extension Publications:
   a. *Spring and Summer Lawn Management Considerations of CoolSeason Turfgrasses*
   b. *Spring and Summer Lawn Management Considerations of Warm-Season Turfgrasses*
F. Soil Test Results
G. Fertilizer Labels or Descriptions

UMW Athletics is located in the Rappahannock River watershed. The predominant soil type is anthropedogenic; therefore, no soil map is enclosed.

Athletic fields are composed of warm season grasses and are all silt/clay based fields. The warm season grass fields are over-seeded with annual ryegrass in the fall to maintain a playable turf. All fields are used extensively throughout the year for athletic activities. General turf areas in this plan are composed of mixed cool season grasses.

Important Considerations

- Nutrient applications shall not be applied to impervious surfaces such as sidewalks, streets and driveways unless the material is immediately removed by sweeping or other effective means.
- Deicing compounds containing urea shall not be applied to any paved surfaces except as specifically approved by DCR.
- Nutrient applications may not be made to frozen or snow covered ground.
- Make every effort not to spread fertilizer within 25 feet of creeks, ditches or other drainage ways to avoid nutrient loss.
- Soil pH should be maintained at adequate agronomic levels to insure optimum nutrient uptake by the plant.
- Fertilizer is to be applied multiple times during the growing season in small increments; therefore, leaching of nutrients should not be a concern.
- Irrigated Areas should be closely monitored to insure proper system performance. Excessive watering can result in unintended nutrient leaching
- Soil aeration should be performed before application of nutrients whenever possible.
- Soil testing should be completed at least once every three years to maintain current soil analysis.
- Woody Plants over 3 years old do not require additional nutrition beyond that supplied by the regular addition of organic material (i.e. mulch). If a nutrient deficiency is suspected consult either myself or a professional before applying any fertilizer. This plan must be revised if any Woody Plants are fertilized.

- Environmentally Sensitive Areas – 1) There is a stormwater BMP to the west of the Track. Do not apply fertilizer within 25 feet of the BMP. 2) There is a drainage area to the south of the soccer fields; however, turf areas are greater than 25 feet away. 3) Hazel Run flows to the south of the baseball fields; however turf areas are greater than 25 feet away. 4) Two stormwater BMPs are located to the east of Hanover Street and to the north of the parking lot at the Tennis Center. Do not apply fertilizer within 25 feet of the BMPs.

Soil Test Summary

Customer Name:	UMW: Athletics
Testing Lab:	Brookside Laboratories
Sample Date:	8/13/2021
Planner Name	Charles Thornton
Certification Number	299

Managed Area ID		AREA (ft^2)	Soil pH	Buffer pH	Lab Test P (ppm)	VT (H/M/L)	Lab Test K (ppm)	VT (H/M/L)	Species
Fields (Battleground Flowers)	BGSIGN	8,948	6.6	7.3	48	H-	119	M+	Annuals
Fields (Battleground Turf)	BGTURF	145,674	5.5	7.5	11	L-	140	H-	Mixed Turf
Tennis Center Beds	ITCS	12,600	6.2	7.3	48	H-	201	H+	Woody Plants
Tennis Center Turf	ITCT	68,100	6.3	7.5	55	H-	87	M	Mixed Cool Season

Notes:

Soil Test Summary

Customer Name:	UMW: Athletics
Testing Lab:	Brookside Laboratories
Sample Date:	8/13/2021
Planner Name	Charles Thornton
Certification Number	299

Managed Area ID		AREA (ft^2)	Soil pH	Buffer pH	Lab Test P (ppm)	VT (H/M/L)	Lab Test K (ppm)	VT (H/M/L)	Species
Fields (Baseball Outfield)	BASEBALL	108,900	6.2	7.7	41	M+	109	M+	Bermuda
Fields (B Field)	BFIELD	98,010	5.9	7.4	99	H	136	H-	Bermuda
Fields (C Field)	CFIELD	87,120	6.9	7.6	156	VH	157	H	Bermuda
Fields (Hanover)	HRFIELD	142,875	7.1	NA	19	L+	122	M+	Bermuda
Fields (Softball Field)	SOFTBALL	65,340	6.7	7.4	39	M	125	H-	Bermuda
Fields (Track)	TRACK	2,380	6.9	7.4	45	M+	211	H+	Bermuda

Notes:

Nutrient Application Worksheet

NAME:	**UMW: Athletics**	**Management Area:**	HRFIELD, SOFTBALL
Prepared:	**10/1/21**		
Expires:	**10/1/24**	**Area:** 208,215	**Species:** Bermuda w/ fall overseeding

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per 1000ft²	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/1000ft²	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P_2O_5 - K_2O			
5	5/1-5/7	25 - 0 - 0	1	30 days	Granular	Nitrogen	2.00	lbs	128.00	20.0%	0.50 - 0.00 - 0.00			416.43
Phosphorus		- -							128.00		0.00 - 0.00 - 0.00			0
1.5	6/1-6/7	25 - 0 - 0	1	30 days	Granular	Nitrogen	2.00	lbs	128.00	20.0%	0.50 - 0.00 - 0.00			416.43
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
1	7/1-7/7	25 - 0 - 0	1	30 days	Granular	Nitrogen	2.00	lbs	128.00	20.0%	0.50 - 0.00 - 0.00			416.43
		- -							128.00		0.00 - 0.00 - 0.00			0
	8/1-8/7	25 - 0 - 0	1	30 days	Granular	Nitrogen	2.00	lbs	128.00	20.0%	0.50 - 0.00 - 0.00			416.43
		- -							128.00		0.00 - 0.00 - 0.00			0
	9/1-9/7	25 - 0 - 15	1	30 days	Granular	Nitrogen	2.00	lbs	128.00	50.0%	0.50 - 0.00 - 0.30			416.43
		- -							128.00		0.00 - 0.00 - 0.00			0
	10/1-10/10	Overseed Rye												
		- -							128.00		0.00 - 0.00 - 0.00			0
	10/10-10/17	16 - 25 - 12	1	-	Granular	Starter	4.00		128.00	21.0%	0.64 - 1.00 - 0.48			832.86
	3/1-3/7	10 - 2 - 3	1		Granular	Nitrogen	7.00		128.00	86.0%	0.70 - 0.14 - 0.21			1457.505
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			**34%**	3.84 - 1.14 - 0.99			
				N Recommendation Range and Soil Test Recommendation							5 - 1.5 - 1			

Notes:

1: May application of nitrogen should not be made until complete green-up of the bermuda
2: Overseeding and fall starter applications are approximate; starter fertilizer should not be applied until a sufficient amount of rye has germinated.
3: Dates of all applications are approximate, please keep records of actual dates and follow the appropriate intervals for days b/w applications. 4: Because K is not as closely regulated, the recommended rates in this plan may slightly exdeed the rates found in the S&C in order to make it practical for the client to manage fertilizer application. However, the additional K can help maintain plant vigor during times of stress.

Nutrient Application Worksheet

NAME:	**UMW: Athletics**	**Management Area:**	BFIELD, CFIELD, TRACK, BASEBALL
Prepared:	**10/1/21**	**Area:**	**296,410**
Expires:	**10/1/24**	**Species:**	**Bermuda w/ fall overseeding**

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per 1000ft^2	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/1000ft^2	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P_2O_5 - K_2O			
5	5/1-5/7	25 - 0 - 0	1	15 days	Granular	Nitrogen	2.00	lbs	128.00	20.0%	0.50 - 0.00 - 0.00			592.82
Phosphorus		- -							128.00		0.00 - 0.00 - 0.00			0
0	6/1-6/7	25 - 0 - 0	1	30 days	Granular	Nitrogen	2.00	lbs	128.00	20.0%	0.50 - 0.00 - 0.00			592.82
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
0	7/1-7/7	25 - 0 - 0	1	30 days	Granular	Nitrogen	2.00	lbs	128.00	20.0%	0.50 - 0.00 - 0.00			592.82
		- -							128.00		0.00 - 0.00 - 0.00			0
	8/1-8/7	25 - 0 - 0	1	30 days	Granular	Nitrogen	2.00	lbs	128.00	20.0%	0.50 - 0.00 - 0.00			592.82
		- -							128.00		0.00 - 0.00 - 0.00			0
	9/1-9/7	25 - 0 - 0	1	15 days	Granular	Nitrogen	2.00	lbs	128.00	20.0%	0.50 - 0.00 - 0.00			592.82
		- -							128.00		0.00 - 0.00 - 0.00			0
	10/1-1/10	Overseed Rye												
		- -							128.00		0.00 - 0.00 - 0.00			0
	10/10-10/17	25 - 0 - 0	1	-	Granular	Nitrogen	2.00		128.00	20.0%	0.50 - 0.00 - 0.00			592.82
	3/1-3/7	25 - 0 - 0	1		Granular	Nitrogen	2.00		128.00	20.0%	0.50 - 0.00 - 0.00			592.82
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			**20%**	3.50 - 0.00 - 0.00			

N Recommendation Range and Soil Test Recommendation	5	0	0

Notes:

1: May application of nitrogen should not be made until complete green-up of the bermuda

2: Dates of all applications are approximate, please keep records of actual dates and follow the appropriate intervals for days b/w applications.

Nutrient Application Worksheet

NAME:	**UMW: Athletics**	**Management Area:**		BGTURF, ITCT	
Prepared:	**10/1/21**	**Area:**	**213,774**	**Species:**	**Mixed Cool Season Grasses**
Expires:	**10/1/24**				

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per 1000ft^2	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/1000ft^2	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P$_2$O$_5$ - K$_2$O			
3	4/1-4/10	25 - 0 - 0	1	-	Granular	Nitrogen	2.75	lbs	128.00	20.0%	0.69 - 0.00 - 0.00			588
Phosphorus		- -							128.00		0.00 - 0.00 - 0.00			0
1	9/1-9/10	25 - 0 - 0	1	-	Granular	Nitrogen	2.75	lbs	128.00	20.0%	0.69 - 0.00 - 0.00			588
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
0	10/1-10/10	16 - 25 - 12	1	-	Granular	Nitrogen	4.00	lbs	128.00	21.0%	0.64 - 1.00 - 0.48			855
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			**20%**	2.02 - 1.00 - 0.48			
				N Recommendation Range and Soil Test Recommendation							3 | 1 | 0.75			

Notes:

1: Because K is not as closely regulated, the recommended rates in this plan may slightly exdeed the rates found in the S&C in order to make it practical for the client to manage fertilizer application. However, the additional K can help maintain plant vigor during times of stress. 2: Dates of all applications are approximate, please keep records of actual dates and follow the appropriate intervals for days b/w applications.

Lime Application Worksheet

Name:	Athletics	Area Limed:	337,592	
Planned:	10/1/2021	Species:	Warm and Cool Season	
Expires:	10/1/2024	Total Lime:	12,396 lbs	6.20 tons
Management Area	**Sq. Ft.**	**Lime Type**	**Application Rate (lbs/1,000ft^2)**	**Total Amount (lbs/area)**
BASEBALL	108,900	Pulverized Lime	0	0
BFIELD	98,010	Pulverized Lime	15	1,470
BGTURF	145,674	Pulverized Lime	75	10,926
CFIELD	87,120	Pulverized Lime	0	0
HRFIELD	142,875	Pulverized Lime	0	0
ITCS	12,600	Pulverized Lime	0	0
TRACK	2,380	Pulverized Lime	0	0
BSIGN	8,948	Pulverized Lime	0	0
ITCT	68,100	Pulverized Lime	0	0
SOFTBALL	65,340	Pulverized Lime	0	0

Nutrient Application Worksheet

NAME:	**UMW: Athletics**	**Management Area:**	ITCS
Prepared:	**10/1/21**	**Area:**	**12,600**
Expires:	**10/1/24**	**Species:**	**Woody Plants/Ornamentals**

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per 1000ft^2	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/1000ft^2	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P_2O_5 - K_2O			
0		- -							128.00		0.00 - 0.00 - 0.00			0
Phosphorus		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			#DIV/0!	0.00 - 0.00 - 0.00			

N Recommendation Range and Soil Test Recommendation

Notes:

Nutrient Application Worksheet

NAME: UMW: Athletics

Management Area: BGSIGN

Prepared: 10/1/21

Expires: 10/1/24

Area: 8,948

Species: Annuals

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per 1000ft²	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/1000ft²	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P₂O₅ - K₂O			
1.5	At Planting	16 - 25 - 12	1		Granular	Starter Fertilizer	3.00		128.00	21.0%	0.48 - 0.75 - 0.36			26.844
Phosphorus	30 days after planting	25 - 0 - 0	1	30 days	Granular	Nitrogen Fertilizer	3.00		128.00	20%	0.75 - 0.00 - 0.00			26.844
0.75		- -							128.00		0.00 - 0.00 - 0.00			0
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			21%	1.23 - 0.75 - 0.36			
				N Recommendation Range and Soil Test Recommendation							1 - 0.75 - 0.5			

Notes:

Fertilizer Application Records

Customer Information		Management Area Information	
Name:	UMW: Athletics	Management Area ID:	
Address:	1301 College Avenue	Management Area Size:	
	Fredericksburg, VA 22401-5300	Plant Species:	
		Notes:	
Phone #:	540-654-2091		

Date (M/D/Y)	Supervisor/Applicator	Weather Conditions			Fertilizer Analysis	Rate	Amount Fertilizer Used	Application Equipment Used
		Temp	Wind Speed	Precip				
		Annual Totals						

When was the last time your fertilizer equipment was calibrated???
For information on calibration see Chapter 10 of the "Urban Nutrient Management Handbook".
Available for download at http://pubs.ext.vt.edu/430/430-350/430-350.html

Nutrient Management Plan

Virginia Department of Conservation & Recreation

Prepared For:

UMW: Belmont

Holly Chichester
1301 College Avenue
Fredericksburg, VA 22401-5300
540-654-2091
hchiches@umw.edu

Prepared By:

Charles Thornton
General Delivery
Radiant, VA 22732
540-672-1715
Certification Code: 299
chasthornton@gmail.com

Acreage

Total:	1.70
Turf:	1.60
Woody Plants	0.10

County: Stafford County
Watershed: RA46

Planner Signature

Plan Written: 10/1/2021
Plan Expires: 10/1/2024

Charles L Thornton

The purpose of this Nutrient Management Plan is to ensure minimum movement of nitrogen and phosphorus from the specified area of application to surface and groundwaters where they can potentially have a detrimental effect on water quality as well as ensuring that plants have optimum soil nutrient availability for good productivity and quailty. By following this soil test based plan you are helping to protect local waters and the Chesapeake Bay.

Nutrient Management Plan for:
University of Mary Washington

Administrator's Name	
Site Name	*UMW: Belmont*
Plan Administrator	*Holly Chichester*
Mailing Address	*1301 College Avenue*
City State Zip	*Fredericksburg, VA 22401-5300*
Phone	*540-654-2091*
Fax	*540-654-1069*
Email	hchiches@umw.edu

Planner Information	
Planner Name	*Charles Thornton*
Mailing Address	*General Delivery*
City State Zip	*Radiant, VA 22732*
Phone	*540-672-1715*
Fax	*540-672-5293*
Email	chasthornton@gmail.com
Certification Code	*299*

Location Information	
Physical Address	*1301 College Avenue*
City State Zip	*Fredericksburg, VA 22401-5300*
Coordinates	*38° 18'04.67"*
Please Use NAD 83 Deg Min Sec	*77° 28'24.75"*
VAHU6 Watershed Code	*RA46*
County	*Stafford County*

Acreage	
Total	*1.70*
Turf	*1.60*
Woody Plants (>3 years)	*0.10*

Plan Start Date	*10/1/2021*
Plan End Date	*10/1/24*

Narrative

University Of Mary Washington (UMW) – Belmont is located in Fredericksburg, Virginia. The Belmont Area totals approximately 1.7 acres that includes fertilized cool season turfgrass areas and ornamental beds. All areas are maintained by the Belmont Grounds Preservation Supervisor. The Plan Administrator will be responsible for communication with the Belmont Supervisor regarding implementation of the nutrient management plan.

The following is enclosed as part of the nutrient management plan:

A. Plan Map with Environmentally Sensitive Areas Identified
B. Soil Test Summaries
C. Nutrient Application Worksheets
D. Fertilizer Application Log
E. Nutrient Application Virginia Extension Publications:
   a. *Spring and Summer Lawn Management Considerations of CoolSeason Turfgrasses*
F. Soil Test Results
G. Fertilizer Labels or Descriptions

UMW Belmont is located in the Rappahannock River watershed. The predominant soil type is anthropedogenic; therefore, no soil map is enclosed.

Important Considerations

- Nutrient applications shall not be applied to impervious surfaces such as sidewalks, streets and driveways unless the material is immediately removed by sweeping or other effective means.
- Deicing compounds containing urea shall not be applied to any paved surfaces except as specifically approved by DCR.
- Nutrient applications may not be made to frozen or snow covered ground.
- Make every effort not to spread fertilizer within 25 feet of creeks, ditches or other drainage ways to avoid nutrient loss.
- Soil pH should be maintained at adequate agronomic levels to insure optimum nutrient uptake by the plant.
- Fertilizer is to be applied multiple times during the growing season in small increments; therefore, leaching of nutrients should not be a concern.
- Irrigated Areas should be closely monitored to insure proper system performance. Excessive watering can result in unintended nutrient leaching
- Soil aeration should be performed before application of nutrients whenever possible.
- Soil testing should be completed at least once every three years to maintain current soil analysis.
- Woody Plants over 3 years old do not require additional nutrition beyond that supplied by the regular addition of organic material (i.e. mulch). If a nutrient deficiency is suspected consult either myself or a professional before applying any fertilizer. This plan will need to be revised if any of the Woody Plants are fertilized.

- Environmentally Sensitive Areas – All Sensitive areas (rivers, creeks, and BMPs) are a significant distance away from the management areas. Do not apply any fertilizer outside of the outlined management areas.

Soil Test Summary

Customer Name:	UMW: Belmont
Testing Lab:	Brookside Laboratories
Sample Date:	8/12/2021
Planner Name	Charles Thornton
Certification Number	299

Managed Area ID		AREA (ft^2)	Soil pH	Buffer pH	Lab Test P (ppm)	VT (H/M/L)	Lab Test K (ppm)	VT (H/M/L)	Species
BELMONT	BL1	11,200	6.9	7.6	139	VH	76	M	Cool-Season Turf
BELMONT	BL2	6,400	7.1	NA	123	H+	91	M	Cool-Season Turf
BELMONT	BL3	540	6.8	7.3	154	VH	71	M	Woody Plants (>3 Years)
BELMONT	BL4	540	6.8	7.7	103	H+	81	M	Woody Plants (>3 Years)
BELMONT	BL5	740	7.2	NA	174	VH	197	H	Annuals
BELMONT	BL6	13,800	6.8	7.4	122	H+	41	L+	Cool-Season Turf
BELMONT	BL7	1,600	6.8	7.7	28	M-	30	L	Cool-Season Turf
BELMONT	BL8	4,025	5.9	7.4	25	M-	19	L	Cool-Season Turf
BELMONT	BL9	5,700	6.8	7.6	218	VH	84	M	Cool-Season Turf
BELMONT	BL10	26,450	6	7.4	54	H-	73	M	Cool-Season Turf
BELMONT	BL11	410	5.5	7.4	26	M-	35	L	Cool-Season Turf
BELMONT	BL12	2,500	6	7.3	14	L	99	M	Annuals

Notes:

Nutrient Application Worksheet

NAME: UMW: Belmont

Management Area: BL1, BL2,BL6, BL9, BL10

Prepared: 10/1/21

Area: 63,550

Species: Turf-Cool Season

Expires: 10/1/24

Total Nutrient Needs	Application Month/Day	Analysis			# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per 1000ft²	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/1000ft²			Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N	P	K									N	P_2O_5	K_2O			
3	9/1-9/10	10	0	4	1	30 days	Granular	Nitrogen Fertilizer	7.00		128.00	53.0%	0.70	0.00	0.28	Refer to Lime Sheet		444.85
Phosphorus	10/1-10/10	10	0	4	1	30 days	Granular	Nitrogen Fertilizer	7.00		128.00	53.0%	0.70	0.00	0.28			444.85
0	11/1-11/10	10	0	4	1	30 days	Granular	Nitrogen Fertilizer	7.00		128.00	53.0%	0.70	0.00	0.28			444.85
Potassium	11/1-11/10	0	0	50	1	~	Granular	Potassium Fertilizer	1.50		128.00	0%	0.00	0.00	0.75			95.325
1.5											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
											128.00		0.00	0.00	0.00			0
									Total			53%	2.10	0.00	1.59			
						N Recommendation Range and Soil Test Recommendation							3	0	1.5			

Notes:

Because K is not closely regulated, the recommended rates in this plan may slightly exceed the rates found in the S&C in order to make it practical for the client to manage fertilizer application. Jowever, the additional K can help maintain plant vigor during times of stress.

Nutrient Application Worksheet

NAME:	UMW: Belmont	**Management Area:**	BL7, BL8, BL11
Prepared:	10/1/21	**Area:** 6,035	**Species:** Turf-Cool Season
Expires:	10/1/24		

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per 1000ft^2	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK lbs/1000ft^2	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P_2O_5 - K_2O			
3	9/1-9/10	16 - 25 - 12	1	30 days	Granular	Nitrogen Fertilizer	4.00		128.00	21.0%	0.64 - 1.00 - 0.48	Refer to Lime Sheet		24.14
Phosphorus	10/1-10/10	16 - 25 - 12	1	30 days	Granular	Nitrogen Fertilizer	4.00		128.00	21.0%	0.64 - 1.00 - 0.48			24.14
2	11/1-11/10	10 - 0 - 4	1	30 days	Granular	Nitrogen Fertilizer	7.00		128.00	53.0%	0.70 - 0.00 - 0.28			42.245
Potassium	11/1-11/10	0 - 0 - 50	1		Granular	Potassium Fertilizer	2.50		128.00	0%	0.00 - 0.00 - 1.25			15.0875
2.5		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			**32%**	1.98 - 2.00 - 2.49			
				N Recommendation Range and Soil Test Recommendation							3 | 2 | 2.5			

Notes: Because K is not closely regulated, the recommended rates in this plan may slightly exceed the rates found in the S&C in order to make it practical for the client to manage fertilizer application. However, the additional K can help maintain plant vigor durning times of stress.

Lime Application Worksheet

Name:	UMW: Belmont	Area:	69,585	
Planned:	10/1/2021	Species:	Cool-Season Turf	
Expires:	10/1/2024	Total Lime:	87.03	
Management Area	**Sq. Ft.**	**Lime Type**	**Application Rate (lbs/1,000ft^2)**	**Total Amount (lbs/area)**
BL1	11,200	Pulverized Lime	0	0.00
BL2	6,400	Pulverized Lime	0	0.00
BL6	13,800	Pulverized Lime	0	0.00
BL7	1,600	Pulverized Lime	0	0.00
BL8	4,025	Pulverized Lime	15	60.38
BL9	5,700	Pulverized Lime	0	0.00
BL10	26,450	Pulverized Lime	0	0.00
BL11	410	Pulverized Lime	65	26.65

Nutrient Application Worksheet

NAME: UMW: Belmont

Management Area: BL3, BL4

Prepared: 10/1/21

Expires: 10/1/24

Area: 1,080

Species: Woody Plant (>3 Years)

Total Nutrient Needs	Application Month/Day	Analysis	# of Apps	Application Interval	Fertilizer Type	Fertilizer Description	Rate per $1000ft^2$	lbs or oz	Wt. per Gal.	%Slow Release N	Total NPK $lbs/1000ft^2$	Gypsum	Lime	Total Product (lbs/Area)
Nitrogen		N - P - K									N - P_2O_5 - K_2O			
0		- -							128.00		0.00 - 0.00 - 0.00	Refer to Lime Sheet		0
Phosphorus		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			#DIV/0!	0.00 - 0.00 - 0.00			

N Recommendation Range and Soil Test Recommendation

Notes:

Nutrient Application Worksheet

NAME:	**UMW: Belmont**	**Management Area:**	BL5, BL12
Prepared:	**10/1/21**	**Area:**	**3,240**
Expires:	**10/1/24**	**Species:**	**Annuals**

Total Nutrient Needs	**Application Month/Day**	**Analysis**	**# of Apps**	**Application Interval**	**Fertilizer Type**	**Fertilizer Description**	**Rate per 1000ft^2**	**lbs or oz**	**Wt. per Gal.**	**%Slow Release N**	**Total NPK lbs/1000ft^2**	**Gypsum**	**Lime**	**Total Product (lbs/Area)**
Nitrogen		N - P - K									N - P$_2$O$_5$ - K$_2$O			
0		- -							128.00		0.00 - 0.00 - 0.00	Refer to Lime Sheet		0
Phosphorus		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
Potassium		- -							128.00		0.00 - 0.00 - 0.00			0
0		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
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		- -							128.00		0.00 - 0.00 - 0.00			0
		- -							128.00		0.00 - 0.00 - 0.00			0
							Total			#DIV/0!	0.00 - 0.00 - 0.00			
				N Recommendation Range and Soil Test Recommendation										

Notes:

Fertilizer Application Records

Customer Information		Management Area Information	
Name:	UMW: Belmont	Management Area ID:	
Address:	1301 College Avenue	Management Area Size:	
	Fredericksburg, VA 22401-5300	Plant Species:	
		Notes:	
Phone #:	540-654-2091		

Date (M/D/Y)	Supervisor/Applicator	Weather Conditions			Fertilizer Analysis	Rate	Amount Fertilizer Used	Application Equipment Used
		Temp	Wind Speed	Precip				
		Annual Totals						

When was the last time your fertilizer equipment was calibrated???
For information on calibration see Chapter 10 of the "Urban Nutrient Management Handbook".
Available for download at http://pubs.ext.vt.edu/430/430-350/430-350.html